

IMPLEMENTATION AND MAINTENANCE GUIDELINES

- 1.0 GENERAL**
- All plants shall conform to BS 2926 and be in accordance with the National Plant Specification, Supplying nurseries shall be registered under the HFA Nursery Certification Scheme. All plants shall be packed and transported in accordance with the Code of Practice for Plant Handling as produced by CPSE. Planting shall not be carried out when the ground is waterlogged, frostbound or during periods of cold drying winds. All bare root stock shall be root dipped in an approved water-retaining polymer.
 - If the formation level is compacted it should be ripped through before topsoiling.
 - Topsoil depths to be 450mm for shrub beds and 150mm for grass areas.
- 2.0 ORNAMENTAL SHRUBS AND TREES**
- 2.1 Ground Preparation**
- Where necessary treat existing weeds with a glyphosate based herbicide and allow a suitable period as recommended by the manufacturer for this to take effect. A general purpose slow release fertiliser at the rate of 75g/m² and Tree Planting and Mulching Compost at the rate of 20litres/m² are to be incorporated into the top 100mm of topsoil during final cultivations. All extraneous matter such as plastic, wood, metal and stones greater than 50mm in any dimension shall be removed from site.
- Tree pits are to be excavated and the base broken up a further 150mm with the sides well scarified to prevent smearing. All trees up to and including selected standards are to be supported with single 75mm diameter stakes. All rootball, container grown and trees over heavy standard size shall be double staked. Any feature trees semi mature in size to be secured with a below ground anchoring system (such as a deadman anchor). Stakes should be driven 50mm into undisturbed ground before the tree, taking care to avoid underground services and cables etc.
- 2.2 Planting**
- Shrubs and hedges are to be set out as shown on the drawing and pit planted into the prepared soil at the specified centres with minimal disturbance to the rootball and well firm in.
- Trees are to be placed into the pits and backfilled with topsoil incorporating slow release fertilizer and Tree Planting and Mulching Compost as specified. Firm trees in well and secure with proprietary rubber tree ties and spacers.
- Water in all trees and shrubs at the end of each day of planting.
- Spread ornamental pine bark mulch to a depth of 75mm across all new planting areas ensuring groundcover plants are not buried
- 2.3 Maintenance**
- The landscape contractor shall maintain all areas of new planting for a period of 12 months following practical completion. All stock deemed to be dead, dying or diseased within the defects period shall be replaced by the contractor at his own cost.
- The site is to be visited monthly throughout the year to undertake the following operations.
- Weed clearance:** All planting areas are to be kept weed free by hand weeding or herbicide treatment.
 - Litter clearance:** All litter is to be removed from planting beds.
 - Watering:** Planting areas are to be brought up to field capacity at each visit and each tree to receive 20 gallons.
 - Checking trees:** All tree ties and stakes are to be checked and adjusted if too loose, too tight or if chaffing is occurring. Any broken stakes are to be replaced.
 - Formative pruning:** Any damaged shoots/branches are to be pruned back to healthy wood. Plants are to be pruned in accordance with good horticultural practice to maintain healthy well-shaped specimens.
- 3.0 NATIVE HEDGE PLANTING**
- 3.1 Setting Out**
- The hedge line shall be set out using 38x38x1200 stakes at maximum 50m intervals and all herbaceous material within 500mm each side of the centre line shall be sprayed out using an approved herbicide at least two weeks before planting.
- 3.2 Preparation**
- The 1000mm wide hedge line shall be cultivated to 150mm incorporating Enmag or equal at 75g/m².
- 3.3 Planting**
- Plants shall be notch planted in three rows 250mm apart and staggered at 300mm centres. All plants are to be protected with a 600mm proprietary shelter secured with a stake and ties as recommended by the manufacturer.
- 3.4 Maintenance**
- Using approved herbicides a 1000mm wide swathe centred on the hedge line shall be kept weed free throughout the maintenance period.
- Each Autumn after planting and until handover to the adopting authority, the contractor will prepare a list of all plants which are dead, dying or diseased and will replace these plants during the following planting season.
- 4.0 GRASS**
- 4.1 Preparation**
- The area to be seeded shall be sprayed out with a glyphosate herbicide and cultivated to a depth of 100mm removing all weeds, debris and stones over 20mm diameter. The surface shall be raked to smooth following contours with a fine tish, incorporating pre-seeding fertiliser at 70 g/m².
- 4.2 Turf**
- Turfing operations shall be in accordance with BS 4228.
- Whole turves shall be laid around the perimeter of the area to be turfed. The central area shall be laid in rows with staggered joints, well butted together, working from planks positioned on turves already laid. The turf shall be watered on completion. Any unevenness shall be made good by lifting the turf and adjusting the levels. Should shrinkage occur, fine topsoil shall be brushed into the joints.
- 4.3 Seeding**
- Grass seed shall be sown in April during calm weather and not when the ground is frost bound or waterlogged. Seed shall be sown in two equal sowings in transverse directions at 3g/m². After sowing the contractor shall lightly rake the seed into intimate contact with the soil. All seed mixes to be specified in accordance with those set out in the approved management plan.
- 4.4 Initial cut**
- When newly seeded areas reach 50mm they should be cut back to a height of 30mm and then cut twice annually in early Spring and late Summer. All arisings shall be removed or spread evenly across grassland. Any bare patches shall be made good at this time.
- 5.0 TOPSOIL**
- 5.1 Existing Topsoil**
- Pre-planting herbicide application:- Apply by suitable spraying apparatus, an approved translocated systemic herbicide to the manufacturer's instructions and to 1997 Control of Pesticides Regulations and 2003 COSHH regulations on all beds, except those which are both weed free and are to receive agrotextile sheet mulch. Spray immediately if any weeds are present. If none are showing, but there may be a delay before planting, or the area is to be seeded, spray after one month following cultivation, to allow dormant seed to terminate. All spraying shall be carried out by skilled and qualified operatives, using protective clothing, in suitable weather (no wind and any damage caused by spray drift, from incorrect usage or spillage, shall be rectified at the contractor's own cost. Repeat as necessary to ensure complete kill and rake off all dead material from site.
- Carry out the following works to the existing topsoil on site to ensure it conforms to BS 3882:1994, being free from rocks larger than 50mm diameter, concrete, all roots, wire, brick, and have less than 20% clay. Allow for pre-application of herbicide as above. Fertilise with 100g per meter square of Vimax "Nutriorte 180" slow release fertilizer, in accordance with the manufacturer's instructions. For beds less than 5 metres in width, fork over thoroughly or machine rotavate soil to a depth of 300mm, ensuring that the subgrade and topsoil are completely broken up and free draining, retaining any compaction. For beds greater than 5 metres in width, break up the subgrade and topsoil using a tractor mounted subsoiler or ripper at 500mm centres to a depth of 500mm, except where there are services, or within 10 meters of free stems or 3 meters of existing hedges. Do not rip areas where roots greater than 10mm diameter are encountered.
- 5.2 Imported Topsoil**
- Any imported topsoil for making up ground, shall conform to BS 3882:1994, and be free from rocks (over 50mm diameter), concrete, roots, wire and brick, and have less than 20% clay.

