

Detailed Planting Schedule

TREES					
Species	Abbreviation	Girth	Height	Specification	Density Number
Acer campestre	Ac			Native Understorey Planting Mix	1Ctr 858 No.
Acer campestre 'Streetwise'	AcS	14-16cm		RB :Extra Heavy Standard :Clear Stem 150-175	Counted 6 No.
Amelanchier lamarkii	Al	14-16cm		RB :Extra Heavy Standard :Clear Stem 150-175	Counted 15 No.
Betula ermanii	Be	12-14cm		RB :Heavy Standard	Counted 8 No.
Betula papyrifera	Bpa		2.5-3.0m	RB :Multi-Stemmed	Counted 3 No.
Betula pendula	Bp	14-16cm		RB :Extra Heavy Standard	Counted 12 No.
Betula pendula	BEPE			Native Understorey Planting Mix	1Ctr 572 No.
Betula pendula (Multi-Stemmed)	Bp (m)		2.5-3.0m	RB :Multi-Stemmed	Counted 13 No.
Betula pubescens	Bpb		2.5-3.0m	RB :Multi-Stemmed	Counted 14 No.
Betula utilis var. jacquemontii	Bu/J	14-16cm		RB :Extra Heavy Standard :Clear Stem 150-175	Counted 10 No.
Carpinus betulus 'Fastigiata'	CbF		3.0-4.0m	C :Feather	Counted 4 No.
Carpinus betulus 'streetwise'	Cb/S	14-16cm		RB :Extra Heavy Standard :Clear Stem 150-175	Counted 13 No.
Cornus kousa Chinensis	CkC	14-16cm		RB :Extra Heavy Standard :Clear Stem 150-175	Counted 9 No.
Corylus avellana	Ca			Native Understorey Planting Mix	1Ctr 572 No.
Crataegus monogyna	CM		100-125cm	Native Understorey Planting Mix	1Ctr 858 No.
Liquidambar styraciflua	Ls	14-16cm		RB :Extra Heavy Standard	Counted 9 No.
Malus domestica 'Cox's Orange Pippin'	Md'COP	12-14cm		RB :Heavy Standard	Counted 13 No.
Nyssa sylvatica	Ns	14-16		RB :Extra Heavy Standard	Counted 2 No.
Parrotia persica	Pp		2.5-3.0m	RB :Multi Stem	Counted 6 No.
Prunus 'Umineko'	PU'	14-16cm		RB :Extra Heavy Standard :Clear Stem 150-175	Counted 6 No.
Prunus serrula	Ps	14-16cm		RB :Extra Heavy Standard :Clear Stem 150-175	Counted 7 No.
Prunus Serrula (Multi-Stemmed)	Ps (m)		2.5-3.0m	RB :Multi-Stemmed	Counted 6 No.
Pyrus calleryana 'Chanticleer'	PcC	16-18cm		RB :Extra Heavy Standard :Clear Stem 150-175	Counted 9 No.
Pyrus calleryana 'Redspire'	PcR	14-16cm		RB :Extra Heavy Standard :Clear Stem 150-175	Counted 10 No.
Quercus palustris 'Green Pillar'	Qp/GP		3.0-4.0m	RB :Feather	Counted 7 No.
Quercus robur	Qr	14-16cm		RB :Extra Heavy Standard	Counted 16 No.
Quercus rubra	Qru	14-16cm		RB :Extra Heavy Standard	Counted 1 No.
Sorbus aucuparia	Sa	14-16cm		RB :Extra Heavy Standard	Counted 6 No.
Tilia cordata 'Green Spire'	Tc/GS	16-18cm		RB :Extra Heavy Standard :Clear Stem 150-175	Counted 12 No.
Total :3077 No.					

HEDGING						
Species	Height	Pot Size	Specification	Density	Number	
Carpinus betulus	80-100cm	5L	BR	0.3Ctr Double Staggered at 0.3m offset	1840 No.	
Ilex crenata	40-60cm	3L	C	0.3Ctr Double Staggered at 0.3m offset	527 No.	
Total :					2367 No.	

