

PLANNING

2041. Land south of Hearnfield Road, Wick. Littlehampton

2041-03. Soft landscape Specification

21 April 2011

This document includes:

Code	Section	Revision	Dated
Q28	Topsoil and growing media		
Q30	Seeding/turfing		
Q31	External planting		

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Q28 Topsoil and growing media

200 GRADING SUBSOIL

- General: Grade to smooth flowing contours to achieve specified finished levels of topsoil.
- Areas of thicker topsoil: Excavate locally.

250A SUBSOIL SURFACE PREPARATION

- General: Excavate and/or place fill to required profiles and levels, as section D20.
- Loosening:
 - Light and noncohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 300 mm.
 - Stiff clay and cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 450 mm.
 - Rock and chalk subgrades: Lightly scarify to promote free drainage.
- Decomposition:
 - Where compaction of the 'Subsoil' layer has occurred, or where recently installed 'Subsoil' is of poor quality or has been damaged by handling, deep rip to a depth of 600mm at 1m centres
 - Ripping is only to be undertaken both ways along one axis and at an orientation to promote down-slope drainage
 - Each successive pass is to overlap
 - In small confined areas, rotavation or hand contamination in dry conditions
- Stones: Immediately before spreading topsoil, remove stones larger than 50 mm in any dimension.
- Remove Arisings, contaminants and debris and Builder's rubble.

300A TOPSOIL ANALYSIS GENERAL LANDSCAPE PURPOSES

- Soil to be analysed:
 - Existing topsoil areas or stockpiles to be retained or reused
 - Imported/manufactured topsoil
- Soil analyst:

Tim O'Hare Associates Tel: 01491 822653 or Voelcker Consultants Tel: 0208 7469550, or equal and approved by Landscape Architect. Laboratory used will operate in accordance with MCERTS Performance Standard for Laboratories Undertaking the Chemical Testing of Soil.
- Sample Procedure for Existing soil:
 - Natural topsoil which has not yet been stripped shall be sampled to its full depth.
 - One composite sample minimum weight 2kg shall be generated for each different soil areas as delineated by a specialist soil resource survey, and from sub-areas of different land use within them.
 - To ensure accurate representation for each area several incremental samples shall be taken across them and mixed together to form a composite sample, using a rectilinear grid or 'W' pattern.
 - Avoid sampling areas that will be different to the main area, such as gateways, hedge lines, or areas of fertiliser storage.
- Sample Procedure for Stockpiled, Imported or Manufactured soils:
 - One composite sample minimum weight 2kg shall be submitted for analysis for every 5000m³ of topsoil.
 - Generate a composite sample by taking point samples at regular intervals on stockpile at both the surface 1m and core according to BS EN 12579:2000
- Additional Information:
 - Submit details of proposed planting scheme with samples and request recommendations regarding suitability
 - Submit relevant topsoil specification as clause 342 against which soil is to be tested
- Contamination:
 - Where soil contamination testing has been requested please provide soil analyst with information regarding end use of soil.
- Submit:- Analysis detailing following to be submitted prior to delivery to site or reuse of existing material
 - Visual Description
 - pH Value
 - Electrical Conductivity (1:2.5 soil : water extract)
 - Particle Size Analysis
 - Stone Content (2-20mm, 20-50mm & >50mm)
 - Organic Matter Content
 - Total Nitrogen
 - Extractable Phosphorus
 - Extractable Potassium
 - Extractable Magnesium
 - Report detailing soil analyst's recommendations.

300D TOPSOIL ANALYSIS SUBSOIL FOR GENERAL LANDSCAPE PURPOSES

- Soil to be analysed:
 - [Existing subsoil areas or stockpiles to be retained or reused]
 - [Imported/manufactured subsoil]
- Soil analyst:
 - [Tim O'Hare Associates Tel:01491 822653 or Voelcker Consultants Tel: 0208 7469550, or equal and approved by Landscape Architect. Laboratory used will operate in accordance with MCERTS Performance Standard for Laboratories Undertaking the Chemical Testing of Soil].
- Sample Procedure for Existing soil:
 - Natural topsoil which has not yet been stripped shall be sampled to its full depth.
 - One composite sample [minimum weight 2kg] shall be generated for each different soil areas as delineated by a specialist soil resource survey, and from sub-areas of different land use within them.
 - To ensure accurate representation for each area several incremental samples shall be taken across them and mixed together to form a composite sample, using a rectilinear grid or 'W' pattern.
 - Avoid sampling areas that will be different to the main area, such as gateways, hedge lines, or areas of fertiliser storage.
- Sample Procedure for Stockpiled, Imported or Manufactured soils:
 - One composite sample [minimum weight 2kg] shall be submitted for analysis for every 5000m³ of topsoil.
 - Generate a composite sample by taking point samples at regular intervals on stockpile at both the surface 1m and core according to BS EN 12579:2000.
- Additional Information:
 - Submit details of proposed planting scheme with samples and request recommendations regarding suitability
 - Submit relevant topsoil specification as clause 342 against which soil is to be tested
- Contamination:
 - Where soil contamination testing has been requested please provide soil analyst with information regarding end use of soil. Submit:-
- Analysis detailing following to be submitted prior to delivery to site or reuse of existing material
 - Visual Description
 - pH Value
 - Electrical Conductivity (1:2.5 soil : water extract)
 - Particle Size Analysis
 - Stone Content (2-20mm, 20-50mm & >50mm)
 - Report detailing soil analyst's recommendations.

