

LANDSCAPE AND MAINTENANCE SPECIFICATION

All operations to comply with appropriate British Standards unless otherwise stated on drawings or in the specification.

GENERAL TREATMENT OF PLANTING AREAS

Ensure that planting areas are protected from consolidation by heavy construction plant.

For work near a retained tree: Refer to BS 5837 Trees in relation to design, demolition & construction - Recommendations- Section 9 (Appendix C).

- Damage to Plants to be Retained: If a plant is to be retained is damaged, the plant is to be repaired or replaced by the contractor at their own expense. "Damaged" means:
- The destruction of a plant the breaking of branches or roots
 - The debarking of trunks or limbs
 - The contamination of root zone soil or plants from drift sprays, dust or contaminated storm water
 - The damage by the placement of fill or building materials within the canopy perimeter or otherwise.

1) GROUND PREPARATION AND SOIL SPECIFICATION

Subsoil:

Before receiving topsoil, subsoil shall be loosened using appropriate equipment to a depth of 300mm. This shall be done when the subsoil is dry so as to encourage soil shattering. All stones and other objects larger than 50mm shall be removed from the prepared surface. The loosened subsoil shall be roughly levelled so that an even depth of topsoil can be achieved.

Topsoil (To Comply with British Standard 3882:2015 - Specification for Topsoil): Imported topsoil shall be Multipurpose Grade as described in BS 3882:2015 and suitable for sustaining plant life. Stockpiling of soil shall be avoided whenever possible to minimise loss of physical quality, diffusion of oxygen and biological activity. Any stockpiling shall not exceed 1.5 metres high and shall be sited so as to avoid risk of muddy water run-off into a watercourse, not exceeding 1.5 metres high. The site of the stockpile will be prepared in advance by grading, removing rubbish and ensuring no fuel or chemicals were previously stored in area. Topsoil shall be lightly consolidated in layers not exceeding 150mm using track laying machinery. Soil shall not be handled in inappropriate conditions of weather and soil moisture i.e. During or shortly after heavy precipitation When soil is in a waterlogged condition When the ground is frozen or covered by snow When there are pools of water on the grounds surface. Topsoil shall be laid to the following minimum depths: 150mm below new grass areas 300mm to rear gardens 400mm beneath new shrub areas. Finished levels, after settlement, shall be as follows: 25mm above adjacent paving from new grassed areas and non-mulched shrub beds 75mm below adjacent paving and grass for mulched planting beds. 150mm below damp proof courses.

2) GROUND CONDITIONING

40 litres of compost to be incorporated into the top 200mm of each square metre of topsoil for all ornamental shrub beds.

3) PLANT AND PLANTING SPECIFICATION

All plant stock, plant handling and planting to be undertaken in accordance with the following British Standard Specifications and Code of Practice: BS 8545:2014 'Trees: from nursery to independence in the landscape BS 3936: Part 1 1992 Nursery stock (Specification for trees and shrubs) BS 3936: Part 4 1984 Nursery stock (Specification for forest trees) BS 3936: Part 9 1987 Nursery stock (Specification for bulbs, corms and tubers) BS 3936: Part 10 1990 Nursery stock (Specification for ground cover plants) BS 4428: 1989 Recommendations for general landscaping operations. BS 4043: 1989 Recommendations for transplanting root-balled trees. (withdrawn) The Code of Practice for Plant Handling 1985. (Horticultural Trades Association).

Plant Stock:

Plant stock to be supplied in accordance with the size and description specified ion the plant schedule and position indicated on the most current revision of the planting plan.

Plant stock shall be healthy, vigorous, free from pests and diseases and suitably hardened off for the proposed situation of planting and lifted at a time in accordance with good nursery practice. Stock shall have a well-formed fibrous root system and be free from perennial weeds. The form of trees shall be in accordance with BS 3936: Part 1:1992, Section 7, *Form of Trees*.

Plant Handling:

All plant materials shall be lifted, bundled, labelled, packaged, transported, temporarily stored and planted in accordance with the procedures and methods illustrated in the publication, *"Plant Handling"* (Horticultural; Trades Association) and relevant sections of BS 4043: 1989 *Transplanting Root-Balled Trees*.

