

SOFT LANDSCAPE SPECIFICATION

Hogwood Farm, Finchampstead: Parcel 9



PLN-9-5600

Soft Landscape Specification
Parcel 9

19th Jan 2024

Quality Management

Version	Status	Authored by	Reviewed by	Approved by	Review date
-	Planning	CP	CP	CT	Jan 2024

Approval for issue

Craig Thomson

19 January 2024

File/Model Location

Document location: P:\4300 Series\JSL4360 – Hogwood(Barratts)\Tech\Specifications

Model / Appendices location:

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Prepared by:

RPS

Charlie Pierson
Senior Landscape Architect

Lakesbury House, Hiltingbury Road
Hampshire SO53 5SS

T +44 2380 810 440
E charlie.pierson@rpsgroup.com

Prepared for:

Barratt David Wilson Homes Southern Counties

Kristina King
Assistant Planner

Compton House, The Guildway, Old Portsmouth Road,
Guildford, GU3 1LR

T +44 1438 557426
E kristy.king@bdwhomes.com

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1 LANDSCAPE SUB-CONTRACTOR

- 1.1 The works described in this specification shall be carried out by a suitable Landscape Contractor employed as a domestic sub-contractor by the Main Contractor.
- 1.2 The proposed Landscape Contractor shall (unless otherwise agreed) be agreed with the client / Landscape Architect.
- 1.3 The works described in this specification shall be carried out under the supervision of a suitably qualified Chartered Member of the Landscape Institute (CMLI) or other approved supervisor.
- 1.4 The Contract Administrator (CA) shall be a suitably qualified professional person and may be the Landscape Architect or similar appointed person by the client.

2 SCOPE OF WORKS

2.1 The Main Contractor, as part of the preliminary and base external site works, will:

- Carry out the initial site clearance
- Clear existing vegetation to be removed
- Erect protective fencing for existing vegetation to be retained
- Strip soil, store soil and/or remove soil from site
- Prepare sub-grade, and excavate to depths stated

Additional elements:

- *Provide and install formal tree surround guards & grilles, root barriers and any below ground root systems.*

2.2 The soft Landscape Contractor will carry out the following works as listed within the Soft Landscape Specification:

- Supply, deliver and install specified plants, as listed in the Plant Schedule.
- Prepare and grade subsoil to planting beds and tree pits.
- Import / spread and cultivate topsoil including required soil analysis and any amelioration.
- Provide drainage medium to tree pits (unless otherwise completed by the groundworker)
- Carry out all planting works including associated works.
- Carry out all grass seeding or turf laying works.
- Provide maintenance up to Practical Completion.
- Provide 12 months maintenance and defects period post Practical Completion for shrubs and 24 months for trees.

2.3 Protect against the following:

2.1.1 Existing Topsoil / Subsoil

Protect existing topsoil and subsoil from over-compaction, contamination by chemicals, spills or other foreign materials in areas which may be damaged by construction activity and which will require reinstatement prior to completion of the works. Agree extent of reinstatement with the CA and programme of works.

2.1.2 Retained Trees/Hedges/Shrubs/Grassed Areas

- Adequately protect and preserve, except those which are to be removed.
- Replace to approval or treat as instructed any species or areas damaged or removed without approval.
- Trees and shrubs which, due to the Contractor's negligence, are uprooted, destroyed, or in the opinion of the CA, damaged beyond reasonable chance of survival in their original shape, must be replaced with those of a similar type and age at the Contractor's expense.

2.1.3 Trees to be Retained

Unless agreed otherwise by the CA, **do not**:

- Remove or cut existing trees or vegetation without specific instructions.

- Dump spoil or rubbish, excavate or disturb topsoil, park vehicles or plant, store materials or place temporary accommodation within the branch spread.
- Sever roots exceeding 50 mm in diameter or branches from growing trees, without express prior permission.
- Change level of ground within an area 3m beyond the branch spread.

