

**Proposed Hotel**

**at**

**T2 Heathrow**

**LANDSCAPE MANAGEMENT \ MAINTENANCE PLAN**



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## **INDEX**

- 1.00 Planting Philosophy**
- 2.00 Management Objectives**
- 3.00 Management Regimes**
- 4.00 Performance targets**
- 5.00 Monitoring**

## **1.0 Planting Philosophy**

Planting will be used to limit the impact of the proposed new development in the landscape.

Shrub planting in general will be simple, with groundcovers that can be tightly maintained as well as medium shrubs of compact controllable growth. These will provide a variety of colours and textures in the landscape. Grass areas are to be closely cut for neat appearance. All soft landscaping features will add to the biodiversity of the site.

## **2.00 Management Objectives**

- To ensure the overall well-being and healthy, vigorous growth of all plant material.
- To ensure the overall appearance of the site remains neat and tidy.
- Monitor the planting works and take remedial action where necessary.
- Limit the use of chemicals where possible.

The maintenance will include establishment maintenance by a landscape contractor followed by long term maintenance that will come under the responsibility of the developer.

The planting and grassing works will be under the supervision of the landscape architect up to the end of the establishment maintenance period. The developer would be responsible for the long term maintenance of the site.

The developer will periodically review the ongoing maintenance operations to ensure that they are meeting the desired objectives for the site. This will form part of the ongoing monitoring system for the site.

## **3.00 Management Regimes**

This will include the initial planting and on going maintenance operations which will include the following:

- Weeding: removal of all unwanted plant material within landscape areas
- Litter: removal of all waste items and arisings found in planting areas
- Watering: as necessary
- Fertilising: for continual stable growth
- Pruning: removal of dead and diseased wood, thinning out of overcrowded shrub and woodland plantings, removal of planting material overhanging pedestrian areas
- Supports: inspecting and adjustment of underground guys, stakes, ties etc.
- Plant replacement: as necessary
- Grass cutting: to specification.

The following specifications will be used for both the initial planting works and future management of the site. The Management Plan will be reviewed on a regular basis and adapted where necessary to meet changing local conditions.

## **Q30 Seeding/turfing**

### **115 SEEDED AND TURFED AREAS**

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

### **120 CLIMATIC CONDITIONS**

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

### **145 WATERING**

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

### **150 WATER RESTRICTIONS**

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

### **160 NOTICE**

- Give notice before:
  - Setting out.
  - Applying herbicide.
  - Applying fertilizer.
  - Preparing seed bed.
  - Seeding or turfing.
  - Visiting site during maintenance period.
- Period of notice: 1 week.

### **170 SETTING OUT**

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

## **PREPARATION**

### **210 HERBICIDE FOR ALL GRASSED AREAS**

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

### **212 SEED BED CLEANING BEFORE SOWING ALL GRASSED AREAS**

- Operations: Kill pernicious weeds with selective contact herbicide.

## **250 SOIL REQUIREMENTS**

- Type:
  - Seeded areas: Soil for grass swards, as section Q28.
  - Turfed areas: Soil for grass swards, as section Q28 .
  - Reinforced grass areas: to be confirmed.

## **SEEDING**

### **311 GRASS SEED FOR ALL GRASSED AREAS**

- Supplier: Submit proposals.
  - Mixture reference: Submit proposals.
- Application rate: in accordance with manufacturer's recommendations.

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

- Supplier: Submit proposals.
  - Mixture reference: Submit proposals.
- Origin of each species (as defined in Flora Locale's Code of practice for collectors, growers and suppliers of native flora): British Native.
- Application rate: Supplier's recommendations.

### **319 QUALITY OF SEED FOR ALL GRASSED AREAS**

- Freshness: Produced for the current growing season.
- Certification: Blue label certified varieties.
  - Standard: EC purity and germination regulations.
  - Official Seed Testing Station certificate of germination, purity and composition: Submit when requested.
- Samples of mixtures: Submit when requested.

### **330 SOWING**

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

### **335 GRASS SOWING SEASON**

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

### **340 PRE-EMERGENT HERBICIDE FOR ALL GRASSED AREAS**

- Standard: Pesticide Safety Directorate approved.
- Application rate: In accordance with manufacturer's written recommendation.
  - Timing: Immediately after sowing.

### **352 EDGES TO SEEDED AREAS ADJACENT TO PLANTING BEDS AND TREE PITS**

- Timing: After seeded areas are well established.
- Edges: Clean straight lines or smooth curves.
  - Mulch and soil: Draw back to permit edging.
- Arisings: Remove.

- Completion: Respread soil and mulch.

## TURFING

### **410 TURF TO BS 3969 FOR ALL GRASSED AREAS**

- Standard: To BS 3969, free from undesirable grasses and weeds.
  - Grade: Fine sports/ ornamental turf.
- Source: Submit proposals.
- Herbicide treatment: Apply not less than four weeks and not more than three months before lifting.
- Dimensions: 1640 x 610 mm.

