Mayfield - Permanent Highways

Soft Landscape NBS

0131-MAY-SEW-Z01-ZZ-SP-L-008001

13-11-2024

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Mayfield Partnership

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Stage 4

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01

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Q00
SEW Soft landscape drawings

Clauses

10 SEW Soft landscape drawings

1. **General Arrangement**
2. 0131-MAY-SEW-Z01-ZZ-DR-L-005101
3. **Planting Plans**
4. 0131-MAY-SEW-Z01-ZZ-DR-L-005200
5. **Soft Detail**
6. 0131-MAY-SEW-Z01-ZZ-DR-L-004200
7. **Planting Schedule**
8. 0131-MAY-SEW-Z01-ZZ-SH-L-001000

Ω End of Section

Q28A
Topsoil, subsoils and soil ameliorants

Clauses - Not Used

Preliminaries

100 Preliminaries

1. • This specification section details the requirements for selection, assessment, preparation and use of imported soils.
2. • This specification shall be read with SEW Soft Landscape Drawings (Q00/ 10)

110 Soil system

1. • A number of soil types are to be used for the construction of the landscape scheme to ensure that each planting environment has the correct growing conditions.
2. • The soil materials covered by this specification document are:
3. **Topsoil and Substrate Type Planting Area Code**
4. Landscape Topsoil (Q28A/210) S02 & S03
5. Rain Garden Topsoil (Q28A/255) S01
6. **Subsoil Type Planting Area Code**
7. Landscape Subsoil (Q28A/215) S01, S02 & S03

115 Granular material

1. • Selected granular materials are also covered by this specification document:
2. **Material Type Purpose**
3. Drainage Gravel For use in landscape drainage layers / soakage layers

Products

200 Soil materials generally

1. • Purity: Free of pests and disease
2. • Foreign matter: On visual inspection, free from non-soil material, brick and other building materials and wastes, sharps, hydrocarbons, plant matter, weed roots, stolons, rhizomes, and any other foreign matter or material or substance that would render the soil or soil ameliorant unsuitable for horticultural use.
3. • Contamination: Do not use topsoil, subsoil, sand or ameliorants contaminated with rubbish or other materials that are:
   3.1. Corrosive, explosive or flammable.
   3.2. Detrimental to healthy plant growth.
4. • Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in topsoil, subsoil, sand or ameliorants or other planting media to be imported.

205 Existing on-site materials

1. Site-won topsoils and subsoils are unsuitable for use within soft landscape areas and shall not be used by the contractor.

210 Landscape topsoil

1. (see clause q28a/110 for location of use and SEW soft landscape drawings Q00/10)
2. • Quantity: Provide as necessary to complete the work. Make due allowance for settlement after laying.
3. • The Landscape Topsoil shall comprise of a manufactured product formed from a blend of an appropriate mineral component and suitable PAS100:2015 organic ameliorant, free from seeds, rhizomes and stolons.
4. **Product Reference - TS6 10mm Premium Topsoil**
5. BS3882:2015 (10mm)
6. Manufacturer - Bourne Amenity Limited

215 Landscape subsoil

1. (see clause q28a/110 for location of use and SEW soft landscape drawings Q00/10)
2. • Quantity: Provide as necessary to complete the work. Make due allowance for settlement after laying.
3. • The Landscape Subsoil shall comprise of a quarry overburden or quarried product. It should not be formed of recycled aggregates, hardcore or skip waste materials.
4. **Product Reference - Sandy Loam Subsoil**
5. BS8601 Subsoil
6. Manufacturer - Bourne Amenity Limited

255 Rain garden topsoil

1. (see clause q28a/110 for location of use and SEW soft landscape drawings Q00/10)
2. • Quantity: Provide as necessary to complete the work. Make due allowance for settlement after laying.
3. • The Rain Garden Topsoil shall comprise of a natural subsoil or quarry overburden or a manufactured product formed from a blend of an appropriate mineral component and suitable PAS100: 50/50 mix of Bourne Amenity TS6 10mm Topsoil and Rain Garden Soil to create a mixed blend for the rain gardens.
4. **Product Reference - TS6 10mm Topsoil and Rain Garden Soil - 50% / 50% mixed blend**
5. Soil blended by contractor on site and sample issued to Landscape Architect prior to spreading
6. Manufacturer - Bourne Amenity Limited

300 Drainage gravel

1. Drainage gravel required at the base of all rain gardens (S01) and planters (S02).
2. Quantity: Provide as necessary to complete the work. Make due allowance for settlement after laying.
3. Gravel to be used in landscape drainage trenches / soakage layers shall be a washed, non-calcareous, sub-rounded to rounded gravel with nominal particle size 6-10mm.
   3.1. Product reference: pea gravel or pea shingle.
   3.2. Obtain suppliers datasheet demonstrating material grading compliance (no more than 2 months old).

Soil ameliorants

500 Green compost

1. The compost to be used for topsoil amelioration shall meet the following requirements:
2. Compliant with PAS 100:2018 and the following additional criteria:
3. pH value 7.5 – 8.5
4. Electrical Conductivity 750 – 1400 mS/cm
5. Moisture Content 35 – 45 %
6. Bulk Density 450 – 550 g/l
7. Particle Size <10 mm

505 Fertiliser for planting

1. • Type: ICL Enmag CRF (11%N:22%P2O5:9%K2O:6%MgO)
2. (Supplied by ICL UK https: //icl-sf.com/uk-en/)
3. • Or similar and approved
   3.1. Apply to Manufacturer's Recomendations

515 Soil conditioner – imported general purpose topsoil & lawn topsoil

1. • Type: TerraCottem Universal
2. (Supplied by Inturf Ltd www.inturf.com)
   2.1. Apply to Manufacturer's Recomendations

Execution

600 Programme for sourcing imported soils and sand

1. The Contractor shall allow sufficient time for sourcing the necessary soils to meet the requirements of this specification.
2. At least 8 weeks shall be allowed for sourcing soils so that the soil supplier(s)/manufacturer(s) can review the soil specifications and develop & test the necessary soil types themselves to ensure compliance with the specifications.
3. All sampling and testing costs shall be borne by the Contractor.

