Planting Schedule:

Heavy Standard Trees

No.	Species	Specification	Location
7	Quercus robur	3x12-14 HS, 3.5-4.25m ht. 1.75-2.00m clear stem, RB	as shown

Heavy Standard Trees - Woodland Buffer Areas

Area 1	Area 2	Area 3	Area 4	Species	Specification	Location	Ratio
37	18	37	13	Alnus glutinosa	3x12-14 HS, 3.5-4.25m ht., 1.75-2.00m clear stem, bareroot.	as indicated	25%
74	36	73	26	Betula pendula	3x12-14 HS, 3.5-4.25m ht., 1.75-2.00m clear stem, bareroot.	as indicated	50%
37	18	36	13	Sorbus aucuparia	3x12-14 HS, 3.5-4.25m ht., 1.75-2.00m clear stem, bareroot.	as indicated	25%

Feathered Trees - Woodland Buffer Areas

Area 1	Area 2	Area 3	Area 4	Species	Specification	Location	Ratio
43	35	64	33	Acer campestre	Feathered, 125-150cm ht., bagged, min.2 branches.	as indicated	25%
86	70	128	66	Crataegus monogyna	Feathered, 125-150cm ht., bagged, min.2 branches.	as indicated	50%
43	35	65	33	Corylus avellana	Feathered, 125-150cm ht., bagged, min.2 branches.	as indicated	25%

Native Shrubs - Woodland Buffer Areas

Area 1	Area 2	Area 3	Area 4	Area 5	Species	Specification	Location	Ratio
4670	1220	2700	850	1945	Prunus spinosa	1+2, 80-100cm ht., bareroot, branched.	as indicated	30%
3115	810	1800	565	1300	Rosa canina	1+1, 60-80cm ht., bareroot, branched.	as indicated	20%
1555	405	900	280	650	Sambucca nigra	1+1, 80-100cm ht., bareroot, branched.	as indicated	10%
4670	1220	2700	850	1945	Ilex aquifolium	3L pot, 40-60cm ht., containerised, bushy.	as indicated	30%
1555	405	900	280	650	Salix caprea	1+1, 40-60cm ht., bareroot, branched.	as indicated	10%

Native Mix Hedge Planting

Quantitiy	Species	Specification	Density
1336.5 lin m	Species Rich Mixed Native Instant hedge - 50% Hawthorn (Cratagus monogyna), 20% Holly (Ilex aquifolium), 20% Field Maple (Acer campestre), 10% Dog Rose (Rosa canina)	100/120cm x 30cm x 30cm trough, Mixed Native Instant hedge, bushy plants.	min. 3/lin m @1.2m high,as shown
903m lin m new hedgerow	Hawthorn based (Cratagus monogyna) (50%), 20% Holly (Ilex aquifolium),10% each of Dog Rose (Rosa canina), Bird Cherry (Prunus padus), Field Maple (Acer campestre).	Transplant, 1+2, 80-100cm ht. Bareroot	Planted up behind or through gaps in the site's existing boundaries. Planted as double staggered rows at 6-8 per metre and spacings of 300-400mm.

*Quantities of infill hedgerow to be determined on site prior to construction, gaps of 1m + to be filled in.

