



GREAT WOLF LODGE,  
CHESTERTON, BICESTER  
NORTHERN PARK WITH  
WESTERN AND SOUTHERN BUFFER

SOFT SPECIFICATION

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**BMD.19.01.SP.T001**

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DOCUMENT SHOULD BE READ IN CONJUNCTION WITH ALL OTHER LANDSCAPE DRAWINGS LISTED BELOW:

Landscape:

- BMD.19.010.DR.T001 Northern Park with Western and Southern Buffer - Overall General Arrangement
- BMD.19.010.DR.T101 - 102 Northern Park - Detailed GAs
- BMD.19.010.DR.T103 - 104 Western & Southern Buffer - Detailed GAs

Planting Plans & Schedule:

- BMD.19.010.DR.T301 - 302 Northern Park - Planting Plans
- BMD.19.010.DR.T303 - 304 Western & Southern Buffer - Planting Plans
- BMD.19.010.SPT003 Northern Park with Western and Southern Buffer - Planting Schedule

Soil Requirements Plans:

- BMD.19.010.DR.T201 - 202 Northern Park - Soil Requirements Plans
- BMD.19.010.DR.T206 - 207 Western & Southern Buffer - Soil Requirements Plans

Details:

- BMD.19.010.DR.T501 Typical Hard & Street Furniture Details
- BMD.19.010.DR.T502 Boundary Treatment Details
- BMD.19.010.DR.T601 - 604 Typical Tree Pit Details
- BMD.19.010.DR.T605 Typical Soft Details
- BMD.19.010.DR.T606 Typical Pond Detail / Section

Landscape Specification:

- BMD.19.010.SPT001 Northern Park with Western and Southern Buffer - NBS Landscape Specification
- BMD.19.010.SPT002 Northern Park with Western and Southern Buffer - LMMP

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## **Q23**

### **Gravel/ hoggin/ woodchip/ resin bound roads/ pavings/ overlays**

#### **TYPES OF SURFACING**

##### **120 SELF BINDING GRAVEL FOOTPATH**

1. Location:: Refer to Detailed General Arrangement Plans
2. Subgrade improvement layer: Structural Engineer to advise on requirement for capping / improvement layer to sub grade
  - 2.1. Compacted thickness: To Structural Engineers specification
3. Geotextile: If required, geo-textile weed suppressant membrane to be installed underneath type 1 sub-base
4. Granular sub-base: Type 1 to Structural Engineers specification
  - 4.1. Compacted thickness: To Structural Engineers specification
5. Surface course: Breedon Wayfarer Gravel
  - 5.1. Manufacturer:: Breedon Aggregates, [www.breedon-special-aggregates.co.uk](http://www.breedon-special-aggregates.co.uk), Tel:01332 694001
  - 5.2. Type: Breedon Wayfarer Gravel
  - 5.3. Colour: Buff
  - 5.4. Size: Graded 6mm to fines
  - 5.5. Compacted thickness 35-40mm.
6. Completion: Compact to produce a firm, regular surface, stable in use.
7. Laying Instructions:: Refer to manufacturers recommendations

#### **LAYING**

##### **310 TIMBER EDGING TO SELF BINDING GRAVEL FOOTPATHS**

1. Softwood board
  - 1.1. Size: 22mm wide x 150mm deep x 3600mm lengths
  - 1.2. Fixing: Galvanized nails into softwood pegs.
2. Softwood pegs
  - 2.1. Size: 47x47x450mm long
  - 2.2. Fixing: Drive into ground.
  - 2.3. Centres: 1200mm nominal, maximum 600mm on radii of less than 6m
3. Brace boards::
  - 3.1. Size:: 22x100x300mm long
  - 3.2. Fixing:: 50mm below finished level of boards
  - 3.3. Centres:: 1200mm nominal, to match peg locations
4. Preservative treatment: As WPA commodity Specification C4, with 15 year desired service
5. Installation: :
  - 5.1. Minimum cut size:: 1200mm lengths
  - 5.2. Corners:: Edging timbers to be fixed together with 2no. galvanised annular nails for corners of 135 degrees or less

- 5.3. Curves:: Edging timbers to be bent and pegged to achieve smooth flowing curves matching design radii

### **320 SAMPLES**

1. Submit: Representative samples of self-binding gravel surface to client & landscape architect for approval.

### **340 LAYING GENERALLY**

1. Channels, gullies, etc: Keep clear.
2. Finished surfaces
  - 2.1. Lines and levels: To prevent ponding.
  - 2.2. Overall texture: Even.
  - 2.3. State at completion: Clean.

### **350 COLD WEATHER WORKING**

1. Frozen materials: Do not use.
2. Freezing conditions: Do not lay pavings.
3. Cold bituminous surface dressings: Do not apply when ambient temperature is below 10°C.
4. Other dressings or overlays: As manufacturers' recommendations.

### **360 DRAINAGE FALLS**

1. Sealed surfaces
  - 1.1. Falls and cross falls (minimum): 1:40.
  - 1.2. Camber (minimum): 1:50.
2. Unsealed surfaces (minimum): 1:30.

### **380 LAYING GRANULAR SURFACES IN PEDESTRIAN AREAS**

1. Permissible deviation from required levels, falls and cambers (maximum):  $\pm 12$  mm.
2. General: Spread and level in 100 mm maximum layers. As soon as possible, compact each layer.
3. Dry weather: Lightly water layers during compaction.

### **390 PROTECTION FROM TRAFFIC AND PLANT**

1. Paved areas: Restrict access to prevent damage.

### **COMPLETION - NOT USED**

Ω End of Section

## **Q28**

### **Topsoil and soil ameliorants**

#### **CLAUSES - NOT USED**

#### **SYSTEM OUTLINE**

##### **100 TREE PIT BACK FILLING SOIL SYSTEM**

1. Composition:
  - 1.1. Topsoil: site won or imported as clause 333A
  - 1.2. Subsoil: site won or imported as clause 335A
  - 1.3. Washed sand: as clause 346 (for tree pits not on slopes)
  - 1.4. Depths As indicated on typical soft details T601-T604

##### **102 SOIL SYSTEM FOR NATIVE WOODLAND, HEDGES & SHRUB**

1. Composition:
  - 1.1. Topsoil: 300mm min layer of site won or imported as clause 333B
  - 1.2. Subsoil: 700mm min layer of site won or imported as clause 335B

##### **103 SOIL SYSTEM FOR AMENITY GRASS**

1. Composition:
  - 1.1. Topsoil: 150mm min layer as clause 333B. Increase to 300mm max if surplus topsoil is available
  - 1.2. Subsoil: 150mm min layer site won. if there is a shortfall of site won use imported as clause 335B

##### **105 SOIL SYSTEM FOR GENERAL & WETLAND GRASSLAND**

1. Composition:
  - 1.1. Topsoil: 150mm max depth of low nutrient site won or imported as clause 333C
  - 1.2. Subsoil: 150mm min layer of site won or imported as clause 335B

##### **106 SOIL SYSTEM FOR POND PLANTING**

1. Composition
  - 1.1. Subsoil: : 300mm depth of site won or imported as clause 335B

##### **155 MULCHING AND TOP DRESSING SYSTEM**

1. Description: For trees
2. Composition
  - 2.1. Material: Refer to section Q31 for details

## **PRODUCTS**

### **300 PREPARATION MATERIALS GENERALLY**

1. Purity: Free of pests and disease.
2. 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.
3. Contamination: Do not use topsoil contaminated with subsoil, rubbish or other materials that are:
  - 3.1. Corrosive, explosive or flammable.
  - 3.2. Hazardous to human or animal life.
  - 3.3. Detrimental to healthy plant growth.
4. Subsoil: In areas to receive topsoil or planting media, do not use subsoil contaminated with the above materials.
5. Objectionable odour: None.
6. Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in topsoil or planting media to be imported.

### **310 MATERIALS NOT PERMITTED**

1. Materials: Products containing peat

### **320 SITE WON OR IMPORTED TOPSOIL, SUBSOIL AND WASHED SAND**

1. The Contractor shall allow sufficient time for sourcing and testing the necessary soils to meet the requirements of Q28.
2. A copy of the Soft Landscape specification and the proposed planting list /drawings shall be provided for review by the Soil Scientist and for reference within the test report(s).
3. The Contractor shall appoint a suitably qualified and approved, independent Soil Scientist to undertake the sampling and testing of the soil materials considered for importation.
4. An approved Soil Scientist is:
5. Tim O'Hare Associates LLP
6. Howbery Park
7. Wallingford
8. Oxon OX10 8BA
9. Tel: 01491 822653
10. www.toha.co.uk
11. The Contractor shall await written approval from the Contract Administrator prior to importing soil materials to site.

### **330 DOCUMENTATION FOR SITE WON OR IMPORTED TOPSOIL AND SUBSOIL**

1. The Contractor shall provide the Contract Administrator with the appointed Soil Scientist's
2. report for each source and type of topsoil and subsoil to be used.
3. Timing: At least 1 week prior to delivery.
4. Each report shall contain the following information:

- 4.1. Source name and location;
  - 4.2. Date of sampling;
  - 4.3. Details of the Soil Scientist, including company information, qualifications;
  - 4.4. Photographs of the stockpile and the soils;
  - 4.5. Visual examination;
  - 4.6. Certificate of Analysis;
  - 4.7. Interpretation of all results with comments on the suitability of the soil for the proposed landscape scheme;
  - 4.8. Recommendations for soil improvements, treatments, additives.
5. Number of copies: 1 (in digital format)

### **331 SAMPLE AND TESTING - SITE WON OR IMPORTED SOILS**

1. Soil materials shall be independently sampled at their source.
2. The samples shall be truly representative of the soil to be offered. One Composite Sample
3. shall be taken for every 500m<sup>3</sup> of each type of soil to be used, with a minimum of 3 no.
4. samples to be tested per source (unless alternative testing rates have been agreed with the
5. Landscape Architect).
6. Samples shall be analysed strictly in accordance with relevant Testing Schedule given in
7. clauses Q28/332 and 334.
8. The samples shall be analysed and reported on a 10 working day turnaround and the
9. Contractor should incorporate this into their programme. An accelerated analysis turnaround
10. will be permitted at the Contractor's cost where programme constraints deem this necessary.
11. The sampled soil materials shall be temporarily stockpiled at the source location until the
12. Contract administrator has provided written approval on its suitability for use within the
13. project.