### **420 DELIVERY AND STORAGE**

- Timing: Lay turf with minimum possible delay after lifting. If delay occurs, lay turf out on topsoil and keep moist.
- Frosty weather or waterlogged ground: Do not lift turf.
- Delivery: Arrange to avoid need for excessive stacking.
- Stacking height (maximum): 1 m.
- Dried out or deteriorated turf: Do not use.
- Certification:
  - Standard: To BS 3969.
  - Declaration: Species mix, including percentage of specified species.

### **423 INSPECTION OF TURF FOR ALL GRASSED AREAS**

- Sampling method: To BS 3969.
- Give notice: Before lifting turf.
  - Period of notice: 1 week.

### **430 TURFING GENERALLY**

- Time of year: To be agreed.
- Timing of laying:
  - Spring and summer: Within 18 hours of delivery.
  - Autumn and winter: Within 24 hours of delivery.
- Weather conditions: Do not lay turf when persistent cold or drying winds are likely to occur or soil is frost bound, waterlogged or excessively dry.
- Working access: Planks laid on previously laid turf. Do not walk on prepared bed or newly laid turf.
- Jointing: Laid with broken joints, well butted up. Do not stretch turf.
- Edges: Whole turfs, trimmed to a true line.
- Adjusting levels: Remove high spots and fill hollows with fine soil.
- Consolidating: Lightly and evenly firm as laying proceeds to ensure full contact with substrate. Do not use rollers.
- Dressing, brushed well in to completely fill all joints: Mulching and top dressing system, as section Q28.
- Watering: Thoroughly water completed turf immediately after laying. Check that water has penetrated into the soil below.

#### **440 TURFING ON BANKS EXCEEDING 30° SLOPE**

- Turf configuration: Diagonal or horizontal.
- Securing turfs:
  - Fixings: Submit proposals.
  - Frequency of fixings: Every second row.
- Removal of fixings: When turf is thoroughly self anchored by its roots. Make good any damage to grass until area is accepted.

#### **450 TRIMMING TURF**

- Newly planted tree pits: Neatly cut away around individual trees.
  - Diameter: 1000 mm.
  - Tree pit surface: Respread existing mulch.

### **PROTECTING/CUTTING**

#### **530 FIRST CUT OF GRASSED AREAS**

- Timing: When grass is reasonably dry.
  - Height of initial growth: 40-75 mm.
- Preparation:
  - Debris and litter: Remove.
  - Stones and earth clods larger than 25 mm in any dimension: Remove
- Height of first cut: 25 mm.
- Mower type: Contractor's choice.
- Arisings: Spread evenly over cut areas.

#### **550 AREAS NOT TO BE CUT**

- Do not cut:  
Meadow grass containing wildflowers.

#### **590 CLEANLINESS**

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

### **MAINTENANCE**

#### **610 FAILURES OF SEEDING/TURFING**

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

## **620 MAINTAINING GENERAL GRASSED AREAS**

- Duration: Carry out the following operations from completion of seeding/ turfing until: the end of the rectification period.
- Maximum height of growth at any time: 100 mm.
- Preparation: Before each cut remove all litter and debris.
- Cutting: As and when necessary to a height of 35 mm.
  - Arisings: Spread evenly over cut areas.
- Bulb planting areas: Do not cut until bulb foliage has died down.
- Trimming: All edges.
  - Arisings: Remove.
- Weed control: Substantially free of broad leaved weeds.
  - Method: Application of a suitable selective herbicide.
- Stones brought to the surface: Remove regularly.
  - Size: Exceeding 25 mm in any dimension.
- Areas of settlement: Make good.
- Watering: Contractor's choice.

## **Q31 External planting**

### **112 SITE CLEARANCE GENERALLY**

- General: Remove rubbish, concrete, metal, glass, decayed vegetation and contaminated topsoil.
- Stones: Remove those with any dimension exceeding 50 mm.
- Contamination: Remove material containing toxins, pathogens or other extraneous substances harmful to plant, animal or human life.
- Vegetation: Clear scrub to ground level by flail mowing and remove arisings; retain and protect trees indicated on drawings.
- Large roots: Grub up and dispose of without undue disturbance of soil and adjacent areas.
- Additional requirements: to be confirmed.

### **118 SOIL CONDITIONS**

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

### **120 CLIMATIC CONDITIONS**

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

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

- Deciduous trees and shrubs: Late October to late March.
- Conifers and evergreens: September/ October or April/ May.
- Herbaceous plants (including marginal): September/ October or March/ April.
- Container grown plants: At any time if ground and weather conditions are favourable.
  - Watering and weed control: Provide as necessary.