NOTES

- All landscape proposals must be referred to by the Structural Engineer during foundation design.
- Soiling operations to be carried out in accordance with the implementation and maintenance guidelines.
- All planting to be in accordance with the implementation and maintenance guidelines.
- No species, variety, size or position to be amended without the Landscape Architects prior approval.
- Before trees are planted, the Landscape Contractor shall ascertain the location of drains from the site manager, and shall if necessary make minor adjustments to tree positions to ensure that they are planted at least 1.5m from drains. They should however be planted no closer to houses/garages than is shown on the drawing, and if shown located in shrub beds, the shape of the latter should be adjusted if necessary to accommodate the revised tree position.
- All planting must be mulched in accordance with the implementation and maintenance guidelines.
- If planting is required outside the October-March season, bare root shrubs will be replaced by 3L pot grown plants, and trees will be replaced by a containerised equivalent to be approved by the project landscape architect.

KEY

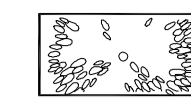
- Site boundary
- Existing trees and hedgerow to be retained
Existing hedgerows to be retained indicated with dotted hatch on plan.
- Existing trees and hedgerows to be removed
Indicated with dashed lines.
- Soft Landscape Proposals
Refer to plant schedule for details.
- Turf to plot frontages
Rolawn mediation turf or similar approved, laid in accordance with the implementation guidelines.
- Easements
- Knee rail fencing
Knee rail, fencing 60cm high, to be located along the edge of the existing ditch course. Knee rail as supplied by Jacksons Fencing or similar approved.

NATIVE MIX HEDGEROW

ABBR	SPECIES	MIX(%)	SUPPLY	SIZE(cm)	CTRS(m)
CORAV	Corylus avellana	10	T 1-1	60/80	0.30
CRAMON	Crataegus monogyna	50	T 1-1	60/80	0.30
FAGSY	Fagus sylvatica	10	T 1-1	60/80	0.30
ILEAQ	Ilex aquifolium	15	2L	40/60	0.30
PRUSP	Prunus spinosa	10	T 1-1	60/80	0.30
ROSCA	Rosa canina	5	T 1-1	60/80	0.30

New native hedgerow species mix in accordance with hedgerow species set out on St Modwen drawing "Full Site Layout", ref: 40776/019H. Hedgerow shrubs to be supplied as bare root stock unless stated and to be planted in accordance with the implementation and maintenance guidelines. The landscape proposals must be referred to by the Structural Engineer during foundation design. No hedgerow shrub species, size or location should be altered without prior approval from the Landscape Architect. Hedgerow shrubs to be planted on a triple staggered row, 250mm apart with no less than 10 per linear metre within a 100cm wide bed in accordance with the implementation and maintenance guidelines. Shrubs to be attached to a double line support fence (60cm high) using an approved cup tie.