2.1.4 Protection of Existing Trees

- The contractor shall maintain existing protective fencing or where necessary erect a temporary protective barrier in accordance with Figure 2 of BS 5837:2012 'Trees in relation to construction'. The barrier shall consist of a 2.3m high vertical and horizontal scaffold framework, well braced to resist impacts with vertical tubes driven into the ground at a maximum interval of 3m. Secure weldmesh panels onto framework and apply sign stating 'NO ENTRY: TREE PROTECTION FENCE'. The contractor shall take all necessary precautions to protect in the course of his work all existing trees or vegetation from malicious or accidental damage.
- The temporary fence will be retained intact for the whole duration of the works unless otherwise instructed by the Contract Administrator. On issue of the practical completion certificate the protective fencing shall be removed and the ground made good and post holes filled with soil and lightly compacted.

3 SUB-SOIL AND TOPSOIL

- 3.1 All excavations, cultivations and grading required beneath the canopy of retained trees or within 3m of a hedge line shall be carried out by hand using hand tools taking extreme care not to damage or disturb any tree roots.

3.2 Subsoil

- 3.1.1 Subsoil grading of the site shall leave landscape areas with smooth flowing contours to achieve the specified finished levels when topsoiled.
- Prior to placing topsoil subsoil formation should be loosened and/or ripped to a depth of 300mm. Check for presence of underground services prior to commencing any ripping. The contractor shall satisfy himself as to the presence of any services prior to any ripping or cultivation operations – if in doubt advise CA and seek further instruction.
 - Any areas heavily compacted during construction activity shall be ripped and de-compacted to ensure they are free draining.
 - Any areas found to be wet or waterlogged shall be alleviated by positive land and/or tree pit drainage as necessary to ensure all tree and shrub planting areas are free draining.
 - Subsoils shall be sampled and handled in accordance with the requirements of BS 8601:2013 'Specification for subsoil and requirements of use'.

3.3 Topsoil

- 3.1.1 Topsoil Analysis for existing topsoil to be re-used on site.
- Collect a sample in accordance with BS 3882:2015 'Specification for Topsoil', Annex A from locations throughout the site.
 - Provide the following:
 - pH level
 - Organic matter
 - Confirmation of soil grade as defined by BS 3882
 - Recommendations for making good any deficiencies and fertiliser treatment
 - Confirmation as to whether the soil is suitable for general amenity planting and lawn establishment
 - A report detailing the soil analyst's recommendations
 - Carry out any recommendations outlined from the soil analysis for amelioration and/or soil handling to the approval of the CA.
- 3.1.2 Imported Topsoil
- It is anticipated that the landscape contractor will need to import topsoil to make up deficiencies on site. However if the main contractor so chooses any existing topsoil may be removed from the site and either returned or replaced in accordance with the specification, at no additional cost.
- Provide as necessary to make up any deficiency of existing topsoil available on site to complete the work.
 - Soils to BS 3882:2015 'Specification for Topsoil', grade: General Amenity.
 - Free from aggressive weeds, debris or other potentially hazardous foreign matter.

3.1.3 Handling Topsoil

IN ALL CASES THE CONTRACTOR SHALL ENSURE THAT THE SUBSOIL / FORMATION LAYER IS FREE DRAINING PRIOR TO PLACING TOPSOIL. ADVISE THE CA IF THIS CANNOT BE ACHIEVED AND SEEK INSTRUCTION BEFORE PROCEEDING.

- All soils to be stripped, handled and stored in accordance with the requirements of BS 3882:2015 'Specification for Topsoil' and BS8601:2013 ' Specification for subsoil and requirements for use'.
- Remove temporary surfaces before spreading topsoil.
- Spread over prepared subsoil in layers not exceeding 150mm and gently firm each layer before spreading the next.
- Overall minimum depths after firming and settlement to be:

Turfed and Seeded areas	150mm
Hedgerows	300mm
Meadow seeded areas	n/a (use existing subsoil only)
Amenity shrub areas	350mm
Marginal / aquatic planted areas	100mm (or existing soil where present)
Tree pits as specified	varies (see below)

- Do not compact topsoil. Preserve a friable texture of separate visible crumbs whenever possible.

