Stonestreet Green Solar

Outline Landscape and Ecological Management Plan

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1 Introduction

1.1 Introduction

1.1.1 EPL 001 Limited (hereafter referred to as the 'Applicant') has prepared this Outline Landscape and Ecological Management Plan ('LEMP') in relation to an application (the 'Application') for a Development Consent Order ('DCO') for the construction, operation and maintenance, and decommissioning of Stonestreet Green Solar (hereafter referred to as the 'Project').

1.1.2 The Site is within the administrative boundaries of Ashford Borough Council ('ABC') and Kent County Council ('KCC').

1.2 The Project

1.2.1 The Project comprises the construction, operation and maintenance, and decommissioning of solar photovoltaic ('PV') arrays and energy storage, together with associated infrastructure and an underground cable connection to the existing National Grid Sellindge Substation.

1.2.2 The Project will include a generating station (incorporating solar arrays) with a total capacity exceeding 50 megawatts ('MW'). The agreed grid connection for the Project will allow the export and import of up to 99.9 MW of electricity to the grid. The Project will connect to the existing National Grid Sellindge Substation via a new 132 kilovolt ('kV') substation constructed as part of the Project and cable connection under the Network Rail and High Speed 1 ('HS1') railway.

1.2.3 The location of the Project is shown on **Environmental Statement ('ES') Volume 3, Figure 1.1: Site Location Plan (Doc Ref. 5.3)**. The Project will be located within the Order limits (the land shown on the **Works Plans (Doc Ref. 2.3)** within which the Project can be carried out). The Order limits plan is provided as **ES Volume 3, Figure 1.2: Order Limits (Doc Ref. 5.3).** Land within the Order limits is known as the 'Site'.

1.2.4 Areas where infrastructure development is proposed are identified by field numbers, which are shown on **ES Volume 3, Figure 2.1: Field Boundaries and Site Area Plan (Doc Ref. 5.3)**. The areas of the Site where infrastructure development is proposed are referred to as follows:

- South Western Area (Fields 1 to 9);
- Central Area (Fields 10 to 19 and 23 to 25);
- South Eastern Area (Fields 20 to 22);
- Northern Area (Fields 26 to 29);
- Project Substation (location of the Project Substation, in the north western section of Field 26);

- 'Cable Route Corridor' (export of electricity from the Project at 132kV via underground cables (the 'Grid Connection Cable') to the Sellindge Substation) and 'Cable Route Crossing' (use of an existing cable duct under the HS1 railway or through Horizontal Directional Drilling ('HDD') beneath HS1 for the Grid Connection Cable); and
- Sellindge Substation (location of the existing Sellindge Substation).

1.3 Purpose of this Outline LEMP

1.3.1 The Project has been designed, as far as is practicable, to avoid or reduce potentially significant effects on landscape and biodiversity features through siting of the Project components and vegetation retention. The assessments within the **Environmental Statement ('ES') (Doc Ref. 5.1-5.4)** have identified mitigation and enhancement measures designed to reduce impacts and/or protect and enhance landscape and biodiversity resources.

1.3.2 The purpose of this Outline LEMP is to provide the overarching principles for minimising, managing and / or mitigating and enhancing the environmental effects of the Project. It has been prepared to enable the Secretary of State and interested parties such as KCC, ABC and the local community to understand the nature of the environmental management and enhancement measures to be implemented. More specifically, this Outline LEMP details:

- How the Project will integrate into the existing landscape to minimise impacts on environmental receptors;
- The mitigation measures to reduce the effects of the Project on landscape features and biodiversity; and
- Measures that will allow the Project to meet its biodiversity net gain requirement as secured by a Requirement in the **Draft Development Consent Order (Doc Ref. 3.1)** by outlining the potential range of enhancements to the biodiversity, landscape, and green infrastructure value.

1.3.3 Landscape improvements create important habitat for protected and priority species to achieve a biodiversity net gain, and well managed habitat, and a landscape strategy that will have a positive effect on the appearance of the landscape.

1.3.4 This Outline LEMP provides overarching principles for the DCO application. As secured by a Requirement in the **Draft Development Consent Order (Doc Ref. 3.1),** phase-specific detailed LEMP(s) ('detailed LEMPs') will be submitted to the local planning authority for approval prior to the commencement of the authorised development. . The Outline LEMP and subsequent detailed LEMP(s) demonstrate the Applicant's commitment to avoid or minimise environmental effects and disruption and provides a mechanism for the implementation of recommended mitigation and enhancement measures for the Project.

1.3.5 This Outline LEMP will form part of the Employers' Requirements between the undertaker and the principal contractor ('Principal Contractor'). A Principal Contractor is the contractor with overall control and responsibility over a phase-specific or Works-specific element of the construction phase. The Principal Contractor will be

responsible for production of and working in accordance with the detailed LEMP(s) but the undertaker remains ultimately responsible for compliance.

1.4 Document Structure

1.4.1 Following this introduction, this Outline LEMP includes the following:

- **Section 2:** Order Limits;
- **Section 3:** Landscape and Ecology Strategy;
- **Section 4:** Landscape Management Prescriptions;
- **Section 5:** Ecology Management Prescriptions; and
- **Section 6:** Detailed LEMP Requirements.

Basis of this Outline LEMP

1.4.2 The relevant legislation and policies that this Outline LEMP is based are summarised below, with full details provided within the **ES (Doc Ref. 5.1-5.4):**

- Institute of Environmental Management and Assessment and Landscape Institute, 2013, Guidelines for Landscape and Visual Impact Assessment, 3rd Edition[1];
- Landscape Institute, Infrastructure Technical Guidance Note 04/20 (2020)[2];
- National Plant Specification 'Handling and Establishing Landscape Plants'[3]. All plants and planting operations are to comply with the requirements and recommendations of all current relevant British Standard specification including but not limited to:
- BS 8545. Trees: From Nursery to Independence in the Landscape[4];
- BS 3936-1:1992. Nursery stock. Specification for trees and shrubs[5];
- BS 3882:2015 - Specification for topsoil[6];
- BS 4428:1989. Code of practice for general landscape operations (excluding hard surfaces) (AMD 6784)[7];
- BS3998:2010 Recommendations for Tree Work[8];
- Directive 2009/147/EC on the conservation of wild birds (the codified version of Council Directive 79/409/EEC as amended) (Birds Directive)[9];
- Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive)[10];
- The Conservation of Habitats and Species Regulations 2017 (as amended)[11];
- Wildlife and Countryside Act (WCA) 1981 (as amended)[12];
- Countryside & Rights of Way Act 2000 (as amended)[13];
- Natural Environment and Rural Communities (NERC) Act 2006 (as amended)[14];
- The Environment Act 2021[15];
- Protection of Badgers Act 1992 (as amended)[16];

- Hedgerow Regulations 1997 (as amended)[17];
- Water Environment (Water Framework Directive) (England and Wales) Regulations 2017[18];
- Animal Welfare Act 2006[19]; and
- Priority habitats and species listed on UK Post 2010 Biodiversity Framework which succeeds the UK Biodiversity Action Plan (UK BAP) (Joint Nature Conservation Committee (JNCC) and Defra, 2018)[20].

2 Order Limits

2.1 The Order Limits

2.1.1 The Site is located approximately 6.5km to the south east of Ashford Town Centre and approximately 13.7km to the west of Folkestone Town Centre, in the county of Kent. The Site covers an area of approximately 192 hectares ('ha') and is centred at centred at Ordnance Survey ('OS') National Grid Reference ('NGR') TR 05898 37766 The location of the Site is shown in **ES Volume 3, Figure 1.1: Site Location Plan**, with the Order limits illustrated in **ES Volume 3, Figure 1.2: Order Limits**.

2.1.2 The Site comprises primarily agricultural fields delineated by hedgerows and tree belts. **ES Volume 3, Figure 2.1: Field Boundaries and Site Area Plan (Doc Ref. 5.3)** provides a Field Boundaries and Site Area Plan.

2.1.3 Areas within the Order limits that are not identified by field number in Figure 2.1 will not contain infrastructure development. These areas will only be utilised for landscaping or biodiversity enhancement planting as shown on the **Works Plans (Doc Ref 2.3).**

2.1.4 Station Road / Calleywell Lane runs north to south within and adjacent to the Central Area of the Site. Bank Road / Roman Road bisect the Central and South Western Areas of the Site. The Site also includes Bank Farm access track, which connects to Roman Road. Part of Goldwell Lane forms part of the Site, as cabling is proposed to be laid beneath the road surface.

