

LDA Design Consulting Limited

Station Hill Reading Phase 3 Temp. Carpark

SHRN-LDA-S2-ZZ-SP-L-900-001

Topsoil, external planting and landscape
maintenance specification
for Planning only.

Application No. 240622

P01

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Record of Revisions

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Q28

Topsoil and growing media

To be read with preliminaries/ general conditions.

110 General

1. This section will need to be read in conjunction with section Q30, Q31 and Q35

260 Inspecting formations

1. Give notice: Before spreading topsoil for: lawn areas and planting beds
2. Notice period: 7 days

315 Preparation of undisturbed topsoil

1. Standard: In accordance with BS 4428.
 - 1.1. Grading and cultivation: Prepare areas to receive soft landscaping as necessary to ensure that the topsoil is in a suitable state for cultivation operations specified in sections Q30 and/or Q31.
2. Hard ground: Break up with a ripper operated in transverse directions.
3. Clearing: Remove visible roots and large stones with a diameter greater than: 50 mm
4. Areas covered with turf or thick sward: Plough or dig over to full depth of topsoil.
5. Fallow period (minimum): One month
6. Weed control: At appropriate times: treat with a suitable translocated nonresidual herbicide

335 Surplus topsoil to be removed

1. Generally: Remove from site: topsoil remaining after completion of all landscaping work

337 Imported subsoil

1. To soft landscape areas except turf and fine lawn areas
2. Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
3. Classification: Multipurpose
4. Source: Contractor's choice
5. IMPORTED SUBSOIL
6. Parameters: Imported subsoil has to fulfil the following parameters
7. · Sand (0.05-2.00 mm) max 95% min 80%
Of which at least 50% shall fall into medium to coarse sand range (0.25-1.0mm)
8. · Silt (0.002 – 0.05 mm) max 10% min 0%
9. · Clay (less than 0.002 mm) max 5% min 0%
10. · Stone content: Stones (2-50mm) 35%DW - Stones (>50mm) 0%DW
11. · Saturated Hydraulic Conductivity 35mm/hr. min
12. · Bulk Density @ Field Capacity 1.8Mg/m³ max
13. · pH Value Unit between 5.5 and 8.5
14. · Electrical Conductivity (1:2.5 water extract) 1500µS/cm max
15. · Electrical Conductivity (CaSO₄ extract) 3300µS/cm max
16. · Exchangeable Sodium Percentage 15% max
17. · Organic Matter 1.5% max

18. · Calcium Carbonate 2% max
19. Additional analyses: Not required

338 Imported topsoil to BS 3882

1. To soft landscape areas except turf and fine lawn areas
2. Quantity: Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work.
3. Standard: To BS 3882.
4. Classification: Multipurpose
5. Source: Contractor's choice
6. IMPORTED TOPSOIL (TO BS 3882)
7. Imported topsoil has to fulfil the following: -
8. · Texture: (to BS 1377 : Part 2)
9. · Sand (0.05-2.00 mm) max 75% min 20%
10. · Silt (0.002 – 0.05 mm) max 60% min 5%
11. · Clay (less than 0.002 mm) max 30% min 5%
12. · Soil reaction: (to BS 1377: Part 3) pH5. 5-7.8)
13. · Stone content: (dry sieving) less than 35% by dry weight of which the fraction 2-5mm must not exceed 20% by dry weight.
14. · Maximum size of stone in any dimension: 50 mm.
15. · Electrical conductivity: less than 1500 microsiemens per cm when expressed on a 1:2.5w/v soil: water extract.
16. · Organic matter: (to BS 1377: Part 3) not less than 4. %.
17. · Nitrogen (N): (Kjeldahal method) not less than 0.2%
18. · Other nutrient levels (MAFF handbook RB 427)
19. · Available phosphorous (P): not less than 45mg/kg
20. · Available potassium (K): not less than 240mg/kg
21. · Available magnesium (Mg): not less than 80mg/kg
22. · Phytotoxic elements: (ICRCL 59/83 Table 3, Group B)
23. · Total Copper (Cu): less than 130mg/kg
24. · Total Nickel (Ni): less than 70mg/kg
25. · Total Zinc (Zn): less than 300mg/kg
26. · Water-soluble Boron (B): less than 3mg/kg
27. · Zootoxic elements: (ICRCL 59/83 Table 3, Group A)
28. · Total Arsenic (As): less than 40mg/kg
29. · Total Cadmium (Cd): less than 15mg/kg
30. · Total Chromium (Cr): less than 1000mg/kg
31. · Total Lead (Pb): less than 2000mg/kg
32. · Total Mercury (Hg): less than 20mg/kg
33. Submit: Declaration of analysis in accordance with BS 3882, Annex E.
34. Additional analyses: Not required

