

Q26 Special surfacings/ pavings for sport/ general amenity

To be read with Preliminaries/ General conditions.

SPORTS SURFACING**AMENITY SURFACING****220A UNFILLED SYNTHETIC TURF SURFACING - PAVING TYPE 10 DRAWING 1418-053**

- Subgrade improvement layer: Not required.
 - Compacted thickness: Not applicable.
- Sub-base: Not required.
 - Compacted thickness: Not applicable.
- Base: Permeable void filler to Engineer's specification.
 - Thickness: as required.
- Shock absorbing system: 20mm sand layer as recommended by the surfacing manufacturer.
 - Thickness: 20 mm.
- Geotextile: Terram T1000 or similar approved
- Wearing surface: Polyethylene fibres.
 - Manufacturer: Tiger Turf or similar approved.
Product reference: Grand Prix.
 - Ignitability: The surface, when tested to BS 4790, must not be ignited or damaged enough to cause a ball to deviate from its true path.
 - Pile depth: The mean pile height must not vary by more than $\pm 15\%$ of the mean height, as determined in accordance with BS 4051.
 - Pile density: Uniform.
 - Gradients:
 - Longitudinal (maximum): 1:3 Max.
 - Cross-fall (maximum): 1.0%.
 - Jointing: As manufacturer's recommendations.
 - Pinned in to base as per manufacturer's specification

220B UNFILLED SYNTHETIC TURF SURFACING - PAVING TYPE 10 TO LANDFORMS 01& 02
DRAWING 1418-104/105

- Subgrade improvement layer: Not required.
 - Compacted thickness: Not applicable.
- Sub-base: Not required.
 - Compacted thickness: Not applicable.
- Base: Polystyrene void former to Engineer's specification.
 - Thickness: as required.
- Shock absorbing system: Rubber as recommended by the surfacing manufacturer.
 - Thickness: 20 mm.
- Wearing surface: Polyethylene fibres.
 - Manufacturer: Tiger Turf or similar approved.
Product reference: Grand Prix.
 - Ignitability: The surface, when tested to BS 4790, must not be ignited or damaged enough to cause a ball to deviate from its true path.
 - Pile depth: The mean pile height must not vary by more than $\pm 15\%$ of the mean height, as determined in accordance with BS 4051.
 - Pile density: Uniform.
 - Gradients:
Longitudinal (maximum): 1:3 Max.
Cross-fall (maximum): 1.0%.
 - Jointing: As manufacturer's recommendations
 - Adhesive glue used to bond astroturf to rubber matting and polystyrene void former as per manufacturer's specification.

Q28

Topsoil and soil ameliorants

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To be read with Preliminaries/ General conditions.

SYSTEM OUTLINE

155 MULCHING AND TOP DRESSING SYSTEM TO PLANTING/ TREE BED EXCLUDING THE TREE PIT UNDER RESIN BOUND GRAVEL (SEE 1418-113

- Composition:
 - Material: 75mm Fine Bark Mulch.

PRODUCTS

300 PREPARATION MATERIALS GENERALLY

- Purity: Free of pests and disease.
- 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.
- Contamination: 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 or planting media, do not use subsoil contaminated with the above materials.
- Objectionable odour: None.
- Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in topsoil or planting media to be imported.

305 PERMITTED MATERIALS

- Materials:
 - Composted animal manures;
 - Composted food waste;
 - Composted green waste;
 - Composted green/ food waste certified to PAS 100;
 - Composted mixes of food and green waste;
 - Composted sewage sludge; and
 - Spent mushroom compost.
- Give notice: before ordering or using.
- Declaration of compliance in accordance with BS EN 13650: Required.

310 MATERIALS NOT PERMITTED

- Materials:
 - Peat;
 - Products containing peat; and
 - River and canal dredgings.