2.2 Existing Biodiversity Features

2.2.1 The following section summarises the key ecology baseline information in terms of existing habitats, flora and fauna on Site (with further information provided in **ES Volume 4, Appendix 9.3: Arboricultural Impact Assessment, Appendix 9.4: Preliminary Ecological Appraisal, Appendix 9.5: Baseline Survey Reports (Doc Ref. 5.4) and ES Volume 3, Figures 9.1-9.9 (Doc Ref. 5.3)**).

Landscape Designations

2.2.2 The Site is not subject to any landscape designations. The Kent Downs National Landscape ('NL'), formerly known as the Kent Downs Area of Outstanding Natural Beauty ('AONB') principally encompasses the North Downs ridgeline to the north of the Site. However, it also arcs to the south-east around the valley of the East Stour River, such that its boundary is located as near as approximately 330m to the south and 3km north-east of the Site.

Statutory and Non-Statutory Ecological Designations

2.2.3 The Site is not subject to any statutory or non-statutory designations for nature conservation including Special Areas of Conservation ('SAC'), Special Protection Areas ('SPA'), Ramsar sites, Sites of Special Scientific Interest ('SSSI'), Natural Nature

Reserves ('NNR') or Local Nature Reserves ('LNR'). There is one statutory designated site of national importance for its ecological interest within 2km of the Site: Hatch Park SSSI which is located approximately 1.8km to the north of the Site boundary.

2.2.4 These designations have been taken into account as far as necessary, but given their distance from the Order limits they have not been directly addressed in the Outline LEMP. Impacts on designated sites have been assessed within **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2).**

2.2.5 The relevant statutory and non-statutory designated sites within 1km of the Site are:

- One statutory designated site of local importance, Poulton Wood LNR, is located approximately 343m to the south-east of the Site, at its closest point. The LNR is known to support ancient and semi-natural woodland, which is characterised as a coppiced woodland with oak, hornbeam and ash that provides habitats for a diverse mix of flora and fauna, and ponds are present within the LNR;
- Backhouse Wood LWS, which is located adjacent to Northern Area. Supports ancient, replanted woodland comprising lowland mixed deciduous woodland, with some areas of mixed woodland with mainly conifers;
- Aldington Sand Pit LWS, which is located approximately 55m to the south-east of the Site at its closest point. Supports lowland mixed deciduous woodland, with some areas of neutral grassland;
- Aldington Woods LWS, which is located approximately 370m south of the Site at its closest point. Supports ancient and semi-natural woodland, comprising lowland mixed deciduous woodland; and
- Bilsington Woods and Pasture LWS is located approximately 720m south-west of the Site at its closest point. Supports ancient and semi-natural woodland, with some areas of ancient, replanted woodland, both comprising lowland mixed deciduous woodland.

Irreplaceable Habitats

2.2.6 Several veteran trees are located within the Site. **The Design Principles (Doc Ref. 7.5)** secures that a minimum buffer of 15 times the stem diameter or 5m beyond the trees crown spreads (whichever is greater) for veteran trees will be provided within which no construction will take place. No direct management of veteran trees is anticipated.

2.2.7 Eleven ancient woodland sites are located outside of the Site Boundary, but within 1km of the Site as shown on **ES Volume 3, Figure 9.3: Locations of Ancient Woodland Sites (Doc Ref. 5.3)**.

Habitats

2.2.8 The majority of the Site comprises primarily agricultural fields delineated by hedgerows and tree belts. **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2)** notes that the majority of the Site supports arable cropland of limited ecological importance .

Protected and Notable Species

2.2.9 Baseline survey work undertaken sought to determine the presence of the species identified in **ES Volume 4, Chapter 9: Biodiversity (Doc Ref. 5.4).** The findings of the baseline survey work are then considered in **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2).**

3 Landscape and Ecology Strategy

3.1 Overview

3.1.1 Good design has been a key consideration for the Project from the outset. The landscape and ecology strategy was developed in close consultation with the Project landscape and ecology consultants and has evolved continuously throughout the pre-application period, with numerous updates driven by consultation and engagement with a wide range of interested parties. Further details on the design evolution can be found in **ES Volume 2, Chapter 5: Alternatives and Design Evolution (Doc Ref. 5.2)** and the **Design Approach Document (Doc Ref. 7.4)**.

3.1.2 The main objective of the design is to integrate the Project into its landscape setting and avoid or minimise adverse landscape and visual effects as far as practicable, whilst maximising (a) the amount of renewable energy that can be generated from the Site area to help decarbonise electricity generation and (b) deliver net gains in biodiversity.

3.2 Landscape and Ecology Strategy

3.2.1 The overall principles of the landscape and ecology strategy have been based on the objectives set out in the **Design Approach Document (Doc Ref. 7.4).** Table 2.1 sets out the relationship of the Project design objectives from the Design Approach Document and the corresponding landscape and ecology principles (where applicable) as follows:

Table 3-1.1: Project Design Objectives and Landscape and Ecology Principles

Project Design Objectives	Landscape and Ecology Principles
Objective 1: Design the Project to optimise the amount of renewable energy that can be generated in the Site area to help decarbonise electricity generation and achieving net zero carbon emissions, in line with the Government's commitments.	N/A
Objective 2: Sensitively locate the Project within the landscape.	To visually and physically integrate the Project into the landscape as much as possible using a variety of natural feature To minimise the physical impact of the Project on the Site's landscape features including vegetation, landform, and wet features.

Project Design Objectives	Landscape and Ecology Principles
Objective 3: Minimise impacts on views from people's homes and other viewpoints. A bespoke approach has been taken to the arrangement of the proposed panels close to residential properties.	To minimise the visual impact of the Project on visual receptors, including views from residential properties, and the Kent Downs Natural Landscape.
Objective 4: Enhance the local green infrastructure network.	To maximise opportunities to enhance the landscape of the Site by extensive new planting that is characteristic to the receiving environment, through introduction of new valuable habitats, and by improved management and custodianship of the landscape resource.
Objective 5: Enhance local biodiversity.	To minimise impacts on existing habitats and species during construction. To extend and enhance the most valuable existing habitats on Site. To create new habitats on Site that reflect the natural flora and fauna of the area. To make the most of opportunities to improve biodiversity within the Site.
Objective 6: Avoid harm to heritage assets and their setting.	To design the Project to respond to the setting of heritage assets, through the provision of buffers and infrastructure offsets. To retain the existing field boundary structure, and to reinforce existing hedgerows.
Objective 7: Safeguard the water environment, be safe from flooding and ensure that flood risk is not increased elsewhere, taking account of the impacts of climate change.	To ensure the Project design does not impact on water features within or near the Site;
Objective 8: Retain existing PRoW and connectivity where possible, and seek opportunities to enhance the local network.	To retain and where possible enhance the existing use of the Site for quiet recreation.

Project Design Objectives	Landscape and Ecology Principles
Objective 9: Provide safe access to the Site and avoid adverse impacts to the local highway network and its users (including pedestrians, cyclists and horse riders).	N/a

3.3 Mitigation Measures Secured in the Design Principles

3.3.1 In order to achieve the aforementioned objectives, the following principles of mitigation are embedded within the design of the Project via the **Design Principles (Doc Ref. 7.5)** and Schedule 1 of the **Draft Development Consent Order (Doc Ref. 3.1)**:

- The retention of the existing field boundary structure of hedgerows and trees, with vegetation loss restricted to the maximum extents shown on the **Vegetation Removal Plan (Doc Ref. 2.8);**
- Distance between the security fencing and hedgerows outside of the security fence would be at least 3.2m.
- PRoW will be a minimum of 2m wide and will sit within a corridor of 10m minimum width, with the exception of the section of PRoW 'New 3' adjacent to Work No. 3 (Project Substation) which will sit in a 5m corridor;
- A minimum 10m buffer (as measured from the top of the bank or channel edge under normal flows) will be provided to the East Stour River and IDB-managed Ordinary Watercourses;
- Buffers to residential properties as shown on the Works Plans (**Doc Ref. 2.3**);
- Retention of all existing ponds within the Order limits, with a minimum set back of 3.2m;
- A minimum buffer of 15 times the stem diameter or 5m beyond the trees crown spreads (whichever is greater) for veteran trees and of 15m from the canopy spread for ancient woodland will be maintained;
- Security fence gates to allow passage of mammals;
- A buffer of 30m buffer is to be provided from the badger setts identified in **ES Volume 4, Appendix 9.5m: Badger Survey Report (Doc Ref. 5.4).** Within this buffer no infrastructure will be constructed; and
- Operational lighting to be limited and directed within the Order limits, to include features designed to reduce light spill beyond the areas required to be lit.