605 Sampling protocol – imported soils and sand

1. • The soil and sand materials considered for importation shall be sampled and tested by an approved Soil Scientist while stockpiled off site at their source or manufacture location.
2. • The Contractor shall await written approval from the Landscape Architect prior to importing the soil to site.
3. • The samples shall be truly representative of the soil/sand being considered. One Composite Sample shall be taken for every 250m3 of each type of soil to be used. At least 3 No. samples of each soil type shall be tested from each source/supplier.
4. • Each composite sample should be made up of 10 No. sub-samples taken from evenly spaced locations across the stockpile/field. The sub-samples shall be mixed together and quartered down to form a 5kg composite sample.

5. • Each composite sample shall be placed in a clean, strong plastic bag and a 250ml brown glass, wide-necked jar (for organics testing) and each labelled with the source reference and date of sampling. Glass jar samples shall be stored and delivered to the laboratory in a cool box within 24hrs of sampling.
6. • Soils of different types should never be mixed to form a composite sample.
7. • The samples shall be analysed and reported on a 6 working day turnaround and the Contractor should incorporate this into their programme.
8. • The sampled soil materials shall be temporarily stockpiled at the source location while the Contractor awaits receipt of the soil / sand analysis results and written approval on the soil's / sand's suitability for use within the project.

615 Sampling protocol – compost

1. Green compost that is to be imported for any soil amelioration on site shall be sampled and tested by an approved Soil Scientist while stockpiled off site at the composting facility.
2. The Contractor shall await written approval from the Landscape Architect prior to importing the compost to site.
3. • The samples shall be truly representative of the compost to be offered. One Composite Sample shall be taken for every 500m3 of compost to be used.
4. • Each composite sample should be made up of 10 No. sub-samples taken from evenly spaced locations across the stockpile. The sub-samples shall be mixed together and quartered down to form a 3kg composite sample.
5. • Each composite sample shall be placed in a clean, strong plastic bag and each labelled with the source reference and date of sampling.
6. • Composts of different types should never be mixed to form a composite sample.
7. • The samples shall be analysed and reported on a 6 working day turnaround and the Contractor should incorporate this into their programme.
8. • The sampled compost material shall be temporarily stockpiled at the source location while the Contractor awaits receipt of the analysis results and written approval on the compost's suitability for use within the project.

616 Testing schedules

1. • Soil, sand or aggregate samples shall be sent to a UKAS and MCERTS accredited laboratory(s) with a request for each sample to be analysed strictly in accordance with relevant Testing Schedule given in clauses Q28A/620-624. Compost shall be tested in accordance with clause Q28A/626.

620 Landscape topsoil testing

1. • The following parameters shall be requested (methods in accordance with BS3882:2015 or as indicated):
2. 1Visual examination to record the presence of any deleterious materials or unusual odours
3. pH Value (1:2.5 soil/water extract)
4. Electrical Conductivity (1:2.5 soil/water extract)
5. Electrical Conductivity (1:2.5 soil/CaSO4 extract)
6. Exchangeable Sodium Percentage
7. Detailed Particle Size Analysis (clay, silt, 5 sands* – USGA sieve sizes)
8. Stone Content by % weight (2-20mm, 20-50mm, >50mm)
9. Total Nitrogen (% - Dumas Method)

10. Extractable Phosphorus, Potassium & Magnesium (RB427 Method)
11. Organic Matter (%)
12. Carbon: Nitrogen ratio (by calculation)
13. Calcium Carbonate (% BS7755:3:10:1995)
14. Potential Contaminants – See parameters in Clause Q28/400
15. *total sand will be acceptable for Low Fertility Topsoil and Neutral Grassland Topsoil testing
16. Approval :: All soil testing to be submitted to Landscape Architects for confirmation

623 Landscape subsoil testing

1. • The following parameters shall be requested (methods in accordance with BS6801:2013 or as indicated):
2. Visual examination to record the presence of any deleterious materials or unusual odours
3. pH Value (1:2.5 soil/water extract)
4. Electrical Conductivity (1:2.5 soil/water extract)
5. Electrical Conductivity (1:2.5 soil/CaSO4 extract)
6. Exchangeable Sodium Percentage
7. Detailed Particle Size Analysis (clay, silt, 5 sands – USGA sieve sizes)
8. Stone Content by % weight (>2mm, >20mm, >50mm)
9. Organic Matter (%)
10. Saturated Hydraulic Conductivity (Modified percolation test. (Saturated Hydraulic Conductivity on Manufactured Topsoil. Method based on ASTM F1815:2011. Percolation Test – 40cm tension)
11. Calcium Carbonate (% BS7755:3:10:1995)
12. Potential Contaminants – See parameters in Clause Q28A/400
13. Approval :: All soil testing to be submitted to Landscape Architects for confirmation

626 Rain garden topsoil testing

1. • The following testing shall be requested from the Civil Engineer. (Methods in accordance with BS8601:2013 or as indicated).
2. Provide results to Landscape Architect or Soil specialist to confirm whether material is suitable for horticultural use or will require additional input or treatment.
3. pH Value (1:5 soil:water)
4. Organic matter (%)
5. Grading Analysis (a washing and sieving method to requirements of engineer’s specification).
6. Potential Contaminants – See parameters in Clause Q28A/400
7. Approval : All soil testing to be submitted to Landscape Architects for confirmation

627 Green compost test

1. The following parameters shall be requested (methods in accordance with PAS100:2018 or as indicated):
2. Minimum 3 No. samples per source.
3. Visual examination to record the presence of any deleterious materials or unusual odours (e.g. petroleum hydrocarbons).