3.1.4 Finished levels of topsoil after settlement, unless otherwise stated, to be:

- 50mm below adjoining paving or kerbs,
- Unchanged within the root spread of existing trees,
- Not less than 150mm below dpc of adjoining buildings,
- Where mulch is specified, topsoil is to be neatly pulled back at edges minimum 75mm deep to allow retention of mulch.
- Married in with adjoining soil areas.

4 PLANTING

4.1 Generally planting should be carried out in accordance with the following British Standards

- BS 4043:1989 'Recommendation for Transplanting Root Balled Trees'
- BS 4428:1989 'Code of Practice for General Landscape Operations'
- BS 8545:2014 'Trees from nursery to independence in the landscape. Recommendations'

4.1.1 Times of Year for Planting

- Seeding: mid March to the end of April or late August to mid October.
- Root balled/Bare root deciduous trees and Shrubs: late November to early March.
- Root balled conifers and evergreens: September - November or March - May.
- Turf, container grown shrubs and trees (including spring ringed): At any time if ground and weather conditions are favourable. Ensure that adequate watering, drainage and weed control is provided. Do not plant into frozen ground.
- Waterlogging shall be avoided through proper ground preparation and tree pit excavation.

4.1.2 Watering

- Quantity: where required to field capacity.
- Application: Even and without displacing seeds, seedlings or soil.
- Frequency: As necessary to ensure the establishment and continued thriving of all seeding/ turfing and planting.

4.1.3 Setting Out

- Clearly mark boundaries of seeding / turfing and planting areas and location of trees and obtain approval before starting work.
- All hedging to be evenly spaced to specified densities and in neat consistent lines.
- Areas of amenity planting to be planted in random pattern (not lines) and in groups of 3, 5, 7 of same species where a planting mix is applied.
- Check for overhead and underground services prior to starting any excavation works. Seek approval for any conflicts or possible future conflicts between planting and service restrictions.

4.1.4 Tree Surgery to Existing Trees

- Where scheduled, or as instructed, existing trees shall have all dead, dangerous or damaged branches removed. Lower branches shall be removed to a clear stem height of 2.0m. Ivy shall be severed at the base and removed to a minimum height of 1.5m.
- All tree surgery shall be carried out by an approved tree surgeon in accordance with BS 3998: 2010 'Tree work recommendations'.
- Branches to be removed should be cut in accordance with BS 3889:2010, where suitable "target" prune, without exaggerating the size of the wound. This will usually coincide with the limit of branch buttressing. The size of the wound shall be as small as practicable, therefore flush pruning should be avoided; pruning which leaves a small collar at the base of the branch is preferred.
- All pruning works should seek to maintain an even, balanced crown form.

- Timing: All works to be completed outside of bird nesting season, generally March – August inclusive, unless otherwise agreed following inspection by a suitably qualified Ecologist.

4.2 Preparation Generally

4.1.1 Peat

Do not use peat or products containing peat.

4.1.2 Cultivation

- Compacted topsoil: Break up to full depth.
- Incorporate specified compost and fertiliser.
- Tilth: Within a few days before seeding / turfing or planting cultivate topsoil using a suitable mechanical cultivator until a fine tilth is achieved to a depth of:
 - 350mm – Shrub planting areas
 - 300mm – Hedgerow areas
 - 150mm – Turf / grass seeded areas
- Remove from site undesirable material brought to the surface including stones and clay balls larger than 50 mm in any dimension, roots, tufts of grass, rubbish and debris and foreign matter.
- Any areas which remain waterlogged after cultivation, shall receive additional remediation or positive drainage to maintain suitable aerobic growing conditions.
- Do not use mechanical means to cultivate planting areas within the canopy of existing trees, all excavations and ground preparation shall be completed by hand digging only.

4.3 Planting Bulbs

- Spacing: Randomly. Bulbs to be thrown onto the ground to ensure natural spacing and planted where they fall.
- Density: As scheduled.
- Bulbs to be planted with base in contact with soil at depth of 150mm. Where planting in grassed areas carefully lift plugs of turfs and replace after planting.