310 PREPARATION OF UNDISTURBED TOPSOIL

- Standard: In accordance with BS 4428
 - Grading and cultivation: To suit cultivation operations specified in Q30 and Q31.
- Hard ground: Break up thoroughly.
- Clearing: Remove visible roots and large stones with a diameter greater than 50 mm.
- Areas covered with turf or thick sward: Plough or dig over to full depth of topsoil.
- Fallow period (minimum): One month.
- Weed control: At appropriate times treat with a suitable translocated nonresidual herbicide.

342A IMPORTED TOPSOIL, CUSTOM MIX MULTIPURPOSE TOPSOIL

- Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
- Source: Submit proposals.
- Standard Requirements: This soil is to comply with BS3882:2007 Specification for Multipurpose topsoil with the following amendments.
- Stone: Size in any dimension (maximum):
- Stone content by dry weight (maximum): 20% .
- Foreign matter: On visual inspection, free of fragments and roots of aggressive weeds, sticks, straw, subsoil, pieces of brick, concrete, glass, wire, large lumps of clay or vegetation, and the like.
- Submit: Report outlining conformity to specification and the soil analyst's recommendations .

342G IMPORTED SUBSOIL, CUSTOM MIX SUBSOIL

- Quantity: Provide as necessary to make up any deficiency of subsoil existing on site and to complete the work.
- Source: Submit proposals.
- Textural Classification:
- Organic Matter % (m/m): [$<2\%$]
- pH Value: [5.0-9.0]
- Stone: Size in any dimension (maximum):
- Stone content by dry weight (maximum): 40% .
- Nutrient content: Minimum index values for nitrogen, phosphorus, potassium and magnesium for general purpose grade of BS 3882 are not to be exceeded.
- Foreign matter: On visual inspection, free of fragments and roots of aggressive weeds, sticks, straw, subsoil, pieces of brick, concrete, glass, wire, large lumps of clay or vegetation, and the like.
- Submit: Report outlining conformity to specification and the soil analyst's recommendations .

395 PEAT

- Peat or products containing peat: Do not use.

670 CONTAMINATION

- General: Do not use topsoil contaminated with subsoil, rubbish or other materials that are:
 - Corrosive, explosive or flammable.
 - Hazardous to human or animal life.
 - Detrimental to healthy plant growth.
- Subsoil: In areas to receive topsoil, do not use subsoil contaminated with the above materials.
- Give notice: If any evidence or symptoms of soil contamination are discovered on the site, or in topsoil to be imported.

680A TOPSOIL STORAGE HEAPS

- Location: [as shown on drawings or as agreed with CA] .
 - Locate in dry ground, not in hollows and do not disrupt local surface drainage.
 - Protect from run-off/ponding by a cut-off ditch.
 - Site of stockpiling to be thoroughly prepared by grading and removal of rubbish to be approved by the contract administrator/landscape architect
 - To be stored separately from the subsoil
 - Soil should be stored on protected ground. On areas of existing hard surfacing this protection should shall take the form of tarpaulin, plastic sheets, boards or similar surfaces and the contractor shall be responsible for making good any damage caused by the operations.
- Height (maximum): 1.5m if heap is to be maintained for a period exceeding 2 weeks 3m for periods less than 2 weeks
- Width (maximum): (3m) 3m if heap is to be maintained for a period exceeding 2 weeks 10m for periods less than 2 weeks
- Angle of Sides: 45°
- Protection:
 - Do not place any other material on top of storage heaps.
 - Do not allow construction plant to pass over storage heaps.
 - Prevent compaction and contamination.
 - Once completed enclose storage heap with a chestnut pale fence as Q40 and prevent all construction access.
- Weeds:
 - The soil shall be kept clear of weeds by mechanical or approved chemical means.
 - The enactments and regulations in respect of injurious weeds are to be complied with at all times, and note taken of the Weed Act 1959.

690A HANDLING TOPSOIL & PROTECTION OF SUBSOIL FROM COMPACTION

- Aggressive weeds:
 - Species: Included in the Weeds Act, section 2 or the Wildlife and Countryside Act, Schedule 9, part II.
 - Give notice: Obtain instructions before moving topsoil.
- Earthmoving equipment: Select and use to minimize disturbance, trafficking and compaction.
 - Dump trucks used to transport material must only operate on the 'basal'/non-soil layer.
 - Excavators should only operate on the topsoil layer
- Compaction: Where this occurs or where it is necessary for dump trucks to use the sub-soil layer then decompaction must be carried out prior to re-instatement of topsoil in accordance with clause Q28.250
- Operation:
 - Haul routes and storage areas must be defined and stripped first.
- Contamination: Do not mix topsoil with:
 - Subsoil, stone, hardcore, rubbish or material from demolition work.
 - Oil, fuel, cement or other substances harmful to plant growth.
 - Other grades of topsoil.
- Multiple handling: Keep to a minimum. Use topsoil immediately after stripping or place in temporary storage piles in accordance with clause 421.
- Weather conditions:
 - Handle topsoil in the driest condition possible. Do not handle during or after heavy precipitation (includes snow and hail)
 - Do not commence stripping unless weather forecast is expected to be dry for at least a full day.
 - Where interruption by rain, or over night rain is likely, stripping of the current section should be completed down to the sub soil layer. The base of the current or next strip must be protected from ponding/runoff by sumps and grips.
 - At the start of each day ensure there is no ponding in the current operating area and that the sub soil layer is level with no ruts.
 - Handling of topsoil should not occur during extended dry periods or windy conditions, where the risk of airborne erosion is present