3.4 Landscape and Ecology Measures Secured in this Outline LEMP

3.4.1 The following landscape and ecology principles will be developed as part of the detailed LEMP(s), alongside the preparation of the detailed landscape proposals:

- Seeding of arable fields with appropriate native grassland mixes to enhance

biodiversity and consider conservation grazing where feasible;

- Management of extensive native grassland to increase floral diversity and provide an extensive habitat network for a range of species;
- The provision of new native hedgerows to visually break up the extent of PV panels, particularly in views from the north, and to provide new habitat connectivity, and reinforcement of existing hedgerows including gapping up where appropriate; small sections of hedgerow removed during construction will be replanted where practicable;
- Management and protection of the hedgerow regime to allow existing and proposed hedgerows to establish to heights suitable for supporting wildlife. The current hedgerow management regime will be relaxed and new and existing hedgerows will be allowed to establish to dimensions that will ensure that they are robust habitat features and will be managed to benefit wildlife;
- Woodland buffers on Calleywell Lane (Fields 17-18);
- Native woodland and scrub planting around existing areas of woodland, including Backhouse Wood (Fields 28-29) and native 'carr' woodland along the East Stour River to reinforce existing planting and provide visual containment (Field 19);
- Planting of individual native wetland feathered trees along the East Stour River (Fields 19 and 26-29) and standards within existing and proposed hedgerows;
- Inaccessible (to the public) natural open space provided within the PV panel area, designated ecological enhancement areas free of PV panels and woodland buffer planting provided adjacent to Backhouse Wood LWS / ancient woodland;
- Provision of receptor areas for great crested newt and reptiles as areas of grassland, scrub and ponds which may include habitat ponds, hibernacula, refugia and habitat mosaics;
- Mitigation and enhancement measures for skylark, yellowhammer, other farmland birds and small mammals including brown hare. These measures include set aside open meadow, diverse grass sward and flower rich mixes within the PV panels, hedgerow, scrub and tree planting enhancement, planting of boundary bird crop along field margins and provision of skylark plots with the PV panels;
- The approach to landscape design will specify planning that is suited to adapt to future climatic changes, including higher rainfall, drought conditions storms or wind;
- The retaining wall of the Project Substation compound will be seeded with native grass to soften its appearance;
- An ecologist will review the detailed lighting proposals and provide advice on minimising light spill and illumination of boundary habitats, with regard to Bat Conservation Trust and Institution of Lighting Professionals Guidance Note 08/18: Bats and artificial lighting at night (BCT and ILP, 2023)[21];
- A minimum of twenty five no. external bat boxes, installed onto retained trees at a minimum height of 3m above ground, targeted in areas of high suitability for bats where there is limited existing potential roost provision from naturally occurring features in mature trees. All bat roost boxes will be placed to face south, south-

east or south-west, facing towards semi-natural vegetation (i.e. native hedgerow or woodland buffer). All boxes will be situated to provide access to either boundary open areas or interior green infrastructure in order to allow for increased dispersal opportunities;

- A minimum of two pole mounted barn owl boxes, to be positioned at least 4 metres above ground-level, with the entrance facing east (away from the prevailing winds). The design of the box shall be overseen by an appropriately experienced ecologist and locations will take into account existing suitable nest sites within the Site; and
- A minimum of thirty cavity box types targeting medium or large species to address limited provision of larger cavities for nesting birds within the Site. Species to be targeted to include tawny owl, kestrel, stock dove, woodpeckers, starling or other species of conservation concern, with an entrance holed diameter generally of 42mm or larger. Boxes shall be distributed across boundary habitats and within the Biodiversity Improvement Areas (BIAs). The specific design of the box to be used shall be approved by an appropriately experienced ecologist and locations will take into account existing suitable nest sites within the Site.

3.5 Roles and Responsibilities

3.5.1 The undertaker will be responsible for the administration of the detailed LEMP(s) for all proposed hard and soft landscape proposals. Specialist landscape and ecological consultants and contractors may be appointed as necessary to carry out works on Site and this would be confirmed in the detailed LEMP(s).

3.5.2 The following roles are anticipated during the construction phase to ensure environmental measures are correctly identified and implemented:

- **Ecological Clerk of Works ('ECoW')** – likely to be present at the start of specific ecology-related activities to ensure the delivery of each activity in accordance with the approved documents and giving Toolbox Talks, and towards the completion of the activity in order to certify the quality of the work. It may be necessary for the ECoW to be present at other times in the interim period, although this will be defined by the complexity of the activity and the potential for disturbance to existing sensitive features. They may also select specialist contractors to assist in specific habitat works;
- **Principal Contractor Biodiversity Champion** – will receive training by the ECoW through a series of toolbox talks and tutorial sessions and will be provided with site inspection forms to encourage the recording of the necessary level of information during site inspections during the creation of habitats. This will allow any hazards/defects to be identified and rectified;

3.5.3 Where infrastructure or habitat management is to occur outside the scope of the Outline LEMP this is to be reviewed by an ecologist who will determine the requirement for a pre-commencement survey or ecological watching brief as required.

3.5.4 Post construction, longer term biodiversity management and monitoring/reporting will be carried out by the undertaker or the Principal Contractor.

4 Landscape Management Prescriptions

4.1 Introduction

4.1.1 This Outline LEMP provides the outline management prescriptions and activities for the Project, with the detailed LEMP(s) confirming the specific management prescriptions and activities following the final landscape scheme design, as well as consideration of ongoing management up to the point at which the Project is decommissioned.

4.2 Specific Landscape Mitigation

4.2.1 The detailed landscape scheme will include tree and vegetation planting on the southern edge of Field 20 to provide enhanced screening and restrict potential views of Fields 20-22 from viewpoints within the Kent Downs NL.

4.2.2 The detailed landscape scheme will be prepared with regard to **ES Volume 4, Appendix 16.2: Solar Photovoltaic Glint and Glare Study (Doc Ref. 5.4),** to specify that boundary hedgerows on the northern edge of Field 12 are to be maintained to a height of at least 4.0m to provide the specific embedded mitigation identified. If this is not achievable initially then temporary wooden solid fencing will be implemented and then removed once the hedgerows are of a sufficient height.

4.2.3 The detailed landscape scheme will include the reinforcement of existing hedgerows and the planting of new hedgerow to the south-west of Field 3 to limit impacts on the cultural heritage setting of Stonelees. Hedgerow running west-east in this area (to the north of Stoneless) will be maintained to a height of 4.5-5m and hedgerow running north-south in this area (to the east of Stoneless) will be maintained to a height of 2.5-3m.

4.2.4 The detailed landscape scheme will include the reinforcement of existing hedgerows and the planting of new hedgerow where required to the southern boundaries of Field 7 and Field 8 to limit impacts on the cultural heritage setting of Goodwin Farmhouse. Hedgerow in this area will be maintained to a height of 2.5-3m.

4.2.5 The detailed landscape scheme will include the reinforcement of existing hedgerows and the planting of new hedgerow and native trees where required to the western boundaries of Field 20 and Field 21 to limit impacts on the cultural heritage setting of Goldwell. Hedgerow in this area will be maintained to a height of 2.5-3m.

4.3 Implementation

4.3.1 The construction programme for the Project and its relationship with the implementation of landscape proposals within the appropriate planting season will depend on the timeline for the granting of the DCO.

4.3.2 Where possible elements of proposed planting will be undertaken in advance of the construction phase to assist with screening and assimilation of the Project into the landscape, but this will only be undertaken where it does not conflict with construction requirements.

4.3.3 Advanced planting is likely to commence in the first available planting season (November to March inclusive) following the granting of development consent. The remainder of proposed planting would be undertaken in the first available planting season following the construction of the Project.

4.3.4 Wherever possible proposed grassland areas will be cultivated and seeded immediately following the harvesting of any existing arable crops to control weed growth and allow the grassland areas to begin to establish before the PV panels are erected.

4.3.5 All areas of the Landscape Strategy will be closely monitored throughout a 5-year aftercare period from the completion of any implementation works by a suitably competent professional, so that the most appropriate management regime can be defined on an area-by-area basis. This process will identify where the existing management regime requires modification to meet management objectives, both annually and in the long-term.

4.3.6 The detailed LEMP(s) will establish a programme of annual visual inspections for the first 5 years to check for good strong foliage, growth and the success of habitats, so that the most suitable management regime/operations can be defined for the forthcoming year. The detailed LEMP(s) will then set out a programme of inspections from year 6 onwards, expected to be undertaken annually, and for years 10-40 with maintenance operations adapted to recognise planting and habitat maturity.