339 High permeability turf soil specification

1. For lawn area in plaza.
2. Quantity: Provide as necessary to complete the work.

3. **Standard:** To BS 3882.
4. **Classification:** [High Permeability Turf Soil].
5. **Source:** [Submit proposals].
6. **Imported topsoil has to fulfil the following:** -
 - 6.1. Particles above 2.00mm None
 - 6.2. Particles between 2.00 – 1.00mm Not to exceed 5%
 - 6.3. Particles between 1.00 – 0.50mm Between 20% to 35%
 - 6.4. Particles between 0.50 – 0.25mm Between 50% to 65%
 - 6.5. Particles between 0.25 – 0.15mm Not to exceed 20%
 - 6.6. Particles less than 0.15mm Not to exceed 10%
7. **Chemical Parameters:**
 - 7.1. pH: 6.- 8%
 - 7.2. Electrical Conductivity (Water Extract): < 1500 μ S/cm
 - 7.3. Electrical Conductivity (CaSO₄ Extract): < 2800 μ S/cm
 - 7.4. Phosphorus: >18mg/l
 - 7.5. Potassium: >120mg/l
 - 7.6. Magnesium: >27mg/l
 - 7.7. Organic Matter: 1.5 – 2.5%
 - 7.8. Permeability: 150-300mm/hr
 - 7.9. Bulk Density: 1.65 – 1.80g/cm³
 - 7.10. Total Porosity 35-55%
 - 7.11. Air-filled Porosity: 15-30%
 - 7.12. Sulphate (water soluble) g/l <1.2
 - 7.13. Total Sulphate mg/kg <2000
8. **Submit:** Declaration of analysis in accordance with BS 3882, Annex E.
9. **Additional analyses:** [Not required].

670 Contamination

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

680 Topsoil storage heaps

1. **Location:** to be agreed with Contract Administrator
2. **Height (maximum):** 2.0 m
3. **Width (maximum):** 3.0 m
4. **Protection:**
 - 4.1. Do not place any other material on top of storage heaps.
 - 4.2. Do not allow construction plant to pass over storage heaps.
 - 4.3. Prevent compaction and contamination, by fencing and covering as appropriate.

690 Handling topsoil

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

706 Spreading topsoil

1. All external soft landscape areas and planters.
2. **Drawing Reference:** SHRN-LDA-S2-ZZ-DR-L-300-101 through to SHRN-LDA-S2-ZZ-DR-L-300-109
3. SHRN-LDA-S2-ZZ-DR-L-300-101 through -107
4. **Temporary roads/surfacing:** Remove before spreading topsoil.
5. **Layers:**
 - 5.1. **Depth:** as shown on landscape detail drawings.
 - 5.2. Topsoil to be spread in layers no greater than 150mm
 - 5.3. Gently firm each layer before spreading the next.
6. **Crumb structure:** Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

715 Loose tipping of topsoil

1. **General:** Do not firm, consolidate or compact topsoil when laying. Tip and grade to approximate levels in one operation with minimum of trafficking by plant.

910 Finished levels of topsoil after settlement

1. Above adjoining paving or kerbs: 25 mm
2. Below dpc of adjoining buildings: Not less than: 150 mm
3. Shrub areas: Higher than adjoining grass areas by: 25 mm
4. Within root spread of existing trees: Unchanged.
5. Adjoining soil areas: Marry in.
6. Thickness of turf or mulch: Included.

920 Documentation

1. **Timing:** Submit at handover.
2. **Contents:**
 - 2.1. Full description of all soil components.
 - 2.2. Record of source for all soil components.
 - 2.3. Analyst's report for each test carried out.
 - 2.4. Record drawings showing the location and depth of all soils by type and grade.
 - 2.5. Supplier's declaration of compliance with BS 3882.
3. **Number of copies:** For inclusion into health and safety file

System outline - Not Used

Products - Not Used

Execution - Not Used

Completion - Not Used

Ω End of Section

Q31

External planting

Clauses

2 To be read with preliminaries/general conditions.

General information/ requirements

100 Site clearance generally

1. Follow recommendations set out in BS4428: 1989 Code of Practice for General Landscape Operations, unless stated otherwise within specification.

112 Site clearance generally

1. General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
2. Stones: Remove those with any dimension exceeding 25 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: none

118 Soil conditions

1. Soil for cultivating and planting: Moist, friable and (excepting aquatic/ marginal 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.

148 Drainage of external planting areas

1. To project Engineer's details and specification.

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.

155 Slow release fertiliser

1. **Compound fertiliser:** 'Enmag' slow release fertiliser or similar approved.
2. **Supplier:** submit proposals.
3. **Application:** Apply evenly over ornamental planting areas at 70gm/sq.m immediately before cultivation.