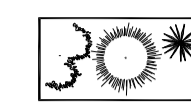
PLANT SCHEDULE



TREES - to plots

REF	SPECIES	SUPPLY	SIZE(cm)	GIRTH(cm)	CTRS(m)
T1	Acer campestre 'Elsrijk'	EHSid	450/625	16/18	as shown
T2	Betula utilis 'Jacquemontii'	EHSid	450/625	16/18	as shown
T3	Maius 'Evereste'	EHSid	450/625	16/18	as shown
T4	Prunus cerasifera 'Pissardi'	EHSid	450/625	16/18	as shown
T5	Pyrus calleryana 'Chanticleer'	EHSid	450/625	16/18	as shown

All trees to be planted in accordance with the implementation and maintenance guidelines. The tree planting schedule and landscape proposals must be referred to by the Structural Engineer during foundation design. No tree species, size or location should be altered without prior approval from the Landscape Architect.



SPECIMEN SHRUBS & CLIMBERS

REF	SPECIES	SUPPLY	SIZE(cm)	HABIT	CTRS(m)
S1	Cercis 'Forest Pansy'	70L	150/175	Bushy	as shown
S2	Juniperus 'Sky Rocket'	35L	125/150	Bushy	as shown
S3	Magnolia 'Stellata'	25L	100/125	Bushy	as shown
S4	Mahonia 'Winter Sun'	35L	125/150	Bushy	as shown
S5	Phormium 'Jester'	25L	100/125	Triple Crown as shown	
S6	Phormium 'Yellow Wave'	25L	100/125	Triple Crown as shown	
S7	Photinia x fraseri 'Red Robin'	70L	175/200	1/2 Std.	as shown
S8	Syringa vulgaris 'Charles Joy'	25L	125/150	Bushy	as shown

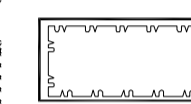
All feature shrubs/climbers to be planted in accordance with the implementation and maintenance guidelines. No feature shrub/climber species, size or location should be altered without prior approval from the Landscape Architect.



HEDGEROWS

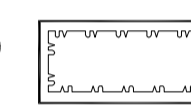
ABBR	SPECIES	SUPPLY	SIZE(cm)	HABIT	CTRS(m)
ELAEB	Elaeagnus x ebbingei	10L	80/100	Bushy	0.50
PRULU	Prunus lusitanica	10L	80/100	Bushy	0.50

All hedgerow shrubs to be planted in accordance with the implementation and maintenance guidelines. The landscape proposals must be referred to by the Structural Engineer during foundation design. No hedgerow shrub species, size or location should be altered without prior approval from the Landscape Architect. Hedgerow shrubs to be planted in a single row within a 50cm wide bed and mulched in accordance with the implementation and maintenance guidelines. Hedgerow shrubs to be cut back to 80cm at the time of planting and maintained at this height unless within visibility lines, where the maximum height should be 60cm.



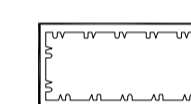
SHRUB MIX 1

ABBR	SPECIES	SUPPLY	SIZE(cm)	HABIT	CTRS(m)
CHOTES	Choisya ternata 'Sundance'	10L	40/60	Bushy	0.70
ELAEB	Elaeagnus ebbingei	10L	80/100	Bushy	0.70
*HEBALRE	Hebe abicans 'Red Edge'	10L	30/40	Bushy	0.70
*LAVANMU	Lavandula angustifolia 'Munstead'	10L	30/40	Bushy	0.70
PHODA	Phormium 'Dazzler'	10L	60/80	Bushy	0.70



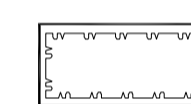
SHRUB MIX 2

ABBR	SPECIES	SUPPLY	SIZE(cm)	HABIT	CTRS(m)
AUCROA	Aucuba japonica 'Crotanifolia'	10L	40/60	Bushy	0.70
CHOAP	Choisya 'Aster Pearl'	10L	40/60	Bushy	0.70
CORSAWF	Cornus sanguinea 'Winter Flame'	10L	60/80	Bushy	0.70
*EUOFDEG	Euonymus fortunei 'Emerald Gaiety'	10L	30/40	Bushy	0.70
*HEBMW	Hebe 'Mrs Winder'	10L	30/40	Bushy	0.70



