

Detailed Planting Schedule

TREES						
Number	Species	Abbreviation	Girth	Height	Specification	Density
10	Acer campestre 'Streetwise'	AcS	20-25cmg		Standard Clear Stem min. 200 :RB	Counted
2	Acer davidii	ACDA	16-16cmg		Clear Stem 175-200 :Standard :RB	Counted
10	Acer ginnense	ACEGR	12-14cmg		Standard Clear Stem 150-175 :RB	Counted
4	Crataegus laevigata 'Paul's Scarlet'	CIPS	12-14cmg		Clear Stem 150-175 :Standard :RB	Counted
8	Crataegus punifolia 'Splendens'	CRAPRS	12-14cmg		Clear Stem 150-175 :Standard :RB	Counted
7	Parrotia persica	PAPE	12-14cmg		Clear Stem 150-175 :Standard :RB	Counted
6	Prunus avium 'Plena'	Pa P	16-16cmg		Clear Stem 150-175 :Extra Heavy Standard :RB	Counted
16	Prunus subhirtella 'Autumnalis'	PRSU	12-14cmg		Clear Stem 150-175 :Standard :RB	Counted
12	Rhus typhina	RHTY	2.5-3.0m		Multi Stem :RB	Counted
12	Sorbus aria 'Majestica'	Sam	12-14cmg		Clear Stem 175-200 :Standard :RB	Counted
4	Tilia cordata 'Green Spire'	ToGS	16-16cmg		Clear Stem 150-175 :Extra Heavy Standard :RB	Counted
Total :81						

NATIVE UNDERSTOREY PLANTING MIX

Number	Species	Height	Specification	Density
164	Betula pubescens	60-90cm	tpt	4/m ²
204	Corylus avellana	60-90cm	tpt	4/m ²
204	Crataegus monogyna	60-90cm	tpt	4/m ²
62	Fagus sylvatica	60-90cm	tpt	4/m ²
62	Fraxinus excelsior	60-90cm	tpt	4/m ²
102	Prunus spinosa	60-90cm	tpt	4/m ²
43	Quercus robur	60-90cm	tpt	4/m ²
1114	Rubus fruticosus	40-60cm	tpt	4/m ²
84	Sambucus nigra	60-90cm	tpt	4/m ²
Total :2039				

HEDGING

Number	Species	Height	Pot Size	Specification	Density
180	Carpinus betulus	150-180cm (instant hedge)	RB	RB	0.5Ct Double Staggered at 0.5m offset
276	Carpinus betulus	40-60cm	5L	C :Bushy	5/m ²
5	Carpinus betulus	150-180cm (instant hedge)	RB	RB	0.5m
276	Fagus sylvatica	40-60cm	5L	C :Bushy	0.4Ct Double Staggered at 0.4m offset
286	Ligustrum ovalifolium	40-60cm	3L	C :Bushy	0.4Ct Double Staggered at 0.4m offset
5	Taxus baccata	150-180cm (instant hedge)	RB	RB	0.5/m
Total :1028					

SHRUBS

Number	Species	Height	Pot Size	Specification	Density
8	Cornus sanguinea 'Midwinter Fire'	60-80cm	3L	C	3/m ²
166	Cornus sericea 'Flaviramea'	60-80cm	5L	C :Bushy	5/m ²
18	Hebe 'Red Edge'	30-40cm	5L	C :Bushy	5/m ²
391	Hebe rakaiensis	30-40cm	5L	C :Bushy	5/m ²
38	Perovskia atriplicifolia 'Blue Spire'	40-60cm	10L	Branches	5/m ²
84	Pittosporum tenuifolium 'Golf Ball'	40-60cm	10L	C :Bushy	5/m ²
10	Pittosporum tenuifolium 'Purpleum'	30-40cm	10L	C :Bushy	5/m ²
85	Romanianus 'Miss Jessop's Upright'	40-60cm	5L	C :Bushy	5/m ²
115	Sarcococca hookeriana diglyna	30-40cm	10L	C :Bushy	5/m ²
70	Viburnum davidii	40-60cm	10L	Branches	5/m ²
79	Viburnum urice 'Eve Price'	40-60cm	10L	Branches	5/m ²
Total :1064					

HERBACEOUS

Number	Species	Pot Size	Specification	Density
5	Acanthus mollis	5L	Full Pot	C
8	Acanthus mollis	5L	Full Pot	5/m ²
9	Achillea millefolium 'Cerise Queen'	3L	Full Pot	C
62	Astrantia major 'Hadspen Blood'	3L	Full Pot	C
85	Astrantia major 'Shaggy'	3L	Full Pot	C
142	Bergenia cordifolia	3L	Full Pot	7/m ²
15	Bergenia cordifolia 'Purpurea'	3L	Full Pot	7/m ²
13	Brunnera macrophylla 'Jack Frost'	3L	Full Pot	7/m ²
328	Euphorbia amygdaloides robbiae	3L	Full Pot	7/m ²
35	Hyletaphium 'Matrona'	3L	Full Pot	7/m ²
514	Libertia chilensis	3L	Full Pot	7/m ²
136	Liriope muscari 'Monroe White'	3L	Full Pot	7/m ²
7	Luzula sylvatica 'Aurea'	3L	Full Pot	9/m ²
55	Stachys byzantina 'Silver Carpet'	3L	Full Pot	7/m ²
Total :1412				