Tree Planting:

Trees to be pit planted following supplier recommendations. Minimum pit size: Heavy standard tree 1000 x 1000 x 1000mm, Extra heavy standard tree 1200 x 1200 x 1000mm, Box-Headed specimens and conifers 600 x 600 x 750mm. Pits to be prepared to base and sides of pit to be further scarified. Trees to be double staked using two stakes (75mm dia.), driven into ground 400mm below bottom of pit. Trees to be centrally located and stem placed in an upright position. Pit to be backfilled with 200-600mm (dependant on depth of pit due to size of tree) of a mix of subsoil with a 70 to 80% mix of sharp sand. Irrigation pipe to put around bottom of rootball with 25mm of pipe sticking out from the bark mulch level. Backfill remaining area of pit with 400mm of a 3:1 mix of an approved topsoil with compost. Backfill firmly to 50mm above previous ground level and creating a slightly domed shape with the highest point being at the centre of the tree to assist drainage and settlement. Tree pits in grass to contain a 600mm diameter circle of medium grade bark mulch to a settled depth of 75mm. Water each tree sufficiently in same day of planting, dependant on size and soil conditions. All works shall be carried out to the minimum standard according to BS 3936: 1992 Part 1 Nursery Stock. Specification for Trees and Shrubs. BS 4043: 1989 Recommendations for transplanting root-balled trees.

Staking:

Double stake all trees with two stakes, a crossbar, a spacer and webbing. Stakes to be round timber with chamfered tops. Position stake close to tree on windward side and drive vertically at least 400mm into bottom of pit before planting. Backfilling: consolidate material around stake. Height of stakes: cut to approximately 600mm above ground level, taking care not to damage the bark. Ties: Webbing with a spacer. Tying: secure tree firmly to crossbar with spacer and webbing.

Mulch:

All shrub beds shall be spread with a medium grade bark mulch to a settled depth of 75mm. Tree locations in grass should have a 600mm diameter circle of medium grade bark mulch to a settled depth of 75mm. Mulch to be free from fines, weeds, disease and contaminants.

Ornamental shrub planting:

To be set out carefully and evenly over indicated areas. Remove plants from pots and plastic containers, plant and water in thoroughly. Shrubs shall be individually pit planted in prepared pits sized to accommodate full spread of roots. Plants shall be evenly spaced over the planting area. Firm backfill by treading, ensuring the ground is not overly compacted and that the plant is positioned upright.

Native scrub planting

Bare root stock shall be planted between November and March. Plants to be planted in groups of 5, 7, or 9 of the same species. Plants shall be evenly spaced over the planting area. Ensure plants are planted to the correct depth to correspond to the soil mark on main stems. Undertake formative pruning if necessary. Each plant to be protected with a 60cm high tubex shrub shelter, with two cable ties and a timber stake.

New formal hedges

Consistent in species, cultivar and clone to ensure a uniform hedge. To be planted in a previous prepared planting bed 0.6 metre wide. Plant stock to be planted centrally in a single row at 330mm spacings (plant per linear metre dependant on stock size). Ensure plants are planted to the correct depth to correspond to the soil mark on main stems. Prune back to a height of 1 metres.

New mixed native hedgerows - Double staggered

Bare root stock (container stock for Common Holly) shall be planted between November and March. Consistent in species, cultivar and clone to ensure a uniform hedge. Plants to be planted in groups of 3, 5 or 7 of the same species. To be planted in a previously prepared planting trench 300mm deep and up to 1metre. Trench backfilled with 300mm of a 3:1 mix of an approved topsoil with compost. Backfill firmly to 50mm above previous ground level and creating a slightly domed shape with the highest point being at the centre of the tree to assist drainage and settlement. Planting bed to be covered with a medium grade bark mulch to a settled depth of 75mm. Plant stock to be planted in a double row in the centre of the plant bed, 330mm between plants and 300mm between rows (6 no. plants per linear metre). Ensure plants are planted to the correct depth to correspond to the soil mark on main stems. Each plant to be protected with a 60cm high tubex shrub shelter, with two cable ties and a timber stake. Prune back to a height of 2 metres.

Turfed Areas:

To be specified and laid in accordance with BS. 3936:1998 Recommendations for turf for general purposes. Turf to be Lindum Festival Turf (or similar approved). Hardwearing with a dense sward containing a mixture of 25% perennial ryegrass, 55% fescues and 20% smooth stalked meadow grass. This mix is easy to maintain and will recover well from general wear. Turf to be laid in suitable weather conditions on a prepared bed with no weeds and a suitable slow release fertiliser applied to bed prior to laying. Turf to be watered regularly until it is well established.