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:** 1 week

165 Preparation, planting and mulching materials

1. **General:** Free from toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
2. **Certification of source, analysis, suitability for purpose and absence of harmful substances:** Submit.
 - 2.1. **Certified materials:** Source, analysis, suitability for purpose and absence of harmful substances
 - 2.2. Give notice before ordering or using.

210 Pre-delivery inspection

1. The following are to be inspected by Landscape Architect before supplying to site, then clearly identified as being reserved for use on this project: All plant material
 - 1.1. All semi mature trees
 - 1.2. Typical example of transplants and feathered material
 - 1.3. Typical example of shrubs and groundcover material.
2. The contractor is responsible for monitoring the quality and health of plant material prior to delivery on site.

3. Make all necessary arrangements and allow for all reasonable costs incurred by the Landscape Architect (LA) in carrying out inspections and any subsequent inspections where the initial proposed stock is considered to be unacceptable.
4. The Landscape Architect (LA) reserves the right to reject plant material at any stage in the collection and delivery process.

220 Plants/ trees - specification criteria

1. Name, forms, dimensions and other criteria: To the relevant part of BS 3936.
2. The following are to be inspected by the Contract Administrator (CA) / Landscape Architect before supplying to site, then clearly identified as being reserved for use on this project: All plant material
 - 2.1. All semi-mature trees.
 - 2.2. Typical example of standard trees, transplants and feathers.
 - 2.3. Typical example of shrubs and groundcover material.
 - 2.4. The contractor is responsible for monitoring the quality and health of plant material prior to delivery.
 - 2.5. make all necessary arrangements and allow for all reasonable costs incurred by the Contract Administrator (CA) in carrying out inspections and any subsequent inspections where the initial stock has been considered to be unacceptable.
 - 2.6. The CA reserves the right to reject plant material at any stage during the collection and delivery process.

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: - Date supplied and consignment details or reference;- Potting dates;- Propagation method and dates; and- Pruning dates.

246 Labelling and information

1. **Standard:** To BS 3936.

255 Plants/ Trees reserved at supplier's premises

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

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.

270 Plant handling, storage transport and planting

1. **Standard:** To HTA '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.
7. Carefully lift, stack and protect plant material in such a way that breakage or damage by weight of plants above does not occur during loading, transit and unloading. Where open lorries are used to transport plants, each consignment must be completely and firmly covered with opaque sheeting to minimise draughts.
8. Carefully prune any roots, branches or shoots, which are slightly damaged. If major damage occurs or if plants are found to be inadequately packaged, they will be rejected and replaced at no additional cost.

272 Temporary storage on site

1. After delivery, if planting cannot be carried out immediately, plants may be stored in their packaging, under cover and away from direct sunlight for a maximum of seven days where daytime air temperatures remain below 10°C.
2. For longer periods, or if daytime temperatures are above 10°C, store plants in the following manner at no additional cost:
3. Bare root plants will be heeled in by placing roots in a prepared trench and covering them with topsoil or suitable moisture retentive medium approved by the Contract Administrator (CA).
4. Plants root wrapped in porous/non porous materials will be unwrapped and similarly heeled in.
5. All plant bundles will be opened and plants loosely distributed within the medium to prevent mould and/or disease/ rotting.
6. Rootballed plants will be stood upright with the ball immersed in topsoil or suitable moisture retentive medium e.g. straw.
7. Container grown plants will be stood closely together, upright, on well-drained weed free ground.
8. Adequately support trees and other large stock to prevent from blowing over. Water plants as necessary to prevent from drying out.
9. Protect plants from theft, damage and adverse weather conditions whilst so stored and make good any losses arising at no additional cost.

274 Removal from temporary storage

1. Thoroughly water all plants prior to lifting/removing from containers. Roots of bare-rooted stock must be well moistened before removal from the heeling in medium.
2. Do not expose unduly to the atmosphere roots of bare-rooted stock. During planting operations exposure should be for the minimum practical period. If at any time the surface of roots become dry, water immediately.
3. Where specified, thoroughly soak roots of bare-rooted stock in a container of root dip/water solution immediately prior to planting.
4. Contract Administrator (CA) reserves the right to reject any plants not adequately protected in the above manner described.

275 Permanent identification of plants

1. **Location:** All plants
2. **Labels:** Black plastics 75 mm x 100 mm with white weatherproof lettering attached to tree trunks at 1.5 m from ground level

3. **Wording:** Genus, species, variety, common name and month/ year date planted

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.