CLIMBERS

Number	Species	Height	Pot Size	Specification	Density
4	Akebia quinata	60-80cm	5L	Caned	Counted
6	Clematis armandii	100-150cm	10L	Caned	Counted
3	Clematis montana 'Marjorie'	15-20L	Several Shoots	Caned	Counted
1	Hedera helix	80-100cm	5L	Caned	Counted
4	Hydrangea anomala subs. petiolaris	15-20L	Several Shoots	Caned	Counted
13	Parthenocissus tricuspidata 'Veitchii'	10L	Several Shoots	Caned	Counted
Total :31					

BULBS

Number	Species	Density
100	Anemone nemorosa	10/m ²
133	Crocus speciosus 'Albus'	10/m ²
165	Galanthus nivalis	10/m ²
165	Hyacinthoides non scripta	10/m ²
100	Narcissus pseudonarcissus	10/m ²
Total :663		

FERNS

Number	Species	Pot Size	Specification	Density
8	Dryopteris cristata 'The King'	5L	Full Pot	7/m ²
32	Polystichum setiferum	5L	Full Pot	7/m ²
18	Polystichum setiferum 'Plumosomultilobum Group'	5L	Full Pot	7/m ²
Total :58				

GRASSES

Number	Species	Pot Size	Specification	Density
411	Anemanthele lessoniana	5L	Full Pot	5/m ²
86	Calamagrostis brachytricha	5L	Full Pot	5/m ²
188	Calamagrostis x arutiflora 'Karl Foerster'	5L	Full Pot	5/m ²
38	Deschampsia cespitosa 'Goldau'	5L	Full Pot	5/m ²
221	Festuca amethystina	3L	Full Pot	7/m ²
68	Festuca glauca 'Elijah Blue'	3L	Full Pot	7/m ²
485	Hakonechloa macra	3L	Full Pot	7/m ²
279	Luzula nivea	3L	Full Pot	7/m ²
6	Miscanthus sinensis 'Kleine Fontane'	3L	Full Pot	5/m ²
155	Ophiopogon planiscapus 'Nigrescens'	3L	Full Pot	7/m ²
Total :1937				

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 Planting

The tree supplier 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 tree 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.

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 into the ground at least 1m depth (30cm of which must be 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 min 10cm diameter driven into the ground at least 1m depth with horizontal bracing bar. 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 (Vitag Q4HN) or similar approved at a ratio of 10 :7.5 -10:2 + TE. The second application is 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 or 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)
12-14 cmg	40x40cm	70x70x65cm
14-16 cmg	50x50cm	80x80x65cm
16-18 cmg	50x50cm	80x80x65cm
18-20 cmg	60x60cm	80x80x75cm
20-25 cmg	70x60cm	90x90x75cm
25-30 cmg	80x60cm	100x100x75cm

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: This is to only be done as a temporary measure as the tree is establishing, after which the hessian is to be removed.

Monitoring of the trees is to be carried out during the rectification period and as part of the long term management. The following points are to be considered and monitored:

- Watering, trees will require watering for the first two years after planting, after which they will generally look after themselves. The number of times will depend on location, weather conditions and growing season. Therefore, as the tree is a growing organism the required experience and knowledge will determine the number of times the tree is watered to ensure establishment. It is better to give the tree a lot of water once a week rather than water every day as this will encourage root development and prevent the tree becoming 'lazy'. Over watering will push oxygen away from the root system preventing root development.
- Soil condition, these can be carried out by a specialist to monitor the oxygen levels (that should ideally be 18-21%, 16-18% will be sufficient levels, 12-16% will be poor levels <5% shows acute root mortality). Soil moisture levels both within the rootball and surrounding ground to also be monitored.
- Soil compaction, traffic over planted areas or areas to be planted are to be limited or ideally avoided completely. When soil compaction is higher than 2.5MPa root development will not be possible.
- Canopy, monitor leaf development, size, colour and the amount of foliage that is within the crown. Length of new growth and bud development and size of buds.

Proposed Ornamental Shrub / Perennial Planting

- To be planted in a minimum of 300mm depth approved topsoil to BS 3882: 2015 'Multipurpose' in the first available planting season after construction.
- All shrubs are to be planted as container stock unless otherwise specified (5 or 10 litre), all stock is to be well rooted into the container but not pot bound.