SHRUBS					
Species	Height	Pot Size	Specification	Density	Number
Berberis thunbergii 'Atropurpurea'	60-80cm	3L	C	5/m²	18 No.
Ceratostigma willmottianum	30-40cm	5L	C :Bushy	7/m²	68 No.
Choisya 'Aztec Pearl'	40-60cm	3L	C	5/m²	151 No.
Choisya ternata 'Sundance'	40-60cm	3L	C	5/m²	145 No.
Cornus alba 'Elegantissima'	60-80cm	3L	C	5/m²	107 No.
Cornus alba 'Sibirica'	40-60cm	3L	C	5/m²	27 No.
Cornus sanguinea	60-80cm	BR	Native Understorey Planting Mix	1Ctr 858 No.	
Cornus sanguinea 'Midwinter Fire'	60-80cm	3L	C	5/m²	928 No.
Cornus sanguinea 'Midwinter Fire'	60-80cm	10L	C	Counted 9 No.	
Cornus sericea 'Flaviramea'	60-80cm	3L	C	5/m²	187 No.
Crataegus monogyna	2.5m		RB :Multi-Stemmed	Counted 6 No.	
Euonymus fortunei 'Dart's Blanket'	20-30cm	3L	C	7/m²	441 No.
Euonymus fortunei 'Emerald Gaiety'	20-30cm	3L	C :Bushy	7/m²	50 No.
Hebe 'Caedonia'	30-45cm	5L	C	7/m²	148 No.
Hebe 'Margot'	30-45cm	5L	C	7/m²	26 No.
Hebe 'Red Edge'	30-40cm	5L	C	7/m²	101 No.
Hebe rakaiensis	30-40cm	5L	C	7/m²	660 No.
Ilex aquifolium	80-100cm	BR	Native Understorey Planting Mix	1Ctr 572 No.	
Ilex crenata	30-40cm	3L	C :Bushy	5/m²	587 No.
Lavandula angustifolia 'Hidcote'	20-30cm	5L	C :Bushy	7/m²	292 No.
Lavandula intermedia 'Alba'	20-30cm	5L	C	7/m²	29 No.
Lavandula stoechas	20-30cm	5L	C	5/m²	549 No.
Pachysandra terminalis 'Green Carpet'	20-30cm	3L	C	7/m²	294 No.
Perovskia atriplicifolia 'Blue Spire'	40-60cm	3L	C	7/m²	212 No.
Phormium 'Platt's Black'	40-60cm	3L	C	7/m²	201 No.
Pittosporum tenuifol. 'Irene Patterson'	40-60cm	3L	C	5/m²	103 No.
Pittosporum tenuifol. 'Silver Queen'	40-60cm	3L	C	5/m²	104 No.
Pittosporum tenuifolium 'Golf Ball'	40-60cm	5L	C :Bushy	5/m²	115 No.
Pittosporum tenuifolium 'Tom Thumb'	40-60cm	3L	C :Bushy	7/m²	70 No.
Prunus lusitanica	80-100cm	10L	C	3/m²	26 No.
Prunus spinosa	60-80cm	BR	Native Understorey Planting Mix	1Ctr 858 No.	
Pyracantha 'Orange Chamer'	90-120cm	10L	Branched	5/m²	86 No.
Rosmarinus officinalis 'Miss Jessopp's Upright'	40-60cm	5L	C :Bushy	7/m²	150 No.
Salix alba	60-80cm	3L	C	5/m²	141 No.
Sarcococca hookeriana digyna	40-60cm	5L	C	5/m²	1070 No.
Viburnum opulus	60-80cm	BR	Native Understorey Planting Mix	1Ctr 572 No.	
Viburnum opulus 'Compactum'	80-100cm	10L	C	3/m²	58 No.
Viburnum tinus	80-100cm	10L	C :Bushy	3/m²	96 No.
Viburnum tinus 'French White'	60-80cm	10L	C :Bushy	3/m²	96 No.
Total :10334 No.					