- Dried bulbs, corms and tubers: September/ October.
- Colchicum (crocus): July/ August.
- Green bulbs: After flowering in spring.
- Wildflower plugs: Late August to mid November or March/ April.
- Aquatic plants: May/ June or September/ October.

### **130 MECHANICAL TOOLS**

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

### **145 WATERING**

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

### **150 WATER RESTRICTIONS**

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

### **160 NOTICE**

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

### **170 SOIL REQUIREMENTS**

- Type
  - Planted beds: Existing topsoil.
  - Tree pits, shrub pits and other backfilling: Existing topsoil.
  - External container planting: Container planting growing media system, as section Q28.
  - Mulch applied after planting: Mulching and top dressing system, as section Q28.

### **200 PLANTS/ TREES - GENERAL**

- Condition: Materially undamaged, sturdy, healthy and vigorous.
- Appearance: Of good shape and without elongated shoots.
- Hardiness: Grown in a suitable environment and hardened off.
- Health: Free from pests, diseases, discoloration, weeds and physiological disorders.
- Budded or grafted plants: Bottom worked.
- Root system and condition: Balanced with branch system.
  - Standard: The National Plant Specification.
- Species: True to name.
- Origin/ Provenance: to be confirmed.

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

## **215 PLANTS/ TREES - SPECIFICATION CRITERIA**

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

## **225 BULBS/ CORMS/ TUBERS**

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

## **235 CONTAINER GROWN PLANTS/ TREES**

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

## **245 LABELLING AND INFORMATION**

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

## **260 PLANT/ TREE SUBSTITUTION**

- Plants/ trees unobtainable or known to be likely to be unobtainable at time of ordering: Submit alternatives, stating:
  - Price.
  - Difference from specified plants/ trees.
- Approval: Obtain before making any substitution.

## **265 PLANT HANDLING, STORAGE TRANSPORT AND PLANTING**

- Standard: To CPSE 'Handling and establishing landscape plants'.
- Frost: Protect plants from frost.

- Handling: Handle plants with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.
- Plant packaging: Black polyethylene bags.
- Packaging of bulk quantities: Pallets or bins sealed with polyethylene and shrink wrapped.
- Planting: Upright or well balanced with best side to front.

## **280 TREATMENT OF TREE WOUNDS**

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

## **285 PROTECTION OF EXISTING GRASS**

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

## **290 SURPLUS MATERIAL**

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

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

## **300 HERBICIDE TO CLEAR EXISTING VEGETATION**

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

## **305 WEED CONTROL FOR INVASIVE NON-NATIVE WEEDS**

- Locations: As drawing.
- General: Prevent weeds from seeding and perennial weeds from becoming established, by contractor's choice of herbicide.

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

## **400 RANDOM PLANT LAYOUT TO WOODLAND PLANTING**

- Spacing: Random groups of 3-11 plants of the same species..
- Density: As plant schedule.

## **401 REGULAR PLANT LAYOUT TO ALL BEDS**

- Spacing: In regular, staggered rows.
- Density: As plant schedule.

#### **405 SHRUB PLANTING PITS**

- Timing: Excavate 1-2 days (maximum) before planting.
- Sizes: Wide enough to accommodate roots when fully spread and 75 mm deeper than root system.
- Pit bottom improvement: Break up to a depth of 150 mm, incorporating 25 g of slow release fertilizer per planting pit.

#### **415 ANTIDESICCANT FOR CONIFERS/ EVERGREENS**

- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice.
- Application: Dip before delivering to site. Spray soon after planting.
  - Do not apply in wet or frosty weather.
  - Ensure full coverage of underside of foliage.
  -

#### **420 CLIMBING PLANTS**

- Planting: 150 mm clear of supporting structure (e.g. wall/ fence) with roots spread outward.
  - Branches: Lightly secured to supports.
- Climber supports: Green plastics coated steel wire.
  - Base height: 600 mm above ground.
  - Extent: As drawing.
  - Centres: As drawing
  - Distance from wall: 50 mm.
- Fixings: Galvanized screw eyes.
  - Centres: 1.5 m.

#### **435 CLIMBING PLANTS USED AS GROUND COVER**

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

#### **445 PLANTING BULBS/ CORMS/ TUBERS**

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

#### **470 FORMAL HEDGES**

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

#### **480 AFTER PLANTING**

- Watering: Immediately after planting, thoroughly and without damaging or displacing plants or soil.

- Firming: Lightly firm soil around plants and fork and/ or rake soil, without damaging roots, to a fine tilth with gentle cambers and no hollows.
- Top dressing: Mulching and top dressing system, as section Q28.
  - Depth: 50 mm.

## PLANTING TREES

### 500 TREE PLANTING

- Standard: Prepare trees and transplant in accordance with BS 8545.