LEGEND

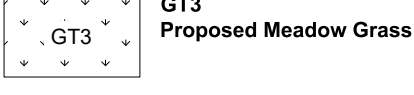
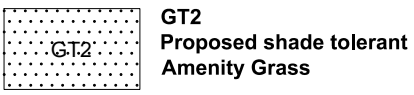
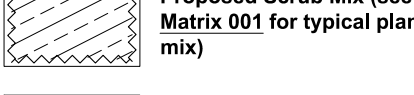
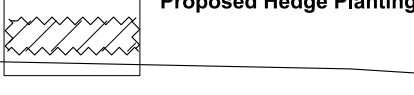
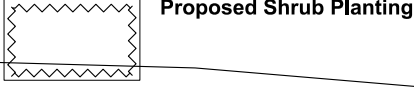
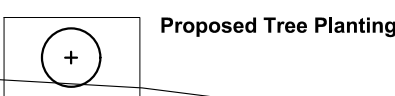
General Legend for all drawings



Soft Landscape



Existing Tree / Hedgerow Planting to be retained. Red line denotes RPA.



- All shrubs are to be planted with a slow release organic fertilizer (vitax or similar approved) and backfilled with a mixture of excavated top soil and compost (not peat based). A minimum of 50 mm approved ornamental grade bark mulch is to be applied to planting areas unless stated otherwise.

Proposed Hedge Planting

- To be planted in a minimum of 300mm depth approved topsoil to BS 3882: 2015 'Multipurpose' in the first available planting season after construction.
- All shrubs are to be planted as container stock unless otherwise specified (5litre), all stock is to be well rooted into the container. All hedge are to be planted in double staggered rows.
- All shrubs are to be planted with a slow release organic fertilizer (vitax or similar approved) and backfilled with a mixture of excavated top soil and compost (not peat based). A minimum of 50 mm approved ornamental grade bark mulch is to be applied to planting areas unless stated otherwise.

Proposed Climbing Plants

- To be planted in a minimum of 300mm depth approved topsoil to BS 3882:2007 'Multipurpose' or better in the first available planting season after construction. All climbing plants are to be planted as container stock unless otherwise specified, all stock is to be well rooted into the container.
- All climbing plants are to be planted with a slow release organic fertilizer (vitax or similar approved) and backfilled with a mixture of excavated top soil and compost (not peat based). A minimum of 50 mm approved ornamental grade bark mulch is to be applied to planting areas unless stated otherwise. All climbers that are not self supporting are to be supported using vine eyes and plastic coated steel wire, climbers are

Planting Guidelines

- All planting and landscape operations should comply with the requirements specified in BS 3936:4:2007 'Nursery Stock' (Part One) and BS4428:1989 'Code of Practice for General Landscape Operations' (excluding hard surfaces).
- All topsoil and testing to conform to BS 3882: 2015 'Specification for Topsoil and Requirements for Use'.
- All topsoil used for planting to be tested by an approved Topsoil Analyst and any required amelioration or soil improvements to be carried out in line with Analyst's report.
- All fertilizers are to be applied or supervised by qualified staff to avoid the action of plasmolysis.
- Nurseries to provide protocols for ensuring that plant stock is free of invasive species.
- No planting is to be carried out when the site is covered by frost.
- Irrigation of plant material to be carried out during periods of drought will be required to ensure successful establishment of all plant stock.
- All new planting to be protected from mammal grazing by individual guards or stock proof fencing.
- If planting is to be carried out outside the growing season, all bareroot / rootballed plant stock is to be substituted with containerised stock. Specification to be agreed with Landscape Architect prior to ordering and implementation.

Proposed amenity grass (GT1) / Proposed shade tolerant amenity grass (GT2)

All amenity grass areas to be Medallion turf as supplied by 'Rolawn' or similar and approved.

All turf to be laid on 150mm depth approved topsoil to BS 3882:2007 'Multipurpose'.

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General Purpose Meadow Mixture (GT3)

EM1 is a simple meadow mixture suitable for a wide range of soil types. The wild flowers are robust and showy, and the grasses are fine and slow growing.

Typical Wildflower Planting

Wildflower Mixture (20%) EM1

Species	Common Name	%	grams per m ²
Achillea millefolium	Yarrow	0.5	4.0
Centaurea nigra	Common Knapweed	2.0	4.0
Galium verum	Lady's Bedstraw	1.0	4.0
Leucanthemum vulgare	Oxeye Daisy	2.0	4.0
Lotus corniculatus	Bird Soft Trefoil	2.0	4.0
Plantago media	Hoary Plantain	2.0	4.0
Poterium sanguisorba - (Sanguisorba minor)	Salad Burnet	3	4.0
Ranunculus acris	Meadow Buttercup	3.0	4.0
Rumex acetosa	Common Sorrel	0.4	4.0
Silene dioica	Red Campion	2.0	4.0
Silene vulgaris	Bladder Campion	2.0	4.0
Trifolium pratense	Wild Red Clover	0.1	4.0