700A SPREADING TOPSOIL

- Temporary roads/surfacing: Remove before spreading topsoil.
- Layers:
 - Depth (maximum): 150 mm.
 - Gently firm each layer before spreading the next.
- Depths after firming and settlement (minimum):
 - Grass areas 150mm
 - Shrub areas 300mm
 - Tree pits 300mm
- Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.
- Additional Requirements:
 - Prior to the placement of the top soil the existing subsoil material should be mechanically ripped to a depth of at least 300mm
 - Once topsoil has been placed vehicle movements across area are to be prevented.

710A LOOSE TIPPING OF TOPSOIL

- General: Do not firm, consolidate or compact topsoil when laying. Tip and grade to approximate levels in one operation with minimum of trafficking by plant.
- Depths after firming and settlement (minimum):
 - Grass areas 150mm
 - Shrub areas 300mm
 - Tree pits 300mm

910 FINISHED LEVELS OF TOPSOIL AFTER SETTLEMENT

- Above adjoining paving or kerbs: 30 mm.
- Below dpc of adjoining buildings: Not less than 150 mm.
- Shrub areas: Higher than adjoining grass areas by 50 mm.
- Within root spread of existing trees: Unchanged.
- Adjoining soil areas: Marry in.
- Thickness of turf or mulch: Included.

920 DOCUMENTATION

- Timing: Submit at handover.
- Contents:
 - Full description of all soil components.
 - Record of source for all soil components.
 - Analyst's report for each test carried out.
 - Record drawings showing the location of all soils by type and grade.
- Number of copies: 2.

Q30 Seeding/turfing

GENERAL INFORMATION/REQUIREMENTS

115 SEEDED AND TURFED AREAS

- Growth and development: Healthy, vigorous grass sward, free from the visible effects of pests, weeds and disease.
- Appearance: A closely knit, continuous ground cover of even density, height and colour.

120A CLIMATIC CONDITIONS

- General: Carry out the work while soil and weather conditions are suitable, during Autumn or Spring unless agreed with CA. Work is to be suspended when persistent cold or drying winds are likely to occur or when soil is frost bound waterlogged or excessively dry.

145 WATERING

- Quantity: Wet full depth of topsoil.
- Application: Even and without displacing seed, seedlings or soil.
- Frequency: As necessary to ensure the establishment and continued thriving of all seeding/turfing.

150 WATER RESTRICTIONS

- Timing: If water supply is or is likely to be restricted by emergency legislation do not carry out seeding/turfing until instructed. If seeding/turfing has been carried out, obtain instructions on watering.

170 SETTING OUT

- Boundaries: Mark clearly.
- Delineation: In straight lines or smoothly flowing curves as shown on drawings.

PREPARATION

204 CHEMICALS - GENERAL

- The Contractor shall provide the CA with a full list of chemicals he proposes to use, prior to use of any chemicals. Use only products on the current list of the agricultural approvals scheme
 - Chemicals shall not be toxic to human beings, birds or animals or environmentally damaging when applied as recommended by the manufacturers. Chemicals must comply with the 'Agricultural Chemical Approval Scheme' and be on the list of approved products.
 - Observe all precautions recommended by the manufacturer
 - Containers shall be removed from site immediately they have been emptied or are no longer required.
 - All chemicals must be stored in a secure dry compound and in accordance with the manufacturers requirements during the contract period and during the maintenance period.
 - The Contractor shall be responsible for any damage caused by use of chemicals both within the area of works and any surrounding area.

205 PREPARATION MATERIALS

- General: Free from toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
- Certification of source, analysis, suitability for purpose and absence of harmful substances: Submit.
 - Certified materials: All additives - chemical products, soil ameliorants & mulches.
 - Give notice: before ordering or using.

210 HERBICIDE FOR ALL GRASSED AREAS

- Type: Suitable for suppressing perennial weeds.
- Timing: Allow fallow period before cultivation.
 - Duration: As manufacturer's recommendation.

231 PEAT

- Peat or products containing peat: Do not use.

250 CULTIVATION

- Compacted topsoil: Break up to full depth.
- Soil ameliorant/ Conditioner/ Fertilizer: Fully incorporate into topsoil to a depth of 150 mm.
- Tilth: Reduce topsoil to a tilth suitable for blade grading.
 - Depth: 100 mm.
 - Particle size (maximum): 10 mm.
- Material brought to the surface: Remove stones and clay balls larger than 50 mm in any dimension, roots, tufts of grass, rubbish and debris.