### 502 ANTIDESICCANT FOR CONIFERS/ EVERGREENS

- Manufacturer: Contractor's choice.
  - Product reference: Contractor's choice.
- Application: Dip or thoroughly spray before delivering to site. Spray again soon after planting.
  - Do not apply in wet or frosty weather.
  - Ensure full coverage of underside of foliage.

### 505 TREE PITS

- Sizes: 75 mm deeper than root system and wide enough to accommodate roots when fully spread.
- Sloping ground: Maintain horizontal bases and vertical sides with no less than minimum depth throughout.
- Excavated material: Separate topsoil and subsoil material and stockpile for backfilling.
- Pit bottoms: Excavate with slightly raised centre: Break up base to a depth of 150 mm.
  - Treatment: Soil ameliorant worked into pit bottoms.
- Pit sides: Scarify.
- Backfilling material: Excavated material from tree pit, installed to original soil profiles in accordance with BS 8545.

### 525 SEMIMATURE TREES

- Standard: Prepare roots and transplant to BS 4043.
- Backfilling material: As clause 585.
- Support: SEMI-MATURE TREES
  - Prepare rootball and transplants to BS 4043 unless specified otherwise.
  - Backfill material: As clause 585.
  - Support: Underground guying anchoring system as per drawing , with 3.75mm strand galvanized wire with gripple tensor and dead man anchors with 4 anchor points per tree Re Root 1000 ribbed root barrier Greenleaf Tel 01424 717797.
- Protection: Not required

### 535 TREE STAKES

- Stakes: Softwood, peeled chestnut, larch or oak, straight, free from projections and large or edge knots and with pointed lower end.
  - Preservative treatment: To provide a 20 year service life.
- Stake size (minimum): As per drawing.
- Stake length (minimum): As per drawing.

#### **576 TREE PIT SURFACING - LOOSE FILL**

- Surfacing material: Mulch, as section Q28.
- Area: 1000 mm radius circle.
- Depth: 50 mm.
- Watering: Water soil thoroughly before laying.
- Installation: Ensure the base of the tree stem is kept free from loose filled material.

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

#### **710 MAINTENANCE**

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

#### **720 FAILURES OF PLANTING**

- Defects due to materials or workmanship not in accordance with the Contract: Plants/ trees/ shrubs that have failed to thrive.
  - Exclusions: Theft or malicious damage after completion.
  - Rectification: Replace with equivalent plants/ trees/ shrubs.
- Replacements: To match size of adjacent or nearby plants of same species or match original specification, whichever is the greater.
- Timing of making good: In accordance with an agreed defects rectification programme.

#### **740 CLEANLINESS**

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

#### **750 PLANTING MAINTENANCE GENERALLY**

- Weed control: Maintain weed free area around each tree and shrub.
  - Diameter (minimum): The larger of 1 m or the surface of original planting pit.
  - Keep planting beds clear of weeds: By use of approved non-residual herbicides.
- Planted areas: Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows. Take care not to reduce depth or effect of mulch.
- Precautions: Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
- Firming up: Gently firm loosened soil around trees/ shrubs. Straighten leaning trees/ shrubs.
- Trees: Spray crown when in leaf during warm weather.
  - Timing: After dusk.
- Tree accessories: Check condition of stakes, ties, guys, guards and irrigation and ventilation systems.
  - Broken or missing items: Replace.
  - Loose stakes: Re-firm in the ground or replace as necessary to provide support to the tree.
  - Loose guys: Re-firm anchor points and adjust as necessary to provide support to the tree.

- Ties: Adjust to accommodate growth and prevent constriction or abrasion.
  - Damage to bark: Cut back neatly with sharp knife. Prevent further damage.
  - Frequency of checks: At each scheduled maintenance visit.
- Watering: As required for healthy establishment, depending on weather conditions.

## **760 PLANTING MAINTENANCE - PRUNING**

- General: Prune to promote healthy growth and natural shape.
  - Dead, dying, diseased wood and suckers: Remove.
  - Timing: In accordance with the agreed maintenance schedule.
  - Trees: Favour a single central leading shoot.
- Arisings: Remove.

## **790 FINAL MULCHING**

- Timing: At end of the maintenance period.
- Watering: Ensure that soil is thoroughly moistened prior to remulching, applying water where necessary.
- Planting beds: Remulch.  
Depth (minimum): 50 mm.
- Trees: Remulch.  
Depth (minimum): 50 mm.

# **Q35 Landscape maintenance**

## **110 NOTICE**

- Give notice before:
  - Application of herbicide.
  - Application of fertilizer.
  - Watering.
  - Each site maintenance visit.
- Period of notice: 7 days.

## **130 REINSTATEMENT**

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

## **155 WATERING**

- Supply: Potable mains water.
- Quantity: Wet full depth of topsoil .
- Application: Do not damage or loosen plants.
- Compacted soil: Loosen or scoop out, to direct water to rootzone.
- Frequency: As necessary for the continued thriving of all planting.