Rear gardens:

Subsoil to be prepared to a depth of 300mm as per ground preparation and soil specification. Topsoil to be supplied as per ground preparation and soil specification to a depth of 300mm, after gentle compaction and to be left bare in rear gardens.

Grass Seeding:

Public open spaces shall be Germinal AberSustain mix, or similar approved. Sowing to be taken between March and October. Topsoil shall be cultivated to a fine tilth, be free from weeds, stones and other debris. Levels to be graded to form finished levels as indicated in section, 'Topsoil'. Roll, fertilise at 50gms/sq m, 10-14 days prior to seeding, sow at rate of 40g/m2 and lightly rake. First cut to be undertaken when grass reaches 50mm.

Wildflower Seeding:

Germinal/ RE3 River Floodplain / Water Meadow (MG8 Grassland), or similar approved within the proposed pond. Sowing to be taken between March and October. Topsoil shall be cultivated to a fine tilth, be free from weeds, stones and other debris. Sow at rate of 5 g/m2 and lightly rake. First cut to be undertaken 6 weeks after sowing or when reaches 70-100mm.

Germinal WFG8 Hedgerow and Shaded Areas, or similar approved. Sowing to be taken between March and October.

Topsoil shall be cultivated to a fine tilth, be free from weeds, stones and other debris. Sow at rate of 5 g/m2 and lightly rake. First cut to be undertaken 6 weeks after sowing or when reaches 70-100mm.

4) MAINTENANCE AND MANAGEMENT

Plant stock and soft landscaped areas shall be maintained for a period of five years via the developers' agent or appointed Management Company during which time the following operations shall be carried out:

Regular visits:

Monthly maintenance visits to include the following operations:

- Hand weed planting beds
- Remove litter
- Sweep mulch spillage
- Re-firming plant stock to ensure the new planting is all planting to upright positions.
- Adjust stakes and ties as necessary
- Prune plant stock as required to encourage good form
- Check all plant stock and report signs of pests, disease, death and damage

Mulch:

Top up mulch levels (using matching material) surrounding trees and within beds to 75mm at the end of the maintenance period.

Watering:

Plant stock to receive the following quantities of water: Trees: Water regularly each month dependant on size, soil conditions and weather conditions between April and September. Shrubs and transplants: 5 litres/plant on three occasions throughout growing season. Watering to be undertaken during the first 24 months as needed to maintain plant health.

Grass Maintenance:

Grass shall be cut throughout the growing season to maintain a sward of approximately 38mm. Shall be edged, watered as necessary and clippings removed.

Wildflower Maintenance:

RE3 River Floodplain / Water Meadow (MG8 Grassland) Autumn Sown: during the first year: first cut shall be early July, then monthly during August, September and October to maintain a sward of approximately 70mm. Thereafter: shall be cut 2 times a year mid-July to early September to maintain a sward of approximately 70mm. Spring Sown: during the first year: first cut shall be mid-September, then again during October to maintain a sward of approximately 70mm. Thereafter: shall be cut 1 time a year mid-July to early September or as required leaving at least fortnight between cuts to maintain a sward of approximately 70mm. The arisings are to be collected and removed just after the cut to prevent nutrient build up.

WFG8 Hedgerow and Shaded Areas

First Cut: Mid September - 1st October. Cutting height approximately 70mm. Thereafter: shall be cut 1 time a year mid-August to early October to maintain a sward of approximately 70mm. The arisings are to be collected and removed just after the cut to prevent nutrient build up.

Native Scrub/ Shrub Maintenance

Beating up: After year 2 any dead trees to be removed and replaced.An assessment to be undertaken at this time to ensure replacement species are ones which have proven so far successful in the rest of the planted area. Thinning: After 10 years woodland to be thinned out by selective removal of 15-20% of establishing woodland.An assessment will be made to identify suitable trees for removal based on health,form and success of adaption to site conditions. Coppicing: Hazel (Corylus Avellana) in woodland to be coppiced after 10 years and thereafter every 7 years on selective cycles.

New Tree/Shrub Planting:

Weed control by hand to ensure planting area is weed free. Check stakes and guards are in place and replace where necessary. Prune, thin and remove suckers, seedlings, dead, damaged, or diseased branches annually between October and January to avoid the bird nesting season. Replace dead / dying stock in winter.

Plant replacements:

All dead, dying and vandalised plant stock shall be replaced, at the landscape contractor's expense, at the end of each growing season throughout the maintenance period.