5 SEEDING/TURFING

5.1 Grass Areas

5.1.1 Fertiliser for Amenity Grass Areas ONLY

- Type: Fisons PS5 pre-seeding fertiliser.
- Application: Before final cultivation and three to five days before seeding.
- Coverage: Spread evenly at 70 g/m².
- FERTILIZER IS NOT TO BE USED ON MEADOW GRASS AREAS

5.1.2 Final Cultivation

- Timing: After grading and fertilising.
- Seed bed: Lightly rake/harrow to present a true, even tilth no greater than 75mm in depth. Remove surface stones/earth clods exceeding 50 mm.
- Adjacent levels: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.
- The contractor should allow for all cultivation operations to achieve a good seedbed, including hand raking and hand digging on slopes and banks inaccessible to machinery, and against the backs of kerbs and paths.
- Soils to be free of any weeds

5.1.3 Laying turf

- Laying turf, preferably along a straight side in a row, butting closely end to end. On subsequent rows, stagger the joints in brickwork fashion. Do not leave gaps between the turf and brush over fine topsoil into the joints.
- Do not allow turf to dry out and turf to be stored rolled for no more than 24 hours.

5.1.4 Seed Quality

- Freshness: Produced for the current growing season.
- Certification: Blue label certified varieties.
- Standard: EC purity and germination regulations.
- Official Seed Testing Station certificate of germination, purity and composition:

5.1.5 Seed sowing

- General: Establish good seed contact with the root zone.
- Method: To suit soil type, proposed usage, location and weather conditions during and after sowing.
- Distribution: Seed shall be evenly distributed at the rates specified and shall be immediately followed by lightly raking the soil surface to cover the seeds, by use of a chain harrow or other suitable plant.
- Site should be lightly rolled following seeding to ensure good contact between the seed and topsoil.

5.1.6 Seedbed Germination

- Seeding shall be repeated as necessary until an evenly distributed dense sward is established over the seeded area to the satisfaction of the CA. The contractor / supplier shall allow for maintenance of all grass areas (as specified below) until this is achieved.

5.1.7 Turf for all areas

- Timing: After final cultivation fertilising.
- Rolawn Medallion® turf to BS3936 as supplied by www.rolawn.co.uk or similar and approved.

5.1.8 Grass Seed for Amenity Grass and Meadow Areas

Amenity grass areas

- Supplier: Germinal www.germinal.com or similar and approved.
- Type: Mixture reference: A22 – Low maintenance grass mix
- Application rate: 50g/m2.

Wildflower Meadow areas

- Supplier: Emorsgate Seeds www.wildseed.co.uk or similar and approved.
- Type: EM3F Special General Purpose Meadow Mixture
- Application rate: 4g/m2.

General Meadow areas

- Supplier: Emorsgate Seeds www.wildseed.co.uk or similar and approved.
- Type: EM2 Standard General Meadow Mixture
- Application rate: 4g/m2.

Tussock Grass areas

- Supplier: Emorsgate Seeds www.wildseed.co.uk or similar and approved.
- Type: EM10 Tussock Mixture
- Application rate: 4g/m2.

5.2 Protecting / Cutting

5.1.1 Management

- Protect newly turfed/seeded areas with 1.5m high chestnut pale fencing.
- Maintain fencing until grass is well established then remove and reinstate ground.
- Allow for management of grass during establishment either by cutting or spot treatment, to control competition from undesirable species and suppressing of the sown sward. Any cuttings should be removed.

5.1.2 Watering

During establishment of grass areas ensure that sufficient water is applied using a fine rose sprinkler to maintain healthy growth.

5.1.3 First Cut of Amenity Grass

- Timing: When grass reaches 75 mm high and is reasonably dry.

- Before cutting, remove debris, litter, and stones and earth clods larger than 25 mm in any dimension and roll with a light roller.
- Method: 48 hours later cut with a suitable cylinder box mower, or suitable rotary mower on slopes and banks.
- Arisings: Remove and dispose of all arisings.