### **332 SITE WON OR IMPORTED TOPSOIL - TESTING SCHEDULE**

1. Topsoil samples shall be tested prior to approval by the Contract Administrator / Landscape Architect. The following
2. parameters shall be requested (methods in accordance with BS3882:2007 or as indicated):
3. 1. Visual examination to record Munsell colour, moisture status, aerobic state, soil structure,
4. texture, stoniness (size & shape), the presence of any deleterious materials
5. 2. pH Value (1: 2.5 soil/water extract)
6. 3. Electrical Conductivity (1: 2.5 soil/water extract)
7. 4. Electrical Conductivity (1: 2.5 soil/CaSO<sub>4</sub> extract)
8. 5. Exchangeable Sodium Percentage
9. 6a. Particle Size Analysis (clay, silt, 5 sands – USGA sieve sizes) – clause 333A only
10. 6b. Particle Size Analysis (clay, silt, sand) – clause 333B only
11. 7. Stone Content by % weight (2-20mm, 20-50mm, >50mm)
12. 8. Total Nitrogen (% - Dumas Method)
13. 9. Extractable Phosphorus, Potassium & Magnesium (RB427 Method)



14. 11. Organic Matter (%)
15. 12. Carbon: Nitrogen ratio (by calculation)
16. 13. Calcium Carbonate (%) – clause 333A only
17. 14. Potential Contaminants – See parameters in Clause Q28/336
18. Additional samples and/or additional testing (eg. percolation) may be required if the initial
19. results are not satisfactory or conclusive

### **333A TOPSOIL – TREE PITS**

1. Quantity: Provide as necessary to complete the work. Make due allowance for settlement after laying.
2. The topsoil shall have a defined granular or blocky soil structure and shall comply with the
3. following lower and upper limits:
  - 3.1. Clay (<0.002mm): lower limit 5%, upper limit 18%
  - 3.2. Silt (0.002-0.05mm): lower limit 5%, upper limit 35%
  - 3.3. Sand (0.05-2.0mm) Of which at least 45% shall fall into fine to medium sand range: lower limit 55%, upper limit 85%
  - 3.4. Stones (2-20mm): lower limit 0%DW, upper limit 15%DW
  - 3.5. Stones (20-50mm): lower limit 0%DW, upper limit 20%DW
  - 3.6. Stones (>50mm): lower limit 0%DW, upper limit 0%DW
  - 3.7. pH Value: lower limit 5.5, upper limit 8.5
  - 3.8. Electrical Conductivity (1:2.5 water extract): lower limit 0 $\mu$ S/cm, upper limit 1500 $\mu$ S/cm
  - 3.9. Electrical Conductivity (CaSO<sub>4</sub> extract): lower limit 0 $\mu$ S/cm, upper limit 2800 $\mu$ S/cm
  - 3.10. Exchangeable Sodium Percentage: lower limit 0%, upper limit 15%
  - 3.11. Organic matter: lower limit 4%, upper limit 8%
  - 3.12. Total Nitrogen: lower limit 0.2%, upper limit na
  - 3.13. Carbon: Nitrogen Ratio: lower limit na, upper limit 20:1
  - 3.14. Extractable Phosphorus: lower limit 26mg/l, upper limit 100mg/l
  - 3.15. Extractable Potassium: lower limit 240mg/l, upper limit 1200mg/l
  - 3.16. Extractable Magnesium: lower limit 50mg/l, upper limit 600mg/l
  - 3.17. Calcium Carbonate: lower limit na. upper limit 2%

### **333B TOPSOIL – AMENITY GRASS, NATIVE WOODLAND, SHRUB**

1. Quantity: Provide as necessary to complete the work. Make due allowance for settlement after laying.
2. The topsoil shall have a defined granular or blocky soil structure and shall comply with the
3. following lower and upper limits:
  - 3.1. Clay (<0.002mm): lower limit 5%, upper limit 30%
  - 3.2. Silt (0.002-0.05mm): lower limit 5%, upper limit 45%
  - 3.3. Sand (0.063-2.0mm): lower limit 40%, upper limit 85%
  - 3.4. Stones (2-20mm): lower limit 0%DW, upper limit 15%DW
  - 3.5. Stones (20-50mm): lower limit 0%DW, upper limit 20%DW
  - 3.6. Stones (>50mm): lower limit 0%DW, upper limit 0%DW

- 3.7. pH Value: lower limit 5.5, upper limit 8.5
- 3.8. Electrical Conductivity (1:2.5 water extract): lower limit 0 $\mu$ S/cm, upper limit 1500 $\mu$ S/cm
- 3.9. Electrical Conductivity (CaSO<sub>4</sub> extract): lower limit 0 $\mu$ S/cm, upper limit 2800 $\mu$ S/cm
- 3.10. Exchangeable Sodium Percentage: lower limit 0%, upper limit 15%
- 3.11. Organic matter: lower limit 3%, upper limit 8%
- 3.12. Total Nitrogen: lower limit 0.15%, upper limit na
- 3.13. Carbon: Nitrogen Ratio: lower limit na, upper limit 20:1
- 3.14. Extractable Phosphorus: lower limit 16mg/l, upper limit 100mg/l
- 3.15. Extractable Potassium: lower limit 120mg/l, upper limit 1200mg/l
- 3.16. Extractable Magnesium: lower limit 50mg/l, upper limit 600mg/l

### **333C LOW NUTRIENT TOPSOIL - GRASSLANDS (EXCLUDING AMENITY)**

1. Quantity: Provide as necessary to complete the work. Make due allowance for settlement after laying.
2. The topsoil shall have a defined granular or blocky soil structure and shall comply with the
3. following lower and upper limits:
  - 3.1. Clay (<0.002mm): lower limit 5%, upper limit 30%
  - 3.2. Silt (0.002-0.05mm): lower limit 5%, upper limit 45%
  - 3.3. Sand (0.063-2.0mm): lower limit 40%, upper limit 85%
  - 3.4. Stones (2-20mm): lower limit 0%DW, upper limit 15%DW
  - 3.5. Stones (20-50mm): lower limit 0%DW, upper limit 20%DW
  - 3.6. Stones (>50mm): lower limit 0%DW, upper limit 0%DW
  - 3.7. pH Value: lower limit 5.5, upper limit 8.5
  - 3.8. Electrical Conductivity (1:2.5 water extract): lower limit 0 $\mu$ S/cm, upper limit 1500 $\mu$ S/cm
  - 3.9. Electrical Conductivity (CaSO<sub>4</sub> extract): lower limit 0 $\mu$ S/cm, upper limit 2800 $\mu$ S/cm
  - 3.10. Exchangeable Sodium Percentage: lower limit 0%, upper limit 15%
  - 3.11. Organic matter: lower limit 3%, upper limit 8%
  - 3.12. Total Nitrogen: lower limit 0.15%, upper limit na
  - 3.13. Carbon: Nitrogen Ratio: lower limit na, upper limit 20:1
  - 3.14. Extractable Phosphorus: lower limit 16mg/l, upper limit 100mg/l
  - 3.15. Extractable Potassium: lower limit 120mg/l, upper limit 1200mg/l
  - 3.16. Extractable Magnesium: lower limit 50mg/l, upper limit 600mg/l

### **334 SUBSOIL - TESTING SCHEDULE**

1. Site won or imported subsoil samples shall be tested prior to approval by the Contract
2. Administrator. The following parameters shall be requested (methods in accordance with
3. BS3882:2007 or as indicated):
  4. 1. Visual examination to record Munsell colour, moisture status, aerobic state, soil structure,
  5. texture, stoniness (size & shape), the presence of any deleterious materials
  6. 2. pH Value (1: 2.5 soil/water extract)
  7. 3. Electrical Conductivity (1: 2.5 soil/water extract)

8. 4. Electrical Conductivity (1: 2.5 soil/CaSO<sub>4</sub> extract)
9. 5. Exchangeable Sodium Percentage
10. 6a. Particle Size Analysis (clay, silt, 5 sands – USGA sieve sizes) – clause 335A only
11. 6b. Particle Size Analysis (clay, silt, sand) – clause 335B only
12. 7. Stone Content by % weight (2-20mm, 20-50mm, >50mm)
13. 8. Calcium Carbonate (% - BS7755:3:10: 1995) – clause 335A only
14. 9. Organic Matter (%)
15. 10. Saturated Hydraulic Conductivity (ASTM Method F1815-11 - modified) – clause 335A only
16. 11. Potential Contaminants – See parameters in Clause Q28/336
17. Additional samples and/or additional testing may be required if the initial results are not
18. satisfactory or conclusive

### **335A SUBSOIL – TREE PITS**

1. Quantity: Provide as necessary to complete the work. Make due allowance for settlement after
2. laying.
3. The subsoil shall comply with the following lower and upper limits:
  - 3.1. Clay (<0.002mm): lower limit 0%, upper limit 10%
  - 3.2. Silt (0.002-0.05mm): lower limit 0%, upper limit 25%
  - 3.3. Sand (0.05-2.0mm) Of which at least 40% shall fall into fine to medium sand range: lower limit 70%, upper limit 95%
  - 3.4. Stones (2-20mm): lower limit 0%DW, upper limit 35%DW
  - 3.5. Stones (20-50mm): lower limit 0%DW, upper limit 15%DW
  - 3.6. Stones (>50mm): lower limit 0%DW, upper limit 0%DW
  - 3.7. Saturated Hydraulic Conductivity: lower limit 10mm/hr, upper limit na
  - 3.8. pH Value: lower limit 5.0, upper limit 8.5
  - 3.9. Electrical Conductivity (1:2.5 water extract): lower limit na, upper limit 1500 $\mu$ S/cm
  - 3.10. Electrical Conductivity (CaSO<sub>4</sub> extract): lower limit na, upper limit 2800 $\mu$ S/cm
  - 3.11. Exchangeable Sodium Percentage: lower limit na, upper limit 15%
  - 3.12. Organic matter: lower limit na, upper limit 1.5%
  - 3.13. Calcium Carbonate: lower limit na, upper limit 2%

### **335B SUBSOIL – AMENITY GRASS, WOODLAND TRANSPLANTS, POND PLANTING AND GRASSLAND**

1. Quantity: Provide as necessary to complete the work. Make due allowance for settlement after
2. laying.
3. The subsoil shall comply with the following lower and upper limits:
  - 3.1. Clay (<0.002mm): lower limit 5%, upper limit 40%
  - 3.2. Silt (0.002-0.05mm): lower limit 5%, upper limit 45%
  - 3.3. Sand (0.063-2.0mm): lower limit 30%, upper limit 85%
  - 3.4. Stones (2-20mm): lower limit 0%DW, upper limit 35%DW
  - 3.5. Stones (20-50mm): lower limit 0%DW, upper limit 15%DW