4.4 General Management Prescriptions

4.4.1 All vegetation will be managed, with the aims of improving habitat value and amenity. Details of the timings of main annual management operations will be provided through future detailed LEMP(s).

4.4.2 All management operations requiring vegetation removal, including pruning, should have regard to the bird nesting season (running from March to late August inclusive) and any potential disturbance to bird habitats should be avoided during this time and/or ecological supervision provided.

4.4.3 All pruning should be carried out in accordance with good horticultural practices. All tree works are to be carried out by an approved member of the Arboricultural Association. Cuttings from pruning would be utilised in habitat piles if appropriate or off-cuts would be chipped/shred and spread around the base of each plant provided that ground flora and associated habitats are not disturbed. Any surplus or unwanted cuttings would be removed off Site.

4.4.4 In all planted / seeded areas, weed control, including ring weeding and/or hand pulling of seedlings and monitoring for invasive non-native species should be carried out

annually. The frequency of visits will be decided on Site to keep the individual planting areas free of weeds. It remains the responsibility of the undertaker to adopt suitable methods for weed control based on legislation, training and accreditation.

4.4.5 An assessment of watering need should be carried out during dry periods, with particular note paid to planting areas that could be more susceptible to dry conditions, e.g. new tree and shrub planting within the first 3 years of establishment where possible.

4.4.6 Replacement planting should be carried out between November and March inclusive, avoiding the winter frosts. Replacement seeding should be carried out in spring or autumn. The undertaker shall remove any dead, dying, or diseased plants, which are evident during any maintenance visit. The undertaker shall be informed of the location, number and species of all material that has been removed. All replacement planting shall be with like species unless otherwise agreed with the undertaker. Plant failures shall be monitored, and alternative species may be agreed should any single species be subject to repeated or significant failures.

4.4.7 All shelters, stakes and ties for new trees should be checked and replaced/adjusted/removed as required in spring /autumn. Mulch is to be topped up as required.

4.4.8 There should be no change in the creation of woody debris within the Aldington Flood Storage Area and any cleared vegetation will be removed.

4.4.9 Monitoring of grassland should be undertaken during the initial establishment period in order to ensure target results are achieved. Any observations noted should be taken into account to update prescribed longer-term management operations as appropriate, including any requirement for recultivation and seeding.

Table 4.4-1: Indicative timings of main annual management operations

Timings	Standard Operations, to be carried out as required
Winter	▪ Complete record of previous year's operations. ▪ Thinning/felling operations within existing woodland areas to maintain desired structure following arboricultural expert advice. Removal of scrub such as bramble where identified to be dominating planting. Formation of habitat piles. ▪ Native hedgerow siding up on rotation to desired height (from year 3 onwards once established). ▪ Replacement planting –avoiding winter frosts. ▪ Checking of tree shelters and plant guards, stakes and ties and replace if necessary / remove where no longer required. ▪ Litter collection.

Timings	Standard Operations, to be carried out as required
Spring	▪ Visual inspection of vegetation and habitats by Landscape Architect and Ecologist. ▪ Replacement seeding (if required). ▪ Weed control (hand weeding. Herbicide application only if necessary following relevant guidelines and legislation). ▪ Readjustments and firming of planting areas, including shelters and ties. ▪ Grazing where feasible. . ▪ Litter collection.
Summer	▪ Weed control. ▪ Main annual cut of grasslands to occur between August to September unless grazed. Areas around solar panels may require additional strimming for operational reasons. ▪ Assess irrigation / watering requirements. ▪ Litter collection. ▪ Bat and Bird box inspection.
Autumn	▪ Visual inspection of vegetation and habitats. ▪ Collection of leaf litter. ▪ Review of woodland thinning requirements (under arboricultural expert supervision). ▪ Replacement planting – avoiding winter frosts/waterlogging. ▪ Inspect habitat piles to make sure still intact and mend/recreate additional piles elsewhere as required. ▪ Litter collection. ▪ Pond and ditches desilting and clearance. ▪ Bat and Bird box clean. ▪ Review of detailed LEMP(s) and suitability of operations for forthcoming year.

4.5 Existing Vegetation/Habitats

4.5.1 Provisions for the management and maintenance of existing vegetation/habitats on-Site will be included as part of future detailed LEMP(s). A summary of expected measures is set out below.

Existing Trees and Woodland

4.5.2 Those trees to be retained will be protected in accordance with the appropriate arboricultural method statement (as detailed in **ES Volume 4, Appendix 9.3:**

Arboricultural Impact Assessment (Doc Ref. 5.4)) and in line with the **Outline CEMP (Doc Ref. 7.8)**.

4.5.3 Areas of existing woodland/tree belts would be managed through thinning and coppicing where appropriate on a rotational basis, again under arboricultural supervision. This would create the desired canopy structure and support the long-term health and establishment of the woodland areas. Standing and fallen wood would be retained where safe to provide valuable habitats for wildlife including invertebrates.

4.5.4 'Future veteran' trees and 'old growth' features will be encouraged by retaining specific trees to mature and decline naturally. Small scale selective felling shall be undertaken where desirable to improve stand composition and structure and to create opportunities for natural regeneration, enrichment planting, and occasional permanent glades.

Existing Hedgerows and Flora

4.5.5 Existing hedgerows to be retained and enhanced will be protected with fencing during any adjacent works, in line with the **Outline CEMP (Doc Ref. 7.8).** Existing hedgerows will be cut prior to installation of any new native planting, including hedgerow trees. After this, hedgerows will be managed at a variety of heights, dependant on final landscape design and embedded mitigation requirements, to be allowed to establish to heights suitable to support wildlife.

4.5.6 Ground flora will be allowed to develop beneath the hedgerows/unmown margins to enhance their function as a wildlife corridor.

Existing Watercourses/Streams

4.5.7 All existing watercourses, ditches and drainage features will be managed in accordance with the **Outline CEMP (Doc Ref. 7.8)**.

4.5.8 Watercourses would be monitored annually. Any deadwood that becomes dislodged and blocks the central channel will be removed or repositioned should it pose a flood risk and any unwanted vegetation and litter/debris would also be removed from the watercourses on a monthly basis under ecological supervision if necessary. Where necessary, marginal species that fail to establish will be replaced on a like for like basis. Adjacent hedgerows will be appropriately maintained to prevent overshading.

4.5.9 Watercourses would also be monitored annually in terms of water quality, including any excessive accumulations of foams, scums and discolouration of the water, and samples taken as necessary.

Existing Grasslands

4.5.10 Existing strips of grassland within the proposed perimeter fence will be retained and protected where practicable from construction activities. Where any damage does occur as result of construction, damage shall be remediated through cultivation and overseeding in accordance with the specification for grassland creation.

4.5.11 Existing grassland within the perimeter fence may be subject to grazing during Spring and Summer months to prevent shading of the panels and security features. In the interests of biodiversity, the existing grassland will be managed to increase floral diversity and to provide an extensive habitat network for a range of species. If grazing is feasible for the Project, conservation/low intensity grazing is to be encouraged.

4.6 Proposed Vegetation/Habitats

Trees and Woodland, Wetland and Hedgerow

4.6.1 In addition to those general maintenance considerations identified above all trees, woodland, wetland, hedgerow and any further edge of woodland/scrub planting shall be subject to monitoring by an appropriately experienced ecologist/landscape architect and arboriculturist. This programme of monitoring will be confirmed in future detailed LEMP(s).

4.6.2 Any trees that fail to establish within the first 5 years shall be replaced in the next available planting season in accordance with the original planting specification. Where a single species is failing in large numbers, the species mix may be revised in agreement with the relevant authorities.

Proposed Orchard

4.6.3 It is envisaged that management of the orchard will be relatively minimal, however steps will be taken in order to maximise its value to biodiversity whenever possible.

4.6.4 Management of the orchards will favour the non-use of chemicals and instead natural techniques for pest control will be encouraged. Management is likely to include the retention of standing deadwood, provision of habitat piles, maintenance of micro-habitats as well as steps taken once sufficient maturity has been established (anticipated year 15 onwards), such as pollarding, coppicing and pruning.

4.6.5 During the first 5 years of the management plan period, the following activities would be required to improve the condition of the Orchard and to maintain productivity:

- Clear vegetation from around the tree base;
- Replace dead/dying or vandalised trees;
- Manage scrub encroachment if required;
- Check stability and remove stakes/ties;
- Prune and shape as appropriate; and
- Collect and clear fallen fruit.

4.6.6 It may be necessary for the timing / frequency of activities to be adapted according to the particular requirements of the Orchard in later years, and this programme will be confirmed in future detailed LEMP(s).