5.1.4 First Cut of Meadow Grass

- Timing: - First cut should be at least eight weeks after sowing. If Autumn sown cut;
 1. March if sufficient material to 40-70mm then;
 2. Early May to 40-70mm then;
 3. September to 40mm after flowering, remove excess grass.
- Before cutting, remove debris, litter, and stones and earth clods larger than 25 mm in any dimension and roll with a light roller.
- Arisings: Leave in situ for 1-7 days turning occasionally to dry and allow seeds to shed before removing off site.

5.3 Maintenance

Between the first cut and Practical Completion the height of growth for amenity grass areas must not exceed the maximum height prior to first cutting. Cut as many times necessary with machinery and to heights as specified for the first cut.

5.1.1 Failures of Turf

Bare areas and areas of dead grass which become apparent before the end of the Defects Liability Period will be regarded as defects due to materials or workmanship not in accordance with the contract.

5.1.2 Maintaining Grassed Areas

Maximum height of growth at any time: 60mm

5.1.3 Preparation: Before each cut remove all litter and debris.

- Cutting: Cut at two weekly intervals as required through the growing season.
- Arisings: Remove and dispose of all arisings.
- Trimming: At the time of each cut, trim all grass edges, including round the base of trees, manholes, etc and remove arisings.
- Weed control: Keep the sward substantially free of broad-leaved weeds by applying an approved selective herbicide.
 - Where excessive annual weed growth threatens to smother new grass areas, cut back growth to a height of 50mm with a scythe or rotary cutter and carefully rake off cuttings. Spot treat coarse perennial weeds with a suitable herbicide such as Glyphosate gel.
 - Watering: To be undertaken at the frequency necessary to ensure establishment and survival of the grass sward.

5.1.4 Maintaining Meadow Areas

- Preparation: Before each cut remove all litter and debris. Do not apply fertilisers at any time to areas of Meadow Grassland.

- Cutting: As follows:
 - After initial establishment cut annually during July / August to a height of 100mm following flowering. Cut using suitable machinery such as a sickle-bar mower, motor scythe or a two-wheel strimmer.
 - Arisings: Leave on the ground for a couple of days to allow seed dispersal, removing thereafter. If this cannot be accommodated remove at time of cutting.
- Weed control: Substantially free of broadleaved weeds.
 - Method: Spot treat any persistent / aggressive weeds with a Glyphosate based herbicide as approved with the CA.
- Stones brought to the surface: Remove regularly.
- Watering: To be undertaken at the frequency necessary to ensure establishment and survival of the meadow grassland sward.

5.1.5 Fertiliser for Turfed & Amenity Grass Areas **ONLY**

- March application: 11:6:9 Spring/summer turf fertiliser at 35-50 g/m² or equivalent.

6 TREES AND SHRUBS

6.1 Supply and Storage

6.1.1 Trees and Plants generally;

To BS 8545:2014 'Trees from nursery to independence in the landscape. Recommendations'

- Condition: Materially undamaged, sturdy, healthy and vigorous.
- Appearance: Of good shape and without elongated shoots.
- Hardiness: Grown in a suitable environment and hardened off.
- Health: Free from pests, diseases, discoloration, weeds and physiological disorders.
- Root system and condition: To requirements of the relevant parts of BS 3936 and balanced with branch system and healthy root growth filling the specified pot size.
- Species: True to name.
- Provenance: Provide details of local provenance where specified for UK native species.

6.1.2 Plant / Tree Substitution

- Plants/ trees unobtainable or known to be likely to be unobtainable at time of ordering: Submit alternatives stating proposed substitutions.
- Obtain approval before making any substitution.

6.1.3 Plant / Tree Handling, Storage and Transport

To CPSE 'Handling and establishing landscape plants' (obtainable from the Horticultural Trades Association) Part I, Part II and Part III, paragraphs 1.3.3 to 1.3.6, 3.0, and 4.0.

6.1.4 Planting Generally

To CPSE 'Handling and establishing landscape plants' (obtainable from the Horticultural Trades Association) Part III, paragraphs 6.2 to 6.6. Plant upright or well balanced with best side to front.