- 3.6. Stones (>50mm): lower limit 0%DW, upper limit 0%DW
- 3.7. pH Value: lower limit 5.0, upper limit 8.5
- 3.8. Electrical Conductivity (1:2.5 water extract): lower limit na, upper limit 1500 $\mu$ S/cm
- 3.9. Electrical Conductivity (CaSO<sub>4</sub> extract): lower limit na, upper limit 2800 $\mu$ S/cm
- 3.10. Exchangeable Sodium Percentage: lower limit na, upper limit 15%
- 3.11. Organic matter: lower limit na, upper limit 2%

### **336 ENVIRONMENTAL REQUIREMENTS**

1. The following Generic Assessment Criteria (GAC) shall be used as Tier 1 screening values for
2. the assessment of soil(s) to be used, unless other Site-Specific Assessment Criteria (SSAC) is
3. available.
4. In circumstances where any of these values are exceeded, further risk assessment by the
5. project Environmental Consultant and/or testing should be undertaken to confirm the significance of the non-compliance.
  - 5.1. Inorganic Arsenic: 32mg/kg
  - 5.2. Boron (soluble): 5mg/kg
  - 5.3. Cadmium: 3mg/kg
  - 5.4. Chromium (III): 3000mg/kg
  - 5.5. Chromium (IV): 4.3mg/kg
  - 5.6. Copper: 100mg/kg
  - 5.7. Lead: 450mg/kg
  - 5.8. Mercury: 1mg/kg
  - 5.9. Nickel: 60mg/kg
  - 5.10. Selenium: 350mg/kg
  - 5.11. Zinc: 200mg/kg
  - 5.12. Phenol: 420mg/kg
  - 5.13. Benzene: 0.33mg/kg
  - 5.14. Toluene: 610mg/kg
  - 5.15. Ethylbenzene: 350mg/kg
  - 5.16. Xylene - m: 240mg/kg
  - 5.17. Xylene - o: 250mg/kg
  - 5.18. Xylene - p: 230mg/kg
  - 5.19. Aliphatics C5-C6: 110mg/kg
  - 5.20. Aliphatics C6-C8: 370mg/kg
  - 5.21. Aliphatics C8-C10: 110mg/kg
  - 5.22. Aliphatics C10-C12: 540mg/kg
  - 5.23. Aliphatics C12-C26: 3000mg/kg
  - 5.24. Aliphatics C16-C35: 76,000mg/kg
  - 5.25. Aromatics C5-C7: 280mg/kg
  - 5.26. Aromatics C7-C8: 611mg/kg
  - 5.27. Aromatics C8-C10: 151mg/kg

- 5.28. Aromatics C10-C12: 346mg/kg
- 5.29. Aromatics C12-C16: 593mg/kg
- 5.30. Aromatics C16-C21: 770mg/kg
- 5.31. Aromatics C21-C35: 1230mg/kg
- 5.32. Acenaphthene: 480mg/kg
- 5.33. Acenaphthylene: 400mg/kg
- 5.34. Anthracene: 4900mg/kg
- 5.35. Benzo(a)anthracene: 4.7mg/kg
- 5.36. Benzo[a]pyrene: 0.94mg/kg
- 5.37. Benzo(b)fluoranthene: 6.5mg/kg
- 5.38. Benzo(g,h,i)perylene: 46mg/kg
- 5.39. Benzo(k)fluoranthene: 9.6mg/kg
- 5.40. Chrysene: 8.0mg/kg
- 5.41. Dibenzo[a,h]anthracene: 0.86mg/kg
- 5.42. Fluoranthene: 460mg/kg
- 5.43. Fluorene: 380mg/kg
- 5.44. Indeno(1,2,3-cd)pyrene: 3.9mg/kg
- 5.45. Naphthalene: 3.7mg/kg
- 5.46. Phenanthrene: 200mg/kg
- 5.47. Pyrene: 1000mg/kg
- 5.48. Asbestos screen: Absent

### **346 WASHED SAND FOR TREE PITS (EXCLUDING THOSE ON SLOPES)**

1. Description: For tree pits
2. Quantity: Provide as necessary to complete the work. Make due allowance for settlement after laying.
3. Washed Sand shall be a quarried washed sand material that meets the following requirements. It shall not be a marine-dredged sand or a recycled sand.
  - 3.1. Clay & Silt (less than 0.005mm): lower limit 0%, upper limit 5%
  - 3.2. Very Fine Sand (0.05-0.15mm): lower limit 0%, upper limit 5%
  - 3.3. Fine Sand (0.15-0.25mm): lower limit 5%, upper limit 20%
  - 3.4. Medium Sand (0.25-0.50mm): lower limit 45%, upper limit 65%
  - 3.5. Coarse Sand (0.50-1.0mm): lower limit 25%, upper limit 45%
  - 3.6. Very Coarse Sand (1.0-2.0mm): lower limit 0%, upper limit 5%
  - 3.7. Stones (2-10mm): lower limit 0%DW, upper limit 10%DW
  - 3.8. Stones (>10mm): lower limit 0%DW, upper limit 0%DW
  - 3.9. pH Value: lower limit 5, upper limit 8.5
  - 3.10. Calcium Carbonate: lower limit na. upper limit 2%

### **400 FERTILISER FOR TREES AND SHRUBS**

1. Type: Evertis Enmag CRF (11%N:22%P2O5:9%K2O:6%MgO)

## **420 GREEN COMPOST FOR SOIL AMELIORATION**

1. Standard: In accordance with BSi PAS 100:2011 or current revision.
2. Source: From PAS 100 compliant facility.
3. The compost shall comply with the following lower and upper limits:
  - 3.1. pH Value: lower limit 7.5, upper limit 8.5
  - 3.2. Electrical Conductivity: lower limit 750 $\mu$ S/cm, upper limit 1400 $\mu$ S/cm
  - 3.3. Moisture Content: lower limit 35%, upper limit 45%
  - 3.4. Bulk Density: lower limit 450g/l, upper limit 550g/l
  - 3.5. Particle Size / Grading: lower limit na, upper limit 10mm
  - 3.6. Organic Matter: lower limit 25%, upper limit 35%
  - 3.7. Total Nitrogen: lower limit 0.5%, upper limit 1.5%
  - 3.8. C: N ratio: lower limit na, upper limit 20
  - 3.9. Ammonia N: lower limit 1mg/l, upper limit 5mg/l
  - 3.10. Nitrate N: lower limit 5mg/l, upper limit 5mg/l
  - 3.11. Total Phosphorus: lower limit 4mg/l, upper limit 30mg/l
  - 3.12. Soluble Potassium: lower limit 650mg/l, upper limit 1200mg/l
  - 3.13. Free Carbonate: lower limit na, upper limit 5%
  - 3.14. Water Soluble Sodium: lower limit na, upper limit 200mg/l
  - 3.15. Water Soluble Chloride: lower limit na, upper limit 850mg/l

## **EXECUTION**

### **610 CONTRACTOR METHOD STATEMENTS**

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

### **620 INSPECTIONS**

1. Quality control checks will be carried out as appropriate and prior to any planting, turfing or
2. seeding to ensure that the soil conditions, soil types and depths are satisfactory and
3. compliant with the specification/design. It is the responsibility of the Contractor to inform the
4. project Soil Scientist when the stages of the work are to commence:
5. Give notice: Before commencing the following:
  - 5.1. Soil stripping / importation
  - 5.2. Temporary soil storage
  - 5.3. Subsoil spreading
  - 5.4. Topsoil spreading
  - 5.5. Soil decompaction and cultivation

- 5.6. Soil amelioration (fertilisers, compost, etc.)
- 5.7. Tree pit construction and backfilling
- 6. Notice period: 7 days

### **630 HANDLING TOPSOIL AND SUBSOIL**

- 1. Plant: Select and use plant to minimise disturbance, trafficking and compaction.
- 2. Contamination: Do not mix topsoil with:
  - 2.1. Subsoil, stone, hardcore, rubbish or material from demolition work.
  - 2.2. Other grades of topsoil.
- 3. Multiple handling: Keep to a minimum. Use or stockpile topsoil immediately after stripping.
- 4. It is important to avoid physical degradation to the soil during all phases of soil handling
- 5. (e.g. stripping, stockpiling, spreading, cultivation, amelioration, planting, turfing and seeding).
- 6. As a consequence, soil handling operations shall be carried out when soil is non-plastic
- 7. (friable) in consistency
- 8. (i.e. at least 5% below the soil's lower plastic limit).
- 9. Soil shall not be unnecessarily compacted by trampling or trafficking by site machinery.
- 10. Soil shall not be handled when frozen unless authorised by the project Soil Scientist.
- 11. Soil handling shall be stopped during and after heavy rainfall, and not continue until the soil
- 12. has regained a non-plastic (friable) consistency.
- 13. If, during the course of the soiling and landscape works, the soil is compacted, it shall be
- 14. suitably cultivated to relieve the compaction and restore the structure prior to any planting,
- 15. turfing or seeding.

### **640 SOIL STORAGE HEAPS**

- 1. Location: As agreed with the Contract Administrator.
- 2. Height (maximum): 2.0m unless advised by the project Soil Scientist.
- 3. Soil Protection:
  - 3.1. To protect from wet weather once the final height is achieved, a tracked dozer/excavator
    - 3.1.1. shall regrade the sides and top of each stockpile to encourage water to runoff. The tracked
    - 3.1.2. dozer/excavator shall then compact down the surface of the stockpile by tracking across it
    - 3.1.3. to seal in the dry soil and reduce rainfall infiltration.- Do not place any other material on top
    - 3.1.4. of storage heaps.
  - 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. Do not allow construction plant to pass over storage heaps.
  - 3.5. Prevent compaction and contamination, by fencing and covering as appropriate.

## **650 SPREADING SUBSOIL (IF REQUIRED)**

1. Remove all hard surfacing /sub-base/buried obstructions/building materials to a sufficient
2. depth to accommodate the specified depth of subsoil.
3. Before placement of subsoil, the exposed surface shall be loosened to minimum 500mm
4. depth by ripping at 600mm centres, using appropriate tillage equipment (e.g. rigid tine,
5. subsoiler).
6. Unless otherwise agreed by the project Soil Scientist prior to soiling operations, the subsoil
7. shall be respread using the 'loose-tipping' method.
8. A dump truck shall transport the subsoil to the desired location and tip it in a line of heaps.
9. The subsoil shall be spread in 200mm layers by a second excavator working from the
10. formation layer or a temporary surface or adjacent hardstanding.
11. Each subsoil layer shall be consolidated by tracking in, or using the excavator bucket, or by
12. trampling in (restricted access areas only) as deemed appropriate.
13. Grade to smooth flowing contours to achieve specified finished depths of subsoil. Depths
14. after firming and settlement (minimum) to be as specified.