Proposed Grasslands (including Wetland Grassland)

4.6.7 A palette of different grasslands has been considered for across the Site, as shown on the **Illustrative Landscape Drawings (Doc Ref. 2.7).** Detailed LEMP(s) will set out the programme for cutting, management and monitoring of grassland as part of habitat establishment.

Proposed Internal Access Tracks

4.6.8 The internal access tracks will be constructed using a permeable grass-paving hardstanding surface. All internal access tracks will be managed as per the existing grasslands within the perimeter fence, with grass grazed and/or mown on a regular basis to keep the grass short. Management of grass in regularly trafficked areas will be set out in future detailed LEMP(s).

Proposed Winter Bird Crop Strips

4.6.9 The winter bird crop strips will be managed (i.e. stripped and replanted) on a biennial rotation with the strip being removed at the end of its second winter. Insects and weed seeds are important components of the diet of farmland birds, so the use of insecticides and herbicides should be avoided if possible.

Proposed Skylark Plots

4.6.10 It is recommended to exclude skylark plots from the management of PV panel grassland (rotational grazing or mowing) during the main bird breeding season of March to August inclusive to minimise risk of impacts upon nest and to preserve a variable sward height within the plots. The skylark plots will be managed by primarily targeted cutting, noting the need to manage these areas to allow for nesting in short and variable swards. Further information regarding the management of skylark plots will be set out in future detailed LEMP(s).

Proposed Waterbodies

4.6.11 Freshwater algae will be monitored in all waterbodies, in particular excessive accumulations of foams, scums and discolouration of the water. The Environment Agency will be contacted for advice in the event of algae bloom appearing on the Site in response to the threat to wild and domestic animals, as well as humans.

4.6.12 Regular monitoring and maintenance will be required to remove litter and debris especially after any storm event. The basins and swales/ditches will also be monitored regularly to determine if any repairs or reinstatement is required to embankments etc. Remedial work will be undertaken as required. Further information regarding the management of waterbodies will be set out in future detailed LEMP(s).

Proposed Aquatic/Marginal Planting

4.6.13 Any work should aim to minimise disturbance to the sediments at the bottom of a pond because this may release nutrients into the water which could cause algal blooms and disrupt the ecological balance of the system.

4.6.14 It is acknowledged that management operations within the ponds and their margins can disturb plant and animal communities and thus it is proposed that any necessary works would be carried out on a rotational basis so that as broad a range of successional stages as possible are evident on the site. Details on the timings of maintenance and management of aquatic/marginal planting will be provided in future detailed LEMP(s).

Specific Artificial Ecological Installations

4.6.15 Where possible, proposed bat and bird boxes to be installed will be designed so no additional long-term management is required. Monitoring of artificial ecological installations will be undertaken by a suitable ecologist, with details of monitoring, management and maintenance set out in future detailed LEMP(s).

Proposed Hard Landscape Areas/Features

4.6.16 A programme for management and maintenance of proposed hard landscape areas and features will be set out in future detailed LEMP(s) but is anticipated to include:

- Footpaths checked for wear and tear. Any areas of settlement or damage will be made good in accordance with current UK safety standards. Vegetation will also be managed along the routes of PRoW to allow for safe passage where appropriate;
- Footpaths kept free of litter, weeds, grass cuttings, and general debris; and
- Any furniture and signage inspected to ensure there is no vandalism or missing features, and no health and safety issues. Missing or broken items will be replaced. Any necessary repairs are to be carried out in accordance with UK safety standards.

4.7 Indicative Management Programme

4.7.1 **Annex 2** provides a list of anticipated maintenance operations for each of the existing and proposed vegetation/habitat types for Years 0-5 of plant establishment and illustrates the anticipated frequency that operations are required (to be read in conjunction with the general and specific maintenance considerations outlined above). **Annex 2** also indicates the likely frequencies for ongoing measures during Years 6-40 of the Project. This covers up to the stage of decommissioning of the Project, where the established landscape will be retained *in situ*.

4.7.2 **Annex 2** will form the basis of more detailed and comprehensive landscape management programmes and schedules to be provided within the detailed LEMP(s), which would be regularly reviewed and updated as the Site matures and following the granting of permission.

5 Ecology Management Prescriptions

5.1 Introduction

5.1.1 This Outline LEMP provides the outline management prescriptions and activities for the Project, with the detailed LEMP(s) confirming the specific management prescriptions and activities following the final landscape scheme design, as well as consideration of ongoing management up to the point at which the Project is decommissioned.

5.1.2 The habitat proposals for the Site will be designed to help meet objectives of the Kent Biodiversity Strategy 2020 to 2045 and will embed relevant design principles and components of county and district green infrastructure strategies, where possible.

5.2 Species-specific Mitigation and Enhancement Measures

5.2.1 Measures for skylark, yellowhammer, and brown hare as follows:

- Set aside open meadow and grassland areas throughout the Project (including the Biodiversity Improvement Areas, open field areas and fields margins), to provide open breeding habitat for ground nesting bird species including skylark.
- Hedgerow, scrub and tree planting and enhancement for yellowhammer and other species that extensively utilise field boundary habitats.
- Planting of boundary bird crop strips along field margins to provide seed food sources for mammals as well as birds.
- Planting of diverse grass sward and flower rich mixes within the PV panel areas which will provide tussocky, meadow areas for foraging and breeding brown hare and will maximise invertebrate diversity and populations, in turn acting as a food source for a variety of birds.
- Skylark plots, typically 16m^2 will be created within the Biodiversity Improvement Areas and other open areas within the Site to provide variation in habitat structure and topography to provide additional foraging and nesting opportunities for skylark and other farmland birds as well as additional open areas for brown hare. Skylark plots are shown indicatively on the **Illustrative Landscape Drawings (Doc Ref. 2.7).**

5.2.2 The Project boundary fences will look to include ground level gaps and/or mammal gates to allow movement of species, such as brown hare and badger.

5.2.3 In relation to great crested newt and reptiles, provision of receptor areas (including within the Biodiversity Improvement Areas) as areas of grassland, scrub and including habitat ponds, hibernacula, refugia and mosaics, together with log piles in the event that any animals require translocation during the construction phase.

5.3 Construction Phase

5.3.1 As secured by Requirement in the **Draft Development Consent Order (Doc Ref. 3.1),** detailed CEMP(s) will be prepared (in accordance with the **Outline CEMP (Doc Ref. 7.8)**) prior to the commencement of the construction phase. The detailed CEMP(s) will detail the environmental controls, protection measures and safety procedures that will be adopted during the construction phase, providing a tool to ensure the successful management of the likely environmental effects.

5.3.2 Prior to construction an ecologist will complete a walkover of the Site to reconfirm the ecological baseline conditions and to identify any new ecological risks, including the presence of any invasive non-native plant species present within or immediately adjacent to Site.

5.3.3 Pre-commencement surveys as detailed in **Annex 3** will be carried out in advance of construction for species where the baseline may change between years and / or where updates are required to inform Natural England mitigation licences. These include but are not limited to:

- Schedule 1 nesting birds;
- Badger;
- Otter; and
- Non-native invasive species.

5.3.4 Where pre-commencement surveys determine that a Natural England mitigation licence or species mitigation strategy is required, this will be reviewed with the undertaker and Principal Contractor. Mitigation strategies if required will be submitted and reviewed by the relevant statutory body (e.g. Natural England as appropriate).

5.3.5 A precautionary ecological watching brief for legally protected and otherwise notable species will be implemented and controlled via the detailed CEMP(s) (and any Natural England mitigation licences) when clearing vegetation or piles of debris.

5.4 Operational Phase Management

5.4.1 Management operations will be undertaken in accordance with the detailed LEMP(s), which will include seasonal timing constraints to minimise the likelihood of adverse effects upon important species.

5.4.2 The extensive native grassland will be managed via rotational cutting (subject to appropriate timing and cut height restrictions) and, if feasible, via low density conservation grazing with sheep or via a regime of ecologically sensitive mechanical mowing and topping.

5.5 Operational Phase Monitoring

5.5.1 In order to assess the effectiveness of habitat creation, establishment and any remedial actions needed for habitats or ecological features post-development, ecological monitoring surveys will be undertaken.

5.5.2 Habitat 'maintenance' monitoring, habitat condition assessments and species monitoring will be undertaken during the lifespan of the operational phase, to include the condition and extent of notable Habitats of Principal Importance ('HPIs').

5.5.3 Monitoring will also measure habitat condition against the target condition requirements of the **BNG Assessment (Doc Ref. 7.1)**. **Annex 2** of this Outline LEMP proposes Habitat Conditions Monitoring at years 2, 5, 7, 10 and then every 5 years for the period up to 30 years for the purposes of BNG.