6.2 Preparation of Planting Beds / Planting Materials

6.1.1 Soil Ameliorant / Conditioner

- Locations: Planting Beds.
- Type: Well composted organic matter
- Supplier/ Source: To approval.
- Coverage: 1m³ of material per 60m².
- Timing: Apply prior to cultivation.
- Cultivation: work into the top 100mm depth of soils

6.3 Planting Shrubs

6.1.1 Plant Layout

- Spacing: Evenly
- Density: As scheduled.
- Ornamental hedgerows to be laid out in planted border 800mm wide, planted as single central row or double staggered for deciduous species as specified.

- 6.1.2 Planting Pits - Amenity Shrub planting, Hedgerow, native shrub and woodland mixes
To BS 3936: Part 1: 1980 (1992)
- Timing: Excavate immediately prior to planting.
 - Sizes: 150 mm wider than roots when fully spread and 400 mm deep.
 - Additional requirements: Increase dimensions where necessary to ensure that pits are at least 75 mm deeper than root system and wide enough to accommodate roots when fully spread.
 - Break up bottom of planting pit to ensure free draining.
 - Finished level to be at original soil mark on shrubs
- 6.1.3 Antidesiccant for Conifers/ Evergreens
- Dip in or thoroughly spray with approved antidesiccant.
 - Application: Dip before delivering to site. Spray again soon after planting. Do not apply in wet or frosty weather.
 - Ensure full coverage of underside of foliage.
- 6.1.4 Herbaceous Plants
- Well rooted, healthy, hardy and not less than one year of full growth.
 - Evenly space at the rate stated over the allocated area avoiding straight lines.
 - Plant carefully in generously sized holes with finely broken soil returned around the roots.
 - Lightly firm the soil.
- 6.1.5 Planting aquatic / marginal plants & plugs
- Handling: Keep plants watered and in shade until planted. Do not allow to dry out.
Preparation: Remove coarse weeds etc. from planting sites.
 - Planting: Into a hole to suit plug size and shape. Create a cleft at bottom of hole to improve rooting. Gently firm plant into hole to ensure good root hold into substrate.
 - Notching: Make a vertical 'I', 'L', 'T' or 'H' notch.
 - Depth: To accommodate full depth of roots.
 - Planting: Insert plant at specified water depth, close notch and firm surrounding soil to ensure good root hold into substrate.
- 6.1.6 Planting containerised, bagged and weighted bunched aquatic plants
- Preparation: Remove coarse weeds, debris, etc.
 - Planting sites: Form level, stepped or gently sloping areas as scheduled and/ or appropriate to planting water depths and container/ bag sizes and shapes. Planting: Lower containers/ bags/ bunches gently into place, keeping plants upright. Firm plant root/base into stream base if required to anchor their position.
 - Ballast requirement: Where containers / bags are not pre weighted, cover with sufficient ballast to prevent flotation and keep plants secure against likely maximum water flow.
 - Free floating plants: Place carefully into areas standing water. Avoid plants from floating downstream by tying with garden string if required.

6.1.7 Climbing shrubs

- Provide a cane for early support of climbing shrubs, tie shrub gently to cane using garden twine, lean toward wall / fence.
- Fix two eye screws, one to top and other to bottom of fence / wall and strain garden wire between fixings as support / guy for climbing shrubs.

6.1.8 Backfilling Material

- Composition: Previously prepared mixture of topsoil excavated from pit and additional topsoil as required.
- Fertiliser: Enmag slow release fertiliser or similar and approved at a rate of 100 g/m2.

6.1.9 After Planting

- Watering: Immediately after planting, thoroughly and without damaging or displacing plants or soil.
- Firming: Lightly firm soil around plants and fork and/ or rake soil, without damaging roots, to a fine tilth with gentle cambers and no hollows.
- Immediately after planting shrubs carefully cut back any damaged, dead or diseased branches and remove any weak, thin or malformed growth.
- When directed and to the extent appropriate for the species cut back to encourage growth.

6.1.10 Mulching Planting Beds

- Spruce Ornamental (5-65mm) as supplied by Melcourt Industries Ltd www.melcourt.co.uk or similar and approved from FSC Mixed Source.
- Fire resistance to BS 4790: 1987
- Coverage: settled depth of 75mm
- Application: Apply when ground is moist, do not apply when ground is frozen or dry.