290 Surplus material

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

Plant containers

295 Planting in raised planters

1. To podium landscape
2. Drawing reference: SHRN-LDA-S2-ZZ-DR-L-500-001
3. Product reference: Velox Rapid Edge Staple with 50mm top lip
4. Material: 3mm Galvanised powder coated steel
5. Manufacturer: Logic Bespoke or equal and approved
 - 5.1. Web: www.logic-bespoke.com
 - 5.2. Email: hello@logic-bespoke.com
 - 5.3. Tel: 01642373400
 - 5.4. Address: Pennine House
Hurricane Court
Stockton-on-Tees
TS18 3TL
6. London E14 8DY
7. Paint colour: RAL 7016
8. Fixing: To suppliers recommendation.

Preparation of planting beds/ planting materials

300 Herbicide

1. Description: To clear overgrown beds
2. Locations: All planting areas
3. Type: Suitable for supressing perennial weeds.
4. Timing: Allow fallow period before cultivation.
 - 4.1. Duration (minimum): As manufacturer's recommendation

305 Weed control

1. Description: Japanese knotweed
2. Locations: All planting areas
3. General: Prevent weeds from seeding and perennial weeds from becoming established, in accordance with the Environment Agency 'Managing Japanese knotweed on development sites. The knotwood code of practice'.

306 Weed control

1. **Description:** For invasive non-native weeds other than Japanese knotweed
2. **Locations:** All planting areas
3. **General:** Prevent weeds from seeding and perennial weeds from becoming established.; submit proposals'

336 General fertilizer

1. **Description:** -slow release
2. **Locations:** All planting areas
3. **Manufacturer:** Vitagrow, PO Box 161, Southport, Lancashire, PR9 8GH, UK. Or similar approved
Tel: 01704 507777. Fax: 01704 507222
 - 3.1. **Product reference:** 4-19-10 + 8%Mg + Trace Elements
4. **Application:** Spread evenly. In granular form to give even distribution. Its nutrients are released over an extended period to aid the establishment of newly planted trees and shrubs, and for healthy root development.
 - 4.1. **Timing:** Immediately before cultivation.
 - 4.2. **Rate:** 70-140g per sq m (2-4 oz per sq yd)

341 Peat

1. **Peat or products containing peat:** Do not use.

375 Cultivation

1. **Compacted topsoil:** Break up to full depth.
2. **Cultivation:** Loosen, aerate and break up soil into particles of 2-8 mm.
 - 2.1. **Depth:**
 - 2.2. 150mm for amenity grass and wildflower areas
 - 2.3. 300mm for groundcover and herbaceous planting areas
 - 2.4. 450mm for small tree and shrub planting areas .
 - 2.5. **Timing:** Within a few days before planting.
 - 2.6. **Weather and ground conditions:** Suitably dry.
3. **Surface:** Leave regular and even.
4. **Levels:** 25 mm above adjoining paving or kerbs
5. **Undesirable material brought to the surface:** Remove visible weeds, roots and large stones with any dimension exceeding: 50 mm
6. **Soil within root spread of trees and shrubs to be retained:** Do not dig or cultivate.

385 Mulch matting/ Geotextile fabric

1. **Description:** To pocket park bank
2. **Manufacturer:** Contractor's choice
 - 2.1. **Product reference:** Contractor's choice
3. **Type:** Jute
4. **Timing:** Lay before planting.
5. **Watering:** Water soil thoroughly before laying.
6. **Laying:** In close contact with soil surface. Lap or butt joints as recommended by manufacturer, with no gaps.
7. **Planting:** Cut neat slits or flaps. Refit closely around plant stems.

8. Overlay: Mulching planting beds Mulching trees

Planting shrubs/ herbaceous plants/ bulbs

400 Random plant layout

1. Description: To all herbaceous planting beds
2. Spacing: As drawings SHRN-LDA-S2-ZZ-DR-L-300-101 through 107
3. Density: As drawings SHRN-LDA-S2-ZZ-DR-L-300-101 through 107

402 Plant layout

1. Shrubs and trees
2. Spacing: As drawings SHRN-LDA-S2-ZZ-DR-L-300-101 through 107.
3. Density: As drawings SHRN-LDA-S2-ZZ-DR-L-300-101 through 107

405 Shrub planting pits

1. Timing: Excavate 1 days (maximum) before planting.
2. Sizes: 1.5 times deeper, wider and longer than roots, except where restricted by roof build-ups
3. Pit bottom improvement scarify.
4. Backfilling material: as per Clause Q31/ 476

415 Antidesiccant for conifers/ Evergreens

1. Manufacturer: Submit proposals
 - 1.1. Product reference: Submit proposals
2. Application: Dip before delivering to site. Spray soon after planting.
 - 2.1. Do not apply in wet or frosty weather.
 - 2.2. Ensure full coverage of underside of foliage.