260 GRADING

- Topsoil condition: Reasonably dry and workable.
- Contours: Smooth and flowing, with falls for adequate drainage.
 - Hollows and ridges: Not permitted.
- Finished levels after settlement: 25 mm above adjoining paving, kerbs, manholes etc.
- Blade grading: May be used to adjust topsoil levels provided depth of topsoil is nowhere less than 150 mm.
- Give notice: If required levels cannot be achieved by movement of existing soil.

280 FINAL CULTIVATION

- Timing: After grading and fertilizing.
- Seed bed: Reduce to fine, firm tilth with good crumb structure.
 - Depth: 25 mm.
 - Surface preparation: Rake to a true, even surface, friable and lightly firmed but not over compacted.
 - Remove surface stones/earth clods exceeding:
 - General areas: 20 mm.
 - Fine lawn areas: 10 mm.
- Adjacent levels: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.

SEEDING

311G GRASS SEED FOR LOW MAINTENANCE Public Open Space Areas / Highway Verges, as instructed by CA.

- Supplier: British Seed Houses: Tel 01179 823 691 or 01522 868 714. or equal and approved.
 - Mixture reference: A22 'Low Maintenance'.
 - Mixture: 60% Perennial Ryegrass, 35% Slender Creeping Red Fescue & 5% Browntop Bent
- Application rate: 35g/m².
- Fertilizer: Use Pre-Seed fertilizer BSH1 or BSH2 as clause 275

350 TURF EDGING TO SEEDED AREAS ADJACENT TO AREAS OF HARD LANDSCAPING

- Standard: To BS 3969, with no perennial ryegrass.
 - Seed mix: Similar to seeded area.
- Timing: Before sowing.
- Preparation: Rake back a 750 mm wide margin around prepared seed beds.
 - Level of seed bed: Married in with turf.
- Placement: Single row laid end to end and trimmed to a line.
- Watering: On completion.

TURFING

410 TURF TO BS 3969 FOR LAWNS

- Standard: To BS 3969, free from undesirable grasses and weeds.
 - Grade: General purpose utility turf with perennial ryegrass.
- Source: Submit proposals.
- Herbicide treatment: Apply not less than four weeks and not more than three months before lifting.

420A DELIVERY AND STORAGE

- Timing:
 - Turf must be laid or rolled out on holding bed immediately in spring and summer, and within 24hrs, October to March. Lay turf with minimum possible delay after lifting. If delay occurs, lay turf out on topsoil and keep moist.
- Frosty weather or waterlogged ground: Do not lift turf.
- Delivery: Arrange to avoid need for excessive stacking.
- Stacking height (maximum): 1 m.
- Dried out or deteriorated turf: Do not use.

430A TURFING GENERALLY

- Time of year: Autumn or early winter.
- Timing of laying:
 - Spring and summer: Within 18 hours of delivery.
 - Autumn and winter: Within 24 hours of delivery.
- Laying turf: If more than one pallet is on site - draw turfs equally from each pallet as work progresses.
- Weather conditions: Do not lay turf when persistent cold or drying winds are likely to occur or soil is frost bound, waterlogged or excessively dry.
- Working access: Planks laid on previously laid turf. Do not walk on prepared bed or newly laid turf.
- Jointing: Laid with broken joints, well butted up. Do not stretch turf.
- Edges: Whole turfs, trimmed to a true line.
- Adjusting levels: Remove high spots and fill hollows with fine soil.
- Consolidating: Lightly and evenly firm as laying proceeds to ensure full contact with substrate. Do not use rollers.
- Dressing, brushed well in to completely fill all joints: 35% Finely sifted topsoil, 35% Compost, 30% Sand.
- Watering:
 - Thoroughly water completed turf immediately after laying. Check that water has penetrated into the soil below.
 - In dry weather soak soil 48hrs before laying to ensure sufficient surface moisture.

440 TURFING ON BANKS EXCEEDING 30° SLOPE

- Turf configuration: Diagonal or horizontal.
- Securing turfs:
 - Fixings: Galvanized wire pins, bent or hairpin pattern, 200 mm long x 4 mm diameter.
 - Frequency of fixings: Each turf.
- Removal of fixings: When turf is thoroughly self anchored by its roots. Make good any damage to grass until area is accepted.

605 MAINTENANCE

- Duration: Carry out the following operations from completion of seeding/ turfing until the end of the defects liability period.

610 FAILURES OF SEEDING/TURFING

- Defective materials or workmanship: Areas that have failed to thrive.
 - Exclusions: Theft or malicious damage.
- Method of making good: Recultivation and reseedling/ returfing.
- Timing of making good: The next suitable planting season.

620 MAINTAINING GENERAL GRASSED AREAS

- Maximum height of growth at any time: 75 mm.
- Preparation: Before each cut remove all litter and debris.
- Cutting: As and when necessary to a height of 50 mm.
 - Arisings:
 - Lawns: Remove from site.
 - Public Open Space Areas: Spread evenly and neatly.
- Bulb planting areas: Do not cut until bulb foliage has died down.
- Trimming: All edges.
 - Arisings: Remove.
- Weed control: Substantially free of broad leaved weeds.
 - Method: Application of a suitable selective herbicide.
- Stones brought to the surface: Remove regularly.
 - Size: Exceeding 25 mm in any dimension.
- Areas of settlement: Make good.
- Watering: Contractor's choice.