## **655 MECHANICAL TOOLS**

1. Restrictions: Do not use within 100 mm of tree and plant stems.

## **660 SPREADING TOPSOIL**

1. Remove all temporary roads/surfacing before spreading topsoil.
2. Unless otherwise agreed by the project Soil Scientist prior to soiling operations, all topsoil
3. shall be respread using the 'loose-tipping' method.
4. A dump truck shall transport the topsoil to the desired location and tip it in a line of heaps.
5. The topsoil shall be spread in 200mm layers by a second excavator working from the subsoil
6. layer or a temporary surface or adjacent hardstanding.
7. Each topsoil layer shall be consolidated by tracking in, or using the excavator bucket, or by
8. trampling in (restricted access areas only) as deemed appropriate.
9. Depths after firming and settlement (minimum) to be as specified.
10. Grade to smooth flowing contours to achieve specified finished depths of topsoil.

## **660 GRADING SUBSOIL FOR:**

1. Standard: In accordance with BS 8601.
2. General: Grade to smooth flowing contours to achieve specified finished levels of topsoil.
3. Areas of thicker topsoil: Excavate locally.
4. Avoid compaction.
5. Excess subsoil: Remove.



## **665 SUBSOIL SURFACE PREPARATION FOR:**

1. Standard: In accordance with BS 3882.
2. General: Excavate and/ or place fill to required profiles and levels, as section D20.
3. Loosening
  - 3.1. When ground conditions are sufficiently dry to allow breaking up of soils, loosen thoroughly to specified depth
    - 3.1.1. Light and noncohesive subsoils:
    - 3.1.2. Stiff clay and cohesive subsoils:
    - 3.1.3. Rock and chalk subgrades: Lightly scarify to promote free drainage.
  - 3.2. Wet conditions: Do not loosen subsoils.
4. Stones: Immediately before spreading topsoil, remove stones larger than .....
5. Remove from site:

## **680 SOIL DECOMPACTION AND CULTIVATION**

1. Soil Decompaction: After spreading topsoil, the soil profile shall be ripped at 300mm centres
2. to a minimum depth of 300mm (grass areas) or 600mm (shrub beds, hedges) to decompact
3. the soils and key in the topsoil and subsoil layers.
  - 3.1. use appropriate tillage equipment (e.g. rigid tine attachment, subsoiler, shakerator).
4. Timing: when weather and ground conditions are suitably dry and non-plastic.
5. Further cultivation: Any large, compacted lumps of soil shall be broken down by further
6. appropriate cultivation (in accordance with BS 4428) to produce a fine tilth suitable for
7. planting (<30mm), turfing and seeding (<10mm).
8. bThe topsoil may be anaerobic after storage in a temporary stockpile - cultivations shall ensure
9. that the topsoil is fully aerated.
10. Only when the topsoil has lost any sour odour and grey colouration (symptoms of
11. anaerobism) will it be satisfactory for planting, turfing or seeding.
12. Any undesirable material brought to the surface during this exercise shall be removed by
13. picking or raking. For example, stones, fill materials and coarse vegetation larger than 50mm
14. in any dimension.
15. • Surface: Leave regular and even.
16. • Levels: As shown on drawings.
17. • Soil within root spread of existing trees or shrubs to be retained: Do not dig or cultivate.

## **690 GRADING OF TOPSOIL**

1. Topsoil condition: Reasonably dry and workable.
2. Contours: Smooth and flowing, with falls for adequate drainage.
  - 2.1. Hollows and ridges: Not permitted.
3. Finished levels after settlement: 25 mm above adjoining paving, kerbs, manholes etc.
4. Blade grading: May be used to adjust topsoil levels provided depth of topsoil is finished as
5. clause Q28/100 -105.

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

## **800 USE OF COMPOST AND FERTILISERS**

1. The use of additional green compost, fertilisers or any other soil ameliorants is dependent on
2. the findings of the soil tests (as presented for Q28/330 Documentation).
3. Do not apply to areas requiring low nutrient soil e.g species rich grassland and pond planting.

## **810 APPLYING GREEN COMPOST**

1. Apply and incorporate green compost (ref: clause Q28/420) into topsoil for tree, shrub or
2. hedge planting to achieve specified levels of organic matter and fertility. Provisional rate: 20
3. litres/sq.m.
4. Timing: Apply prior to topsoil cultivation.

## **820 APPLYING FERTILISER FOR TREES AND SHRUBS – PROVISIONAL ITEM**

1. Apply and incorporate compound, slow release fertiliser Evertis Enmag CRF (11%N: 22%
2. P<sub>2</sub>O<sub>5</sub>:9%K<sub>2</sub>O: 6%MgO) at a provisional rate of 80 g/m<sup>2</sup> and to a depth of 150mm.
3. Timing: Apply 5-10 days prior to planting.

## **COMPLETION - NOT USED**

Ω End of Section

## **Q30**

### **Seeding/turfing**

#### **CLAUSES - NOT USED**

#### **GENERAL INFORMATION/REQUIREMENTS**

##### **100 SITE PREPARATION GENERALLY**

1. All site preparation, planting and maintenance works shall be carried out in accordance with British Standard BS 4428: 1989 Code of Practice for General Landscape Operations
2. (excluding hard surfaces).

##### **110 SOILING**

1. In accordance with section Q28.

##### **112 SITE CLEARANCE**

1. General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated
2. topsoil.
3. Stones: Remove those with largest dimension exceeding 75 mm.
4. Contamination: Substances injurious to plant growth including subsoil, rubble, fuel and
5. lubricants.
6. Vegetation: Clear surface vegetation in areas shown on drawings using suitable non
7. persistent herbicide

##### **115 SEEDED AREAS**

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

##### **120 CLIMATIC CONDITIONS**

1. General: Carry out the work while soil and weather conditions are suitable.

##### **145 WATERING**

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

## **150 WATER RESTRICTIONS**

1. 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.

## **160 NOTICE**

1. Give notice before
  - 1.1. Setting out.
  - 1.2. Applying herbicide.
  - 1.3. Applying fertilizer.
  - 1.4. Preparing seed bed.
  - 1.5. Seeding or turfing.
  - 1.6. Visiting site during maintenance period.
2. Period of notice: 3 working days

## **170 SETTING OUT**

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

## **180 RECTIFICATION PERIOD**

1. Duration of the rectification period for the following items:
  - 1.1. Grassland: 36 months

## **PREPARATION**

### **210 HERBICIDE FOR AMENITY GRASS AREAS**

1. Type: Suitable for suppressing perennial weeds.
2. Requirement: In accordance with the seed supplier's recommendations.
3. Application: In accordance with the manufacturer's recommendations.
4. Timing: Allow fallow period before cultivation in accordance with the manufacturer's
5. recommendations.

### **211 WORKS TO EXISTING GRASSLAND**

1. Over-seeding : Area to be scarified before over- seeding

### **212 SEED BED CLEANING BEFORE SOWING**

1. Description: All grassed areas
2. Operations: As seed supplier's recommendations.

## **250 SOIL REQUIREMENTS**

1. Type:
  - 1.1. Seeded areas: In accordance with the relevant British Standards as outlined at the start of 1.1.1.this section and in accordance with section Q28.

## **251 CULTIVATION**

1. In accordance with clause Q28: 680

## **252 GRADING**

1. In accordance with clause Q28: 690

## **253 FERTILIZER FOR AMENITY GRASS AREAS**

1. As clause Q28:410 & in accordance with clause Q28: 830
2. Do not use on s meadow & wet grassland areas

## **263 FINAL CULTIVATION**

1. Timing: After grading and fertilizing.
2. Seed bed: Reduce to fine, firm tilth with good crumb structure.
  - 2.1. Depth: 25 mm.
  - 2.2. Surface preparation: Rake to a true, even surface, friable and lightly firmed but not over compacted.
  - 2.3. Remove surface stones/earth clods exceeding:
3. General areas: 50mm.
4. Adjacent levels: Extend cultivation into existing adjacent grassed areas sufficient to ensure full
5. marrying in of levels.

## **SEEDING**

### **300 OVER-SOWING EXISTING GOLF COURSE GRASSLAND**

1. Application rate: existing grassland to be oversown with the mixes listed below at a rate recommended by the supplier. For areas of bare soil larger than 0.5m<sup>2</sup> created as a result of external works (such as removal of golf course features such as tee boxes, greens and bunkers, and installation of footpaths etc), a higher rate of seeding will be required depending on the mix (listed below)

### **310 SEED MIXTURE FOR AMENITY GRASSLAND**

1. Supplier: EMORSGATE
  - 1.1. Mixture reference: EG21 Fine Lawn Grass Mix
2. Bare earth application rate: 25g/m<sup>2</sup>.
3. Over-Seeding application rate: 5g/m<sup>2</sup> (or as supplier recommendation)

### **312 SEED MIXTURE FOR MEADOWS**

1. Supplier: EMORSGATE
  - 1.1. Mixture reference: EM1 General Meadow Mix
2. Bare earth application rate:: 4g/m<sup>2</sup>
3. Over- Seeding application rate:: 1g/m<sup>2</sup> (or as supplier recommendation)

### **313 SEED MIXTURE FOR WETLANDS**

1. Supplier: EMORSGATE
  - 1.1. Mixture reference: EM8 - Wetland Grass Mix
2. Bare earth application rate:: 4g/m<sup>2</sup>
3. Over- Seeding application rate:: 1g/m<sup>2</sup> (or as supplier recommendation)

### **319 QUALITY OF SEED**

1. Description: For all grassed areas
2. Freshness: Produced for the current growing season.
3. Certification: Blue label certified varieties.
  - 3.1. Standard: EC purity and germination regulations.
  - 3.2. Official Seed Testing Station certificate of germination, purity and composition: Submit when requested.
4. Samples of mixtures: Submit when requested.

### **330 SOWING**

1. General: Establish good seed contact with the root zone.
2. Method: To suit soil type, proposed usage, location and weather conditions during and after sowing
  - 2.1. Distribution: 2 equal sowings at right angles to each other

### **335 GRASS SOWING SEASON**

1. Grass seed generally: April to June or August to October

### **340 PRE-EMERGENT HERBICIDE**

1. Description: For all grassed areas
2. Standard: Pesticide Safety Directorate approved.
3. Application rate: In accordance with manufacturer's written recommendation.
  - 3.1. Timing: Immediately after sowing.

### **352 EDGES TO SEEDED AREAS**

1. Description: Adjacent to planting beds and tree pits
2. Timing: After seeded areas are well established.

3. Edges: Clean straight lines or smooth curves.
  - 3.1. Mulch and soil: Draw back to permit edging.
4. Arisings: Remove.
5. Completion: Respread soil and mulch.