## **160 WATER RESTRICTIONS**

- 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.

## **170 DISPOSAL OF ARISING**

- General: Unless specified otherwise, dispose of arisings as follows:
  - Biodegradable arisings: Remove to recycling facility.
  - Grass cuttings: Spread evenly.
  - Tree roots and stumps: Remove from site.
  - Shrub and tree prunings: Remove to recycling facility.
  - Litter and nonbiodegradable arisings: Remove from site.

## **180 CHIPPING OR SHREDDING**

- General: Not permitted on site.

## **181 MECHANICAL EQUIPMENT**

- General: Minimize.
- Prohibited equipment: Leaf blowers.
- Timing: Use of mechanical equipment allowed between the hours of 10:00 am and 4:00 pm only.

## **190 LITTER**

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

## **195 PROTECTION OF EXISTING GRASS**

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

## **197 CLEANLINESS**

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

# **GRASSED AREAS**

## **210 MAINTENANCE OF GRASSED AREAS**

- General: Maintain turf in a manner appropriate to the intended use.
- Soil and grass:
  - Condition: Maintain a healthy vigorous sward, free from disease, fungal growth, discolouration, scorch or wilt.
  - Waterlogging and compaction: Prevent.
  - Damage: Repair trampling, abrasion or scalping.
- Ornamental lawns: Maintain reasonably free from moss, excessive thatch, weeds, frost heave, worm casts and mole hills.
  - Edges: Neat and well defined, in clean straight lines or smooth flowing curves.
- Litter and fallen leaves: Remove regularly to maintain a neat appearance.

## **220 GRASS CUTTING GENERALLY**

- Before mowing: Remove litter, rubbish and debris.
- Finish: Neat and even, without surface rutting, compaction or damage to grass.
- Edges: Leave neat and well defined. Neatly trim around obstructions.

- Adjoining hard areas: Sweep clear and remove arisings.
- Drought or wet conditions: Obtain instructions.

## **225 TREE STEMS**

- Precautions: Do not use mowing machinery closer than 100 mm to tree stems. Use nylon filament rotary cutters and other hand held mechanical tools carefully to avoid damage to bark.

## **235 BULBS AND CORMS IN GRASSED AREAS**

- Before flowering: Do not cut.
- Interval between end of flowering and start of grass cutting (minimum): 6 weeks.

## **255 FIRST CUT OF ALL GRASSED AREAS**

- Height of initial growth: 75 mm.
- Preparation:
  - Debris and litter: Remove.
  - Stones and earth clods larger than 25 mm in any dimension: Remove
- Height of first cut: 25 mm.
- Mower type: Contractor's choice.
- Arisings: Spread evenly over cut areas.

## **260 MOWING LAWNS**

- Grass height: Maintain between 25 and 50 mm.
- Arisings: Spread evenly over cut areas.

## **265 MOWING GENERAL AREAS**

- Grass height: Maintain between 50 and 75 mm.
- Arisings: Spread evenly over cut areas.

## **290 ROLLING**

- Location: All lawns.
- Timing: February or March, after first mowing.
- Roller: Contractor's choice.
- Operations: Consolidate turf and reduce frost heave.

## **309 EDGES TO SEEDED AREAS**

- Location: Planting beds and around newly planted trees.
- Timing: After seeded areas are well established.
- Edges: Cut to clean straight lines or smooth curves. Draw back soil to permit edging.
- Arisings: Remove.

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

- Location:
  - Path edges;
  - Planting bed edges; and
- Where damage occurs.
- Edges: Draw back soil and re-form edges to clean straight lines or smooth flowing curves, sloping slightly back from vertical.

### **320    LEVELLING HOLLOWS AND BUMPS IN TURF**

- Standard: To BS 7370-3, clauses 12.4 and 12.5.

### **330    SELECTIVE HERBICIDE**

- Location: All lawns.
- Herbicide: Combined weed and feed mix.
- Areas not to be sprayed: Bulb and corm planted areas when in leaf.

### **340    SPOT WEEDKILLING IN ROUGH GRASS AREAS**

- Herbicide: Suitable for suppressing perennial weeds.
- Operations: Spot treat all broad leaved weeds.

### **350    FERTILIZER - SPRING APPLICATION**

- Type: Slow release.
- Application rate: 100 g/m<sup>2</sup>.

### **360    FERTILIZER - AUTUMN APPLICATION**

- Type: Slow release.
- Application rate: 100 g/m<sup>2</sup>.

### **380    REINSTATEMENT OF DAMAGED LAWNS**

- Damaged turf: Remove to a depth of 40 mm.
- Preparation: Cultivate substrate to a fine tilth.
- Reinstatement: Contractor's choice of returfing or topsoiling and reseeding:
  - Returfing: Quality and appearance to match existing.
  - Reseeding: Fill with fine topsoil to BS 3882 multi purpose class, free from stones, debris and weeds. Reseed with a seed mix to match existing grass in quality and appearance.
- Protection and watering: Provide as necessary to promote successful germination and/ or establishment.