Planting Schedule

Trees									
Number of Plants	Abbreviation	Species	Specification	Height	Pot Size	Density	Area		
6 -	ACE CAM	Acer campestre	Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm	350-425cm	12-14cm	Counted			
16 -	ACE STR	Acer campestre 'Streetwise'	Extra Heavy Standard: 5 brks: C: Clear Stem min. 200cm	400-450cm	14-16cm	Counted			
9 -	ALN GLU	Alnus glutinosa	Heavy Standard: 5 brks: 3x: RB: Clear Stem min. 200cm	350-425cm	12-14cm	Counted			
14 -	AME BAL	Amelanchier 'Ballerina'	Heavy Standard: 5 brks: C: Clear Stem 175-200cm	350-425cm	12-14cm	Counted			
6 -	BET PEN	Betula pendula	Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm	350-425cm	12-14cm	Counted			
3 -	BET PUB	Betula pubescens	Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm	350-425cm	12-14cm	Counted			
10 -	BET JAC	Betula utilis jacquemontii	Extra Heavy Standard: C: Clear Stem 175-200cm	400-450cm	16-18cm	Counted			
9 -	CAR BET	Carpinus betulus	Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm	350-425cm	12-14cm	Counted			
12 -	CAR FON	Carpinus betulus 'Frans Fontaine'	Extra Heavy Standard: 5 brks: C: Clear Stem 175-200cm	450-500cm	14-16cm	Counted			
13 -	CRA SCA	Crataegus laevigata 'Paul's Scarlet'	Extra Heavy Standard: 5 brks: C: Clear Stem 175-200cm	450-500cm	14-16cm	Counted			
22 -	ILE STE	Ilex 'Nellie R. Stevens'	Extra Heavy Standard: Bushy Head: C: Clear Stem 175-200cm	400-450cm	14-16cm	Counted			
16 -	PAE VAN	Parrotia persica 'Vanessa'	Heavy Standard: 5 brks: C: Clear Stem 175-200cm	350-425cm	12-14cm	Counted			
6 -	PHO ROB	Photinia x fraseri 'Red Robin'	Spherical Head: Extra Heavy Standard: C: Clear Stem 175-200cm: Neatly Clipped	250-275cm	16-18cm	Counted			
8 -	PRU AMA	Prunus 'Amanogawa'	Extra Heavy Standard: 5 brks: C: Clear Stem 100-150cm	350-425cm	16-18cm	Counted			
6 -	PRU UMI	Prunus 'Umineko'	Extra Heavy Standard: 5 brks: C: Clear Stem 175-200cm	400-450cm	14-16cm	Counted			
13 -	PRU CAU	Prunus laurocerasus 'Caucasica'	Spherical Head: 5 brks: HS: C: Clear Stem 175-200cm	250-275cm	10-12cm	Counted			
7 -	QUE ROB	Quercus robur	Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm	350-425cm	12-14cm	Counted			
12 -	SOR ROC	Sorbus 'Joseph Rock'	Heavy Standard: 5 brks: C: Clear Stem 175-200cm	350-425cm	12-14cm	Counted			
Total :216 -									

Shrubs									
Number of Plants	Abbreviation	Species	Specification	Height	Pot Size	Density	Area		
348 -	AUC CRO	Aucuba japonica 'Crotonifolia'	Bushy: 3 brks: C	40-60cm	5L	4/m²	83.3391m²		
350 -	CEA REP	Ceanothus thyrsiflorus repens	Bushy: 5 brks: C	5L	4/m²	84.6671m²			
515 -	CHO GOL	Choisya x dewitteana 'Aztec Gold'	Bushy: 5 brks: C	40-60cm	5L	4/m²	122.7223m²		
331 -	CIS COR	Cistus 6 corbariensis	Bushy: 6 brks: C	40-60cm	5-7.5L	4/m²	79.4859m²		
767 -	EUD GOL	Euonymus fortunei 'Emerald 'n' Gold'	Bushy: 9 brks: C	25-30cm	5-7.5L	4/m²	183.9305m²		
667 -	PIE HEA	Pieris japonica 'Little Heath'	Bushy: 5 brks: C	30-40cm	5L	4/m²	136.0511m²		
638 -	PIT PAT	Pittosporum tenuifolium 'Irene Patterson'	Branched: 5 brks: C	30-40cm	5L	4/m²	152.7956m²		
906 -	POT DYK	Potentilla fruticosa 'Katherine Dykes'	Bushy: 5 brks: C	30-40cm	5-7.5L	4/m²	217.0939m²		
1112 -	SKI JAP	Skimmia japonica	Bushy: 4 brks: C	30-40cm	5L	6/m²	179.2721m²		
920 -	VIB DAV	Viburnum davidii	Bushy: 4 brks: C	30-40cm	5-7.5L	4/m²	220.4084m²		
706 -	WEI PUR	Weigela florida 'Folies Purpureis'	Branched: 4 brks: C	40-60cm	3L	6/m²	114.1411m²		
Total :7160 -								Total :1573.9074m²	