680 MAINTENANCE FERTILIZER FOR ALL GRASSED AREAS

- March application: 15:10:10 Spring turf fertilizer at 35 g/m².
- September application: 5:10:10 Autumn turf fertilizer at 50 g/m².

Q31 External planting

GENERAL INFORMATION/ REQUIREMENTS

118 SOIL CONDITIONS

- Soil for cultivating and planting: Moist, friable and (excepting aquatic/ marginal planting) not waterlogged.
- Frozen or snow covered soil: Give notice before planting. Provide additional root protection. Prevent planting pit sides and bases and backfill materials from freezing.

120A CLIMATIC CONDITIONS

- General: Carry out the work while soil and weather conditions are suitable.
- Suitable weather conditions: Shall mean mild, moist, dull, overcast, even in winter, with the soil in properly workable condition.
 - Strong winds: Do not plant.
 - Periods of persistent drying cold winds: Do not plant
- Additional: If for any reason the Contractor is carrying out planting during periods of persistent cold or drying wind he shall provide temporary windbreak protection for conifers and evergreen shrubs, and will protect exposed roots on bare root and all other stock.

125 TIMES OF YEAR FOR PLANTING

- Deciduous trees and shrubs: Late October to late March.
- Conifers and evergreens: September/ October or April/ May.
- Herbaceous plants (including marginal): September/ October or March/ April.
- Container grown plants: At any time if ground and weather conditions are favourable.
 - Watering and weed control: Provide as necessary.
- Dried bulbs, corms and tubers: September/ October.
- Colchicum (crocus): July/ August.
- Green bulbs: After flowering in spring.
- Wildflower plugs: Late August to mid November or March/ April.
- Aquatic plants: May/ June or September/ October.

130A MECHANICAL TOOLS

- Use only machinery and tools suitable for the site conditions and the work to be carried out.
- Restrictions: Do not use within 100 mm of tree and plant stems.

145 WATERING

- Quantity: Wet full depth of topsoil.
- Application: Even and without damaging or displacing plants or soil.
- Frequency: As necessary to ensure establishment and continued thriving of planting.

150 WATER RESTRICTIONS

- General: If water supply is or is likely to be restricted by emergency legislation, do not carry out planting until instructed. If planting has been carried out, obtain instructions on watering.

165 PREPARATION, PLANTING AND MULCHING MATERIALS

- General: Free from toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
- Certification of source, analysis, suitability for purpose and absence of harmful substances: Submit.
 - Certified materials: All additives - chemical products, soil ameliorants & mulches.
 - Give notice before ordering or using.

200A PLANTS/ TREES - GENERAL

- 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.
- Budded or grafted plants: Bottom worked.
- Root system and condition: Balanced with branch system.
 - Standard: The National Plant Specification.
- Species: True to name.
- Origin/ Provenance: Grown in the United Kingdom for at least one growing season, unless otherwise approved.

Definition: Origin and Provenance have the meaning given in the National Plant Specification.

 - Obtain from an HTA-accredited nursery or other approved source(s) with soil and climatic conditions similar to those prevailing on site.

215 PLANTS/ TREES - SPECIFICATION CRITERIA

- Name, forms, dimensions, provenance and other criteria: As scheduled and defined in the National Plant Specification.

225 BULBS/ CORMS/ TUBERS

- Condition: Firm, entire, not dried out or shrivelled.
- Health: Free from pests, diseases and fungus.
- Handling: Remove from packaging immediately.
- Storage: Permitted only when necessary.
 - Location: Well ventilated, dark, covered, rodent proof container, away from exhausts and fruit.
 - Duration: Minimum period.
 - Temperature: 18-21°C.

235 CONTAINER GROWN PLANTS/ TREES

- Growing medium: With adequate nutrients for plants to thrive until permanently planted.
- Plants: Centred in containers, firmed and well watered.
- Root growth: Substantially filling containers, but not root bound, and in a condition conducive to successful transplanting.
- Hardiness: Grown in the open for at least two months before being supplied.
- Containers: With holes adequate for drainage when placed on any substrate commonly used under irrigation systems.

245 LABELLING AND INFORMATION

- General: Provide each plant/ tree or group of plants/ trees of a single species or cultivar with supplier's labelling for delivery to site, showing:
 - Full botanical name.
 - Total number.
 - Number of bundles.
 - Part bundles.
 - Supplier's name.
 - Employer's name and project reference.
 - Plant specification, in accordance with scheduled National Plant Specification categories.
- Additional information: Submit on request:
 - Country of origin;
 - Date supplied and consignment details or reference; and
 - Type of container.

260A PLANT/ TREE SUBSTITUTION

- Plants/ trees unobtainable or known to be likely to be unobtainable at time of ordering: Submit alternatives, stating:
 - Price.
 - Difference from specified plants/ trees.
- Approval: Proposed substitutes may be rejected and further submissions of alternatives may be required.
- Approval: Obtain before making any substitution.