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

- Worn or damaged areas: Make good by returfing or reseeding:
  - Returfing standard: To BS 7370-3, Clause 12.2.
  - Reseeding standard: To BS 7370-3, Clause 12.6.
- Turf or seed: To match existing in appearance and quality.
- Protection and watering: Provide as necessary to promote successful germination and/ or establishment.

## **FLOWER BEDS**

### **460    BEDS OF PERENNIALS OR PERENNIALS AND ANNUALS**

- Plant supports: Stake and tie plants using bamboo canes and flower canes.
  - Length: To suit plant height.
  - Maintain throughout the growing season.
- Gaps in planting: Refill by replanting.
- Watering:
  - New plants: Before and after planting out.

- Ongoing: As necessary for the continued thriving of all planting.
- Operations at end of growing season:
  - Trim: Older flowering stems of herbaceous perennials.
  - Remove: Redundant plant supports, litter, debris and arisings.
  - Cultivate: Fork over the soil, taking care not to cause undue disturbance to plants.
  - Top dress: Apply sanitized and stabilized compost top dressing.

#### **470 FLOWER BEDS GENERALLY**

- Operations:
  - Remove: Dead flower heads, fallen leaves, litter and debris.
  - Weeds: Thoroughly hand weed.
  - Cultivate: Lightly hoe.
  - Trim: Clip grass edges.
- Fungicide: Not required.
- Insecticide: Not required.

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

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

- Duration: One full growing seasons from the date of planting.
- Weed control:
  - Method: Keep planting beds clear of weeds by use of suitable herbicides.
  - 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.
- Soil condition: Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.
- Watering: As schedule and when instructed.

#### **502 ESTABLISHMENT OF NEW PLANTING - FERTILIZER**

- Time of year: March or April.
- Type: Organic.
- Spreading: Spread evenly. Carefully lift and replace any mulch materials.
  - Application rate: As manufacturer's recommendations.

#### **510 TREE STAKES AND TIES**

- Inspection/ Maintenance times: As scheduled and immediately after strong winds.
- Stakes:
  - Replace loose, broken or decayed stakes to original specification.
  - 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.
- Ties: Adjust, refix or replace loose or defective ties, allowing for growth and to prevent chafing.
  - Where chafing has occurred, reposition or replace ties to prevent further chafing.
- Removal of stakes and ties: During spring when no longer required to support the tree.
  - Fill stake holes with lightly compacted soil.

## **515 TREE GUY WIRES**

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

## **520 REFIRMING OF TREES AND SHRUBS**

- Timing: After strong winds, frost heave and other disturbances.
- Refirming: Tread around the base until firmly bedded.
- 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**

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

## **540 PRUNING GENERALLY**

- Pruning: In accordance with good horticultural and arboricultural practice.
  - Removing branches: Do not damage or tear the stem or bark.
  - Wounds: Keep as small as possible and cut cleanly back to sound wood.
  - Cutting: Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on cut area.
  - Larger branches: Prune neither flush nor leaving a stub, but using the branch bark ridge or branch collar as a pruning guide.
- Appearance: Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well balanced natural appearance.
- Tools: Use clean sharp secateurs, hand saws or other approved tools. Trim off ragged edges of bark or wood with a sharp knife.
- Disease or infection: Give notice if detected.
- Growth retardants, fungicide or pruning sealant: Do not use unless instructed.

## **545 PRUNING OF EXCESSIVE OVERHANG**

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

## **550 PRUNING OF EXCESSIVE HEIGHT**

- Timing: Annually.
- Operations: Remove excessive height As instructed.

## **555 PRUNING TREES AND SHRUBS**

- Standard: To BS 7370-4.
- Special requirements: None.

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

- Standard: Type and timing of pruning operations to suit the plant species.
- Time of year: Do not prune during the late winter/ early spring sap flow period.

- Young trees up to 4 m high:
  - 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.
  - Remove duplicated branches and potentially weak or tight forks. In each case cut back to live wood.
- Whips or feathered trees: Do not prune.
- Operatives: Approved specialist contractor.

#### **575 PRUNING ORNAMENTAL SHRUBS**

- General: Prune to encourage healthy and bushy growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour.
- Suckers: Remove by cutting back level with the source stem or root.

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

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

#### **600 TRIMMING RAPIDLY ESTABLISHING HEDGES**

- General: Allow to reach planned height as rapidly as possible.
  - Form: Trim back lateral branches moderately.

#### **605 TRIMMING SLOWLY ESTABLISHING HEDGES**

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

#### **620 REMOVAL OF DEAD PLANT MATERIAL**

- 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**

- Pruning: Remove excess growth, to ensure that signs, light fittings, doors and windows are kept clear at all times.
- Insecure growth: Attach to supporting wires or structures using 1 mm diameter black plastics coated steel wire.
- Supporting structures: Check and repair as necessary.