6.1.11 Plant Protection

- Bareroot plants within native hedge / woodland planting mixes to be protected from rabbit damage with the installation of 1No. shrub shelter and 25mm softwood stake per shrub / tree. Type 'Shelterguard', colour GREEN as supplied by Tubex www.tubex.com or similar and approved. Shrub species to receive 110mm diameter x 60cm high shelter, hedgerow tree species to receive a clear spiral guard.
- Amenity planting, structural shrub and groundcover mix planting to be protected where necessary against rabbit damage.

6.4 Planting Trees

6.1.1 Antidesiccant for Conifers/ Evergreens

- Dip in or thoroughly spray with approved antidesiccant.
- Application: Dip before delivering to site. Spray again soon after planting. Do not apply in wet or frosty weather.

6.1.2 Tree Pits

Refer to tree pit details

6.1.3 Tree Pit Aeration/Irrigation Pipe

- Locations: All trees 8cm girth and above.
- Type: RootRain metro system with associated end cap as supplied by GreenBlue Urban www.greenblue.com or similar and approved to be coiled around top of rootball.
- Insert during backfill around the rootball; the top to be cut off at a height of not more than 25mm above finished ground level and secured in place and capped.

6.1.4 Tree Pit Drainage

- Aggregate layer: Clean gravel or broken stone, with no fines, graded 50 to 20 mm. Depth: 200mm.
- Cover drainage layer with 200mm of clean horticultural sand.

6.1.5 Deciduous and Coniferous Advanced Nursery Stock Trees

Rootballed stock shall be supported by straps, frames or wire mesh baskets and shall be protected against drying out by wrapping firmly with hessian, plastic film or other recommended material. Wrapping shall be firmly tied over the top of the rootball.

Air pot / spring ringed stock shall be suitably protected with hessian to prevent damage and drying out as soon as the air pot has been removed.

6.1.6 Tree Support

- Extra Heavy, Heavy standard and standard trees: Short double staking
 - Staking: Drive stakes vertically at least 400 mm into bottom of pit on either side of tree position before planting. Fix half circle timber cross brace with 2 galvanised nails. Consolidate material around stakes during backfilling.
 - Height of stakes: Cut to approximately 600mm above ground level or 1/3 the height of the tree whichever is the lowest. Treat cut ends with clear timber preservative.
- Feathered and Multi stemmed trees: Short single staking or underground guying as specified.

6.1.7 Staking: Drive stake diagonally at least 400 mm into bottom of pit on before planting. Consolidate material around stake during backfilling.

- Height of stake: Cut to approximately 600mm above ground level or 1/3 whichever is the lowest. Treat cut ends with clear timber preservative.
- Tree ties: Biodegradable webbing 100% natural hessian from sustainable sources; 50mm wide x 1.5mm deep such as 'Nature Tie' as supplied by GreenBlue Urban www.greenblue.com or similar and approved.
- Webbing to be used to secure the tree to stake as well as form the spacers. Tie in a figure of eight, twice around the tree and stake and secure end of hessian to stake using 2 galvanised nails. Form spacer by repeatedly twisting the hessian in the centre of the tie between tree and stake; finish by cutting to the hessian to length and secure to the stake with 2 galvanised nails as above.

6.1.8 Backfilling Material

- Ensure that all tree pits are free draining prior to backfilling. Do not back fill pits that are not free draining – notify CA of any pits retaining water.
- Topsoil shall NOT be used at a depth greater than 500mm unless agreed with the landscape architect.
- Backfill remainder of pit with previously prepared mixture of topsoil excavated from pit and additional topsoil as required, together with:

6.1.9 Ameliorant/ Conditioner: Planting Compost at the following rates:

- Extra Heavy & Heavy Standard trees: 50 litres
- Multi-stemmed, Standard and Feathered trees: 35 litres
- Fertiliser: Enmag slow release fertiliser or similar and approved at a rate of 100 g/m2.
- Broadleaf P4 water storing granules at manufacturers recommendations (typically 4gms per litre of compost)

6.1.10 Mulching Trees

- Material: Generally as planting beds.
- Trees in grass: Bark Nuggets (15-65mm) as supplied by Melcourt Industries Ltd www.melcourt.co.uk or similar and approved from FSC Mixed Source.
- Fire resistance to BS 4790: 1987.
- Preparation: Clear all weeds. Apply pre-emergent herbicide.
- Coverage: 75mm depth, in a circular area of 500mm radius measured from the tree stem.
- Application: Apply when ground is moist, do not apply when ground is frozen or dry.