265A PLANT HANDLING, STORAGE TRANSPORT AND PLANTING

- Standard: To HTA 'Handling and establishing landscape plants'.
- Frost: Protect plants from frost.
- Handling: Handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
- Plant packaging: Black polyethylene bags.
- Packaging of bulk quantities: Pallets or bins sealed with polyethylene and shrink wrapped.
- Transport: By open backed vehicles not permissible
- Site Storage: Store plant material on site on level free draining ground a way from and protected from other site operations and routeways.
- Site Storage Duration: Minimum required. If site storage is to exceed any 24hr Period, ensure adequate measures are taken to water and care for plant material as necessary to maintain quality.
- Planting: Upright or well balanced with best side to front.

285 PROTECTION OF EXISTING GRASS

- General: Protect areas affected by planting operations using boards/ tarpaulins.
 - Excavated or imported material: Do not place directly on grass.
 - Duration: Minimum period.

290 SURPLUS MATERIAL

- Subsoil, stones, debris, wrapping material, canes, ties, temporary labelling, rubbish, prunings and other arisings: Remove.

PREPARATION OF PLANTING BEDS/ PLANTING MATERIALS

341 PEAT

- Peat or products containing peat: Do not use.

375 CULTIVATION

- Compacted topsoil: Break up to full depth.
- Cultivation: Loosen, aerate and break up soil into particles of 2-8 mm.
 - Depth: 450 mm.
 - Timing: Within a few days before planting.
 - Weather and ground conditions: Suitably dry.
- Surface: Leave regular and even.
- Levels:
 - 25 mm above adjoining paving or kerbs;
 - 50 mm above adjoining lawns; and
 - Minimum 150 mm below dpc of adjoining buildings.
- Undesirable material brought to the surface: Remove visible weeds, roots and large stones with any dimension exceeding 50 mm.
- Soil within root spread of trees and shrubs to be retained: Do not dig or cultivate.

PLANTING SHRUBS/ HERBACEOUS PLANTS/ BULBS

405A SHRUB PLANTING PITS

- Timing: Excavate 1-2 days (maximum) before planting.
- Sizes: 150 mm wider than rootball on each side and 400mm deep. Where necessary increase these dimensions to ensure that pits are at least 25 mm deeper than root system.
- Pit bottom improvement Break up to a depth of 150 mm, incorporating 25 g of slow release fertilizer per planting pit.
- Backfilling material: Shrub planting backfilling material.
- Finished level: To be at original soil mark on shrubs and 30 mm above surrounding level to allow for settlement

420 CLIMBING PLANTS

- Planting: 150 mm clear of supporting structure (e.g. wall/ fence) with roots spread outward.
 - Branches: Lightly secured to supports.
- Climber supports: Stainless steel wire.
 - Base height: 600 mm above ground.
 - Extent: 2000mm to either side of climber.
 - Centres: 350 mm
 - Distance from wall: 75 mm.
- Fixings: Stainless steel screw eyes.
 - Centres: 1.5 m.

435 CLIMBING PLANTS USED AS GROUND COVER

- Planting:
 - Canes or other supports: Remove.
 - Arrangement: Spread stems.
- Fixing: Pinned to ground to ensure good contact.

445 PLANTING BULBS/ CORMS/ TUBERS

- Depth: Top of bulb/ corm/ tuber at a depth of approximately twice its height, base in contact with bottom of hole.
- Backfilling: Finely broken soil. Lightly firm to existing ground level.
- Naturalized planting in existing grassed areas:
 - Scattering: Random. Plant bulbs/ corms/ tubers where they fall.
 - Planting: Neatly remove a plug of turf and replace after planting.

476 SHRUB, HERBACEOUS AND BULB BACKFILLING MATERIAL

- Composition: Previously prepared mixture of topsoil excavated from pit and additional topsoil as required:
- Ameliorant/ Conditioner: Sanitized and stabilized compost.
 - Application rate: To suit soil report recommendations.
- Fertilizer: Slow release.
 - Application rate: To suit soil report recommendations.

480 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.
- Top dressing: Sanitized and stabilized compost.
 - Depth: 25-30 mm.

485B MULCHING PLANTING BEDS AMENITY

- Material: Bark Mulch.
- Manufacturer: Melcourt Industries Limited
Boldridge Brake, Long Newton,
Tetbury, Glos GL8 8RT
Tel: +44 (0)1666 502711
Fax: +44 (0)1666 504398
Email: mail@melcourt.co.uk
Website: http://www.melcourt.co.uk or equal and approved
- Product Reference: Amenity Bark Mulch
- Product Specification:
 - The product shall consist of matured British Conifer Bark with an even nominal particle size distribution of 5-75mm with < 5 % dust and fines and less than 15% wood content.
 - The pH to be between 4.5 and 5.5.
 - The product shall be pest, disease and weed free and not have been treated with Methyl Bromide or any additives.
 - The product shall be Forest Stewardship Council (FSC) certified
 - The product shall have been tested in accordance with the requirements of BS 4790:1987, for fire resistance.
- Process Specification
 - The natural heat treatment maturing process shall have been sufficient to ensure that excess volatile substances are driven from the product.
 - During the process, temperatures within the product heaps must exceed 50°C for a minimum 14 day period, followed by a further period of stabilisation.
- Additional requirements:
 - Copies of current British Standard Fire Test Certificates to be provided upon request.
 - Typical product samples to be provided upon request.
 - All product volumes to be calculated using The Bulk Density method, as set out in BS EN 12579:2000 and BS EN 12580:2000.
- Preparation: Clear all weeds. Water soil thoroughly.
- Coverage: 75 mm depth. Allow 10% for settlement after 30 days.
- Finished level of mulch: 30 mm below adjacent grassed or paved areas.