- 315 IMPORTED TOPSOIL TO BS 3882 TO SHRUB PLANTING BEDS
- Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
 - Standard: To BS 3882.
 - Classification: Multipurpose.
 - Grade: Within the parameters of 'sandy loam' textural class.
 - Source: Submit proposals.
 - Product reference: Submit proposals.
- 316 IMPORTED MIXED TOPSOIL/ WASHED SAND TO TREE PITS
Product: 50:50 mix of topsoil/ washed sand.
- 317 IMPORTED LIGHTWEIGHT TOPSOIL TO ROOF TERRACE BUILDUP
Product: ICOPAL or similar approved
Ref: 3101086.
Blend of topsoil, organic compost and sand.
- 325 SPECIAL IMPORTED TOPSOIL/AND OR GROWING MEDIA TO TREE PITS WITHIN PUBLIC REALM
- Type: Urban Tree Planting Soil
 - - Grade: Within the parameters of 'sandy silt loam' textural class.
 - Source: Contractor's choice.
 - Product reference: Submit proposals
- 390 FERTILIZERS TO BE INCORPORATED INTO TOPSOIL AND MANUFACTURED TOPSOIL F OR PLANTING BEDS
- Type: Slow release fertilizer.
 - Source: Contractor's choice.
 - Product reference: Submit proposals..

EXECUTION

- 610 TOPSOIL ANALYSIS
- Soil to be analysed: Imported topsoil.
 - Soil analyst: Submit proposals of test and testing laboratories.
 - Samples: Collect in accordance with BS 3882.
 - Submit:
 - Declaration of analysis: Nutrient content, pH value and textural classification.
 - Report detailing soil analyst's recommendations.
- 615A TESTING OF MATERIALS
- Material to be analysed: Site manufactured planting media and imported aggregates.
 - Laboratory: Contractor's choice.
 - Samples: Collect in accordance with BS3882.
 - Submit:
 - Declaration of analysis:
 - Chemical analysis and contaminants;
 - Maximum stone content, stone size and pH value;
 - Nutrient content, pH value and textural classification;
 - pH value and textural classification; and
 - Textural classification and maximum stone content
 - Report detailing analyst's recommendations..

- 620 IMPORTING TOPSOIL
- Give notice: Before stripping topsoil for transfer to site.
 - Notice period: 7 days.
- 625 SAMPLE LOADS FOR IMPORTED TOPSOIL
- Deliver to site a sample load: of 5 kg.
 - Give notice: Allow inspection before making further deliveries to site. Retain for comparison with subsequent loads.
 - Notice period: 7 days.
- 630 DOCUMENTATION FOR IMPORTED TOPSOIL FOR IMPORTED TOPSOIL FOR PLANTING BEDS
- Timing: Submit at handover.
 - Contents:
 - Full description of all soil components.
 - Record of source for all soil components.
 - Record drawings showing the location and depth of all soils by type and grade.
 - Declaration of analysis: in accordance with BS 3882, Annex E.
 - Number of copies: Two.
- 635 DOCUMENTATION FOR COMPOST AND COMPOSTED MATERIALS FOR IMPORTED SOIL IMPROVERS
- Timing: Submit at handover.
 - Contents:
 - Full description of all compost components.
 - Record of source for all compost components.
 - Analyst's report for each test carried out.
 - Declaration of compliance: in accordance with PAS 100 and BSI PD CR 13456.
 - Quality Compost Protocol certification: Required.
 - Number of copies: Two.
- 650 NOTICE
- Give notice before:
 - Setting out.
 - Spreading topsoil.
 - Applying herbicide.
 - Applying fertilizer.
 - Visiting site during maintenance period.
 - Period of notice: 1 week.
- 655 MECHANICAL TOOLS
- Restrictions: Do not use within 100 mm of tree and plant stems.
- 660 GRADING SUBSOIL
- General: Grade to smooth flowing contours to achieve specified finished levels of topsoil.
 - Loosening:
 - Light and non-cohesive 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.
 - Areas of thicker topsoil: Excavate locally.
 - Avoid over compaction.

