



- ### Key
- Solar Farm**
- DEVELOPMENT BOUNDARY
 - EXCLUDED FROM DEVELOPMENT BOUNDARY
 - NEW ACCESS TRACK
 - INDICATIVE SOLAR PV ARRAY
 - INVERTER
 - INVERTER HARDSTAND
 - SUBSTATION COMPOUND
 - TEMPORARY CONSTRUCTION COMPOUND
 - FENCE LINE
 - GATE (FENCE)
 - WATERCOURSE CROSSING
 - PERMISSIVE PATHS
 - CCTV
 - SPARES CONTAINERS
 - GATE (BOUNDARY)
 - SHEEP HANDLING SYSTEM
- Landscape Biodiversity & Enhancement Measures**
- HEDGEROW PLANTING
 - EXISTING HEDGEROW ENHANCEMENT/ REINFORCEMENT (Gapping up & Infill to be managed at 5-6m)
 - WOODLAND PLANTING
 - WILDFLOWER MIX
 - TREE PLANTING
 - BIRD BOX
 - BAT BOX
 - HEDGEHOG HOUSES
 - HERPTILE HIBERNACULA
 - INVERTEBRATE HOTELS
 - BEE BANKS
 - INDICATIVE EXISTING HEDGEROW & TREES TO BE RETAINED

Tree Planting Mix:
 All trees are bare root, standard, and 2x age, 10-12cm
 3-3.5m ht, 1.75cm clear stem, well balanced crown to be planted as shown on plan.

New Native Woodland/Shaw Planting Mix (Total Area 1.080ha):

SCIENTIFIC NAME	ENGLISH NAME
Quercus Robur	Pedunculate Oak
Fagus Sylvatica	Beech
Carpinus Betulus	Hornbeam
Betula Pendula	Birch
Castanea Sativa	Sweet Chestnut
Populus Tremula	Aspen
Ilex Aquifolium	Holly (Understorey)
Corylus Avellana	Hazel (Understorey)
Crataegus Mongnya	Hawthorn (Understorey)
Prunus Spinosa	Blackthorn (Understorey)
Acer Campestre	Field Maple (Understorey)
Taxus Bacata	Yew (Understorey)

Seed Mixes
 Seed mixes below are as recommended by Emorsgate Seeds Ltd, Limes Farm, Tiney All Saints, Kings Lynn, Norfolk, PE34 4RT, ring: (01553) 829028. E-mail: enquiries@emorsgateseeds. Final seed mixes are approved by an ecologist to best suit the soil and site conditions and supplied as directed.

Species Rich Grassland Mix (Sowing rate 50kg / hectare):

Creeping Red Fescue	30%
Crested Dogtail	20%
Cock's Foot	20%
Tall Fescue	10%
Meadow Fescue	10%
Tufted Hair Grass	5%
Small Leaved Timothy	2.54%
Yorkshire Fog	1.3%
Quaking Grass	1.2%

Hedgerow Mix:
 Biodiversity net gain recommends 2.475km of species rich hedgerow mix to be planted.
 2.786km of species rich hedgerow mix to be recommended for screening (only 0.112km of this is classed as hedgerow enhancement i.e. bringing condition of 112m moderate hedgerow to good).

Species Rich Hedgerow - Composition

SCIENTIFIC NAME	ENGLISH NAME
Crataegus Monognya	Common Hawthorn
Corylus Avellang	Hazel
Prunus Padus	Bird Cherry
Cornus Sanguinea	Dogwood
Acer Campestre	Field Maple