418 Mycorrhizal inoculant

1. Manufacturer: Biotechnica Services Ltd. Or similar approved
2. 4 Kings Road
3. Reading England
4. RG1 3AA
5. Telephone + 44(0) 1189 515601
6. Fax + 44 (0) 1189 589580
7. e-mail info@biotechnica.co.uk .
 - 7.1. Product reference: Mycortex
8. Application: Apply to roots of bare root plants before planting and backfilling in according to manufacturers specification.

420B Climbing plants

1. Wire system
2. Planting: 150 mm clear of supporting structure (e.g. wall/ fence) with roots spread outward.
 - 2.1. Branches: Lightly secured to supports.
3. Climber supports: Tensile stainless steel wire system
 - 3.1. Manufacturer: TecniCable; www.tecni-cable.co.uk
 - 3.2. Product reference: Tecni Pro Trellis

- 3.3. Size: 4mm cable
- 3.4. Base height: 300 mm above ground
- 3.5. Extent: 450mm below bottom of slab of plot E groundfloor level
- 3.6. Centres: 450 mm horizontal and 900mm vertical
- 3.7. Distance from wall: 100 mm
- 4. Fixings: Stainless steel screw eyes
 - 4.1. Centres: at each crossing and ends of wire

435 Climbing plants used as ground cover

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

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.

470 Formal hedges

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

476 Shrub, herbaceous and bulb backfilling material

- 1. Composition: Previously prepared mixture of topsoil excavated from pit and additional topsoil as required:
- 2. Ameliorant/ Conditioner: As clause Q28/356
 - 2.1. Application rate: As clause Q28/356
- 3. Fertilizer: As clause Q31/336
 - 3.1. Application rate: Apply evenly over all planting areas at 70g/sq. immediately before cultivation- This clause does not apply to any specimen, hedgerow and standard trees

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: Sanitized and stabilized compost as per Clause Q28/ 356
 - 3.1. Depth: To bring levels up to surrounding levels

485 Mulching planting beds

- 1. Supplier: CPA Horticulture or equal and approved
- 2. Material: Deluxe Pine Nuggets, 30-60mm size
 - 2.1. Purity: Free of pests, disease, fungus and weeds, 1% max. white wood
- 3. Preparation: Clear all weeds. Water soil thoroughly.

4. Coverage: 50 - 70 mm depth after settlement, refer to detail drawings
5. Finished level of mulch: 30mm below adjacent grassed or paved areas

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

720 Failures of planting

1. Defects due to materials or workmanship not in accordance with the Contract: Plants/ trees/ shrubs that have failed to thrive.
 - 1.1. Exclusions: Theft or malicious damage after completion.
 - 1.2. Rectification: Replace with equivalent plants/ trees/ shrubs.
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: In accordance with an agreed defects rectification programme

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.

750 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: By maintaining full thickness of mulch. Any weed that manage to push through the mulch layer shall need to be removed by hand.
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. Staking: Check condition of stakes, ties, guys and guards.
 - 4.1. Broken or missing items: Replace.
 - 4.2. Rubbing: Prevent.
 - 4.3. Ties: Adjust to accommodate growth.
 - 4.4. Damage to bark: Cut back neatly with sharp knife. Prevent further damage.
 - 4.5. Frequency of checks: in accordance with agreed maintenance schedule
5. Firming up: Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.
6. Trees: Spray crown when in leaf during warm weather.
 - 6.1. Timing: After dusk.
7. Watering: ensure that sufficient water is applied at regular intervals in order to maintain healthy growth of the plants

756 Planting maintenance - fertilizer

1. Time of year: March or April.
2. Fertilizer: in accordance with clause Q31/155

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:** In accordance with the agreed maintenance schedule
 - 1.3. **Trees:** Favour a single central leading shoot.
2. **Arisings:** Remove.

780 Maintenance instructions

1. **General:** Before end of the maintenance period, submit printed instructions recommending procedures to be established by the Employer for maintenance of the planting work for one full year: Provide a schedule of any ongoing maintenance problems experienced during the defects liability period.