4. pH Value (BS EN 13037)
5. Electrical Conductivity (BS EN 13038)
6. Moisture Content (BS EN 13040)
7. Bulk Density
8. Particle Size Analysis / Grading (PAS100:2018)
9. Approval: All soil testing to be submitted to Landscape Architects for confirmation

630 Sample loads

1. • Deliver to site a sample load (e.g. 1 x dumpy bag) of each soil, sand , compost or aggregate material.
2. • Give notice: Allow inspection before making further deliveries to site. Retain for comparison with subsequent loads.
   2.1. Notice period: 72 hours.

635 Testing documentation for all imported soil, sand, aggregate and compost materials

1. • Timing: 2 weeks prior to delivery.
   1.1. Supply report to Landscape Architect
2. • Each report shall contain the following information:
   2.1. Source name and location;
   2.2. Date of sampling;
   2.3. Description of the soil material (and components used if a manufactured topsoil);
   2.4. Laboratory details (name, address, contact, accreditation numbers);
   2.5. Visual examination;
   2.6. Certificates of Analysis;
   2.7. Green compost - Declaration of compliance in accordance with PAS 100 (not more than 1 month old) for the current compost batch;
   2.8. Green compost – PAS 100 Quality Compost Protocol certification (not more than 12 months old) for the compost producer;
   2.9. Interpretive Report to cover all results to confirm the suitability of the soils, sand, aggregate or compost for the landscape scheme, and to provide recommendations for any treatments or additives.
3. • Number of copies: 1 hard copy and 1 electronic copy (PDF format)

640 Quality control checks on site

1. • Quality control checks will be carried out by the Contractor the satisfaction of the Landscape Architect as appropriate and prior to any planting, turfing or seeding to ensure that the soil conditions, soil types and depths are satisfactory and compliant with the specification/design. It is the responsibility of the Contractor to inform the Landscape Architect when the stages of the work have been completed to a satisfactory standard in accordance with the quality levels indicated.
2. • This shall include, but not necessarily limited to, the following stages of landscape works:
   2.1. Soil stripping / excavation
   2.2. Temporary soil storage
   2.3. Soil importation or brownfield soil mixing
   2.4. Preparation of existing soils / formation layer

2.5. Subsoil spreading

2.6. Topsoil spreading

2.7. Soil cultivations

2.8. Soil amelioration (stone removal, sand amelioration, compost, fertilisers, soil conditioner etc.)

2.9. Tree pit construction and backfilling

3. • The Landscape Architect will either confirm that the correct soil quality/type/depth has been achieved and further landscape works may commence, or that the soil quality/type/depth is not acceptable and further soiling works are required. The non-compliances and recommendations for remedial works shall be issued in a written report. Only when written approval is given shall further landscape works commence.
4. • Each stage will be offered for inspection by Landscape Architect prior to work on the next stage commencing. Work must not proceed to the next stage until the Landscape Architect has given written authorisation. It is recognised that the Contractor may wish to carry out the work stages with more than one stage continuing at any one time.
5. • After all soil treatments have been completed and prior to carrying out any planting, seeding or turfing, all soils shall be inspected by the Landscape Architect to establish that there is no surface or subsurface compacted soil layers or other subsurface materials likely to impede drainage or cause other damage to the plants.
6. • Where compacted soil layers or consolidated materials are found, the soil shall be cultivated to an appropriate depth and in an appropriate manner to improve soil conditions to the satisfaction of the Landscape Architect.
7. • All final topsoil levels / landforms / topography are to be to the approval of the Landscape Architect. All final grading of finished topography is to be as instructed by the Landscape Architect.

645 Contractor method statements and ITP

1. • The Contractor shall supply Method Statements and Inspection and Test Plans (ITP) for all soiling operations (e.g. importation, handling, excavation / stripping, stockpiling, setting out, spreading, cultivations, amelioration, tree pit construction). Each Method Statement shall include details of the methods of working, proposed site machinery and tillage equipment, materials, manpower and Health & Safety requirements.
2. • Each Method Statement and ITP shall be submitted for written approval by the Landscape Architect before any works commence.

655 Soil handling

1. Plant: Select and use plant to minimise disturbance, trafficking and compaction.
2. • Contamination: Do not mix landscape soil with:

2.1. Other grades of soil (including mixing topsoil with subsoil), stone, hardcore, rubbish or material from demolition work.

3. • Soil protection:

3.1. Do not store construction materials or other soils on the surface of existing soils or newly placed imported soils.

4. • Multiple handling: Keep to a minimum.

4.1. Use or stockpile soil immediately (site-won or imported).

5. • It is important to avoid physical degradation to the soil during all phases of soil handling (e.g. spreading, cultivation, amelioration, planting). As a consequence, soil

handling operations shall be carried out when soil is non-plastic (friable) in consistency (i.e. at least 5% below the soil's lower plastic limit).

6. • Soil shall not be unnecessarily compacted by trampling or trafficking by site machinery. Protective temporary surfaces (e.g. track matting) shall be used along access routes, and in particular soft ground and to protect tree roots.
7. • Soil shall not be handled when frozen.
8. • Soil handling shall be stopped during and after heavy rainfall, and not continue until the soil has regained a non-plastic (friable) consistency.
9. • If, during the course of the soiling and landscape works, the soil is compacted, it shall be suitably cultivated to relieve the compaction and restore the structure prior to any planting, turfing or seeding.