#### **630 DEAD AND DISEASED PLANTS**

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

#### **635 REINSTATEMENT OF SHRUB/ HERBACEOUS AREAS**

- Dead and damaged plants: Remove.
- Mulch/ matting materials:

- Carefully move to one side and dig over the soil, leaving it fit for replanting.
- Do not disturb roots of adjacent plants.
- Replacement plants:
  - 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.
  - Additional requirements: None.
- Dressing: Slow release fertilizer:
  - Type: Organic.
  - Application rate: As manufacturer's recommendations.

#### **645 WEED CONTROL GENERALLY**

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

#### **650 HAND WEEDING**

- General: Remove weeds entirely, including roots.
- Disturbance: Remove the minimum quantity of soil, and disturb plants, bulbs and mulched surfaces as little as possible.
- Completion: Rake area to a neat, clean condition.
- Mulch: Reinststate to original depth.

#### **655 WEED CUTTING BY HAND OR MACHINE**

- Undesirable grass, brambles and herbaceous growth: Cut down cleanly to a maximum height of 25 mm.
- Herbicides: Remove arisings before application.

#### **657 HERBICIDE TO KILL REGROWTH**

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

#### **665 WEED CONTROL WITH WINTER HERBICIDE**

- Type: Suitable residual soil acting herbicide.
- Time of year: Unless otherwise agreed, complete before end of March.
- Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.

#### **670 WEED CONTROL WITH SUMMER HERBICIDE**

- Type: Suitable foliar acting herbicide.
- Timing: Allow recommended period for herbicide to take effect before clearing dead weeds.

#### **675 DIGGING OVER**

- General: Dig over beds. Do not damage existing plants, bulbs and roots.
  - Depth of dig (minimum): 100 mm.

#### **680 SOIL AERATION**

- Compacted soil surfaces:
  - Prick up: To aerate the soil of root areas and break surface crust.
  - Size of lumps: Reduce to crumb and level off.

- Damage: Do not damage plants and their roots.

#### **685 SOIL LEVEL ADJUSTMENT**

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

#### **690 MAINTENANCE OF LOOSE MULCH**

- Thickness (minimum): 50 mm.
  - Top up: Annually.
- Mulch spill on adjacent areas: Remove weeds and rubbish and return to planted area.
- Weeding: Remove weeds growing on or in mulch by herbicide treatment.

### **TREE WORK**

#### **810 TREE WORK GENERALLY**

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

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

#### **820 PREVENTION OF WOUND BLEEDING**

- Standard: To BS 3998.

#### **825 PREVENTION OF DISEASE TRANSMISSION**

- Standard: To BS 3998.

#### **830 CLEANING OUT AND DEADWOODING**

- Remove:
  - Dead, dying, or diseased wood, broken branches and stubs.
  - Fungal growths and fruiting bodies.
  - Rubbish, wind blown or accumulated in branch forks.
  - Wires, clamps, boards and metal objects, if removable without causing further damage and not part of a support structure that is to be retained.
  - Other unwanted objects, e.g. tree houses, swings.
  - Climbing plants as schedule.

### **835 CUTTING AND PRUNING GENERALLY**

- Tools: Appropriate, well maintained and sharp.
- Final pruning cuts:
  - Chainsaws: Do not use on branches of less than 50 mm diameter.
  - Hand saws: Form a smooth cut surface.
  - Anvil type secateurs: Do not use.
- Removing branches: Do not damage or tear the stem.
- 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.
- Cutting: Cut at a fork or at the main stem to avoid stumps wherever possible.  
Large branches: Remove only with prior approval.
  - Remove in small sections and lower to ground with ropes and slings.
- Dead branches and stubs: When removing, do not cut into live wood.
- Unsafe branches: Remove epicormic shoots and potentially weak forks that could fail in adverse weather conditions.
- Disease or fungus: Give notice if detected. Do not apply fungicide or sealant unless instructed.

### **855 CUTTING TREE ROOTS**

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

### **865 BARK DAMAGE**

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

### **870 CAVITIES IN TREES**

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

## **910 HARD SURFACES AND GRAVEL AREAS**

- Herbicide: Apply a suitable foliar acting or residual herbicide. Allow recommended period for herbicide to take effect before clearing arisings.
- Hard surfaces: Remove litter, leaves and other debris.
- Surface gutters and channels: Remove mud, silt and debris.
- Drainage gullies: Empty traps and flush clean.
- Gravel areas: Rake over. Remove weeds, litter, leaves and debris, and level off.
- Repairs to flexible bituminous pavings: In accordance with the original paving specification or BS 7370-2, clause 4.12.
- Stain removal: In accordance with BS 7370-2, table 4.