795 Final mulching

1. **Timing:** twice a year.
2. **Watering:** Ensure that soil is thoroughly moistened prior to remulching, applying water where necessary.
3. **Planting beds:** Remulch.
4. **Depth (minimum):** 50 mm post settlement
5. **Trees:** Remulch.
6. **Depth (minimum):** 50 mm post settlement

Ω End of Section

Q35 Landscape maintenance

Clauses

2 To be read with preliminaries/ general conditions.

Generally

100 Maintenance general

1. **Duration:** Carry out the operations in the following clauses from the time when practical completion for planting has been given throughout the defects liability period.
2. **Frequency of maintenance visits:** The Contractor shall programme regular visits so as to carry out required maintenance operations and ensure that the site is kept clean in a tidy and weed free condition at all
3. times. He shall allow for at least 24 visits during the growing season and 10 visits outside the growing season for all shrub and tree areas and at least 30 visits to cut the grass areas each year.
4. The Contractor shall advise the PM in writing at least 48 hours prior to carrying out any maintenance visits.
5. The Contractor shall keep full records of all maintenance visits indicating the date and time of all visits, the operations carried out, any machinery used for the operation, the number of staff employed during the visit and weather records at the time of the visit.
6. The Contractor shall submit written details AT THE TIME OF TENDERING of the methods and frequency of maintenance and types of herbicides that they propose to use during the maintenance period.
7. The Contractor shall immediately, upon discovery, report any note of vandalism or theft or suspicion of either to the PM.
8. Upon completion of every visit the Contractor shall present a report slip for signature to the PM. Upon signature the report slips shall be forwarded to the PM. No claim for payment shall be met if the visit has not been so recorded.

102 Maintenance vehicles / machinery

1. The Contractor is responsible for ensuring any maintenance vehicles and/or machinery do not interfere with or obstruct the client's day to day operations or cause any nuisance to the PM.
2. Where vehicles are to be parked and/or moved about the client's land for maintenance purposes the PM shall be informed of the presence of those vehicles as necessary.

103 Pests and diseases

1. The Contractor shall inspect monthly all planted areas, including trees, for any signs of
2. pest or disease infection and shall report any such discovery to the PM.
3. Upon discovery of such pest or disease the Contractor shall apply a suitable approved pesticide or other remedy in accordance with good horticultural practice.

104 Failure to maintain

1. In the event of the Contractor failing to maintain the work to the standard specified, the right is reserved to delete the remaining maintenance work from the contract and instruct another to complete the work without thereby vitiating the plant replacement guarantee embodied in this specification contract.

106 Maintenance objectives

1. **Location:** Soft and hard landscape areas within site boundary
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04-07-2024

- 1.1. **Duration:** 1 year from Practical Completion of the respective area.
2. **Aims:** - Enhanced landscape quality;- Improved landscape visual amenity; and- Opportunities for recreation

108 General procedures

1. When employees are inspecting the Landscape Areas it should be noted that the general
2. presentation of the site falls under their care. These inspections shall include but not be
3. limited to the following:
 - 3.1. Collection of all litter in whatever location;
 - 3.2. Removal of all surface debris of whatsoever nature;-
 - 3.3. Noting and reporting of any visible irrigation problems whether damage, too wet or
 4. dry.
 - 4.1. Noting and subsequent reporting of disease or pest incidence-
 - 4.2. Noting and subsequent reporting of any damage;-
 - 4.3. Checking of signs and ensuring they are vertical and in the right position;
 - 4.4. Checking conditions of all ancillary equipment i.e. Signs, Posts, Handrails & Guardrails; Fences;
 - 4.5. Notice Boards; Pathways & edgings; Drainage Swales, Grilles & Gulleys.
 - 4.6. Any other problem not listed;

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:** 7 days

120 Bird nesting season

1. The bird nesting season is from 1st February to 31st August
2. No works will be undertaken on vegetation without first checking for nests/nest building
3. during this season.
4. prior approval of the Project Ecologist to be obtained no less than 7 days
5. before any operation on areas that may contain nests/nest building during this season.

130 Reinstatement

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

140 Control of mammalian pests

1. **Specialist firms:** Submit proposals
 - 1.1. **Method:** Submit proposals

155 Watering

1. **Supply:** it is likely that no site supply available, submit proposals
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. **Frequency:** As necessary for the continued thriving of all planting.

156 Watering

1. **Supply:** to be confirmed by the Employer
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

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.

172 Disposal of arisings

1. **General:** Unless specified otherwise, dispose of arisings as follows:
 - 1.1. **Biodegradable arisings:** Remove to recycling facility
 - 1.2. **Grass cuttings:** Remove to recycling facility
 - 1.3. **Tree roots and stumps:** Remove from site
 - 1.4. **Shrub and tree prunings:** Remove to recycling facility
 - 1.5. **Litter and nonbiodegradable arisings:** Remove from site
 - 1.6. **All other arisings:** Remove from site

180 Chipping or shredding

1. **General:** Not permitted on site.

181 Mechanical equipment

1. **General:** Minimize.
2. **Prohibited equipment:** Litter vacuums
3. **Timing:** Use of mechanical equipment allowed between the hours of 09:00 am and 5:30 pm only unless not otherwise stated by local authority

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.