Herbaceous									
Number of Plants	Abbreviation	Species	Specification	Pot Size	Density	Area			
416 -	ECH PUR	Echinacea purpurea	Full Pot: C	5L	6/m²	67.3825m²			
581 -	GER BLU	Geranium Johnson's 'Blue'	Full Pot: C	5L	4/m²	137.5266m²			
349 -	RUD GOL	Rudbeckia fulgida sullivanii 'Goldsturm'	Full Pot: C	5L	4/m²	83.307m²			
Total :1346 -							Total :288.2161m²		

Grasses									
Number	Abbreviation	Species	Specification	Pot Size	Density	Area			
547 -	CAR DAN	'Carex morrowii 'Ice Dance'	Full Pot: C	5L	8/m²	65.984m²			
							Total :65.984m²		

Formal Hedge									
Number	Abbreviation	Species	Specification	Height	Density	Length			
1744 -	BUX SEM	'Buxus sempervirens	Bushy: 10 brks: RB	60-80cm	3/m	570.5065m			
							Total :570.5065m		

Native Hedgerow Mix									
Number	Abbreviation	Species	Specification	Height	Pot Size	Density	Percentage Contribution	Length	
176 -	COR AVE	Corylus avellana	1+2: Transplant - seed raised: Branched: 3 brks: B	60-80cm		0.33Ctr Double Staggered at 0.3m offset	15%	28.4849m	
463 -	CRA MON	Crataegus monogyna	1+1: Transplant - seed raised: B	60-80cm		0.33Ctr Double Staggered at 0.3m offset	40%	75.5591m	
176 -	ILE AQU	Ilex aquifolium	Leader with Laterals: C	40-60cm	3L	0.33Ctr Double Staggered at 0.3m offset	15%	28.4849m	
234 -	PRU SPI	Prunus spinosa	1+1: Transplant - seed raised: Branched: 2 brks: B	60-80cm		0.33Ctr Double Staggered at 0.3m offset	20%	37.9796m	
61 -	ROS ARV	Rosa arvensis	1+1: Transplant - seed raised: Branched: 2 brks: B	60-80cm		0.33Ctr Double Staggered at 0.3m offset	5%	9.495m	
61 -	ROS CAN	Rosa canina	1+1: Transplant - seed raised: Branched: 3 brks: B	60-80cm		0.33Ctr Double Staggered at 0.3m offset	5%	9.495m	
Total :1171 -								Total :189.8985m	

Mixed Native Scrub									
Number	Abbreviation	Species	Specification	Height	Pot Size	Density	Percentage Contribution	Area	
699 -	CRA MON	Crataegus monogyna	1+1: Transplant - seed raised: B	60-80cm		1/m²	49.38%	697.3919m²	
177 -	ILE AQU	Ilex aquifolium	Bushy: 3 brks: C	40-60cm	3L	1/m²	12.35%	174.4187m²	
177 -	MAI SYL	Malus sylvestris	1+1: Transplant - seed raised: B	60-80cm		1/m²	12.35%	174.4187m²	
20 -	PRU SPI	Prunus spinosa	1+1: Transplant - seed raised: Branched: 2 brks: B	60-80cm		1/m²	1.23%	17.3713m²	
90 -	ROS CAN	Rosa canina	1+1: Transplant - seed raised: Branched: 3 brks: B	60-80cm		1/m²	6.17%	87.1386m²	
177 -	SAM NIG	Sambucus nigra	1+1: Transplant - seed raised: Branched: 3 brks: B	60-80cm		1/m²	12.35%	174.4187m²	
90 -	VIB OFU	Viburnum opulus	1+2: Transplant - seed raised: Branched: 3 brks: B	60-80cm		1/m²	6.17%	87.1386m²	
Total :1430 -								Total :1412.2966m²	

Native Climbers Mix	
---------------------	--