PLANTING TREES

499A PLANTING TREES - GENERAL

- Positioning: Plant trees upright, unless otherwise instructed, in centre of pit and at original soil depth.
- Root balled trees: Place in planting pit before hessian or other protective material is removed to avoid disturbing rootball. Wire netting may be left on the rootball provided there is only biodegradable porous material between the wire netting and the rootball. Cut wire netting in several places to speed its corrosion.
- Backfill material: Firm around root ball in 150mm layers, ensuring that all air pockets are eliminated and loosening face of root ball as backfilling proceeds.
- Watering: Create a watering hollow 100mm deep and 500mm wide at the surface of each pit for trees of standard size and above. Water trees thoroughly immediately after backfilling, volume of water to be appropriate to size of tree.
- Pruning: The crown of each tree shall be lightly pruned by agreement with CA to remove any damaged twigs or buds and to promote even vigorous growth. Growth springing from below 1.8 metres on scheduled clear stemmed plants shall be removed.
- Mulch: After watering spread a 75 mm layer of peat free planting and mulching compost over the whole area of the tree pit.

505A TREE PITS IN SOFT LANDSCAPE AREAS

- Setting out: Set out positions using pegs or canes and obtain CA's approval before proceeding.
- Sizes: Not less than the following, increase as necessary to ensure that pits are wide enough to accommodate roots when fully spread.
 - Bush, whip and small Feathered trees, 600mm wide and 75mm deeper than rootball.
 - Standards to 8/10 and large feathered trees, 900mm wide and 75mm deeper than rootball.
 - Standards 10/12 & 12/14, 1200mm wide and 75mm deeper than rootball.
 - Extra Heavy Standards, 2000mm wide and 75mm deeper than rootball.
 - Semi-mature trees 20cm+ , 500mm wider and 75mm deeper than rootball.
- Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
- Pit bottoms: With slightly raised centre. Break up to a depth of 200 mm.
 - Treatment: Soil ameliorant worked into pit bottoms.
- Pit sides: Scarify.
- Backfilling material: Tree backfilling material.
- Accessories: Perforated plastics irrigation/ ventilation pipe.

512B TREE PIT ACCESSORIES IRRIGATION AND AERATION PIPE

Locations: Tree pits on soft landscape areas.

- Manufacturer: Greenleaf Tel:01424 433233; or equal and approved.
 - Product reference: RR URBAN. Sizes 1, 2 and 3, to manufacturer's recommendation, depending on size of tree, installed in accordance with manufacturer's instructions. .
- Additional Requirements: To be installed to finish flush or slightly proud of surfacing, not to exceed 30mm

525 SEMIMATURE TREES

- Standard: Prepare roots and transplant to BS 4043.
- Backfilling material: As clause 585.
- Support: Long double staking or under ground guying as specified on drawings.
- Protection: Not required.

535A STAKING GENERALLY

- Stakes: Softwood, peeled chestnut, larch or oak, straight, free from projections and large or edge knots and with pointed lower end. NB SQUARE SECTION FOR TREES IN PAVING
 - Preservative treatment: To provide a 20 year service life.
- Nails: To BS 1202-1, galvanized, minimum 25 mm long and with 10 mm diameter heads.
- Stake size (minimum): Sufficient in length when inserted in ground to hold tree firmly with no wind-rock.
 - feathers & specimen shrubs to 6-8cm girth: short angled single staking - 75mm diameter
 - up to 10/12: short double staking with crossbar - 75mm diameter or 75x75
 - 12/14 and above: short double staking with crossbar - 100mm diameter or 100x100
 - 16/18 and above: long double stake with rubber ties - 100 x 100mm, - in paving: 1.75m high above ground .
- Ties: Firmly and securely placed around tree trunk and nailed to stakes.
- Workmanship: care must be taken to ensure all fixings are well-finished with no splinters, projecting nails etc

575 SHORT DOUBLE STAKING FOR 10/12 to 14/16 standard trees

- Staking: Drive stakes vertically at least 300 mm into bottom of pit on either side of tree position before planting.
 - Backfilling: Consolidate material around stakes.
- Height of stakes: Cut to approximately 600 mm above ground level.
- Cross bar: Wood, as stake.
 - Firmly fix on windward side of tree and as close as possible to stem.
- Ties: Adjustable ties.
- Tying: Secure tree firmly but not rigidly to cross bar.