## **TURFING - NOT USED**

## **PROTECTING/CUTTING**

### **520 PROTECTING**

1. Take all necessary measures to protect seeded areas until the end of the rectification period

### **530 FIRST CUT OF AMENITY GRASS**

1. Timing: When grass is reasonably dry.
  - 1.1. Height of initial growth: 50 mm
2. Preparation
  - 2.1. Debris and litter: Remove.
  - 2.2. Stones and earth clods larger than 25 mm in any dimension: Remove
3. Height of first cut: 30 mm
4. Mower type: Contractor's choice
5. Arisings: Remove from site

### **540 FIRST CUT OF MEADOW & WETLAND GRASS**

1. Timing:: When grass is reasonably dry
2. Height of initial growth: 75 mm
3. Preparation:
  - 3.1. Debris and litter: Remove.
  - 3.2. Stones and earth clods larger than 25 mm in any dimension: Remove
4. Debris and litter:
  - 4.1. Stones and earth clods larger than 25 mm in any dimension:
5. Height of first cut: 50 mm
6. Mower type: Contractor's choice
7. Arisings: Remove from site

### **590 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.

## **MAINTENANCE**

### **600 MAINTENANCE**

1. Refer to section Q35

### **610 FAILURES OF SEEDING**

1. Duration: Carry out the following operations from completion of seeding/ turfing until: the end of the rectification period.
2. Defective materials or workmanship: Areas that have failed to thrive.
  - 2.1. Exclusions: Theft or malicious damage.
3. Method of making good: Recultivation and reseeded/ returfing.
4. Timing of making good: The next suitable planting season

Ω End of Section



## **Q31**

### **External planting**

#### **GENERAL INFORMATION/ REQUIREMENTS**

##### **100 SITE PREPARATION GENERALLY AND SOILS**

1. All site preparation, planting and maintenance works shall be carried out in accordance with
2. British Standard BS 4428: 1989 Code of Practice for General Landscape Operations
3. (excluding hard surfaces).
4. All trees and plants supplied shall comply with the requirements of all parts of British Standard
5. BS 3936 Specification for Nursery Stock, BS 8545:2014 Trees: from nursery to independence
6. in the landscape. Recommendations & The National Plant Specification.
7. All new tree planting shall be positioned in accordance with the requirements of Table A.1 of
8. British Standard BS 5837: 2012 Trees in Relation to Design, Demolition and Construction –
9. Recommendations.

##### **110 SOIL**

1. In accordance with section Q28

##### **112 SITE CLEARANCE GENERALLY**

1. General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
2. Stones: Remove those with any dimension exceeding 100 mm.
3. Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
4. Vegetation: Clear scrub to ground level by flail mowing and remove arisings; retain and protect trees indicated on drawings
5. Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
6. Additional requirements: Grub up and dispose of without undue disturbance of soil and adjacent areas.

##### **112A VEGETATION CLEARANCE**

1. For transplants and shrubs to be planted into woodland, the contractor shall create a 500mm radius weed / live plant-free zone around each plant station
2. For tree pits clear weeds / live plants from pit location - size to match pits, refer to details BMD.19.010.DR.T601-T603

##### **118 SOIL CONDITIONS**

1. Soil for cultivating and planting: Moist, friable and (except in pond planting) not waterlogged.
2. 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**

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

## **125 TIMES OF YEAR FOR PLANTING**

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

## **130 MECHANICAL TOOLS**

1. Restrictions: Do not use within 100 mm of tree and plant stems.

## **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

## **200 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, discoloration, 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. Species: True to name.
8. Origin/ Provenance: Grown in the United Kingdom for at least one growing season, unless otherwise approved
9. Definition: Origin and Provenance have the meaning given in the National Plant Specification.

## **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).

## **235 CONTAINER GROWN PLANTS**

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;- Date supplied and consignment details or reference;- Impact of pest/ disease;- Name or designation of rootstock of budded or grafted plants;- Potting dates;- Propagation method and dates;- Pruning dates; and- Type of container..

## **260 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 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: Coextruded polyethylene bags with black interior and white exterior
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.

## **285 PROTECTION OF EXISTING GRASS**

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

## **286 RECTIFICATION PERIOD**

1. Duration of Rectification period for all planting types: 36 months

## **290 SURPLUS MATERIAL**

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

## **PLANT CONTAINERS - NOT USED**

## **PREPARATION OF PLANTING BEDS/ PLANTING MATERIALS**

### **390 POND LINING FOR NEW PONDS (IF REQUIRED)**

1. Bentotex® Geosynthetic Clay Liner or similar approved
2. Manufacturer: Geosynthetics Limited
3. Installation:: To manufacturers specification & Hydrological and geotechnical engineer approval
4. Soil: Min 300mm cover material above linear

## **PLANTING SHRUBS/ HERBACEOUS PLANTS/ BULBS**

### **405 PLANTING PITS FOR CONTAINER & BARE ROOT PLANTS**

1. Timing: Excavate 1-2 days (maximum) before planting.
2. Using a spade dig a 30cm deep x 30cm diameter pit or big enough to accommodate roots. Place the soil spoil at the side of the pit and remove any deletrious material
3. Fork through the edges and base of the pit to a decompaction depth of 10cm
4. Add 10cm of the excavated spoil into the pit. Place tree at centre of pit.
5. Fill the pit with the remaining soil spoil, mixed with compost and fertiliser as above
6. Insert tree in centre of pit, root collar to be planted at same level as in the nursery

### **445 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.
3. Naturalized planting in existing grassed areas
  - 3.1. Scattering: Random. Plant bulbs/ corms/ tubers where they fall.
  - 3.2. Planting: Neatly remove a plug of turf and replace after planting.

### **457 PLANTING AQUATIC/ MARGINAL PLANT PLUGS**

1. Handling: Keep plants watered and in shade until planted. Do not allow to dry out.
2. Preparation: Remove coarse weeds etc. from planting sites.
3. Planting sites: Refer to drawings BMD.19.010.DR.T301-T302
4. Waterproofing membrane below soil: Do not puncture.
5. Planting: Into a hole to suit plug size and shape. Create a cleft at bottom of hole to improve rooting. Gently firm plant into hole to ensure good root hold into substrate.

### **480 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: Mulching and top dressing system, as clause 485 (Bark mulch)
  - 3.1. Depth: 75 mm

#### **485 MULCHING FOR TREES**

1. Supplier: Melcourt Industries Limited, Boldridge Brake, Long Newnton, Tetbury, Gloucestershire. GL8 8RT
2. Material: Medium grade bark mulch
  - 2.1. Purity: Free of pests, disease, fungus and weeds.
3. Preparation: Clear all weeds, Water soil thoroughly
4. Coverage 75m, circular area of 500mm radius (1000mm diameter) measured from the tree stem
5. Finished level of mulch:: 75mm above adjacent grass

#### **495 PROTECTION FOR TRANSPLANTS IN NATIVE SHRUB AND WOODLAND**

1. Manufacturer: Tubex.
  - 1.1. Product reference: SHELTERGUARD Treeshelter Roll.
2. Size: 600mm height x various diameter.
3. Colour: Clear.
4. Support: Single stake 32mm x 32mm x 900mm long, for affixing guard, pushed 300mm
5. into ground.
6. General: Ensure that protection methods do not impede natural movement of plants or
7. restrict growth.

#### **PLANTING TREES**

##### **505 TREE PITS FOR SEMI-MATURE TREES IN SOFT LANDSCAPE**

1. Refer to BMD.19.010.DR.T601 Detail 001
2. Sizes:
  - 2.1. 20-25cm girth: 1500x1500mm
3. Depth of 1600mm.
4. Sloping ground: Maintain horizontal bases with no less than minimum depth throughout.
5. Pit sides: Scarify (unless adjacent to services, refer to planting plans for location of root barriers and clause 512)
6. Backfilling material: as detail 001
7. Aeration & irrigation system: as clause 512
8. Underground anchoring: as clause 530

##### **505A TREE PITS FOR SEMI-MATURE TREES IN SOFT LANDSCAPE ON SLOPES**

1. Refer to BMD dwg no. BMD.19.010.DR.T601 Detail 002
2. Sizes:
  - 2.1. 20-30cm girth: 1000x1200mm
  - 2.2. 30-40cm girth: 1600x2400mm

3. Depth of 1200mm.
4. Sloping ground: Maintain horizontal bases with no less than minimum depth throughout.
5. Pit sides: Scarify (unless adjacent to services, use root barrier as clause 512)
6. Backfilling material: as detail
7. 60mm diameter drainage pipe with end cut to match bank profile, end to be wrapped with a small section of Terram 1000 or similar to prevent soil / debris entering the pipe
8. Aeration & irrigation system: as clause 512
- 9.
10. Underground anchoring: as clause 530
11. 60mm dia solid land drainage pipe as clause 514

### **506 TREE PITS FOR EXTRA HEAVY STANDARD TREES**

1. Refer to BMD.19.10.DR.T602 DETAIL 001
2. Sizes: 1000x1000mm
3. Depth of 1000mm.
4. Sloping ground: Maintain horizontal bases with no less than minimum depth throughout.
5. Pit sides: Scarify.
6. Backfilling material:
  - 6.1. 300mm of topsoil as clause Q28:333A, mixed with 50 litres per pit of green compost as Q28: 420
  - 6.2. 700mm of subsoil as clause Q28: 335A
7. Aeration & irrigation system: as clause 512
8. Double softwood tree stakes as clause 565

### **506A TREE PITS FOR EXTRA HEAVY STANDARD TREES ON SLOPE**

1. Refer to BMD dwg no. BMD.19.010.DR.T602 Detail 002
2. Sizes: 1000x1000mm
3. Depth of 1000mm.
4. Sloping ground: Maintain horizontal bases with no less than minimum depth throughout.
5. Pit sides: Scarify (unless adjacent to services use root barriers as clause 512)
6. Backfilling material: as detail
7. Aeration & irrigation system: as clause 512
8. Double softwood tree stakes as clause 565
9. 60mm dia solid land drainage pipe as clause 514

### **507 TREE PITS FOR HEAVY STANDARD TREES**

1. Refer to BMD.19.010.DR.T603 Detail 001
2. Sizes: 1000x1000mm
3. Depth of 600mm
4. Sloping ground: Maintain horizontal bases with no less than minimum depth throughout.
5. Pit sides: Scarify.