5.5.4 The proposed monitoring programme, its objectives and what remedial actions will be taken should it be found that objectives are not being met, will be set in the relevant habitat and species strategies reviewed with stakeholders as part of the detailed LEMP(s).

5.5.5 Skylark plot effectiveness is to be monitored during the operation of the Project. Further monitoring may be undertaken for specific species to monitor the success of habitat establishment measures. The results of such monitoring may result in additional or revised management recommendations, which will need to be incorporated into revisions of future detailed LEMP(s).

5.6 Decommissioning Phase

5.6.1 Decommissioning is expected to take approximately 12 months, and is expected to occur after 40 years of operation of the Project. A Requirement in the **Draft Development Consent Order (Doc Ref. 3.1)** secures that the following plans must be submitted to and approved by the local planning authority prior to commencement of any decommissioning works:

- Decommissioning Environmental Management Plan (DEMP); and
- Decommissioning Traffic Management Plan (DTMP).

5.6.2 The decommissioning phase is anticipated to be largely similar to the construction phase in terms of the nature of change and duration. Specific measures for this phase are then set out within the **Outline DEMP (Doc Ref. 7.12)**.

6 Detailed LEMP Requirements

6.1 Overview

6.1.1 The information to be set out in detailed LEMP(s) for the purposes of general landscape and ecology management is as follows:

- Detailed mitigation and enhancement measures for each phase;
- Details of proposed planting mixes, informed by **Annex 1** of this Outline LEMP;
- Programme for management and maintenance of proposed hard landscape areas;
- Monitoring of artificial ecological installations;
- Timings of maintenance and management of aquatic/marginal planting;
- Management of waterbodies;
- Management of skylark plots;
- Management and monitoring of grassland, for habitat establishment, including in regularly trafficked areas;
- Programme for orchard management;
- Programmes for the management of trees, woodland, wetland, hedgerow and any further edge of woodland/scrub planting;
- Programme for the management of existing vegetation/habitats;
- Details of Invasive Non-Native Strategies, if required;
- Results of habitat maintenance monitoring, habitat condition monitoring, habitat condition assessments and species monitoring and whether this results in any additional or revised management recommendations; and
- Detailed species strategies.

Annex 1: Illustrative Planting

6.1 Overview

6.1.1 The sections of this Annex provide a summary of the illustrative landscape strategy planting mix, based on the **Illustrative Landscape Drawings (Doc Ref. 2.7)** and the assumptions in **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2).**

6.1.2 Full details of proposed planting mixes will be developed as part of the detailed landscape design and will be provided in future detailed LEMP(s).

6.2 Native Woodland Planting

6.2.1 The native woodland planting proposed for the Project is composed of a mix of locally characteristic trees from a broad palette, with a dominance of field maple, silver birch, hornbeam and English oak. Other species of note include small leaved lime, rowan, holly, aspen and sweet chestnut (naturalised), which are included to provide greater diversity and therefore better capacity to adapt to changing climatic conditions. Hazel is included to provide understorey planting within the woodland areas.

6.2.2 Native woodland planting is proposed along Station Road and Calleywell Lane to screen views of the Project for road users and residents. Across the remainder of the Site, native woodland planting is provided to extend and reinforce existing woodlands and tree belts, and in smaller discrete patches as part of mosaic planting in habitat improvement areas.

6.3 Proposed Carr Woodland Planting

6.3.1 The proposed carr woodland planting is anticipated to be dominated by alder, willow and birch trees suited to the current damp and shady conditions which over time may support an abundance of ferns, mosses and liverworts, while lichen and fungi grow on branches and dead wood. Many common woodland birds, insects and other invertebrates may also inhabit these wet woodlands, contributing to their importance as a habitat.

6.3.2 Proposed carr woodland planting is proposed principally along the channels of the East Stour River to reinforce existing vegetation patterns and to assist in containing the Project in views from roads, residential properties and PRoW.

6.4 Proposed Scrub/Woodland Edge Planting

6.4.1 Scrub and understorey planting is provided to create enhanced buffers to existing woodland, with a more diverse transition from climax woodland through smaller tree and shrub species to open grassland within the Site. With dominant species including hazel and hawthorn, but also bird cherry, blackthorn and holly, the species mix will provide food sources for wildlife including invertebrates, birds, dormouse, bats and badger.

6.4.2 The majority of the periphery of Backhouse Wood Ancient Woodland will be planted with this element to improve the structure of this existing woodland, while habitat improvement areas include smaller areas of scrub planting as part of diverse mosaics of new planting.

6.5 Proposed Individual Trees; Wetland and Hedgerow

6.5.1 Individual wetland tree planting is composed of characteristic native riparian tree species including Black poplar, white willow, downy birch, goat willow and alder. They are provided in groups along watercourses with the aim of creating groups of canopy trees to reinforce and improve wetland habitats and reduce the denuded nature of the East Stour River valley. The inclusion of willow trees which are anticipated to be pollarded in the future is a direct response to published landscape character guidance. Prior to submission of the Detailed LEMP(s) for approval, the Applicant will consult on the positioning of the tree planting with the Environment Agency so they can confirm the suitability of the proposed locations. This consultation has been included in response to feedback received from the Environment Agency as part of their Relevant Representation [RR-086].

6.5.2 Hedgerow tree planting has been included as a direct response to consultee feedback received as part of the 2022 Statutory Consultation. Proposed hedgerow trees are split into two categories: larger tree species including field maple, alder hornbeam, silver birch (Betula pendula) and oak; and smaller tree species including hawthorn and crab apple where shading of proposed PV panels is a factor. Trees are provided as Standards and Light Standards where available.

6.6 Proposed Orchard

6.6.1 An orchard is proposed to the east of Field 20. Apple and quince trees will be planted to reflect local species on a 5m grid. The orchard will be under-sown with a wildflower meadow mix suitable for the area. In order to provide shelter for the establishing orchard and to attract pollinators, the existing vegetation to the west of the orchard will be retained.

6.7 Proposed Native Mixed Hedgerows & Existing Reinforced Hedgerows

6.7.1 New hedgerows are expected to be composed of locally native species such as hawthorn, hazel, blackthorn, guelder rose and dog rose which are characteristic of the hedgerows of the local landscape and include hedgerow trees such as field maple, alder, hornbeam and oak where appropriate. The choice of species will also help to provide suitable foraging habitat for birds, suitable nesting habitat and shelter for small mammals, amphibians and reptiles, as well as encourage pollinators to assist with the successful establishment of the nearby orchard and reinforce the historic pattern of hedgerows. The hedgerows will also help to create green corridors around the Site which will link to existing and retained hedgerows, and to other semi-natural habitats beyond the Site, as well as suitable foraging and commuting corridors for bats.

6.8 Proposed Grassland

6.8.1 The Project comprises several grassland types to suit the underlying conditions but also enhance biodiversity where possible.

6.8.2 Grassland is to be established soon after harvesting arable fields to prevent establishment of weeds where possible, but this will be dependent on the weather, harvest cycles and the timeline for granting of the DCO.

6.9 Existing Grassland

6.9.1 Those areas of existing grassland inside the proposed perimeter fence will be mown on a regular basis to prevent shading of panels or security features. If conservation grazing is feasible for the Project, this may also be used to manage the existing grassland inside the perimeter fence. For those areas outside the proposed perimeter fence they will be retained and mown annually.

6.10 Existing Arable land within proposed perimeter fence – Proposed Grazing pastures

6.10.1 Existing Arable Fields will be cultivated following the harvesting of any crops, to a depth of around 300mm. A general grazing mix would then be sown.

6.11 Proposed Tussock Grassland Margins

6.11.1 Areas outside the proposed perimeter fence are to be established tussock grassland and allowed to grow to a tall sward.

6.12 Proposed Meadow Grassland – General Purpose Meadows

6.12.1 Parts of the Site, including within the orchard area, are proposed for native wildflower meadows. The meadows will support a mix of flowers and grasses including the vibrant colours of knapweed, ox-eye daisy, bird's-foot trefoil and other pollinator-friendly wildflowers that are frequently visited by bees, butterflies and hoverflies. The dried seed heads of the wildflowers will also provide an important seed resource for birds during the winter months.

6.12.2 A general purpose meadow mix would be sown.

6.13 Proposed Winter Bird Crop Strips

6.13.1 The creation of winter bird crop strips is proposed in a number of locations across the Site, largely adjacent to hedgerows. These will comprise of a mix of at least three small seed bearing crops, cereals and millet next to hedgerows for most benefit for yellowhammer. Linseed, millet, kale and cereal crops are most beneficial crops for skylark. Kale, linseed, millet, mustard quinoa, rape and weeds benefit other seed eating farmland birds recorded on Site including reed bunting and linnet.