660 Temporary stockpiling – imported soils - dry / non-plastic soils

1. • Location: to be agreed.
2. • Height: 3m (increased to max. 6m Health & Safety permitting and subject to any other site constraints)
3. • Protection:
   - 3.1. To protect from wet weather once the final height is achieved, a tracked excavator shall regrade the sides and top of each stockpile to encourage water to runoff. The tracked excavator shall then compact down the surface of the stockpile by tracking across it to seal in the dry soil and reduce rainfall infiltration.
   - 3.2. Do not place any other material on top of or adjacent to each stockpile.
   - 3.3. Do not place different soil types on top of or adjacent to each stockpile.
   - 3.4. Once formed, do not allow construction plant to pass over the stockpile.
   - 3.5. Prevent compaction and contamination, by fencing and restricting as appropriate.
4. • Signage: Clear, visible signage shall be installed indicating the soil type present in the stockpile.

665 Formation layer decompaction

1. • Decompact formation layer to a minimum depth of or 300mm (using appropriate equipment (e.g. wing tined subsoiler in open areas or single-rigid tine in less accessible areas). Method to be confirmed by Contractor for approval by the Landscape Architect.
2. • The contractor is to thoroughly check for presence of adjacent underground services prior to commencing the decompaction works.
3. • All decompaction works are to be coordinated with the Project Engineer
4. • Any temporary surfacing, including hardcore and geotextile shall be removed from the surface of the existing ground prior to decompaction works.
5. • Any undesirable material brought to the surface during this exercise shall be removed by picking or raking. For example, stones, fill materials larger than 100mm in any dimension.
6. Should Clay, Glacial Till or other poorly drainage material be encountered failing percolation test, remove material and replace with other approved fill so that formation layer is free draining.
   - 6.1. Undertake Percolation test to BRE 365
   - 6.2. Approved Test Results:greater than10-6.

670 Drainage layer placement

1. • Requirement for Drainage layer and specified depth: As Clause (Q28A/ 675).
2. Where required, place drainage gravel (ref. Clause Q28A/300) to specified depth.
3. • Any drainage pipes shall be surmounted in the drainage gravel layer.

675 Soil depths

1. Refer to table below for Depths and Types of Topsoil and Subsoil

Code Planting	Top soil depth and Type	Sub soil depth and type
S01	300mm depth - Rain Garden - Topsoil	300mm depth - Landscape Subsoil
S02	300mm depth - Landscape - Top Soil	Varies depth depending on plaInter size - Landscape Subsoil
S03	300mm depth Landscape - Top Soil	300mm depth - Landscape Subsoil

2. **Refer to table below for Drainage.**

Code Planting	Drainage Layer (mm)
S01 - Rain Garden	300mm - please refer to engineer's information
S02 - Planters	200mm

3. ~ Suitability of this soil type to be confirmed by project engineer.
4. ^ If base of tree pit fails percolation test, contractor to dig out unsuitable material up to a 1m in depth. If material is greater than 1m in depth then a perforated pipe is required within the drainage layer to take water away from the base of the tree pipe.

680 Subsoil placement

1. • This clause relates to placement of Landscape Subsoil in new soil profiles .
2. • The subsoil shall be tipped into each area in a line of heaps and shall then be spread using a dozer, or an excavator working adjacent to the placement area (depending on access) or by hand in restricted areas.
3. • The subsoil shall then be firmed using the dozer tracks, the excavator tracks or bucket or by trampling in (as deemed appropriate).
4. • Grade to smooth flowing contours to achieve specified finished depths of subsoil. Depths after firming and settlement (minimum) to be as specified.

685 Subsoil decompaction

1. • Decompact subsoil layer to a minimum depth of or 300mm (all other planting types) (or 600m if formation layer has not been decompacted first (see Clause Q28A/665) using appropriate equipment (e.g. wing-tined subsoiler in open areas or single-rigid tine in less accessible areas). Method to be confirmed by Contractor for approval by the Landscape Architect or Soil specialist
2. • Any temporary surfacing, including hardcore and geotextile shall be removed from the surface of the existing ground prior to decompaction works.
3. • Any undesirable material brought to the surface during this exercise shall be removed by picking or raking. For example, stones, fill materials larger than 50mm in any dimension.

690 Topsoil placement

1. • This clause relates to placement of topsoil in new soil profiles .
2. • Remove all temporary surfacing before spreading topsoil.
3. • The topsoil shall be tipped into each area in a line of heaps and shall then be spread using a dozer, an excavator working adjacent to the placement area (depending on access) or by hand in restricted areas.
4. • The topsoil shall then be firmed using dozer tracks, the excavator tracks or bucket or by trampling in (as deemed appropriate).
5. • Grade to smooth flowing contours to achieve specified finished depths of topsoil. Depths after firming and settlement (minimum) to be as specified.

695 Topsoil cultivation

1. • This clause relates to cultivation of topsoil in all soft landscape soil profiles.
2. • After spreading topsoil, the soil profile shall be ripped at 200mm centres to a minimum depth of 300mm (amenity and wildflower grassland) or 400mm (planting) to decompact the soils and key in the topsoil and subsoil layers.
3. • Any large, compacted lumps of topsoil shall be broken down by appropriate cultivation (in accordance with BS 4428) to produce a fine tilth suitable for planting (<30mm).
4. • Cultivations shall ensure that the topsoil is fully aerated before planting (no sour odour or grey colouration).
5. • Any undesirable material brought to the surface during this exercise shall be removed by picking or raking. For example, stones, fill materials and coarse vegetation larger than 50mm in any dimension.