HERBACEOUS					
Species	Pot Size	Specification	Density	Number	
Acanthus mollis	3L	Full Pot	5/m²	28 No.	
Achillea 'Moonshine'	3L	Full Pot	7/m²	103 No.	
Anemone hupehensis 'September Charm'	3L	Full Pot	Counted 21 No.		
Anemone hybrida 'Honorable Jobert'	3L	Full Pot	Counted 70 No.		
Anemone hybrida 'Queen Charlotte'	3L	Full Pot	5/m²	11 No.	
Aster frikartii 'Monch'	3L	Full Pot	7/m²	13 No.	
Bergenia 'Bressingham Salmon'	3L	Full Pot	9/m²	24 No.	
Bergenia 'Bressingham White'	3L	Full Pot	9/m²	244 No.	
Brunnera macrophylla 'Jack Frost'	3L	Full Pot	9/m²	141 No.	
Crocusmia x c 'George Davison'	3L	Full Pot	Counted 6 No.		
Echinacea purpurea	3L	Full Pot	9/m²	112 No.	
Echinacea purpurea	3L	Full Pot	Counted 52 No.		
Echinacea purpurea 'Magnus'	3L	Full Pot	Counted 94 No.		
Geranium himalayense 'Gravetye'	3L	Full Pot	7/m²	133 No.	
Hylotelephium telephium 'Purple Emperor'	3L	Full Pot	7/m²	68 No.	
Liriope muscari	3L	Full Pot	9/m²	61 No.	
Liriope muscari 'Monroe White'	3L	Full Pot	9/m²	165 No.	
Luzula sylvatica 'Aurea'	3L	Full Pot	9/m²	164 No.	
Ophiopogon planiscapus 'Nigrescens'	3L	Full Pot	9/m²	36 No.	
Rodgersia pinnata 'Superba'	3L	Full Pot	7/m²	21 No.	
Rudbeckia fulgida 'Goldsturm'	3L	Full Pot	9/m²	193 No.	
Salvia nemorosa 'Amethyst'	3L	Full Pot	7/m²	17 No.	
Stachys byzantina 'Silver Carpet'	3L	Full Pot	9/m²	41 No.	
Symphoricarpos 'Little Calow'	3L	Full Pot	5/m²	180 No.	
Tiarella 'Spring Symphony'	3L	Full Pot	9/m²	113 No.	
Verbena bonariensis	3L	Full Pot	Counted 130 No.		
Total :2241 No.					

CLIMBERS					
Species	Height	Pot Size	Specification	Density	Number
Clematis montana	80-100cm	10L	Caned	Counted 14 No.	
Hedera helix 'Green Ripple'	80-100cm	10L	Caned	Counted 2 No.	
Hydrangea petiolaris	80-100cm	10L	Caned	Counted 6 No.	
Jasminum officinale	80-100cm	10L	Caned	Counted 11 No.	
Parthenocissus tricuspidata	80-100cm	10L	Caned	Counted 2 No.	
Pyracantha 'Saphyr Orange'	80-100cm	10L	Caned	Counted 4 No.	
Total :39 No.					

BULBS			
Species	Specification	Density	Number
Crocus mix	Grade 6/7 30/m²	4750 No.	
Galanthus nivalis	Grade 6/7 30/m²	2776 No.	
Narcissus 'Tete a Tete'	Grade 6/7 30/m²	4103 No.	
Nerine bowdenii	Grade 12/+	Counted 14 No.	
Total :11643 No.			

FERNS				
Species	Pot Size	Specification	Density	Number
Asplenium scolopendrium	5L	Full Pot	7/m²	61 No.
Blechnum spicant	5L	Full Pot	7/m²	51 No.
Dryopteris affinis	5L	Full Pot	7/m²	206 No.
Dryopteris cristata 'The King'	5L	Full Pot	7/m²	324 No.
Polystichum setiferum 'Herrenhausen'	5L	Full Pot	7/m²	41 No.
Total :683 No.				

MARGINAL / AQUATICS			
Species	Pot Size	Specification	Density Number
Acorus calamus	2L	Well Rooted	7/m² 242 No.
Butomus umbellatus	2L	Well Rooted	9/m² 199 No.
Total :441 No.			

GRASSES				
Species	Pot Size	Specification	Density	Number
Anemanthele lessoniana	3L	Full Pot	7/m²	860 No.
Calamagrostis acutiflora 'Karl Foerster'	3L	Full Pot	7/m²	103 No.
Calamagrostis brachytricha	3L	Full Pot	7/m²	557 No.
Carex 'Ice Dance'	3L	Full Pot	9/m²	26 No.
Carex comans 'Bronze'	3L	Full Pot	9/m²	101 No.
Festuca amethystina	3L	Full Pot	9/m²	92 No.
Festuca glauca 'Elijah Blue'	3L	Full Pot	9/m²	476 No.
Hakonechloa macra	3L	Full Pot	7/m²	318 No.
Hakonechloa macra 'Aureola'	3L	Full Pot	7/m²	45 No.
Imperata cylindrica	3L	Full Pot	12/m²	93 No.
Luzula nivea	3L	Full Pot	9/m²	293 No.
Miscanthus sinensis 'Kleine Silberspinne'	3L	Full Pot	7/m²	429 No.
Miscanthus sinensis 'Morning Light'	3L	Full Pot	7/m²	109 No.
Molinia caerulea 'Edith Dudzus'	3L	Full Pot	7/m²	54 No.
Stipa tenuissima	3L	Full Pot	9/m²	874 No.
Total :4430 No.				