6.13.2 The seedbed should be prepared and the crop drilled as for commercial arable crops. The ideal time to establish a mix is in April or May. If spring sowing is not possible, then crops can be established in the autumn, but then only provide seed food in alternate years (for annual mixes) or in two out of three years (for biennial mixes). As strips will include a mix of annual and biennial crops, re-establishing blocks in alternate years on rotation will ensure there will be a mix of seeds available every winter. Strips may be relocated within the same field to prevent the build-up of diseases such as brassica clubroot. Within these strips, existing grassland would be retained where present.

6.14 Proposed Skylark Plots

6.14.1 These plots will be seeded with a General Purpose Meadow mix.

6.14.2 Skylark plots are to be created in a comparable manner to Countryside Stewardship management practices as a small square of grassland seeded within the PV panels. Plots comprise a minimum of 16m square in area and 3m wide (eg 4x4m, or 3x6m) of open space in the PV panels, simulating the effect of an open space within a tall crop field.

6.15 Proposed Waterbodies and features

6.15.1 The Site currently includes five ponds and two ditches (excluding the East Stour River) which will be managed through limited interventions where necessary – comprising management of boundary vegetation to reduce or prevent overshading, careful deepening of ponds that are currently subject to heavy siltation and/or excessive leaf litter accumulation, and removal of excess aquatic vegetation, litter, pollution sources and invasive species as required and informed by the results of ecological monitoring.

6.16 Proposed Wet Meadow Grassland

6.16.1 Those areas of existing grassland adjacent to existing watercourses and other wet features are to be retained. Proposed sustainable drainage systems ('SuDS') features, swales and any new scrapes across the Site will be seeded with an appropriate meadow mixture for wetlands, which will contain species suitable for seasonally wet soils and is based on the vegetation of traditional floodplain and water meadows.

6.16.2 Any new habitat ponds will be seeded as above but will also include a 2m species-rich wet grassland margin as well as appropriate native marginal planting which will provide refuge for amphibians and reptiles, as well as providing pollinator interest.

6.17 Proposed Aquatic/ Marginal Planting

6.17.1 The newly created habitat ponds will be designed with a focus on promoting biodiversity, including invertebrates, common amphibians (i.e. frogs) and grass snake. Ponds may not hold water all year round and will including gently undulating wetland areas around them.

6.17.2 Within habitat ponds a series of shallow slopes and level areas would be formed to allow subtle variation in water level and assist the development of a diverse range of habitat types. Subtle gradients and an aquatic bench would be created for the establishment of marginal habitats. Areas of deeper water would also be used as a design tool to control the spread of marginal plants.

6.17.3 All marginal planting and the fully submerged aquatic plants (water violet) would be grown and notch planted in Spring. Water crowfoot (floating aquatic plant) would be weighted to the bottom of the basin in bunches for it to naturally root, whereas frogbit (floating aquatic plant) would be carefully positioned on the surface of the water with the roots facing downwards. All planting would be supervised on Site to ensure the correct ecological conditions are met. Plants would be planted at the depths and density shown below.

6.17.4 All aquatic / marginal planting would include species native to the local area, where feasible.

Annex 2: Illustrative Maintenance & Management Schedule

Table 0.1: Illustrative Maintenance and Management Schedule Years 1-5

Task	Timescale										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Further timescales
General operations											
Visual inspector of vegetation and habitats	X	X	X	X	X	X	X	X	X	X	Annually
Detailed habitat condition survey		X			X		X			X	Every 5 years following (if necessary)
Complete record of previous year's operations	X	X	X	X	X	X	X	X	X	X	Every 2 years following (if necessary)
Checking of tree shelters and plant guards	X	X	X	X	X	X	X	X			
Replacement planting	X	X	X	X	X						
Watering of establishing plants	X	X	X								As required
Application of fertiliser (if required)		X	X	X	X						
Removal of INNS (if required)	X	X	X	X	X						As required

Task	Timescale										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Further timescales
Removal of litter/debris from site	X	X	X	X	X	X	X	X	X	X	As required
Existing trees, woodland and hedgerows											
Thinning/felling operations (if required)	X	X	X	X	X						As advised by arboriculturist
Hedgerow siding and cutting	X	X	X	X	X						On 2-3 year rotational basis
Inspection of all trees to advise on corrective measures	X	X	X	X	X						Every 3 years following
Strimming of tussock grassland	X	X	X	X	X						On 3-year rotational basis following
Existing watercourses and water bodies											
Annual monitoring, including habitat replacement and management	X	X	X	X	X	X	X	X	X	X	Annually
Removal of litter/debris from watercourses	X	X	X	X	X						As required
Water sampling (if required)	X	X	X	X	X	X	X	X	X	X	Annually

Task	Timescale										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Further timescales
Existing grassland											
Remediation (if required)	X	X	X	X	X						
Grazing (or strimming/moving	X	X	X	X	X	X	X	X	X	X	Annually
Proposed trees and woodland											
Pruning	X	X	X	X	X	X	X	X	X	X	As required
Selective felling					X						As required, on 5-year rotational basis
Mulch maintenance	X	X	X	X	X						
Ring weeding	X	X	X	X	X						
Coppicing trees at edge of Proposed Carr woodland						X					On 2-3 year rotational basis
Willow pollarding											On 5-10 year rotational basis from Year 15
Proposed orchard											
Pollarding, coppicing and pruning					X						As required during winter
Collecting fallen fruit		X	X	X	X	X	X	X	X	X	Annually

Task	Timescale										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Further timescales
Proposed native mixed hedgerows and scrub											
Hedgerow 'A-Shape' cutting (2.5 - 3m)	X	X	X	X	X						On 2-3 year rotational basis
PRoW-adjacent hedgerow cutting (4.5 - 5m)	X	X	X	X	X						On 2-3 year rotational basis
Hedgerow cutting for yellowhammer (c.2m)	X	X	X	X	X						On 2-3 year rotational basis
Maintenance of weed-free strip for hedgerow margin	X	X	X	X	X						On 3-year rotational basis
Thinning of scrub planting	X	X	X	X	X						On 3-year rotational basis
Proposed grasslands											
Maintenance of all grassland areas	X	X									
Maintenance of General-Purpose Meadow areas	X	X	X	X	X	X	X	X	X	X	Annually
Maintenance/grazing of BS MeadowMax pasture	X	X	X	X	X	X	X	X	X	X	Annually or as required
Maintenance of Tussock Grassland	X	X	X	X	X						On 3-year rotational basis

Task	Timescale										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Further timescales
Maintenance of wet grassland	X	X	X	X	X	X	X	X	X	X	Annually
Re-cultivation and seeing		X	X	X	X						
Weeding	X	X	X	X	X	X	X	X	X	X	Annually or as required
Establish winter bird crop strips	X	X	X	X	X						On 2-year rotational basis
Remove winter bird crop strips	X	X	X	X	X						Annually or as required
Proposed waterbodies, aquatic/marginal planting											
Monitoring (as per existing watercourses)	X	X	X	X	X	X	X	X	X	X	Annually
Thinning of marginal vegetation	X	X	X	X	X						On 2-year rotational basis
Removal of invasive/exotic species	X	X	X	X	X						Annually or as required
Drainage ditch clearance			X			X			X		Every 3 years
Artificial ecological installations											
Condition check, inspection and cleaning of bat and bird boxes	X	X	X	X	X	X	X	X	X	X	Annually

Task	Timescale										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Further timescales
Clearance of gaps in fencing for animal movement	X	X	X	X	X	X	X	X	X	X	Annually or as required
Monitoring and replacement of habitat piles/hibernacula					X					X	Every 5 years
Hard landscaping/features											
Inspection of footpaths	X	X	X	X	X	X	X	X	X	X	Annually
Inspection of furniture and signage	X	X	X	X	X	X	X	X	X	X	Annually

Annex 3: Indicative Mitigation and Enhancement Measures

Table 3.0-1: Construction Stage Surveys (undertaken before a relevant stage or phase of construction is commenced)

Measure	Relevant ecological receptors	Detailed information to be contained within
Pre-commencement surveys (great crested newt)	Great crested newt,	Detailed LEMP NE EPSM licence
Pre-commencement surveys (Schedule 1 birds)	Schedule 1 nesting birds	Detailed LEMP
Pre-commencement surveys (bats)	Bats	Detailed LEMP
Pre-commencement surveys (badgers)	Badger	Detailed LEMP
Pre-commencement surveys (riparian mammals)	Water vole, otter, beaver	Detailed LEMP
Pre-commencement surveys (invasive species)	INNS	Detailed LEMP