6. Backfilling material: Pit Backfilled with topsoil as clause 333A & subsoil as clause 335A
7. Single softwood tree stakes as cause 566
8. Spiral guard as clause 567

### **507A TREE PITS FOR HEAVY STANDARD TREES ON A SLOPE**

1. Refer to BMD.19.010.DR.T603 Detail 002
2. Sizes: 1000x1000mm
3. Depth of 600mm
4. Sloping ground: Maintain horizontal bases with no less than minimum depth throughout.
5. Pit sides: Scarify.
6. Backfilling material: as detail
7. Single softwood tree stakes as cause 566
8. Spiral guard as clause 567
9. 60mm dia solid land drainage pipe as clause 514

### **508 TREE PITS FOR FEATHERED & LIGHT STANDARD TREES**

1. Refer to BMD.19.010.DR.T604 Detail 001
2. Sizes: 800x800mm
3. Depth of 400mm, locally mounded
4. Sloping ground: Maintain horizontal bases with no less than minimum depth throughout.
5. Pit sides: Scarify.
6. Backfilling material: as detail
7. Single softwood tree stakes as cause 566
8. Spiral guard as clause 567

### **508A TREE PITS FOR FEATHERED & LIGHT STANDARD TREES ON A SLOPE**

1. Refer to BMD.19.010.DR.T604 Detail 002
2. Sizes: 800x800mm
3. Depth of 400mm, locally mounded
4. Sloping ground: Maintain horizontal bases with no less than minimum depth throughout.
5. Pit sides: Scarify.
6. Backfilling material: as detail
7. Single softwood tree stakes as cause 566
8. Spiral guard as clause 567

### **510 TREE PIT ROOT BARRIERS**

1. Manufacturer: GreenBlue Urban
  - 1.1. Product reference: Re Root 1000
2. Depth of top of root barrier below finished soil level: 50mm
3. Installation: to suppliers recommendations



## **512 TREE AERATION AND IRRIGATION SYSTEM**

1. Manufacturer: Greenblue Urban.
  - 1.1. Web: [www.greenblue.com](http://www.greenblue.com).
  - 1.2. Email: [enquiries@greenblueurban.com](mailto:enquiries@greenblueurban.com)
  - 1.3. Tel: +44 01580 830 800.
  - 1.4. Address: Northpoint Compass Park, Junction Road, Bodiam TN32 5BS
2. Product reference:
  - 2.1. RRCIVIC2A.
3. Typical installation: Installed to suppliers requirements.

## **514 TREE PIT DRAINAGE PIPES FOR TREES ON SLOPES**

1. Aggregate layer: 200mm depth clean gravel or broken stone, with no fines, graded 6 to 10 mm.
2. Drainage pipes:
  - 2.1. Type: perforated plastic land drainage pipe pre-wrapped in Geo-textile
  - 2.2. Diameter: 60mm.
  - 2.3. Position: lay along perimeter of pit within aggregate layer. Pipe to be installed level
  - 2.4. Discharge:: connected to a solid 60mm diameter land drainage pipe to discharge onto the slope below topsoil layer as shown on drawings; pipe end to be covered with geo-textile
3. Completed pits: Test for free drainage before planting.

## **516 TREE PIT DRAINAGE WITH INSPECTION PIPES FOR TREES IN SOFT LANDSCAPE**

1. Postive drainage is to be provided if the pits are not free draining
2. Aggregate layer: Clean gravel or broken stone, with no fines, graded 6 to 10 mm.
3. Inspection pipes:
  - 3.1. Type: land drainage pipe for water monitoring, bottom 600mm to be perforated and top to be fitted with end cap.
  - 3.2. Diameter: 100 mm.
  - 3.3. Position: Install vertically connecting to surface as shown on drawings
4. Completed pits: Test for free drainage before planting.

## **530 UNDERGROUND GUYING**

1. Deadman Fixing Kit - Plati-Mat® by Platipus
2. • Product code:
  - 2.1. RF2RDMP
3. Installed to manufacturers instruction's
4. Platipus Anchors Limited
5. Kingsfield Business Centre,
6. Philanthropic Road,
7. REDHILL,

8. Surrey,
9. RH1 4DP
10. [www.platipus-anchors.com](http://www.platipus-anchors.com)
11. The systems use kerbstones or sleepers as anchor points

## **565 DOUBLE STAKING FOR EXTRA HEAVY STANDARD TREES**

1. Staking:
  - 1.1. Position: Either side of tree position and perpendicular to wind direction.
  - 1.2. Driving: Vertically at least 300 mm into bottom of pit before planting.
  - 1.3. Backfilling: Consolidate material around stake.
  - 1.4. Firming: Sufficiently firm to prevent movement of the rootball/ rootstock
2. Height of stakes: Cut to approximately 750mm above ground level.
3. Ties: Twin Flexible nylon rubber belts within 25 mm of top of stake with plastic sleeves either
4. side of tree. Fix belts to stakes using galvanised nails.
5. Tying: Secure tree firmly but not rigidly.

## **566 SINGLE STAKE FOR TREES**

1. Staking:
  - 1.1. Position: Either side of tree position and perpendicular to wind direction.
  - 1.2. Driving: Vertically at least 300 mm into bottom of pit before planting.
  - 1.3. Backfilling: Consolidate material around stake.
  - 1.4. Firming: Sufficiently firm to prevent movement of the rootball/ rootstock
2. Height of stake: Cut to approximately 750mm above ground level.
3. Ties: Flexible nylon rubber belts within 25 mm of top of stake with plastic sleeves. Fix belt to stake using galvanised nails.
4. Tying: Secure tree firmly but not rigidly.

## **567 TREE PROTECTION**

1. Manufacturer: Rainbow Professional
  - 1.1. Product reference: C212 Spiral guard with ventilation holes
2. Size: 68mm dia x 75mm
3. Colour: Black
4. Support: Single cane 900mm long placed inside spiral pushed 300mm into ground
5. General: Ensure that protection methods do not impede natural movement of trees or restrict growth.

## **WOODLAND/ MATRIX/ BUFFER ZONE PLANTING**

### **600 WOODLAND WORK GENERALLY**

1. Services: Check for below and above ground services, including land drainage, in the vicinity. Give notice if they may be affected and obtain instructions before proceeding.

2. Safety: Comply with Arboriculture and Forestry Advisory Group Safety leaflets.

### **605 EXISTING VEGETATION/ WEED CLEARANCE**

1. Surface vegetation clearance: Screef an area one metre diameter around each planting location
2. Arisings: Remove.

### **615 EXISTING TREES/ SEEDLINGS/ COPPICE SHOOTS**

1. Existing trees and seedlings: Retain.
2. Coppice shoots: Thin to 3-5 stems per stool, removing all damaged, dead or diseased shoots

### **617 REMOVING TREES AND HEDGES**

1. Identification: Clearly mark trees and hedges to be removed.
2. Work near retained trees: Where canopies overlap, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.
3. Arisings: Remove.
4. Tree stumps: Remove mechanically to a minimum depth of 300 mm below ground level

## **PROTECTING/ MAINTAINING/ MAKING GOOD DEFECTS**

### **710 MAINTENANCE**

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

### **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.

Ω End of Section

## **Q35**

### **Landscape maintenance**

#### **CLAUSES**

##### **001 MAINTENANCE & MANAGEMENT**

1. Refer to Report:: BMD.19.010.SP.T002 Advance Planting - 5 Year Landscape Maintenance & Management Plan (LMMP)

#### **GENERALLY**

##### **002 MAINTENANCE DURATION**

1. Refer to Advance Planting - 5 Year Landscape Maintenance & Management Plan (LMMP)

##### **110 NOTICE**

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

##### **130 REINSTATEMENT**

1. Damage or disturbance to soil structure, planting, grass, fencing, hard landscaping, structures or buildings: Reinstate to original condition.

##### **155 WATERING**

1. Supply: to be agreed.
2. Quantity: Wet to field capacity .
3. Application: Do not damage or loosen plants.
4. Compacted soil: Loosen or scoop out, to direct water to rootzone.
5. Frequency: As necessary for the continued thriving of all planting.

##### **181 MECHANICAL EQUIPMENT**

1. General: Minimize.
2. Prohibited equipment: Chippers
3. Timing: Use of mechanical equipment allowed between the hours of 10:00 am and 4:00 pm only

##### **190 LITTER**

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

## **195 PROTECTION OF EXISTING GRASS**

1. General: Protect areas affected by maintenance operations using boards/tarpaulins. Do not place excavated or imported materials directly on grass.

## **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**

### **200 MAINTAINING MEADOW & WETLAND AREAS**

1. Preparation: Before each cut remove all litter and debris.
2. Height and frequency of cut in first growing season:
  - 2.1. Time of first cut: when growth reaches 75mm.
  - 2.2. Height of first cut: 50mm.
  - 2.3. Frequency of subsequent cutting: in April & September.
  - 2.4. Height of second cut: 100 mm.
  - 2.5. Arisings: Remove.
3. Height of cut during Spring in each subsequent growing season
  - 3.1. Time of cutting: March to April.
  - 3.2. Height of cut: 50mm.
  - 3.3. Arisings: Remove.
4. • Height of cut during Spring in each subsequent growing season (all other areas):
  - 4.1. Time of cutting: March to April
  - 4.2. Height of cut: 100mm
  - 4.3. Arisings: Remove
5. Height of cut during Summer in each subsequent growing season:
  - 5.1. Time of cutting: June to July
  - 5.2. Height of cut: 50mm.
  - 5.3. Arisings: Remove
6. • Height of cut during early autumn in each subsequent growing season (all areas):
  - 6.1. Time of cutting: September
  - 6.2. Height of cut: 100mm
  - 6.3. Arisings: leave spread evenly over grass areas to dry and shed seed for 1 week before
7. removing from site
8. Trimming: All edges.
  - 8.1. Arisings: Remove.
9. Watering: As and when needed until grassland is fully established.

## **201 MAINTAINING AMENITY GRASS AREAS**

1. Preparation: Before each cut remove all litter and debris.
2. Height and frequency of cut:
  - 2.1. Time of first cut: when growth reaches 50mm.
  - 2.2. Height of first cut: 539mm.
  - 2.3. Frequency of subsequent cutting: As and when necessary to maintain a neat and tidy sward or on instruction from the Landscape Architect or Client
3. Trimming: All edges.
  - 3.1. Arisings: Remove.
4. Stones brought to the surface:: remove regularly (size exceeding 25mm in any dimension)
5. Watering: As and when needed until grassland is fully established.

## **211 MAINTENANCE OF GRASSED AREAS**

1. Standard: To BS 7370-3. Carry out maintenance appropriate to each category of turf, as follows:
  - 1.1. Objectives: To BS 7370-3, table 6.
  - 1.2. Programme: To BS 7370-3, clause 11.
  - 1.3. Mowing methods: To BS 7370-3, table 3.