SOFT SPECIFICATION NOTES

Proposed Tree Planting

Nursery Stock and Selection

All trees and planting are to be selected and tagged by the landscape architect prior to any stock being delivered to site. All planting should comply with the requirements specified in BS 3936:1992 'Nursery Stock' (Part One). All nursery stock and trees are to be free of pest and diseases prior to being delivered to site. All delivered stock is to be inspected by the landscape architect prior to any planting being carried out.

The Landscape architect reserves the right to reject trees and nursery stock that do not meet specifications as set out in the requirements and guidelines in BS 3936:1992 or in accordance with the landscape architects drawings. If a particular defect or substandard element can be corrected easily, appropriate remedies shall be applied and agreed with the landscape architect. If destructive inspection of a root ball is to be carried out, agreement should be in place prior as to the time and place of inspection. Inspection of shrub roots in containers or rootball can be carried out on site if required.

Tree Handling

It is recommended that companies that do not have experience with handling large trees or the required equipment to do so seek advice from the landscape architect or tree supplier. Furthermore, specialist hauliers are to be used who will have the correct lifting equipment to deal with unloading large trees.

The landscape contractor is to follow standards set out in BS 8545:2014 'Trees: from nursery to independence in the landscape – Recommendations'

The landscape contractor must follow the industry guidance method for handling trees. Below are recommended industry standards.

Dormant trees sizes of 12-16cmg

These can be lifted and unloaded using a root hook and hoist. Even when the tree is dormant it is recommended to wrap the stem in hessian for additional protection when unloading maintaining the lifting weight on the root hooks.

Dormant trees sizes of 18-20cmg - 25-30cmg

These can be lifted and unloaded using a 3 tonne sling in combination with a chain and root hooks. Even when the tree is dormant it is recommended to wrap the stem in hessian for additional protection when unloading.

Tree Supplier

The tree planting is to be approved by landscape architect prior to any ordering of stock. All trees are to be planted in the first available planting season after construction as root balled stock unless otherwise specified and agreed with the client. All tree pits are to be excavated 24 hours prior to delivery to reduce the time the rootball is out of the ground. All tree pits are to be excavated under favourable weather conditions to avoid deterioration of the soil structure and glazing. All excavations are to be carried out using a toothed bucket ensuring tree pit walls are not glazed, the walls of the tree pit can also be loosened with hand held tools.

Tree pit dimensions are subject to soil conditions, soil report provided by agronomist and rootball size. Tree pits can never be excavated too wide in an unrestricted space (open ground), however they can be too deep.

All trees are to be planted at the correct height which is the same depth as the tree was growing on the nursery. The root collar must remain visible. Tree pit sizes are to be agreed with landscape architect prior to excavations. All tree pits are to be inspected by the landscape architect prior to planting. All tree pits are to have suitable irrigation pipe and end cap and aeration tubes if required (aeration tubes tend to be required for trees planted in a hard landscape environment). They are only required for the first two years after which they are superfluous. All irrigation pipes are to be placed as high as possible not at the base of the rootball. The tree would also benefit from an earth reservoir around the rootball on the surface to aid watering. The reservoir is best backfilled with bark mulch to avoid soil glazing on the surface.

All trees and planting are to be selected and tagged by the landscape architect prior to any stock being delivered to site. All planting should comply with the requirements specified in BS 3936:1992 'Nursery Stock' (Part One). All nursery stock and trees are to be free of pest and diseases prior to being delivered to site. All delivered stock is to be inspected by the landscape architect prior to any planting being carried out.

- The Landscape architect reserves the right to reject trees and nursery stock that do not meet specifications as set out in the requirements and guidelines in BS 3936:1992 or in accordance with the landscape architects drawings. If a particular defect or substandard element can be corrected easily, appropriate remedies shall be applied and agreed with the landscape architect. If destructive inspection of a root ball is to be carried out, agreement should be in place prior as to the time and place of inspection. Inspection of shrub roots in containers or rootball can be carried out on site if required.