Seed Mixes

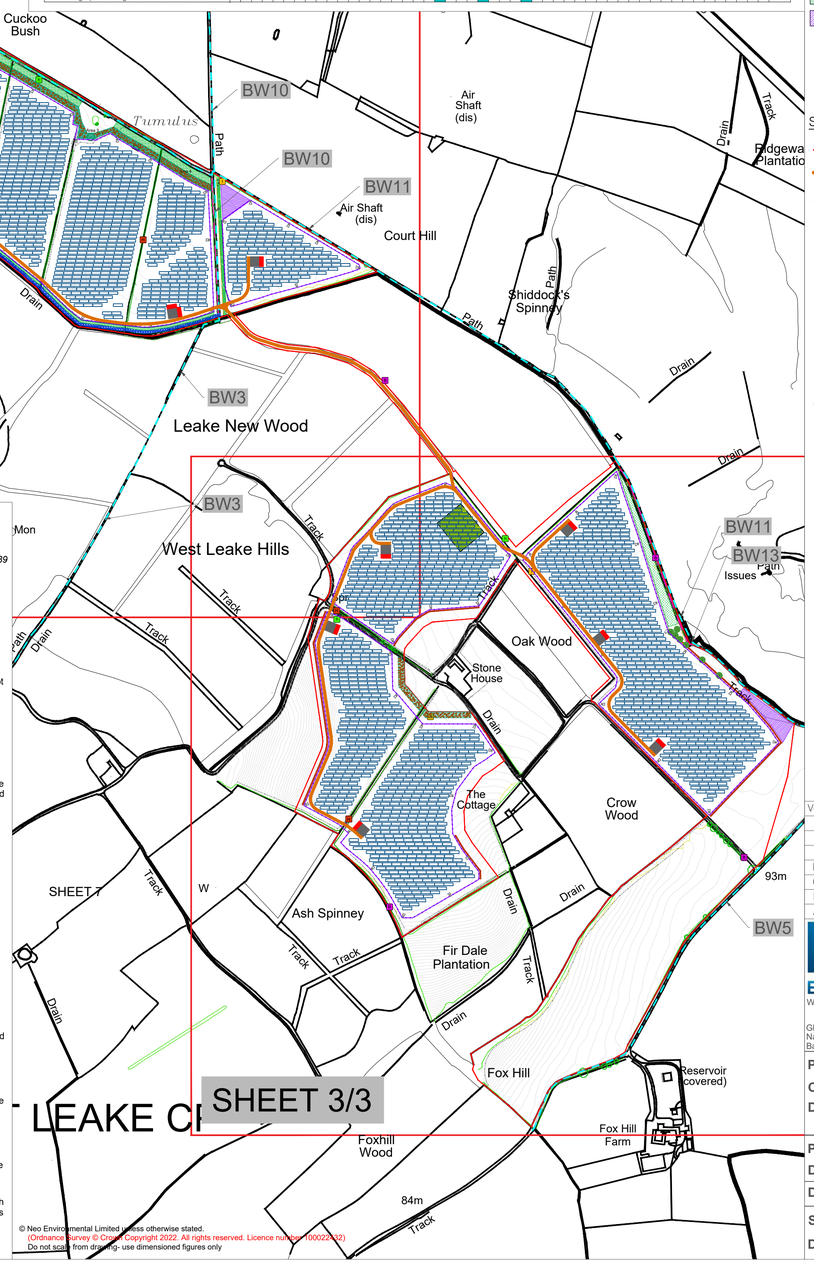
Seed mixes below are as recommended by Green Farm Seeds Ltd., Green Farm, Newent, Gloucestershire. GL18 1JU T: 01531 822833 www.greenfarmseeds.com. Final seed mixes are to be approved by an ecologist to best suit the soil and site conditions and supplied as directed.

Species Rich Grassland Mix (Sowing rate 35kg / hectare):

Smooth Stalked Meadow Grass	20 %
Creeping Red Fescue	25 %
Meadow Fescue	20 %
Sheeps Fescue	15 %
Crested Dogstail	10 %
Small Leaved Timothy	4 %
Birds Foot Trefoil	2 %
Alsike Clover	2 %
Small Leaved White Clover	2 %

Species Rich Grassland and Wildflower Mix (Sowing rate 20kg / hectare):

Smooth Stalked Meadow Grass	15 %
Creeping Red Fescue	15 %
Browntop Bent	10 %
Meadow Fescue	15 %
Sheeps Fescue	10 %
Crested Dogstail	10 %
Small Leaved Timothy	10 %
Black Knapweed	2.25 %
Selfheal	1.8 %
Ribwort Plantain	1.5 %
Meadow Buttercup	1.35 %
Ox-Eye Daisy	1.2 %
Common Sorrel	1.2 %
Yellow Rattle	1.2 %
Lady's Bedstraw	1.2 %
Black Medick	0.9 %
Field Scabious	0.75 %
Meadow Vetchling	0.6 %
Yarrow	0.45 %
Ragged Robin	0.3 %
Red Clover	0.3 %



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* andand 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.

TOP SOIL
Imported topsoil should comply with BS 3882:2015 and be spread to a depth of 150mm throughout all turf areas. Topsoil shall be laid over a minimum 300mm depth of subsoil if available on site. For tree pits see detail and for shrubs, topsoil should be spread to a depth of 450mm over suitable sub-soil.

PLANT MATERIAL
All plant material to be grown in UK, inspected by LA and approved at the growing nursery or on site before incorporation in the works. All top soil must comply with full and detailed LA specification.