665 SUBSOIL SURFACE PREPARATION

- General: Excavate and/ or place fill to required profiles and levels, as section D20.
- Loosening:
 - Light and non-cohesive 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.
- Stones: Immediately before spreading topsoil, remove stones larger than 75 mm.
- Remove from site: Arisings, contaminants and debris.

670 INSPECTING FORMATIONS

- Give notice: Before spreading topsoil for planting beds.
- Notice period: 7 days.

680 SURPLUS TOPSOIL TO BE RETAINED

- Generally: Spread and level on site:
 - Locations: Any areas where topsoil is required for new planting.
 - Protected areas: Do not raise soil level within root spread of trees that are to be retained.

700 GRADING OF TOPSOIL

- 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.
- Give notice: If required levels cannot be achieved by movement of existing soil.

705 HANDLING TOPSOIL

- Aggressive weeds: Give notice and obtain instructions before moving topsoil.
- Plant: Select and use plant to minimize disturbance, trafficking and compaction.
- Contamination: Do not mix topsoil with:
 - Subsoil, stone, hardcore, rubbish or material from demolition work.
 - Other grades of topsoil.
- Multiple handling: Keep to a minimum. Use or stockpile topsoil immediately after stripping.
- Wet conditions: Handle topsoil in the driest condition possible. Do not handle during or after heavy rainfall or when it is wetter than the plastic limit less 3%, to BS 1377-2.

710 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): 300 mm.
- Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

715 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.

720 FINISHED LEVELS OF TOPSOIL AFTER SETTLEMENT

- Above adjoining paving or kerbs: 20 mm.
- Below dpc of adjoining buildings: Not less than 150 mm.
- Planting beds: Higher than adjoining grass areas by 25 mm.
- Seeded areas: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.
- Sportsfields: To even levels and within the following permitted deviations:
 - From levels or gradients shown on drawings: ± 75 mm.
 - From line between boning rods 30 m apart: ± 25 mm.
- Within root spread of existing trees and shrubs to be retained: Do not dig or cultivate.
- Adjoining soil areas: Marry in.
- Thickness of turf or mulch: Included.

845 APPLYING LOOSE MULCH FOR TREE PITS AND PLANTING BEDS

- Timing: Immediately after planting.
- Preparation: Ensure that soil is thoroughly moistened, applying water where necessary.
- Coverage of mulch (minimum):
 - Planting beds (depth): 75 mm depth.
 - Trees: In a circular area of 500 mm radius measured from the tree stem.
 - Container planting: 75 mm depth.
- Finished level of mulch: 30 mm below adjacent grassed or paved areas.

Q31

External planting

Q31 External planting

To be read with Preliminaries/General conditions.

GENERAL INFORMATION/ REQUIREMENTS

112 SITE CLEARANCE GENERALLY

- General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
- Stones: Remove those with any dimension exceeding 75 mm.
- Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
- Vegetation: Clear surface vegetation in areas shown on drawings using suitable nonresidual herbicide.
- Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
- Additional requirements: None.

118 SOIL CONDITIONS

- Soil for cultivating and planting: Moist, friable and (except in 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.

120 CLIMATIC CONDITIONS

- General: Carry out the work while soil and weather conditions are suitable.
- Strong winds: Do not plant.

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.

130 MECHANICAL TOOLS

- 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.

160 NOTICE

- Give notice before:
 - Setting out.
 - Applying herbicide.
 - Applying fertilizer.
 - Delivery of plants/ trees.
 - Planting shrubs.
 - Planting trees into previously dug pits.
 - Watering.
 - Visiting site during maintenance period.
- Period of notice: Two weeks.

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

215 PLANTS/ TREES - SPECIFICATION CRITERIA

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

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: Pruning dates..

255 PLANTS/ TREES RESERVED AT SUPPLIER'S PREMISES

- Types/ Species: As plant schedule.
- Predelivery inspection: Give notice.
- Labelling: Identify inspected plants/ trees as reserved for use on this project.