720 Topsoil decompaction post planting

1. • Following planting, the topsoil between plants and around rootballs shall be loosened using a hand-fork to alleviate compaction and smearing caused during the planting works.

800 Soil conditioner – imported landscape topsoil for planting

1. •
2. • Apply and incorporate the soil conditioner TerraCottem Universal (see Clause Q28A/515) into the upper 200mm layer of the Landscape Topsoil and Rain Garden Topsoil prior to firming in of this layer at a rate of 250 g/m2.

Ω End of Section

Q31
External planting

Clauses

2 To be read with preliminaries/general conditions.

General information/ requirements

112A Site clearance generally

1. The Site has been previously reclaimed and graded. Obtain confirmation from Main Contractor that items can be removed from site.
2. General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
3. Stones: Remove those with any dimension exceeding 50 mm.

120 Climatic conditions

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

125A Times of year for planting

1. Confirm times of Planting with Landscape Architect
2. Deciduous trees and shrubs: Late October to late March.
3. Conifers and evergreens: September/ October or April/ May.
4. Herbaceous plants (including marginal): September/ October or March/ April.
5. Container grown plants: At any time if ground and weather conditions are favourable.
   5.1. Watering and weed control: Provide as necessary.
6. Dried bulbs, corms and tubers: September/ October.
7. Colchicum (crocus): July/ August.
8. Green bulbs: After flowering in spring.
9. Wildflower plugs: Late August to mid November or March/ April.
10. Aquatic plants: May/ June or September/ October.

130A Mechanical tools

1. Restrictions: Do not use within 1000 mm of new treepits and 500mm of path edges.

145 Watering

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

150 Water restrictions

1. 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

1. Give notice before
   1.1. Setting out.
   1.2. Applying herbicide.
   1.3. Applying fertilizer.
   1.4. Delivery of plants/ trees.
   1.5. Planting shrubs.
   1.6. Planting trees into previously dug pits.
   1.7. Watering.
   1.8. Visiting site during maintenance period.
2. Period of notice: One week

200A Plants/ trees - general

1. Condition: Materially undamaged, sturdy, healthy and vigorous.
2. Appearance: Of good shape and without elongated shoots.
3. Hardiness: Grown in a suitable environment and hardened off.
4. Health: Free from pests, diseases, discolouration, weeds and physiological disorders.
5. Budded or grafted plants: Bottom worked.
6. Root system and condition: Balanced with branch system.
   6.1. Standard: The National Plant Specification
7. Trunk: Wrapped with Burlap to reduce drying out
8. Species: True to name.
9. Origin/ Provenance: Confirm provenance before ordering.
   9.1. Definition: Origin and Provenance have the meaning given in the National Plant Specification.
10. Definition:

215 Plants/ Trees – specification criteria

1. Name, forms, dimensions, provenance and other criteria: As scheduled and defined in the National Plant Specification (available on CS Design Software Limited’s website).

225 Bulbs/ Corms/ Tubers

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

235 Container grown plants/ Trees

1. Growing medium: With adequate nutrients for plants to thrive until permanently planted.

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

245 Labelling and information

1. 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:
   1.1. Full botanical name.
   1.2. Total number.
   1.3. Number of bundles.
   1.4. Part bundles.
   1.5. Supplier's name.
   1.6. Employer's name and project reference.
   1.7. Plant specification, in accordance with scheduled National Plant Specification categories.
2. Additional information: Submit on request: Country of origin.

255A Plants/ trees reserved at supplier's premises

1. Types/ Species: Large multi-stemmed shrub
2. Predelivery inspection: Give notice of inspection in UK nursery.
3. Labelling: Identify inspected plants/ trees as reserved for use on this project.

260A Plant/ tree substitution

1. Plants/ trees unobtainable or known to be likely to be unobtainable at time of ordering: Submit alternatives, stating:
   1.1. Price.
   1.2. Difference from specified plants/ trees.
2. Approval: Obtain approval from Landscape Architect before making any substitution.

265 Plant handling, storage transport and planting

1. Standard: To CPSE 'Handling and establishing landscape plants'.
2. Frost: Protect plants from frost.
3. Handling: Handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
4. Plant packaging: Black polyethylene bags
5. Packaging of bulk quantities: Pallets or bins sealed with polyethylene and shrink wrapped
6. Planting: Upright or well balanced with best side to front.

280 Treatment of tree wounds

1. Cutting: Keep wounds as small as possible.
   1.1. Cut cleanly back to sound wood using sharp, clean tools.

1.2. Leave branch collars. Do not cut flush with stem or trunk.

1.3. Set cuts so that water will not collect on cut area.

2. Fungicide/ Sealant: Do not apply unless instructed.

290A Surplus material

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

Plant containers

298 Waterproofing lining

1. Material:
2. Base protection:
3. Installation of liner

3.1. Fully supported on the base.

3.2. Closely fitting to the sides of container.

Preparation of planting beds/ planting materials - Not Used

Planting shrubs/ herbaceous plants/ bulbs

400A Irregular plant layout

1. All planting areas
2. Spacing: Where plants planted in groups, plant evenly and in an irregular pattern avoiding straight lines.
3. Density: As plant schedule

405A Shrub planting pits

1. Timing: Excavate immediately before planting.
2. Sizes: Wide enough to accommodate roots when fully spread and 75 mm deeper than root system
3. Pit bottom improvement Break up to a depth of 150 mm, incorporating soil conditioner Q28A/515 to manufacturers recommended application rate. .