6.2.11 Soil Cell Systems for Constrained Trees in Hard Landscaped Areas (if required)

- GreenBlue Urban (or equal approved) Rootspace System
- Material: 100% recycled polypropylene
- Appropriate product to be selected in accordance with site conditions ascertained at detailed design stage
- To ensure all constrained tree pits are provided with adequate rooting space in accordance with GreenBlue Urban recommendations, and as indicated on the softworks plans

7 PROTECTING/MAINTAINING/MAKING GOOD DEFECTS

7.1 Maintenance Works

7.1.1 Maintenance

- Duration: Carry out the operations in the following clauses from completion of planting until the end of the defects liability period.
- Frequency of maintenance visits: fortnightly during growing season.

7.1.2 Failures of Planting

- General: Plants / trees / shrubs that have failed to thrive (unless due to theft or malicious damage after completion) during period stated, will be regarded as defects due to materials or workmanship not in accordance with the Contract. Replace with equivalent plants/ trees/ shrubs.
- Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
- Timing of making good: In the earliest appropriate planting season.
- Landscape contractor shall seek approval of any substitutions with CA / LPA prior to implementation.

7.1.3 Planting Maintenance Generally

- Weed control: Maintain weed free area around each tree and shrub, minimum diameter the larger of 1 m or the surface of original planting pit.
- Keep planting beds clear of weeds, by cultivation, use of approved herbicides and maintaining full thickness of mulch.
- Planted areas: Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows. Take care not to reduce depth or effect of mulch.
- Precautions: Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
- Staking: Check condition of stakes, ties, guys and guards. Replace broken or missing items. Adjust if necessary to allow for growth and prevent rubbing of bark. Cut back any damaged bark.
- Frequency of checks: 3 months.
- Standard Trees: Maintain the clear stem of standard trees by pruning away any new growth which may appear along the trunk or basal areas of the tree.
- Maintain specified balance of species, in particular control the establishment of invasive species to prevent supressing of other species.

7.1.4 Re-firm Planting

Re-firm plants that have been disturbed by wind rock or frost, particularly after heavy winds or storms.

7.1.5 Pest Control

Allow for pest control by spraying with a suitable approved pesticide in cases of severe insect and pest infestation. All spraying must be carried out in accordance with manufacturers written recommendations.

All damage that occurs, as a result of spraying, shall be made good at the Contractor's own cost.

7.1.6 Planting Maintenance – Pruning

- General: Prune at appropriate times, to remove dead or dying and diseased wood and suckers, to promote healthy growth and natural shape.
- Prune trees to favour a single central leading shoot.

7.1.7 Planting Maintenance – Watering

- Ensure that sufficient water is applied to maintain healthy growth. Carry out as and when necessary using a fine rose or sprinkler until full depth of topsoil is saturated. Regularly water plants in shadow of roof overhangs.
- Water trees from above ensuring root ball is sufficiently saturated to maintain healthy growth – do not rely on watering pipe alone.
- Where applicable carry out regular inspections of the 'vertical inspection pipe' to monitor conditions within the pits. Should standing water appear and not dissipate quickly allow for pumping out as necessary to the satisfaction of the landscape architect.

7.1.8 Final Mulching

- Timing: At end of the maintenance period stated.
- Watering: Ensure that soil is thoroughly moistened prior to remulching
- Planting beds: Re-mulch as specified. Coverage: minimum compacted 50mm depth
- Trees: Re-mulch as specified

7.1.9 Use of Chemicals

The contractor must comply with 'The Control of Pesticides Regulations COPR' as amended, 'EU Biocides Regulation 2012' and 'The Control of Substances Hazardous to Health Regulations 2002