Table 3.0-2: Construction Phase Ecological Measures

Measure	Relevant ecological receptors	Detailed information to be contained within
Avoidance, retention and demarcation of boundary habitats as 'Biodiversity	Ecological features and habitats	Detailed CEMP NE EPSM licences (GCN and dormouse) and NE badger mitigation licence

Measure	Relevant ecological receptors	Detailed information to be contained within
Protection Zones (BPZ)' during construction		
Retention of existing grassland	Habitats grassland	Detailed LEMP
Implementation of good environmental construction practice	All	Detailed CEMP
Hedgerow and woodland RPA buffer zones	Primarily hedgerow, woodland and veteran trees	Detailed CEMP
Watching briefs, Arboricultural Method Statement	Hedgerow Woodland Veteran trees	Detailed CEMP
Waterbody and watercourse Outline CEMP protection measures	Primarily waterbodies and riparian mammals	Detailed CEMP
Minimisation of artificial light	Primarily invertebrates, bats, hedgehog, dormouse	Detailed CEMP
Avoidance of GCN habitat	Great crested newt	Future NE EPSM licence
Provision of great crested newt and reptile receptor sites	Great crested newt Reptiles	Future NE EPSM licence
Great crested newt fencing, trapping and translocation programme	Great crested newt, reptiles	Future NE EPSM licence

Measure	Relevant ecological receptors	Detailed information to be contained within
Great crested newt and reptile destructive search and ecological watching brief	Great crested newt Reptiles	Future NE EPSM licence
Core nesting and breeding bird season (March to August) habitat clearance - ecological watching brief	Primarily breeding birds, brown hare, hedgehog, harvest mouse	Detailed LEMP
Bat suitable tree removals / Arboricultural works - ecological watching brief	Roosting bats	Detailed LEMP
Dormouse suitable habitat removal – ecological watching brief	Dormouse	Future NE EPSM licence
Badger sett avoidance	Badger	Future NE mitigation licence
Badger sett mitigation under NE mitigation licence	Badger	Future NE mitigation licence
Badger mitigation measures within live construction areas	Badger	Future NE mitigation licence Detailed CEMP
Watercourse HDD crossing and riparian mammal ecological watching	Primarily riparian mammals	Detailed CEMP
Invasive non-native species avoidance measures	Invasive non-native species	Detailed LEMP

Measure	Relevant ecological receptors	Detailed information to be contained within
INNS demarcation (if required)	INNS	Detailed CEMP Detailed LEMP to include INNS strategy
Habitat 'maintenance' monitoring	Primarily grassland, hedgerows, woodland and species – specific enhancement measures	Detailed LEMP

Table 3.0-3: Operational Phase Ecological Measures

Measure	Relevant ecological receptors	Detailed information to be contained within
Habitat management of great crested newt and reptile receptor sites	GCN, reptiles	Detailed LEMP to include GCN strategy Detailed LEMP to include reptile strategy Detailed LEMP Future NE EPSM licence
PV panel diverse grassland creation		Detailed LEMP
PV panel grassland management	Most but focus on species rich grassland and associated reptiles, great crested newt, breeding / wintering birds and brown hare	Detailed LEMP
Minimisation of artificial light	Primarily invertebrates, bats, hedgehog, dormouse	Detailed OMP
Infrastructure maintenance or repair affecting hedgerows or trees	Hedgerows Woodland	Detailed OMP Detailed LEMP

Measure	Relevant ecological receptors	Detailed information to be contained within
	Veteran trees	
Infrastructure maintenance or repair within PV panel grassland carried out under ecological review or supervision as required	Most but focus on species rich grassland and associated reptiles, great crested newt, breeding / wintering birds and brown hare	Detailed OMP Detailed LEMP
Infrastructure maintenance or repair affecting habitats carried out under ecological review or supervision as required	Most but focus on species rich grassland and associated reptiles, great crested newt, breeding / wintering birds and brown hare	Detailed OMP Detailed LEMP Future NE EPSM licence
Infrastructure maintenance or repair adjacent to watercourses carried out under ecological review or supervision as required	Primarily watercourses and riparian mammals	Detailed OMP Detailed LEMP
Infrastructure maintenance or repair affecting protected species carried out under ecological review or supervision as required	Protected species, primarily great crested newt, reptiles, breeding birds and badgers	Detailed OMP
Enhancement of the East Stour River Riparian zone	All	Detailed LEMP

Measure	Relevant ecological receptors	Detailed information to be contained within
BIA open meadow and grassland areas free of PV panels for ground nesting birds and brown hare	Primarily skylark and brown hare	Detailed LEMP to include notable bird strategy Detailed LEMP to include brown hare strategy
Grassland management to increase species diversity	Primarily grassland	Detailed LEMP
Grassland (minimum cut height)	Primarily reptiles	Detailed LEMP to include reptile strategy Detailed LEMP
Hedgerow enhancement (reduced cutting, infill planting, diversification of species through infill planting)	Primarily hedgerows, wintering and breeding birds including yellowhammer, dormouse, bats	Detailed LEMP to include notable bird strategy Detailed LEMP
Provision of differing size hedgerows for yellowhammer	Primarily yellowhammer	Detailed LEMP to include notable bird strategy Detailed LEMP
Hedgerow cutting timing restrictions	Primarily hedgerows, breeding birds including yellowhammer, dormouse	Detailed LEMP
Hedgerow management	Primarily hedgerows, breeding birds, dormouse, hedgehog	Detailed LEMP
Waterbody creation	Primarily waterbodies, amphibians, bats riparian mammals,	Detailed LEMP

Measure	Relevant ecological receptors	Detailed information to be contained within
Waterbody management and enhancement	Primarily waterbodies, amphibians, bats riparian mammals,	Detailed LEMP Detailed LEMP to include GCN strategy Future NE EPSM licence
Bird crop strips	Primarily wintering birds (yellowhammer) and brown hare	Detailed LEMP to include notable bird strategy Detailed LEMP
Skylark plots	Primarily skylark	Detailed LEMP to include notable bird strategy Detailed LEMP
Bird nesting habitat provision (bird boxes)	Breeding birds	Detailed LEMP to include notable bird strategy Detailed LEMP
Bat roosting habitat provision (bat boxes)	Roosting bats	Detailed LEMP
Access provision within perimeter fencing	Primarily brown hare and badger	Detailed LEMP to include brown hare strategy Detailed LEMP
Mink control strategy	Water vole	Detailed LEMP to include Mink Control Strategy
Habitat condition assessment monitoring	Habitats	Detailed LEMP Detailed LEMP

Measure	Relevant ecological receptors	Detailed information to be contained within
Species monitoring surveys (great crested newt)	GCN	Detailed LEMP to include GCN strategy Future NE EPSM licence
Species monitoring surveys (reptiles)	Reptiles	Detailed LEMP reptile strategy
Species monitoring surveys (wintering and breeding birds)	Breeding and wintering birds particularly skylark and yellowhammer	Detailed LEMP to include notable bird strategy
Species monitoring surveys (brown hare)	Brown hare	Detailed LEMP to include brown hare strategy
Species monitoring surveys (invasive species)	INNS	Detailed LEMP
Monitoring survey report and recommendations	Primarily habitats, great crested newt, reptiles, wintering and breeding birds, brown hare.	Detailed LEMP

Table 3.4: Decommissioning Phase Ecological Measures

Measure	Relevant ecological receptors	Detailed information to be contained within
Update baseline surveys (arboriculture)	Hedgerow Woodland Veteran trees	Detailed DEMP

Measure	Relevant ecological receptors	Detailed information to be contained within
Update baseline surveys (habitats and notable species) prior to decommissioning	All	Detailed DEMP
Update baseline surveys (protected and invasive species) prior to decommissioning	All	Detailed DEMP
Avoidance, retention and demarcation of boundary habitats as 'Biodiversity Protection Zones (BPZ)' during decommissioning	All	Detailed DEMP
PV panel grassland protection and re-instatement	Grassland	Detailed DEMP
Watercourse / waterbody protection during decommissioning	Primarily watercourses, waterbodies and riparian mammals	Detailed DEMP
Great crested newt habitat (aquatic and terrestrial avoidance)	Great crested newt	Future NE EMPS licence (decommissioning)
Great crested and reptile newt receptor sites	Great crested newt Reptile	Future NE EMPS licence (decommissioning
Ecological watching brief of PV infrastructure removal	Primarily protected species	Detailed DEMP Future NE EMPS licence (decommissioning)

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