435A Climbing plants used as ground cover

1. Planting

1.1. Canes or other supports: Remove.

1.2. Arrangement: Spread stems.

1.3. Trim: As necessary to ensure even spread of stems.

2. Fixing: Pinned to ground to ensure good contact.

445A Planting bulbs/ corms/ tubers

1. Depth: Top of bulb/ corm/ tuber at a depth of approximately twice its height, base in contact with bottom of hole.
2. Backfilling: Finely broken soil. Lightly firm to existing ground level.

480A After planting

1. Watering: Immediately after planting, thoroughly and without damaging or displacing plants or soil.
2. 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.
3. Top dressing: Bark Mulch Q31/ 493A
   3.1. Depth in Planting Areas: 50 mm

493A Bark mulch

1. Fine Composted Bark Mulch (To match Mayfield Park)
2. Location: All planting areas
3. Manufacturer: Scotbark, 220 Blairtummock Road, Glasgow, Lanarkshire, G33 4ED
4. Product: Fine Composted Bark Mulch (To match Mayfield park)
   4.1. Nominal particle size: 0-12mm
   4.2. Certified: Forest Stewardship Council
   4.3. Fire Tested: In accordance with BS 4790:1987
5. Application:
   5.1. Depth - Planting areas: 50mm
   5.2. Wind blown mulch: Ensure adjacent areas are kept free of wind blown mulch.

Planting trees

500 Tree/Large shrub planting

1. Standard: Prepare trees/large shrub and transplant in accordance with BS 4428

510A Root barriers

1. Locations: See Soft Landscape Drawings
2. Manufacturer: Green Blue Urban
   2.1. Product Description: Tree pit perimeter root control.
   2.2. Material: HDPE
   2.3. Product reference: ReRoot 1000
3. Thickness: 1mm
4. Barrier depth: 1000mm
5. Top of root barrier in relation to finished topsoil level: 50mm below below
6. Installation: With sides vertical. Remove all sharp objects adjacent to barrier.

512A Large shrub irrigation and ventilation accessories

1. Locations: For all large shrubs - 2m+ in height
2. Manufacturer: Blue Green Urban
   2.1. Product reference: Root Rain
   2.2. Product Codes: RRCIVIC1A/ RRCIVIC2A/ RRCIVIC3A. Confirm with Manufacturer which size of system recommended for each size of tree.
3. Type: Large capacity irrigation system with a vandal resistant inlet
4. Installation

4.1. Pipe: Lay in loop above root ball with slight fall away from inlet pipe. Trim length to ensure a close fit in the tree pit. Connect both ends of pipe securely into plastics tee junction on inlet.

4.2. Top cap of inlet: Protruding slightly above finished surround level.

4.3. Backfill material: Carefully compact in layers.

527 Anchoring for large shrubs

1. The design proposes to plant large shrubs in containers.

528A Anchorplate deadman anchor (A)

1. Deadman Anchor for: Large shrub planted in the planters.
2. Manufacturer: Green Blue Urban
   2.1. Product reference: ArborGuy AnchorPlate
   2.2. Product Use: Confirm with Manufacturer, which layout and size of AnchorPlate is suitable for each size and girth of tree, its planting location and backfill, drainage layer and planter.
3. Alternative Anchoring systems: Confirm to Landscape Architect and seek approval for any alternative product, including providing Engineers calculations.
4. Fixings: To planter base

Woodland/ matrix/ buffer zone planting - Not Used

Protecting/ maintaining/ making good defects

710A Maintenance

1. Duration: Carry out the operations in the following clauses from completion of planting until practical completion.

720A Failures of planting

1. Plants/ trees/ shrubs that die, are defective or fail to thrive: Replaced at Contractors cost.
   1.1. Exclusions: Theft, malicious damage after completion or damage caused by flooding.
   1.2. Rectification: Replace with same plants/ trees/ shrubs, unless agreed otherwise with Landscape Architect.
2. Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
3. Timing of making good: During the next suitable planting season

730A Protective fencing

1. Fencing type: .Cleft chestnut pale fencing, 1.1M high.
2. Erection: On completion of all planting areas.
3. Removal: After planting is well established

740 Cleanliness

1. Soil and arisings: Remove from hard surfaces and grassed areas.

2. General: Leave the works in a clean tidy condition at completion and after any maintenance operations.

750A Planting maintenance generally

1. Weed control: Maintain weed free area around each tree and shrub.
   1.1. Diameter (minimum): The larger of 1 m or the surface of original planting pit.
   1.2. Keep planting beds clear of weeds: At all times
2. 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.
3. Precautions: Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
4. Firming up: Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.
5. Trees: Spray crown when in leaf during warm weather.
   5.1. Timing: After dusk.
6. Tree accessories: Check condition of stakes, ties, guys, guards and irrigation and ventilation systems.
   6.1. Broken or missing items: Replace.
   6.2. Loose stakes: Re-firm in the ground or replace as necessary to provide support to the tree.
   6.3. Loose guys: Re-firm anchor points and adjust as necessary to provide support to the tree.
   6.4. Ties: Adjust to accommodate growth and prevent constriction or abrasion.
   6.5. Damage to bark: Cut back neatly with sharp knife. Prevent further damage.
   6.6. Frequency of checks: Every two weeks
7. Watering: As required for healthy establishment, depending on weather conditions
8. Mulch: Top up bark mulch as originally laid in planting beds at Practical Completion.