All shrub areas to receive 75mm thick layer of medium grade bark mulch on completion, particle size 10-65mm to be spread after watering.

All trees to be planted between November and early March. All trees to have grass no closer than 500mm to the stem and the area beneath the tree shall have a 75mm layer of medium grade bark mulch. Tree pits within 2000mm of services and or paths and where indicated on drawing to be lined with REROOT 600 root deflection barrier by Greenleaf Products.

HEAVY STANDARD TREE PLANTING
Heavy standard trees to be planted into prepared pits of approved topsoil 600 x 600 x 450mm deep. Any compacted material at the base of the pit to be forked a further 300mm to provide demonstrable drainage. Backfill to consist of topsoil in accordance with the above spec. with 25% Treestart Peat-Free planting compost and incorporated with 500g of Broadlead P4 granules. Sierrablen Flora Tablets slow release fertiliser incorporated into the tree pit at a rate of 10 tablets per tree, placed at the side of the root zone halfway up the backfill, no deeper than 20cm and distributed evely around the rootball.
Heavy standard trees to be secured with 50mm special nylon reinforced belt to Tom's big block secured to a 75mm dia stake. Cross bar to be secured to two 75mm dia. 3200mm long turned larch stakes positioned either side of the rootball. Stakes to be driven to a min. 1500mm into the ground. Any excess on the stakes shall be cut and once weathered at 45°. Each tree shall have a 50mm dia. wavin coil watering and aeration pipe around the rootball. The pipe shall have a cap which shall finish flush with the surface.

FEATHERED TREE PLANTING
Feathered trees to be planted into prepared pits of topsoil 500x500x450mm deep. It is assumed that topsoil is present on site however this may need to be supplemented with imported material if soil is not available to the depth required. Any compacted material at the base of the pit to be forked a further 200mm to provide demonstrable free drainage. Backfill to consist of site excavated topsoil with 25% Treestart Peat-Free planting compost incorporated. Sierrablen Flora Tablets slow release fertiliser incorporated into the tree pit at a rate of 5 tablets per tree, placed at the side of the root zone halfway up the backfill, no deeper than 20cm and distributed evenly around the roots. Trees to be secured by a single rubber tree tie with spacer to one 60mm dia. turned larch tree stake 1200mm long driven 600mm into the ground. Stakes to be once weathered at 45degrees.

HEDGE PLANTING
Hedging planted into a trench measuring a min of 600mm wide and 300mm deep, allowing enough width and depth for the roots and graded to running levels with the removal of debris.
Short lengths of individual whip infilling may be undertaken by slit planting. The existing soil should be improved by digging in well rotten Farm Yard Manure or other soil improver 200mm deep into the topsoil.
Transplant bareroot hedging will be protected by a clear spiral rabbit guard 600mm high 38mm dia. supported by a bamboo cane and 1m wide mulch matting on completion of planting. Water well upon completion.
Remove instant hedge from trough if non-biodegradeable, otherwise sit the hedge and trough into the trench (min. 250mm deep) and fertilise, backfill and water as above. Protect instant hedge by securing the area with rabbit netting if required.
Where hedegrows 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 lightly grazed by sheep or maintained by cutting.
The areas of wildflower mix will be separated from this grassland by a stock-proof fencing to prevent any possible grazing by animals. A strained wire and wire mesh netting fencing system with single gate entrance to be erected to exclude livestock (eg. cattle and sheep) and to allow access for maintenance.

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 be cultivated 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 weigh. Rake/harrow in to a depth of approximately 0.5cm. Firm in seed with roller.

Timing & Aftercare:
Planting of the hedgerow mix to take place during the months of November to March preferably before January and instant hedging can be planted all year through. Plant 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.

Transplant bareroot hedgerow planting will be reduced by a third in height immediately after planting hawthorn, 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 'A' shape.
Instant hedging only require a light trim to remove excess growth . Subsequent trimming will be to cut on a rotational basis using mechanical methods approximately every 3 years and shaped to an 'A' shape.
All hedgerows will be maintained at c. 4m. 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.

The wildflower grassland areas, weed control measures to be implemented and reduce competition from vigorous grasses, if necessary cut the sward to a height of 5cm every 2monthsor when the sward reaches 15cm. Remove all cut material to avoid smothering the sward. Where persistent weeds are a problem, spot treat with herbicide or dig-out. Long-term management after 12months - cut to 7.5cm during March/April and remove arisings from fenced area. Second cut to 10cm and take place at the end of the flowering season August/September. Leave arisings for a week to dry and shed seeds and remove arising from fenced area (can be used as hay). Every year thereafter, cut February/March and remove arisings from fenced area.