Note: Trees may sink after planting due to soil settlement. With sandy soils generally there will be a settlement of 10% and clay soils 20%, this will need to be considered by the landscape contractor when planting and therefore the tree may need to be planted slightly higher to accommodate soil settlement.

Note: Never excavate deeper than the highest water table to ensure organic matter does not come in contact with groundwater resulting in anaerobic digestion within the soil.

All hessian and wire supports around the rootball are to remain in place when planting (in some case it may be required to loosen the hessian and wire). The hessian will quickly decompose. The wire will oxidize and also disappear in the soil eventually.

Trees planted within hard landscape areas are to have tree grilles and guards where specified. Subterranean cellular product is to be used to ensure the tree has a minimum of 9m3 growing area. Type and manufacture is to be agreed with the client and landscape architect prior to installation. The landscape architect is to inspect all tree pits prior to planting.

Trees are to be supported either by high anchoring, low anchoring or underground anchoring systems. The type of anchoring system is to be agreed with the landscape architect and detailed within the specification of works. For trees that are <10-12cmg use 1no untreated softwood stake at min 10cm diameter driven to the ground at least 1m depth (30cm in undisturbed ground), the stake is to be placed on the side of the prevailing wind. Trees >10-12cmg use 2no untreated softwood stakes at least 1m depth with horizontal bracing bars. Trees >25-30cmg use 3no stakes in a triangle around the tree (1.4m above ground level) with horizontal bracing bars, tree bands are to be secured to the posts with galvanised nails.

Underground anchoring systems are to be used for large compact rootballs or trees within hard landscape with tree grilles to BS 4043: 1989' Recommendations for Transplanting Root-Balled Trees'. The type of anchoring system is to be agreed with the landscape architect. Biodegradable anchoring straps are to be used to ensure the straps do not grow into the trunk.

Note: There are benefits to using low level anchoring as field trials have demonstrated that the tree becomes independent in the ground quicker as a result of the wind rocking the tree that encourages root ground. However, this method is not recommended in exposed conditions or coastal locations due to a greater risk of the trunk breaking.

Ties and stakes are to be checked and adjusted every six months or after periods of strong wind and rain.

All topsoil is to conform to BS 3882:2007 'Multipurpose' or similar approved by an agronomist. The tree pit shall be backfilled with previously prepared topsoil excavated from the pit and additional topsoil as required. All backfilled material is to include an organic slow release fertilizer to ensure there is no adverse affect on soil organisms (Vitalx Q4HN) or similar approved at a ratio of 10 -7.5 -10.2 + TE. The second application to be made 10-16 weeks after planting depending on soil type and weather conditions.

Tree pit root barrier are to be installed to all trees within 3m of any underground service routes or within 2.0m of kerb lines & hard surfaces & building foundations. Type of root barrier material is to be agreed with the landscape architect. The landscape contractor is to confirm locations of all services prior to implementation of trees. Prior to installation NJUG specification and requirements are to be referred too.

Guidance for Tree Pit Sizes within Soft Landscape Areas

Final tree pit size will vary dependent on size of rootball, tree stock and soil type.

Below are general guidance sizes only. The landscape contractor is to speak to the grower to obtain exact sizes prior to delivery. Landscape Architect to inspect tree pits prior to planting.

Tree pit size guidelines:		
Tree size	Rootball Size	Tree pit size (length, width, depth)
14-16 cmg	50x50cm	80x80x65cm
18-20 cmg	60x60cm	80x80x75cm
20-25 cmg	70x60cm	90x90x75cm

Tree aftercare and pruning

When a tree is lifted/harvested it will lose a percentage of it's root system. As a result the roots are unable to supply the crown with the water demand being placed on the root system which can cause stress to the tree. As a result the tree will respond by reducing the amount of foliage, in some cases when the water storage is great the tree will shed wood from the crown. Watering the tree is important in the first two years after transplanting. In very hot conditions the canopy can dry out even when the rootball is moist simply because there is not enough root development yet. Therefore, the only solution is to reduce the canopy volume to reduce the stress.

All pruning is to be done by removing first and second wood only, all pruning works are to be carried out by appropriately trained landscape contractors.

It is recommended that hessian is placed around the tree stems after planting to prevent the overheating of the trunks.

The flow of water within the bark will normally prevent this, however, after planting less water is transplanted and as a result the trunk is at risk of sunburn. The setting sun will cause the most potential damage. Most of the damage will be visible on the western side of the tree. Trees with smooth bark are more vulnerable to sunburn than trees with rough bark.

Note