198 Defects periode

1. **Maintain trees and planted areas in good condition up to end of the Defects Liability Period which will operate for the following period(s) from the date of acceptance of Practical Completion: -**

- 1.1. Semi-mature and Mature Trees: 36 months
- 1.2. Extra-Heavy Trees and Feathered Trees 36 months
- 1.3. Shrubs/ Specimen Shrubs: 12 months
- 1.4. Herbaceous and Groundcover plants 12 months
- 1.5. Amenity Grass Areas 12 months
2. Throughout the Defects Liability Period make regular visits in order to maintain trees and planted areas in accordance with this specification.
3. Carry out provisional/ additional works within 14 days of receiving written instructions from the Contract Administrator (CA).

Flower beds/ seasonal beddings

495 Thinning and cutting back of herbaceous and grasses

1. Plants to be thinned: contractor to submit proposals based on good practice
2. Standard: BS 7370-4, clause 3.5.17.1.
3. Timing: Thin when foliage of adjacent plants has begun to touch. See also Maintenance & Management Matrix - Document No. 3437_DOC_906
4. Roots: see below
 - 4.1. Disturbance to adjacent plants: Minimise.
 - 4.2. Soil: Refill holes with topsoil to leave an even graded surface.
 - 4.3. Mulch: Maintain mulch as original specification.
5. Adjacent plants: Make good any minor damage immediately.
6. Plants for retention: Select plants with a strong healthy habit.

Shrubs/trees/hedges

501 Establishment of new planting

1. Weed control:
 - 1.1. Method: Keep planting beds clear of weeds by: hand weeding or through and/ or suitable herbicides
 - 1.2. 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.
2. Soil condition: Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.
3. Trees: When in leaf, spray crowns during warm weather.
 - 3.1. Timing: After dusk.
4. Watering: to ensure a healthy grows

502 Establishment of new planting – fertilizer

1. Time of year: March or April.
2. Type: as per Clause Q31/ 336
3. Spreading: Spread evenly. Carefully lift and replace any mulch materials.
 - 3.1. Application rate: As manufacturer's recommendations

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:** During spring when no longer required to support the tree

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.

535 Tree grilles

1. **Operations:** Lift grilles, remove weeds, adjust levels as necessary and lightly compact. Refit grilles, refill interstices and lightly compact to correct level.
2. **- Material for making up levels and refilling:** as original specification

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:** As instructed
2. **Operations:** Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines and road lighting luminaires.
3. **Special requirements:** do not allow ground cover plants to overlap paths and lawns by more than 60mm

547 Separation of plants

1. Groups of plants, particularly shrubs and groundcover, to be cut back and thinned out at the edge of each group to avoid interlocking.

550 Pruning of excessive height

1. **Timing:** As instructed
2. **Operations:** Remove excessive height As instructed.

555 Pruning trees and shrubs

1. **Standard:** To BS 7370-4.
2. **Special requirements:** None

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:** Approved specialist contractor

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.

590 Pruning particular species

1. **Species to be pruned to separate specific instructions:** Specimen trees around circular road to be maintained to a clear stem height of 3m

602 Trimming rapidly establishing hedges

1. **General:** Allow to reach planned height as rapidly as possible.
2. **Hedge Height:** 1500mm unless stated otherwise on landscape detail drawings.
 - 2.1. **Form:** Trim back lateral branches moderately.
3. **Timing:** as instructed

605 Trimming slowly establishing hedges

1. **Operations**
 - 1.1. **Timing:** Cut back hard in June and September to encourage bushy growth down to ground level.
 - 1.2. **Form:** Allow to reach planned dimensions only by gradual degrees, depending on growth rate and 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.

625 Climbing plants

1. **Pruning:** Remove excess growth, to ensure that signs, light fittings, doors and windows are kept clear at all times.
2. **Insecure growth:** Attach to supporting wires or structures using Plastics clips.

3. **Supporting structures:** Check and repair as necessary.

630 Dead and diseased plants

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

637 Reinstatement of shrub/ herbaceous areas

1. **Dead and damaged plants:** Remove.
2. **Mulch/ matting materials:**
 - 2.1. Carefully move to one side and dig over the soil, leaving it fit for replanting.
3. Do not disturb roots of adjacent plants.
4. **Replacement plants:**
 - 4.1. **Use pits and plants:** To original specification or to match the size of adjacent or nearby plants of the same species, whichever is the greater.
 - 4.2. **Additional requirements:** None
5. **Dressing:** Slow release fertilizer:
 - 5.1. **Type:** as per Clause Q30/ 276
 - 5.2. **Application rate:** As manufacturer's recommendations

641 Thinning by removal of surplus plants

1. **Plants to be thinned:** Herbaceous beds
2. **Standard:** BS 7370-4.
3. **Timing:** When foliage of two separate plant species have begun to touch.
4. **Roots:**
 - 4.1. **Disturbance to adjacent plants:** Minimise.
 - 4.2. **Soil:** Refill holes with topsoil to leave an even graded surface.
 - 4.3. **Mulch:** Maintain mulch as original specification.
 - 4.4. **Adjacent plants:** Make good any minor damage immediately.
5. **Plants for retention:** Select plants with a strong healthy habit.