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, dormise nests, hibernacula, bee banks and invertebrate hotels to be determined on site by an ecologist.

ESTABLISHMENT & MAINTENANCE SCHEDULE YEAR 0 TO YEAR 5

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Tree Planting:												
Tree and Shrub establishment inspection												
Pruning and thinning (outside the bird nesting season)												
Dead tree replacement												
Fertiliser application												
Residual herbicide application												
Translocated herbicide application												
Check stakes, ties and tree shelters (removal after 3 years)												
Litter & fallen leaf removal												
Inspection												
Hedge Planting												
Pruning and thinning												
Re-Firming												
Dead tree replacement												
Fertiliser application												
Residual herbicide application												
Translocated herbicide application												
Check stakes, ties and tree shelters												
Litter removal												
Grassed Areas Species Rich Grassland :												
Gras cutting (and removal of arisings/clippings off site)												
Weed Control												
Fertiliser spring application												
Fertiliser autumn application												
Litter & fallen leaf removal												
Wildflower Grassed Areas : Seed preferably in August/September. Can also be sown in March/April.												
Gras cutting (arisings to be removed from site) Year 1												
Year 2 onwards												
Habitat Provision:												
Installation of bird boxes, bat boxes	Undertaken at any time of the year - ideally in early spring											
Creation of hibernacula, invertebrate hotels	Undertaken at any time of the year											
Management of bird boxes												
Management of bat boxes												
Management of invertebrate hotels												
Management of hibernacula	After year 1 they are to be left to allow natural vegetation colonisation and disturbance											
Monitoring by an ecologist carried out in Yrs 1,2,3,5 &10												

Key

Landscaping & Ecology Measures

- Indicative Existing Hedgerow & Trees to be retained
- Indicative Existing Vegetation to be Removed
- Existing Bridleways
- Proposed Permissive Path (Educational Route)
- Proposed Native Instant Hedgerow
- Proposed Native Hedgerow Planting
- Proposed Native Hedgerow Infill Planting
- h Proposed Herptile Hibernaculum
- H Proposed Hedgehog House
- B Proposed Bird & Bat Boxes
- I Proposed Invertebrate Hotel
- Proposed Species Rich Grassland Mix
- Native Shrub Planting
- Heavy Standard Native Tree Planting (Woodland)
- Feathered Native Tree Planting (Woodland)
- Heavy Standard Native Tree Planting
- Proposed Grassland Strip
- Proposed Wildflower Meadow Strip

Site Features

- DEVELOPMENT BOUNDARY
- NEW ACCESS TRACK
- EXISTING ACCESS TRACK TO BE WIDENED (WOOD LANE)
- INDICATIVE SOLAR PV ARRAY
- INVERTER
- HARDSTAND
- SUBSTATION COMPOUND
- TEMPORARY CONSTRUCTION COMPOUND
- SPARES CONTAINERS
- FENCE LINE
- GATE
- CCTV COLUMN (SIZE SHOWN INDICATIVELY)
- INDICATIVE INFILTRATION POND LOCATION

Drawn By: Jamie McGhee
Address: Wright Business Centre
1 Lonmay Road
Glasgow
G33 4EL

Ver.	Date	Comments
D	15/11/2022	Amendments to layout
C	27/01/2022	Amendments to Text & Key
B	19/01/2022	Amendments to mitigation
A	14/12/2021	

neo ENVIRONMENTAL
Warrington Office: T:01925 661 716 E: info@neo-environmental.co.uk
Glasgow Office: T: 0141 773 6262 E: info@neo-environmental.co.uk
Naas Office: T:00353 (0)45 844250 E: info@neo-environmental.ie
Ballymena Office: T:0282 565 0413 E: info@neo-environmental.co.uk

Project: Kingston Solar Farm
Client: RES
Drawing: Landscape & Ecology Management Plan (1/3)

Project No.: NEO00763
Drawing No.: NEO00763_047I_D **Figure 1.14a**
Drawn: JM **Checked:** NB **Approved:** PN
Scale: 1:5,000 @ A1 **Revision:** D
Date: 15 November 2022

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