760 Planting maintenance – pruning

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

Ω End of Section

Q35
Landscape maintenance

Clauses

2 To be read with preliminaries/ general conditions.

Generally

102 Maintenance and establishment period

1. Maximum length of Establishment Period is 24 months for those Landscape Area(s) that will reach Practical Completion first. Other Landscape Areas that reach Practical Completion later will complete their establishment at the same time as the first Landscape Area, albeit that their establishment period will not be the full 24 months.
2. Where possible all maintenance operations will be timed such that they are undertaken at the same time for all Landscape Areas.
3. All Landscape Areas will be handed over at the end the Establishment Period at the same time.

105A Maintenance objectives

1. Location: Site as shown on GA Drawings
   1.1. Defects Liability and Maintenance Period:
2. Aims:
   2.1. To ensure good establishment of all trees, shrubs, herbaceous, grasses and wildflower areas.
   2.2. To ensure the site has a good nature conservation value and improved biodiversity.
   2.3. The site provides an important opportunity for recreation and relaxation in the City
   2.4. The site is well looked after and provides a safe environment

107A Maintenance schedule

1. Schedule of Maintenance: Agree Schedule of Maintenance operation with Landscape Architect from practical completion to end of Defects Liability.
2. Maintenance Schedule must include:
   2.1. Indicative Timing and Operations to be undertaken.
   2.2. Timing of specific operations (e.g. Cutting of Wildflower areas, pruning etc.)

109A Maintenance report

1. Provide Maintenance Report to Landscape Architect after each site visit.
2. Maintenance Report must include:
   2.1. General state of the site
   2.2. Operations undertaken
   2.3. Dead or dying plants or grass
   2.4. Current or foreseeable future problems.
3. Timing of Report: One week after the Site Visit

110A Notice

1. Give notice before
   1.1. Application of herbicide.
   1.2. Application of fertilizer.
   1.3. Watering.
   1.4. Replacement planting
   1.5. Each site maintenance visit.
2. Period of notice: 7 days

130A Reinstatement

1. Damage or disturbance to soil structure, planting, grass, fencing, hard landscaping, structures or buildings: Reinstate to original condition.
   1.1. Liability for the cost of reinstatement borne by the Client: Vandalism, malicious damage or misuse, flood damage.
   1.2. Liability for the cost of reinstatement borne by the Contractor: Soil structure, and all Soft Landscape works.

155A Watering

1. Supply: Mayfield Depot.
2. Quantity: Wet full depth of topsoil
3. Application: Do not damage or loosen plants.
4. Compacted soil: Loosen or scoop out, to direct water to rootzone.
5. Trees: Apply water through Irrigation system. Ensure cap is closed once watering has been completed
6. Frequency: As necessary for the continued thriving of all planting. Do not overwater, producing excessive growth.

160 Water restrictions

1. General: If water supply is, or is likely to be, restricted by emergency legislation, submit proposals for an alternative suitable source of water. Obtain instructions before proceeding.

175 Disposal of arisings

1. General: Unless specified otherwise, dispose of arisings as follows: Remove from site.

180 Chipping or shredding

1. General: Not permitted on site.

190 Litter

1. Extraneous rubbish not arising from the contract work: Collect and remove from site.

197 Cleanliness

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

Grassed areas

235A Bulbs and corms in planted areas

1. Before flowering: Do not cut.
2. Timing of Grass Cutting: Allow flowers to die completely and leave until foliage goes yellow and straw-like. Typically 4 - 6 weeks.

250 Leaf removal

1. Operations: Collect fallen leaves.
2. Special requirements: Remove by hand raking
3. Disposal: Remove from site for recycling

355A Fertiliser - spring application

1. To areas of PC03
2. Type: Slow Release, High Nitrogen Grass Fertiliser
3. Manufacturer: Agrigem, Riverside Enterprise Park, Skellingthorpe Road, Saxilby, Lincoln, LN1 2FU
4. Type: 9-7-7 Sportsmaster Fertiliser
5. Chemical Make Up: 9% nitrogen, 7% phosphate & 7% potassium
6. Application Rate: Manufacturers Recommendation
7. Application Method: Evenly spread by Hand or Spreader

Flower beds/ seasonal beddings

460A Planting beds of shrubs, perennials and grasses

1. Planting areas
2. Gaps in planting: Replant as required
3. Watering
   3.1. Ongoing: As necessary for the continued thriving of all planting.
4. Operations at end of growing season
   4.1. Trim: Older flowering stems of herbaceous perennials.
   4.2. Remove: Dead flower heads, fallen leaves, litter and debris.
   4.3. Cultivate: Fork over the soil, taking care not to cause undue disturbance to plants.
5. Weeding: Remove perneous weeds not part of wildflower mix.
   5.1. Weeding Method: Generally remove by hand or hoe. Invasive or pernicious, apply suitable selective herbicide.
   5.2. Arisings: Remove from Site
6. Insect Attack: Apply Insecticide locally to control aphid or other insect pests. If severe attack, cut back and remove arising from site.
   6.1. Application: To Manufacturers recommendations.
7. Fungus/ Mildew Attack: Apply fungicide to control fungus/ mildew. If severe attack, cut back and remove arising from site.
   7.1. Application: To Manufacturers recommendations.
8. Mulch: Make good depth of Bark Mulch Q31/ 493A

Shrubs/trees/hedges

505A Maintenance of shrubs in planting beds

1. Weed Control: Keep immediate area around shrubs clear of weeds
   1.1. Weeding Method: Generally remove by hand or hoe. Invasive or pernicious, apply suitable selective herbicide.
   1.2. Arisings: Remove from Site.
2. Mulch
   2.1. Retain Bark Mulch (Q31/493A) around Shrubs as originally laid.
   2.2. Make Up levels of Mulch as necessary.
3. Soil condition: Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.
4. Pruning: As Q31/540
5. Watering:
   5.1. Ongoing: As necessary for the continued thriving of all planting.
6. Fertiliser:
   6.1. Type: Slow Release as Q28A/505
   6.2. Time of Year: March or April
   6.3. Application: Spread evenly
   6.4. Application Rate: To Manufacturers recommended application rate.