260 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: Obtain before making any substitution.

265 PLANT HANDLING, STORAGE TRANSPORT AND PLANTING

- Standard: To CPSE '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: Coextruded polyethylene bags with black interior and white exterior..
- Packaging of bulk quantities: Pallets or bins sealed with polyethylene and shrink wrapped.
- Planting: Upright or well balanced with best side to front.

280 TREATMENT OF TREE WOUNDS

- Cutting: Keep wounds as small as possible.
 - Cut cleanly back to sound wood using sharp, clean tools.
 - Leave branch collars. Do not cut flush with stem or trunk.
 - Set cuts so that water will not collect on cut area.
- Fungicide/ Sealant: Do not apply unless instructed.

290 SURPLUS MATERIAL

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

PLANT CONTAINERS

297 TIMBER PLANT CONTAINERS

- Materials generally: To BS EN 942.
 - Timber species: Hardwood.
 - Class: J2.
 - Finish: Clear varnish as section M60.
 - Adhesive: Synthetic resin to BS EN 301, type 1.
 - Joinery workmanship: As section Z10.
- Fixings: As section Z20.
- Material/ finish: 38mm Dressed Hardwood fascia board
75mm thick timber coping.
- Lining/ reservoir: Timber Framework, 20mm Marine Plywood, Permeable Barrier Board, Geotextile Filter Membrane and GRP (see drawing 1418-083 for detail).
- Accessories: None.

PREPARATION OF PLANTING BEDS/ PLANTING MATERIALS

300 HERBICIDE TO CLEAR OVERGROWN BEDS

- Locations: All planting areas.
- Type: Suitable for suppressing perennial weeds.
- Timing: Allow fallow period before cultivation.
 - Duration (minimum): As manufacturers recommendation.

305 WEED CONTROL FOR INVASIVE NON-NATIVE WEEDS

- Locations: All planting areas.
- General: Prevent weeds from seeding and perennial weeds from becoming established, by cultivating.

PLANTING SHRUBS/ HERBACEOUS PLANTS/ BULBS

400 RANDOM PLANT LAYOUT TO ALL BEDS

- Spacing: Evenly, avoiding straight lines.
- Density: As plant schedule.

405 SHRUB PLANTING PITS

- Timing: Excavate 1-2 days (maximum) before planting.
- Sizes: Wide enough to accommodate roots when fully spread and 75 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.

470 FORMAL HEDGES

- Shrubs for hedges: Consistent in species, cultivar and clone to ensure a uniform hedge.
- Planting: In trenches large enough to take full spread of roots. Set out plants evenly.

472 FENCING SUPPORT FOR NEW HEDGES

- Type: Timber post and general pattern wire mesh, as section Q40.
- Timing: Before planting hedge.
- Support: Lightly secure hedge plants to fence wires at appropriate intervals.

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: Mulching and top dressing system, as section Q28.
 - Depth: 75mm.

PLANTING TREES**505 TREE PITS**

- Sizes: See drawings 1418-112-113-114 and 1418-117 .
- 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 150 mm.
 - Treatment: None.
- Pit sides: Scarify.
- Backfilling material: Plant pit backfilling soil system, as section Q28.
- Accessories:
 - Underground guying to soft landscape contractors specification
 - Drainage layer consisting of 100mm free draining aggregate wrapped in geotextile membrane;
 - GreenBlue Urban's (Greenleaf's) GLSCMA Stratacell Structure loaded with sandy loam, and with Greenleaf's RRARBVDI3C Arbovent Double Inlet Aeration/Irrigation System, and Greenleaf's GLTWGNA Twin wall Geonet laid over Strata Cells, all to supplier's recommendations and as L400 series drawings;
 - Irrigation as clause 519, Greenleaf's Roottrain Precinct and Arobvent to trees in paving;
 - Root barrier;
 - 110mm perforated field drain in geotextile sock;.