645 Weed control generally

1. **Weed tolerance:** At all times, weed cover less than 5% and no weed to exceed 50 mm high
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.

657 Herbicide to kill regrowth

1. **Type:** Suitable foliar acting herbicide to kill regrowth.
2. **Timing:** Allow recommended period for herbicide to take effect before clearing dead weeds.

675 Digging over

1. **General:** Dig over beds. Do not damage existing plants, bulbs and roots.
 - 1.1. **Depth of dig (minimum):** 75 mm

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.

687 Soil level adjustment

1. **Level of soil/mulch at edges of beds:** Reduce to 30 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):** 50 mm
 - 1.1. **Top up:** Every 3 months
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.

695 Fertilizing established trees and shrubs

1. **Time of year:** Submit proposals
2. **Type of fertilizer:** as clause Q30/ 276
3. **Application:** Spread evenly.
 - 3.1. **Rate:** As manufacturer's recommendations

700 Snow removal from shrubs/ trees

1. **Standard:** To BS 7370-4.
2. **Plants subject to snow removal:** to be agreed
3. **Timing:** to be agreed

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 as Arboricultural Association Leaflet 'Mature tree management'. 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, clause 8.

825 Prevention of disease transmission

1. **Standard:** To BS 3998, clause 9 and Appendix B.

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.
 - 1.6. Climbing plants as schedule.

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.

840 Crown reduction/ shaping

1. **General:** Cut back selectively to lateral or sublateral buds or branches to retain flowing branch lines without leaving stumps.
2. **Operations:** as agreed with Project Landscape Architect

845 Crown lifting

1. **Clearances:** Remove branch systems to give clearance.
 - 1.1. **Height:** As recommended by BS 7370-4, clause 3.7.2.3
2. **Removing branches:** Remove whole branches back to the stem, or cut lower portions of branches back to lateral or sublateral buds or branches. Do not leave stumps.

850 Crown thinning

1. **Removing branches:** Remove inward growing, crossing, rubbing, dead and damaged branches.
2. **Thinning:** Selectively remove secondary and small live branch growth evenly throughout the crown.
 - 2.1. **Quantity:** To be agreed with project Landscape Architect
3. **Cutting:** Make no cuts of more than 35 mm diameter.
 - 3.1. **Branches:** Cut back to lateral or sublateral buds or branches without leaving stumps.
4. **Appearance:** Leave a uniform and well balanced structure of branches and foliage.

855 Cutting tree roots

1. **Excavating:** Use hand tools only.
2. **Protected area:** Do not cut roots within an area which is the larger of:
 - 2.1. The branch spread of the tree.
 - 2.2. An area with a radius of half the tree's height, measured from the trunk.
3. **Outside protected area:** Give notice of roots exceeding 50 mm in diameter. Do not cut without approval.
4. **Cutting**
 - 4.1. **Cutting:** Make clean smooth cuts with a hand saw.
 - 4.2. **Wounds:** Minimize. Avoid ragged edges.
 - 4.3. **Finishing:** Pare cut surfaces smooth with a sharp knife.
5. **Backfilling**
 - 5.1. **Protection:** Cover cut roots with clean sharp sand.
 - 5.2. **Material:** Backfill with original topsoil.

860 Removing trees, shrubs and hedges

1. **Standards:** To BS 3998, Appendix A and Health & Safety Executive (HSE)/ Arboricultural and Forestry Advisory Group Safety Leaflets.
2. **Existing services:** Check for below and above ground services. Give notice if they may be affected.
3. **Shrubs and smaller trees:** Cut down and grub up roots.
4. **Tree stumps**
 - 4.1. **Removal:** Remove mechanically to a minimum depth of 300 mm below ground level
 - 4.2. **Removal by winching:** Give notice. Do not use other trees as supports or anchors.
5. **Protection:** Avoid damage to neighbouring trees, plants and property
6. **Work near retained trees:** Where tree canopies overlap and in confined spaces generally, take down trees carefully in small sections to avoid damage to adjacent trees that are to be retained.
7. **Filling holes**
 - 7.1. **Material:** Use as-dug material and/ or imported soil as required.
 - 7.2. **Finishing:** Consolidate and grade to marry in with surrounding ground level.

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:** to be agreed



Specification created using NBS Chorus