515A Underground tree/large shrub guy wires

1. Inspection/ Maintenance times: Immediately after strong winds
2. Operations
   2.1. Replace or resecure loose or missing guy wires.
   2.2. Adjust to suit stem growth and to provide correct and uniform tension.

520 Refirming of trees and shrubs

1. Timing: After strong winds, frost heave and other disturbances.
2. Refirming: Tread around the base until firmly bedded.
3. Collars in soil at base of tree stems, created by tree movement: Break up by fork, avoiding damage to roots. Backfill with topsoil and refirm.

537A Nesting wild birds

1. If Nesting Wild Birds seen or suspected, do not prune or undertake any maintenance work near them. Report findings to Landscape Architect and seek instruction.
2. Accidental disturbance: Report immediately.

540 Pruning generally

1. Pruning: In accordance with good horticultural and arboricultural practice.
   1.1. Removing branches: Do not damage or tear the stem or bark.
   1.2. Wounds: Keep as small as possible and cut cleanly back to sound wood.
   1.3. Cutting: Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on cut area.

1.4. Larger branches: Prune neither flush nor leaving a stub, but using the branch bark ridge or branch collar as a pruning guide.

2. Appearance: Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well balanced natural appearance.
3. Tools: Use clean sharp secateurs, hand saws or other approved tools. Trim off ragged edges of bark or wood with a sharp knife.
4. Disease or infection: Give notice if detected.
5. Growth retardants, fungicide or pruning sealant: Do not use unless instructed.

545 Pruning of excessive overhang

1. Timing: Annually
2. Operations: Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines and road lighting luminaires.
3. Special requirements: None

570A Formative pruning of trees/large shrubs

1. Standard: Type and timing of pruning operations to suit the plant species.
2. Time of year: Do not prune during the late winter/ early spring sap flow period.
3. Young trees up to 4 m high
   3.1. Crown prune by removing dead branches and reducing selected side branches by one third to preserve a well balanced head and ensure the development of a single strong leader.
   3.2. Remove duplicated branches and potentially weak or tight forks. In each case cut back to live wood.
4. Whips or feathered trees: Do not prune.
5. Operatives: Approved specialist contractor

575A Pruning ornamental shrubs

1. General: Prune to encourage healthy and bushy growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour.
2. Suckers: Remove by cutting back level with the source stem or root.
3. Time of year:
   3.1. Winter flowering shrubs: Spring.
   3.2. Shrubs flowering between March and July: Immediately after the flowering period.
   3.3. Shrubs flowering between July and October: Back to old wood in winter.
   3.4. Rose bushes: Early spring to encourage basal growths and a balanced, compact habit.

620A Removal of dead plant material

1. Operations: At the end of the growing season, check all shrubs and remove all dead foliage, dead wood, and broken or damaged branches and stems.
2. Report of Losses: Report all dead plants to Landscape Architect as part of Site Report.

630 Dead and diseased plants

1. Removal: Within 1 week of notification

2. Replacement: In the next suitable planting season

635A Reinstatement of shrub/ herbaceous areas

1. Dead and damaged plants: Remove.
2. Mulch:
   2.1. Carefully move to one side and dig over the soil, leaving it fit for replanting.
   2.2. Make up Gravel Mulch levels as necessary
3. Do not disturb roots of adjacent plants.
4. Replacement planting:
   4.1. All Replacement planting to be at Contractors expense other than losses caused by theft or vandalism.
   4.2. Species: Agree with Landscape Architect, whether the same plant that is dead or damaged is to be replanted or an alternative.
   4.3. Sizes of Plant: To match the size of adjacent or nearby plants of the same species, whichever is the greater.
   4.4. Size of Pits: To suit replanting.
5. Dressing: Slow release fertilizer: Q28A/510
   5.1. Application rate: As manufacturer's recommendations

650A Hand weeding

1. General: Remove weeds entirely, including roots.
2. Disturbance: Remove the minimum quantity of soil, and disturb plants, bulbs and mulched surfaces as little as possible.
3. Completion: Rake area to a neat, clean condition.
4. Mulch: Reinstate to original depth.
5. Use of Herbicides: Give notice before use

690A Maintenance of loose mulch

1. Make good depth of Bark Mulch Q31/493A
2. Thickness (minimum): Make up original depth (50mm)
   2.1. Top up: Twice per year
3. Mulch spill on adjacent areas: Remove weeds and rubbish and return to planted area.
4. Weeding: Remove weeds growing on or in mulch by hand weeding.

700A Snow removal from shrubs/ trees

1. Standard: To BS 7370-4.
2. Plants subject to snow removal: All evergreens or shrubs large enough to be damaged by the accumulation of snow.
3. Timing: Within 24 hours of snowfall

Tree work - Not Used

Water areas - Not Used

Hard landscape areas/fencing

910A Hard surfaces and gravel areas

1. Herbicide: Apply a suitable foliar acting or residual herbicide. Allow recommended period for herbicide to take effect before clearing arisings.
2. Hard surfaces: Remove litter, leaves and other debris.
3. Surface gutters and channels: Remove mud, silt and debris.
4. Drainage gullies: Empty traps and flush clean.
5. Gravel areas: Rake over. Remove weeds, litter, leaves and debris, and level off.
6. Stain removal: In accordance with BS 7370-2, table 4.

930 Graffiti removal from street furniture

1. Method: Remove from any street furniture as per manufacturer's guidance

Ω End of Section