## **4.00 PERFORMANCE TARGETS FOR ALL PLANTING AND GRASS AREAS**

(Year 1 - 5 and onwards)

### **Shrub Planting**

Year 1 to year 5: Shrubs are to show healthy and bushy growth combined with desirable ornamental features, such as flower, fruit, autumn and stem colour

Year 5 onwards: As above  
Plants should have reached early stages of maturity with a minimum increase in height of approximately 80% increase in growth from the initial height in year 1

### **Trees**

Year 1 to year 5: Trees are to show evidence of healthy growth with a well-balanced appearance appropriate for the species

Year 5 to 10 and onwards: As above  
Trees are to show successive new growth (vertical and lateral) as well as increase in height at a minimum of 25-30% from initial height in year 1

### **Hedge Planting**

Year 1 to year 5: Hedges shall have dense structure without gaps  
Formal hedges are to be maintained at 1.2m height  
Native Hedgerows are to be kept at 2.5-3.0m height

Year 5 to 10 and onwards: As above

## **5.00 MONITORING**

- 5.1** To ensure that the objectives of the Landscape Management Plan and set performance targets are achieved, the developer shall prepare monthly review reports after site visits.
- 5.2** If problems are identified in the monthly report, a Corrective Action Report is to be prepared. Corrective action is to be taken according to the report and in accordance with the Specification of the Landscape Management Plan.
- 5.3** To assess all soft landscape area and their development over the growing season, the developer is to prepare annual reports. This is to consider the set targets and performance of the landscape, allowing them to schedule maintenance tasks for the following season. Corrective action shall be taken in response to all problems arising within the review reports. Reviews are to be made available to the person responsible for supervising the maintenance contract.
- 5.4** After the period of 5, 10 and 15 years and every 5 years following, the developer or an appointed professional is to prepare long-term review reports about the performance of the landscaped areas with regards to the set performance targets. The long-term report is to include a summary of the management plan for the preceding period of time with all maintenance operations undertaken and performance assessment of the landscape. On the base of previews reports, recommendations for future maintenance can be devised.

## YEARLY MAINTENANCE SCHEDULE FOR NEW DEVELOPMENT AT T2 HEATHROW

Item	Operation	January	February	March	April	May	June	July	August	September	October	November	December
	<b>TREES</b>												
a	Inspection and check & adjust tree ties as appropriate	1	1	1	1	1	1	1	1	1	1	1	1
b	Spray around base of trees				1	1			1				
c	Remove dead or damaged limbs												
d	Formative prune and crown lift	As required								As required			
e	Watering during periods of dry weather [As required]				1	1	1	1	1	1			
f	Fertilizer \ Mulch top up			1						1			
g	Replace dead or diseased plants			As required							As required		
	<b>Planting</b>												
a	Keep all shrubs areas in weed free condition by manual weeding and raking as necessary			1	1	1	1	1	1	1	1		
b	Spot weed treatment with herbicides to eradicate weeds				1	1			1				
	Litter lift	1	1	1	1	1		1	1	1		1	1
	Fertiliser				1								
	Remove dead \ diseased plants			As required							As required		
	<b>GRASS</b>												
Item	Operation	January	February	March	April	May	June	July	August	September	October	November	December
a	Cut grass to height 25mm – no lifting of cuttings			1	2	2	2	2	2	1			
b	Application of fertilizer						1						
c	Selective weed control						1						
d	Litter lift – remove debris and litter from grass areas prior to cutting includes leaf lift in October & November	1	1	1	2	2	2	2	2	2	2	1	1
e	Trim edges around beds & tree circles & upstands			1	2	2	2	2	2	2	1		
f	Remove noxious weeds by hand or spot treatment with herbicides							1					

## SCHEDULE OF MAINTENANCE OPERATIONS FOR NEW DEVELOPMENT AT T2 HEATHROW

MAINTENANCE SCHEDULE FOR PLANTED AREAS: All Maintenance to be carried out in perpetuity for communal areas.

SUMMARY OF MAINTENANCE OPERATIONS	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Duration of operation for establishment.
Reforming after frost lift													1 <sup>st</sup> year only.
Watering													Up to 5 years in drought conditions
Inspection and adjustment of stakes and ties													Annually up to 5 years.
Weed control													Annually up to 5 years.
Pruning													Up to 5 years when required. After the framework has been established pruning should be continued to maintain and control shape, remove dead, diseased wood and wood damaged by frost.
Crown thinning													As required – Does not need to be carried out on every tree.
Crown reducing													As required – Does not need to be carried out on every tree.
Crown lifting													As required.
Pest and disease control													Up to 5 years when required
Fertilising													During 2 <sup>nd</sup> and 3 <sup>rd</sup> year when required.
Litter lift													Should be carried out annually for the duration of the maintenance contract.
Replacement planting													Annually up to 3 years. [As Required]