Outline Landscape Specifications:
Existing Vegetation:
 Any necessary works being undertaken within close proximity and to the retained tree lined hedgerows should be carried out in accordance with BS 3998:2010 Tree work Recommendations, BS 5837:2012 Trees in Relation to Design Demolition and Construction and in consultation with an arborist.
Proposed Planting:
 Planting to be supplied in accordance with BS 3936-1:1992 Nursery Stock, specification for trees and shrubs, BS 3936-4:2007 Nursery Stock, Specification for forest trees, poplars and willows, BS 8545:2014 Trees from nursery to independence in the landscape. All landscaping works to be in accordance with BS4428:1989 "General Landscaping Works." All planting should be source from local provenance certified seed stock where possible with other sources needing to be approved.
Tree Planting:
 Trees will be planted into tree pits 2-3 times the width of root spread and to the depth of root spread. The tree pit's sides are to be loosened, base aerated and later backfilled with the existing excavated subsoil and topsoil. All trees to be supported with a suitable tree guard and staked with adjustable tree ties.
Hedgerow Planting:
 Hedging planted into a trench measuring a min of 600mm wide and 300mm deep, allowing enough width and depth for the roots. Short lengths of individual whip infilling may be undertaken by slit planting. The existing soil should be improved by digging in well rotted Farm Yard Manure or other soil improver. All hedging will be supported with rabbit guards and canes and 1m wide mulch matting. Where hedgerows are proposed to outside of proposed fencing, offset the hedgerow by 2m to allow for maintenance. Temporary stock proof fencing of 1.2m high should be used to prevent grazing of new hedgerows by livestock if necessary. Any planting being carried out within the ecological constraints buffer area to be hand dug and supervised by the ECOW.
Grassland & Wildflower Seeding:
 The disturbed areas of grassland will be sown with mixes as indicated by the key, which will be maintained by cutting. It is occasionally necessary to remove topsoil to reduce fertility, re-use in tree pits on site. Remove and / or treat all weeds with herbicide. All areas to be grassed to a depth of 100mm. Soil graded to running levels and further cultivated to a fine tilth. Sowing can take place throughout the year. March/April and August/September are the most suitable. Mix seed to ensure even distribution, drill/broadcast seed at the rates as shown above. Sand can be used to bulk up small seeding rates, 4 parts silica sand to one part seed by weight. Rake/harrow into a depth of approximately 0.5cm. Firm in seed with roller. The areas of wildflower and wild bird seed mixes will be separated from this grassland by a stock-proof fencing to prevent any possible grazing by animals.
Timing & Aftercare:
 Planting of the hedgerow mix to take place during the months of November to March, preferably before January and at a time when the soil is not frozen or waterlogged. The new plants will be watered in at the time of planting and regularly during their first year. All tree and hedgerow species will have a minimum 1m wide radius free of any weeds until 3 years after planting, when they are well established. Weeding will be done using a mulch mat and either by hand or mechanical control as required in order to prevent competition for nutrients from weeds and grasses.
 The planting supports and guards will be inspected regularly to ensure they are not impeding the plant's growth and will be adjusted or replaced as required. These will be removed when the planting is established within the initial 3 years.
 The new hedgerow planting will be reduced by a third in height immediately after planting hawthorn and blackthorn, with other species lightly pruned and cut later in the first autumn. Pruning will be required in the second year to encourage bushy growth by removing half of the previous year's growth. The plants will be shaped in the third year by trimming both lateral and lead branches. Long-term management of the hedging will be to cut on a rotational basis using mechanical methods approximately every 3 years and shaped to an 'X' shape. Hedgerows will be maintained at c. 5-6m. All hedge cutting will be undertaken outside of the nesting bird period (beginning of March to end of August).
 The species rich grassland will be managed by light grazing or cutting several times in the first year to reduce competition from annual weeds and allow the grass to become established. Weeds may also need treating through selective scything before setting seed. In the second year and onwards the grassland can be maintained by a light grazing regime through the year or by cutting.
 Any loss of planting which occurs within 5 years of the initial planting as a result of plant failure will be replaced with the same plant species. Final location and number of bird nest boxes, bat boxes, dormice nests, hibernacula, bee banks and invertebrate hotels to be determined on site by an ecologist.

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Ver.	Date	Comments
F	21/07/2023	Amendments to mitigation
E	05/07/2023	Amendments to Design
D	25/11/2022	Minor amendments Mitigation
C	05/10/2022	Minor amendments Mitigation
B	30/09/2022	Minor amendments to text etc.
A	13/09/2022	



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Project: Longhedge Solar Farm
Client: RES
Drawing: Landscape & Ecological Management Plan (Overall)

Project No.: NEO00782
Drawing No.: NEO00782_0231_F Figure 11a
Drawn: JM **Checked:** MM **Approved:** PN
Scale: 1:3,500 @ A1 **Revision:**
Date: 21 July 2023 **F**

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