586A TREE BACKFILLING MATERIAL

- Composition: Previously prepared mixture of topsoil excavated from pit and additional topsoil as required.
- Ameliorant/ Conditioner: Sanitized and stabilized compost.
 - Application rate: To soil report recommendations.
- Ameliorant/ Conditioner: Broadleaf P4 by Agricultural Polymers International Ltd, Waverley House, Waverley Road, Gloucester, GL2 0SZ, United Kingdom
Telephone: +44 (0)1452 521733, Fax: +44 (0)808 1293628
 - Application rate: Broadleaf P4 water-storing polymer granules to be homogeneously mixed into the planting medium at the rate of 1* gram per litre of planting pocket capacity'. (NB: If P4 is to be pre-blended with a tree-planting compost that will be mixed with soil backfill at a rate of 33.3%, the P4 should be incorporated into the compost at the rate of 3* grams per litre in order to achieve the required rate of 1* gram per litre of pocket capacity. If the compost:backfill ratio is to be 25:75 then the pre-blend rate should be 4* grams of P4 per litre of compost). Root-ball trees: If root-ball trees are to be planted, reduce the amount of P4 to be applied by 25% to allow for the volume of the root-ball
- Fertilizer: Slow release.
 - Application rate: To suit soil report recommendations.

710 MAINTENANCE

- Duration: Carry out the operations in the following clauses from completion of planting until the end of the rectification period.
- Frequency of maintenance visits: In accordance with the agreed maintenance schedule.

720 FAILURES OF PLANTING

- Defects due to materials or workmanship not in accordance with the Contract: Plants/ trees/ shrubs that have failed to thrive.
 - Exclusions: Theft or malicious damage after completion.
 - Rectification: 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: Unless otherwise instructed they must be replaced by approved equivalent trees/shrubs/plants by 31 December of the year in which found to be defective, and within 3 months for containerised shrubs or herbaceous plants.

740 CLEANLINESS

- Soil and arisings: Remove from hard surfaces and grassed areas.
- General: Leave the works in a clean tidy condition at completion and after any maintenance operations.

750A PLANTING MAINTENANCE GENERALLY

- Weed control: Maintain weed free area around each tree and shrub.
 - Diameter (minimum): The larger of 1 m or the surface of original planting pit.
 - Keep planting beds clear of weeds: By hoeing.
- 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.
 - Broken or missing items: Replace.
 - Rubbing: Prevent.
 - Ties: Adjust to accommodate growth.
 - Damage to bark: Cut back neatly with sharp knife. Prevent further damage.
 - Frequency of checks: Every month.
- Firming up: Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.
- Trees: Spray crown when in leaf during warm weather.
 - Timing: After dusk.
- Watering: Contractor's choice.

755 PLANTING MAINTENANCE - FERTILIZER

- Time of year: March or April.
- Fertilizer: Slow release.
 - Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
- Application: Evenly spread, carefully incorporating below mulch materials.
- Application rate: To manufacturer's recommendations.

760 PLANTING MAINTENANCE - PRUNING

- General: Prune to promote healthy growth and natural shape.
 - Dead, dying, diseased wood and suckers: Remove.
 - Timing: As appropriate to the species.
 - Trees: Favour a single central leading shoot.
- Arisings: Remove.

780 MAINTENANCE INSTRUCTIONS

- General: Before end of the maintenance period, submit printed instructions recommending procedures to be established by the Employer for maintenance of the planting work for one full year; submit printed instructions recommending procedures to be established by the Employer for maintenance of the planting work for one full year..

790 FINAL MULCHING

- Timing: At end of the maintenance period.
- Watering: Ensure that soil is thoroughly moistened prior to remulching, applying water where necessary.
- Planting beds: Remulch.
Depth (minimum): 75 mm.
- Trees: Remulch.
Depth (minimum): 75 mm.

Project Name Land south of Hearnfield Road, Wick, Littlehampton
Proposed Residential Development

Date. April 2011

LB Ref. 2041 / 02

Doc. Status PLANNING

Landscape Maintenance Schedule

The following schedule lists the proposed annual routine maintenance tasks for the specified landscape areas shown below and should be read in conjunction with the Detailed Soft Landscape Proposals (drawing ref. 2041 / 01) and Soft Landscape Specification (2041 / 03) - Check for Revisions.

Private Front Garden Areas:

To be maintained by the Landscape Contractor for the duration of the defects period and/or as agreed in advance with private owners of the property. Following the defects period and rectification of any defects as required, all maintenance would be the responsibility of the private owners of the property.

Public Open Space and Amenity Landscape Areas:

	Neighbourhoods (as appropriate)	Construction to nearby paths and roads - Keep bases neat and tidy			As required
Trees	Inspection	Inspect condition from ground	Once in leaf / once out of leaf	2	Occasions
	Pruning	Formative pruning	At appropriate season (mainly autumn)	1	Occasion
	Plant Replacement	Removal of dead / replacement with new as required	Next suitable planting season	1	If required
	Sundries	Check stakes, ties and air/irrigation pipe	Remove / repair / replace as required	2	Occasions
Litter Collection	All areas	Collect and dispose of arisings	During monthly maintenance visits	12	Occasions