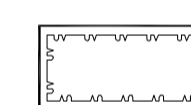
SHRUB MIX 3

ABBR	SPECIES	SUPPLY	SIZE(cm)	HABIT	CTRS(m)
AUCJA	Aucuba japonica	10L	40/60	Bushy	0.70
*EUOFDEG	Euonymus fortunei 'Emerald n' Gold'	10L	30/40	Bushy	0.70
*MAHAQAP	Mahonia aquifolium 'Apolia'	10L	30/40	Bushy	0.70
PRULAOL	Prunus laurocerasus 'Otto Luyken'	10L	60/80	Bushy	0.70
VIBDA	Viburnum davidii	10L	40/60	Bushy	0.70



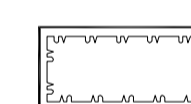
SHRUB MIX 4

ABBR	SPECIES	SUPPLY	SIZE(cm)	HABIT	CTRS(m)
AUCJAR	Aucuba japonica 'Rozannie'	10L	40/60	Bushy	0.70
CHOTE	Choisya 'Aster Pearl'	10L	40/60	Bushy	0.70
*EUOFDEG	Euonymus fortunei 'Emerald Gaiety'	10L	30/40	Bushy	0.70
HYPHI	Hypericum 'Hidcote'	10L	40/60	Bushy	0.70
*SARCO	Sarcococca confusa	10L	20/30	Bushy	0.70



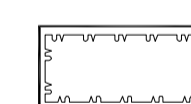
SHRUB MIX 5

ABBR	SPECIES	SUPPLY	SIZE(cm)	HABIT	CTRS(m)
CHOTES	Choisya ternata 'Sundance'	10L	40/60	Bushy	0.70
*CISCP	Cistus 'Silver Pink'	10L	40/60	Bushy	0.70
*HEBPIS	Hebe pingulifolia 'Sutherlandii'	10L	30/40	Bushy	0.70
PITTETT	Pittosporum tenuifolium 'Tom Thumb'	10L	30/40	Bushy	0.70
ROSOFF	Rosmarinus officinalis	10L	40/60	Bushy	0.70



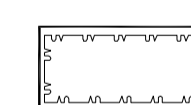
SHRUB MIX 6

ABBR	SPECIES	SUPPLY	SIZE(cm)	HABIT	CTRS(m)
*HEBRA	Hebe rakaiensis	10L	30/40	Bushy	0.70
*LAVANMU	Lavandula angustifolia 'Munstead'	10L	30/40	Bushy	0.70
PERATBS	Perovskia 'Blue Spire'	5L	40/60	Bushy	0.70
PHOWAVA	Phormium 'Yellow Wave'	10L	60/80	Bushy	0.70
PHOFRRER	Photinia fraseri 'Red Robin'	10L	60/80	Bushy	0.70



AMENITY SHRUB MIX 1 - to rear garden boundaries

ABBR	SPECIES	SUPPLY	SIZE(cm)	HABIT	CTRS(m)
AUCJA	Aucuba japonica	5L	40/60	Bushy	0.75
CORALE	Cornus alba 'Elegantissima'	3L	40/60	Branched	0.75
ELAPUMA	Elaeagnus pungens 'Maculata'	5L	40/60	Bushy	0.75
FATJA	Fatsia japonica	5L	40/60	Bushy	0.75
PHOFRRER	Photinia fraseri 'Red Robin'	5L	40/60	Bushy	0.75
PRULU	Prunus lusitanica	5L	40/60	Bushy	0.75



AMENITY SHRUB MIX 2 - low level shrubs

ABBR	SPECIES	SUPPLY	SIZE(cm)	HABIT	CTRS(m)
BRASU	Brachyglottis 'Sunshine'	10L	60/80	Bushy	0.70
CEATHR	Ceanothus thyrsiflorus repens	10L	40/60	Bushy	0.70
HEBPIS	Hebe pingulifolia 'Sutherlandii'	10L	30/40	Bushy	0.70
PRULAZA	Prunus laurocerasus 'Zabeliana'	10L	60/80	Bushy	0.70

All shrubs to be planted in accordance with the implementation and maintenance guidelines. No shrub species, size or location should be altered without prior approval from the Landscape Architect. Individual species to be planted in groups of 3-7. Lower growing species to be planted at the front of the shrub bed and adjacent to paths. Low growing species marked with * above. Single species to be planted as per quantities set out on the drawing.

C-12/07/2017 AFI New native hedgerow species updated and hedgerows retained & removed raised
B-12/03/2017 LBI Updated to latest site layout
A-15/03/2017 EWI Updated to latest site layout and client comments on additional planting
Revisions:
First Issue - 30/03/2017 EIW