## **220 GRASS CUTTING GENERALLY**

1. Before mowing: Remove litter, rubbish and debris.
2. Finish: Neat and even, without surface rutting, compaction or damage to grass.
3. Edges: Leave neat and well defined. Neatly trim around obstructions.
4. Adjoining hard areas: Sweep clear and remove arisings.
5. Drought or wet conditions: Obtain instructions.

## **221 FAILURE OF SEEDING**

1. Duration:: Carry out the following Operations from completion of seeding until the end of the rectification period
2. Defective Materials or Workmanship: Areas that have failed to thrive (Exclusions: theft or malicious damage)
3. Method of making good:: Re-cultivation and reseeding
4. Timing of making good:: The next suitable planting season

## **226 TREE STEMS**

1. Precautions: Do not allow nylon filament rotary cutters and other mechanical tools closer than 100 mm to the stem of any tree.
  - 1.1. Operations close to stems: Complete using hand tools.

## **250 LEAF REMOVAL**

1. Operations: Collect fallen leaves.

2. Special requirements: Remove by hand raking
3. Disposal: Remove from site for recycling

### **310 RE-FORMING GRASS EDGES**

1. Location: Around tree mulch circles and planting beds.
2. Edges: Draw back soil and re-form edges to clean straight lines or smooth flowing curves, sloping slightly back from vertical.

### **361 FERTILIZER TO AMENITY GRASS ONLY**

1. March application:
  - 1.1. Manufacturer: DLF Trifolium Limited " Thorn Farm, Inkberrow " Worcestershire WR7 4LJ  
1.1.1. Telephone: 01386 791102 " Fax: 01386 792715 www.dlf.co.uk.
  - 1.2. Product reference: Pro Fert 3
  - 1.3. Application rate: 50 g/m<sup>2</sup>.
2. September application:
  - 2.1. Manufacturer: DLF Trifolium Limited " Thorn Farm, Inkberrow " Worcestershire WR7 4LJ  
2.1.1. Telephone: 01386 791102 " Fax: 01386 792715 www.dlf.co.uk.
  - 2.2. Product reference: Pro Fert 6
  - 2.3. Application rate: 35 g/m<sup>2</sup>.

### **381 REINSTATEMENT OF WORN OR DAMAGED GRASSLAND**

1. Worn or damaged areas: Make good by turfing or reseeding:
  - 1.1. Reseeding standard: To BS 7370-3, Clause 12.6.
2. Seed: To match existing in appearance and quality.
3. Protection and watering: Provide as necessary to promote successful germination and/ or establishment.

### **FLOWER BEDS/ SEASONAL BEDDINGS - NOT USED**

### **SHRUBS/TREES/HEDGES**

#### **499 FINAL MULCHING**

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

#### **500 ESTABLISHMENT OF NEW PLANTING**

1. Duration: 3 years
2. Weed control

- 2.1. Method: Keep planting beds clear of weeds by maintaining full thickness of mulch.
- 2.2. Area: Maintain a weed free area around each tree and shrub, minimum diameter the larger of 1 m or the surface of the original planting pit.
- 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. Watering: As schedule and when instructed

## **510 TREE STAKES AND TIES**

- 1. Inspection/ Maintenance times: As scheduled and immediately after strong winds
- 2. Stakes
  - 2.1. Replace loose, broken or decayed stakes to original specification.
  - 2.2. If longer than half of clear tree stem height, cut to this height in spring. Retie to tree firmly but not tightly with a single tie.
- 3. Ties: Adjust, refix or replace loose or defective ties, allowing for growth and to prevent chafing.
  - 3.1. Where chafing has occurred, reposition or replace ties to prevent further chafing.
- 4. Removal of stakes and ties: When instructed
  - 4.1. Fill stake holes with lightly compacted soil.

## **515 TREE 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.
- 3. Removal: When instructed

## **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.

## **525 TREE GUARDS**

- 1. Loose or defective guards: Adjust, refix or replace to original specification and to prevent chafing.

## **537 NESTING WILD BIRDS**

- 1. Survey: Before starting hedge or tree work during the period of February to August (inclusive), carry out a survey by a qualified ecologist and submit report
- 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.

## **555 PRUNING TREES AND SHRUBS**

1. Standard: To BS 7370-4.
2. Special requirements: Growth retardants not permitted

## **570 FORMATIVE PRUNING OF YOUNG TREES**

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: Member of the Arboricultural Association

## **575 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.

## **580 PRUNING FLOWERING SPECIES OF SHRUBS AND ROSES**

1. Time of year
  - 1.1. Winter flowering shrubs: Spring.
  - 1.2. Shrubs flowering between March and July: Immediately after the flowering period.
  - 1.3. Shrubs flowering between July and October: Back to old wood in winter.

- 1.4. Rose bushes: Early spring to encourage basal growths and a balanced, compact habit.

## **620 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.

## **630 DEAD AND DISEASED PLANTS**

1. Removal: As soon as possible
2. Replacement: In the next suitable planting season

## **645 WEED CONTROL GENERALLY**

1. Weed tolerance: Weed to clear ground every 2 weeks
2. Adjacent plants, trees and grass: Do not damage.

## **650 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: Reinststate to original depth.

## **680 SOIL AERATION**

1. Compacted soil surfaces
  - 1.1. Prick up: To aerate the soil of root areas and break surface crust.
  - 1.2. Size of lumps: Reduce to crumb and level off.
  - 1.3. Damage: Do not damage plants and their roots.

## **685 SOIL LEVEL ADJUSTMENT**

1. Level of soil/mulch at edges of beds: Reduce to 50 mm below adjacent grass or hard surface.
  - 1.1. Arisings (if any): Spread evenly over the bed.

## **690 MAINTENANCE OF LOOSE MULCH**

1. Thickness (minimum): 75 mm
  - 1.1. Top up: Annually
2. Mulch spill on adjacent areas: Remove weeds and rubbish and return to planted area.
3. Weeding: Remove weeds growing on or in mulch by hand weeding.
4. General leaf litter and perennial dieback: remove detritus before topping up mulch.

## **696 FERTILIZING ESTABLISHED TREES AND SHRUBS**

1. Carry out soil fertility test (allow 10no.) in March to determine if fertilizer application is required
2. for the forthcoming growing season.
3. Time of year: During April or May.
4. Type of fertilizer: to be confirmed after soil test.
5. Application: Spread evenly.
  - 5.1. Rate: As manufacturer's recommendations.

## **710 WOODLAND PLANTING MAINTENANCE**

1. Watering: In exceptional circumstances to prevent plants dying.
2. Loose plants: Refirm surrounding soil, without compacting.
3. Vegetation: Except trees and coppice shoots to be retained, cut down to 100 mm above ground level within the plantation area.
  - 3.1. Arisings: Leave between rows.
4. Ditches and drains: Keep clear.

## **710A WEED CONTROL**

1. The contractor shall maintain an area free of all competing vegetation
  - 1.1. 0.5m radius around each plant station.:
  - 1.2. 0.5m radius around each tree stem (and top up mulch if required):
- 2.

## **TREE WORK**

### **810 TREE WORK GENERALLY**

1. Identification: Before starting work agree which trees, shrubs and hedges are to be removed or pruned.
2. Protection: Avoid damage to neighbouring trees, plants and property
3. Standards: To BS 3998 and Health & Safety Executive (HSE) 'Forestry and arboriculture safety leaflets'.
4. Removing branches: Cut vertical branches similarly, with no more slope on the cut surface than is necessary to shed rainwater.
5. Appearance: Leave trees with a well balanced natural appearance.
6. Chain saw work: Operatives must hold a Certificate of Competence.
7. Tree work: To be carried out by an approved member of the Arboricultural Association.

### **815 ADDITIONAL WORK**

1. Defective, diseased, unsafe or weak parts of trees additional to those scheduled for attention: Give notice if detected.

## **820 PREVENTION OF WOUND BLEEDING**

1. Standard: To BS 3998.

## **825 PREVENTION OF DISEASE TRANSMISSION**

1. Standard: To BS 3998.

## **830 CLEANING OUT AND DEADWOODING**

1. Remove
  - 1.1. Dead, dying, or diseased wood, broken branches and stubs.
  - 1.2. Fungal growths and fruiting bodies.
  - 1.3. Rubbish, windblown or accumulated in branch forks.
  - 1.4. Wires, clamps, boards and metal objects, if removable without causing further damage and not part of a support structure that is to be retained.
  - 1.5. Other unwanted objects, e.g. tree houses, swings.

## **835 CUTTING AND PRUNING GENERALLY**

1. Tools: Appropriate, well maintained and sharp.
2. Final pruning cuts
  - 2.1. Chainsaws: Do not use on branches of less than 50 mm diameter.
  - 2.2. Hand saws: Form a smooth cut surface.
  - 2.3. Anvil type secateurs: Do not use.
3. Removing branches: Do not damage or tear the stem.
4. Wounds: Keep as small as possible, cut cleanly back to sound wood leaving a smooth surface, and angled so that water will not collect on the cut area.
5. Cutting: Cut at a fork or at the main stem to avoid stumps wherever possible.
6. Large branches: Remove only with prior approval
  - 6.1. Remove in small sections and lower to ground with ropes and slings.
7. Dead branches and stubs: When removing, do not cut into live wood.
8. Unsafe branches: Remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
9. Disease or fungus: Give notice if detected. Do not apply fungicide or sealant unless instructed.

## **865 BARK DAMAGE**

1. Wounds
  - 1.1. Do not attempt to stop sap bleeding.
  - 1.2. Bark: Remove ragged edges using a sharp knife.
  - 1.3. Wood: Remove splintered wood from deep wounds.
  - 1.4. Size: Keep wounds as small as possible.
2. Liquid or flux oozing from apparently healthy bark: Give notice.

## **870 CAVITIES IN TREES**

1. Investigation: Remove rubbish and rotten wood. Probe the cavity to find the extent of any decay, and give notice.
2. Water filled cavities: Do not drain.
3. Sound wood inside cavities: Do not remove.
4. Cavity openings: Do not cover

## **WATER AREAS - NOT USED**

## **HARD LANDSCAPE AREAS/FENCING**

### **910 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.

### **920 FENCING**

1. Fences: Inspect and repair to maintain protection against intruders.

Ω End of Section

## Q40

### Fencing

#### FENCING SYSTEMS

##### 140 1.8M HIGH WELD MESH FENCE

1. Manufacturer: Heras UK Fencing Systems, herons Way, Carr Hill, DNS 8WA, Tel: 01302 364551, Email: heras.sales@herasuk.co.uk
  - 1.1. Product reference: Pallas Mesh
2. Standard: Pallas satisfies the requirements for Category 1 (General Purpose) and Category 2 (security) fences as prescribed by BS 1772 Part 14
3. Height: Pallas 180 (1830cm)
4. Panel Width:: 2505mm
5. Mesh: Welded mesh spacing 200mm vertical x 50mm horizontal x 6m vertical and twin 8mm horizontal wires
6. Finish:: Galvanised & polyester powder coated, Colour TBC
7. Posts and struts: Hexaclip RHS
  - 7.1. Shape:: Rectangular hollow sections 60x40x2.0mm, with M8 threaded inserts and Hexaclip base clipfitted on the front face, complete with Hexaclip cover clips M8 x 40 anti-tamper security bolts.
  - 7.2. Nominal Post Centres:: 2520mm
  - 7.3. Method of setting posts:: In concrete foundations to comply with the design loading requirements specified by manufacturers technical specifications for this category of fence.
  - 7.4. Finish: Galvanised & polyester powder coated, Colour TBC
8. Setting out and erect fencing::
  - 8.1. Location:: As shown on drawings
  - 8.2. Gradients:: In the event of installing on sloping ground, post must be erected vertically and panels can be stepped approximately 150mm maximum by suspending the top horizontal on the second clip from the top of the post. steeper slopes will require extra long posts, manufactured with additional clips and threaded inserts.
  - 8.3. Posts:: Posts set rigid, plumb and to specified depth, or greater where necessary to ensure adequate support
  - 8.4. Panels:: Any Panels that are cut on site are to be made good using a zinc-etch primer paint followed by a top coat of 2 pack polyurethane repair paint.
  - 8.5. Fixings:: Correct fixings and all components securely fixed
9. Contractor must:: employ experienced installers and provide qualified supervision to complete works as specified by the manufacturer for his category of fence.
10. Setting posts in concrete::
  - 10.1. Holes:: Excavate neatly and with vertical sides
  - 10.2. Concrete Mix:: To manufacturers specification / requirements approved by structural engineer
  - 10.3. All concrete should be thoroughly compacted prior to the initial set.:
11. Conformity: Submit manufacturer's and installer's certificates, to BS 1722

## **GATES, POSTS AND STILES - NOT USED**

## **ACCESSORIES - NOT USED**

## **EXECUTION**

### **710 INSTALLATION GENERALLY**

1. Set out and erect
  - 1.1. Alignment: Straight lines or smoothly flowing curves.
  - 1.2. Tops of posts: Following profile of the ground.
  - 1.3. Setting posts: Rigid, plumb and to specified depth, or greater where necessary to ensure adequate support.
  - 1.4. Fixings: All components securely fixed.

### **715 COMPETENCE**

1. Operatives: Contractors must employ competent operatives.
2. Qualifications: Submit certification of training.
  - 2.1. NHSS Sector Scheme 2A sub categories:
  - 2.2. NHSS Sector Scheme 2C sub categories:

### **720 SETTING POSTS IN CONCRETE**

1. Standard: To BS 8500-2.
2. Mix: Designated concrete not less than GEN1 or Standard prescribed concrete not less than ST2.
3. Alternative mix for small quantities: 50 kg Portland cement to 150 kg fine aggregate to 250 kg 20 mm nominal maximum size coarse aggregate, medium workability.
4. Admixtures: Do not use.
5. Holes: Excavate neatly and with vertical sides.
6. Filling: Position post/ strut and fill hole with concrete to not less than the specified depth, well rammed as filling proceeds and consolidated.
7. Backfilling of holes not completely filled with concrete: Excavated material, well rammed and consolidated.

### **730 EXPOSED CONCRETE FOUNDATIONS**

1. Filling: Compact until air bubbles cease to appear on the upper surface.
2. Finishing: Weathered to shed water and trowelled smooth.

### **780 MAKING GOOD GALVANIZED SURFACES**

1. Treatment of minor damage (including on fasteners and fittings): Low melting point zinc alloy repair rods or powders made for this purpose, or at least two coats of zinc-rich paint to BS 4652.
2. Thickness: Apply sufficient material to provide a zinc coating at least equal in thickness to the original layer.

## **790 SITE PAINTING**

1. Timing: Prepare surfaces and apply finishes as soon as possible after fixing.

## **COMPLETION**

## **910 CLEANING**

1. General: Leave the works in a clean, tidy condition.
2. Surfaces: Clean immediately before handover.

## **920 FIXINGS**

1. All components: Tighten.
  - 1.1. Timing: Before handover.

## **930 GATES**

1. Hinges, latches and closers: Adjust to provide smooth operation. Lubricate where necessary.
  - 1.1. Timing: Before handover.

Ω End of Section



## **Q50**

### **Site/ street furniture/ equipment**

## **GATES, BARRIERS AND PARKING CONTROLS**

### **110 TIMBER KISSING GATE**

1. Description: Kissing Gate
2. Manufacturer: Jacksons Fencing
  - 2.1. Product reference: Kissing gate kit (stock code: 99900BM)
3. Standard: To BS 5709.
4. Wood: Softwood
5. Gate size::
  - 5.1. Type: : 5 bar, jakecured Uni field Gate
  - 5.2. Size:: 1.27m high x 1.05m wide x 75mm depth
6. Treatment: Jakcured 25 year guarantee
7. Fittings and accessories: Hung on galvanised double band hinges with an adjustable bottom eye.
  - 7.1. Gate Hanging Post:: 2.4m long x 125mm x100mm wide
  - 7.2. V shaped enclosure:: 4 x 1.8m high x 125mm x 100mm wide
8. Installation: : to manufacturers recommendations and details
9. Method of setting posts: Concrete foundation, Manufacturers instructions approved by structural engineer

## **SITE AND STREET FURNITURE**

### **220 BENCHES**

1. Description: Timber Backrest bench
2. Manufacturer: Woodscape LTD, Add: Business Park, Shadsworth, 1 Sett End Rd W, Blackburn BB1 2QJ
  - 2.1. Product reference: Tooting
3. Material: Timber, FSC Naturally very durable hardwood
4. Size: Height 400mm above ground, Length 2000mm
5. Accessories/ Special requirements: Straight backrest
6. Method of fixing: Built in below ground
7. Installation:: to manufacturers recommendations and details
8. Foundations:: Manufacturers instructions approved by structural engineer

### **221 PICNIC SET**

1. Description: Picnic Table and Benches
2. Manufacturer: Woodscape LTD, Add: Business Park, Shadsworth, 1 Sett End Rd W, Blackburn BB1 2QJ
  - 2.1. Product reference: Standard Picnic set Type 2

3. Material: Timber, FSC Naturally very durable hardwood
4. Shape:: 1800mm rectangular table, 1800mm straight type 2 seat
5. Size:
  - 5.1. Table Width / Height:: 580mm / 690mm
  - 5.2. Seat depth / Height : 400mm / 400mm
6. Method of fixing: Built in below ground
7. Installation:: to manufacturers recommendations and details
8. Foundations:: Manufacturers instructions approved by structural engineer

## **222 LITTER BIN**

1. Description: Timber Litter Bin
2. Manufacturer: Woodscape LTD, Add: Business Park, Shadsworth, 1 Sett End Rd W, Blackburn BB1 2QJ
  - 2.1. Product reference: LBR 90 Round Lockable Litter Bin
3. Material: Timber, FSC Naturally very durable hardwood
4. Size: 580mm dia, 950mm high
5. Accessories/ Special requirements: Two stainless steel posting flaps
6. Method of fixing: Built in below ground
7. Installation:: to manufacturers recommendations and details
8. Foundations:: Manufacturers instructions approved by structural engineer

## **223 WAYFINDING - TIMBER BOLLARD**

1. Description: Timber Bollard
2. Manufacturer: Woodscape LTD, Add: Business Park, Shadsworth, 1 Sett End Rd W, Blackburn BB1 2QJ
  - 2.1. Product reference: Fixed Hardwood Timber Square Bollards
3. Material: Timber, FSC Naturally very durable hardwood
4. Shape:: Square, no grooves, Flat top
5. Size: 1000mm above ground, 150mm wide (140mm finished)
6. Accessories/ Special requirements: bespoke wayfinding design to be determined at a later stage
7. Method of fixing: Built in below ground
8. Installation:: to manufacturers recommendations and details
9. Foundations:: Manufacturers instructions approved by structural engineer

## **224 WAYFINDING - TIMBER FINGERPOST SIGN**

1. Description: Finger Post
2. Manufacturer: Woodscape LTD, Add: Business Park, Shadsworth, 1 Sett End Rd W, Blackburn BB1 2QJ
  - 2.1. Product reference: Finger Post Sign
3. Material: Timber, FSC Naturally very durable hardwood
4. Size: 150mm wide (140mm finished)

5. Accessories/ Special requirements: Timber fingers vary, bespoke wayfinding design to be determined at a later stage
6. Method of fixing: Built in below ground
7. Installation:: to manufacturers recommendations and details
8. Foundations:: Manufacturers instructions approved by structural engineer

## **INSTALLATION**

### **510 CONCRETE FOUNDATIONS GENERALLY**

1. Standard: To BS 8500-2.
2. Concrete:
3. Admixtures: Do not use.
4. Foundation holes: Neat vertical sides.
5. Depth of foundations, bedding, haunching: Appropriate to provide adequate support and to receive overlying soft landscape or paving finishes.

### **515 SETTING COMPONENTS IN CONCRETE**

1. Holes:
2. Components: Accurately positioned and securely supported.
3. Concrete fill: Fully compacted as filling proceeds.
4. Concrete foundations exposed to view: Compacted until air bubbles cease to appear on the upper surface, then weathered to shed water and trowelled smooth.
5. Temporary component support: Maintain undisturbed for minimum 48 hours.

### **530 PRESERVATIVE TREATED TIMBER**

1. Surfaces exposed by minor cutting and drilling: Treated by immersion or with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer.
2. Heavily worked sections: Re-treat.

### **545 ERECTION OF TIMBER AND PREFABRICATED STRUCTURES**

1. Checking: 5 days (minimum) before proposed erection date, check foundations, holding down bolts, etc.
2. Inaccuracies or defects in prepared bases or supplied structures: Report immediately. Obtain instructions before proceeding.

### **550 DAMAGE TO GALVANIZED SURFACES**

1. Minor damage in areas up to 40 mm<sup>2</sup> (including on fixings and fittings): Make good.
  - 1.1. Material: Low melting point zinc alloy repair rods or powders made for this purpose or at least two coats of zinc-rich paint to BS 4652.
  - 1.2. Thickness: Sufficient to provide a zinc coating at least equal to the original layer.

## **560 SITE PAINTING**

1. Timing: Prepare surfaces and apply finishes as soon as possible after fixing.

Ω End of Section

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**BMD**