

20<sup>th</sup> July 2022

South Dublin County Council  
Planning Department  
County Hall  
Town Centre  
Tallaght  
Dublin 24

For the attention of Mr Brian Connolly

By email & post

Dear Brian,

**RE: New footbridge from car park of university campus to Airton Close, Tallaght, Dublin 24 – SD21A/0104**

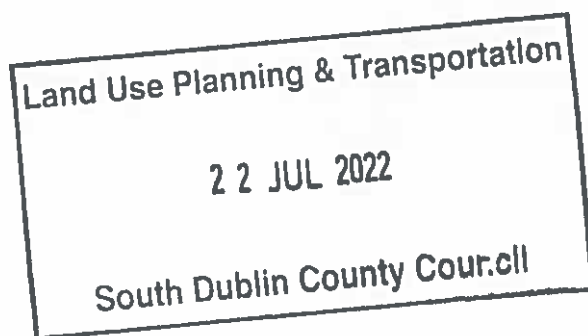
With regards to Condition 2 of the above Grant of Permission, please find enclosed 3No. copies of Landscape Plan and Maintenance & Management Plan. I trust both these meet with your approval.

If you have any queries or require further information, please do not hesitate to contact me.

Yours faithfully

Mark Priestley  
For:  
Hamilton Architects

Enc.



Swain, in the County Court  
21 JUL 1953  
L. J. Swain & Co. Inc.

# Airton Close Footbridge TU Tallaght

**Landscape Maintenance & Management**

**Prepared by MLA  
July 2022**

**mullin**  
landscape architecture

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### 1 INTRODUCTION

This Landscape Maintenance and Management document has been prepared by Mullin Landscape Architecture, Chartered Landscape Architects for the landscape proposed in association with the Airton Close Footbridge TU Tallaght.

The Management Plan is intended to identify the long term objectives, performance indicators, management responsibilities and annual maintenance procedures which should be undertaken to ensure the successful establishment and long term future condition of all planted (Soft Landscape) areas. The Management Plan is intended to span a 25 year period after implementation of the works, to be read in conjunction with the planting plan and schedules prepared for this project by MLA.

## 2 LANDSCAPE OBJECTIVES

The primary objective of the landscape proposals are to:

- Assist with the integration of the development into its setting.
- Create a design which responds appropriately to the landscape / urban character of the area.
- The creation of an attractive environment and gateway focal point at the new footbridge
- All planting proposed to be introduced during the first available planting season either during or immediately after the development has been completed on site.
- All topsoil used for planting in this area will be imported onto the site. Soil should meet the required specification and be test, examined and approved before acceptance. It is essential that all areas of soft landscape to be free draining.
- Any existing planting and healthy trees where indicated will be protected and retained. (Protection measures to comply with BSBS 5837 2012 'Trees in relation to Construction')

## 3 RESPONSIBILITIES

Whilst implementation and maintenance of all soft landscape areas should be undertaken by a suitably qualified Landscape Sub-Contractor, during the works period and first year post completion (Defects Period) responsibility for maintenance and management of all landscape areas rests with the Main Contractor.

Unless maintenance is extended through direct agreement between the College and the Main Contractor and/or their Landscape Sub Contractor, then after 1 year (End of Defects), responsibility for maintenance and management will transfer to the College.

For the purpose of this document parties responsible for landscape works (including ongoing Maintenance and Management) will be referred to as:

<b>The Contractor</b>	For all works up to end of Defects period	-	(Year 1)
<b>The College</b>	For all works after end of Defects period	-	(Year 2 Onwards)

## 4 SUMMARY OF PLANTING & SEEDING TIMES

This summary is for good practice guidance only.

- Deciduous trees and shrubs: Late October to late March
- Conifers and evergreens: September/ October or April / May.
- Container grown plants: At any time if ground and weather conditions are favourable. Ensure that adequate watering and weed control is provided. (Zero Herbicide use)
- Dried bulbs, corms and tubers: September/ October.
- Grass Seed: Spring -April to May or Late Summer August to September

## 5 SUMMARY OF ANNUAL MAINTENANCE

This summary provides guidance for annual maintenance of soft landscape areas, it is important that those responsible for maintenance operations continually monitor and assess conditions through the year, increasing or decreasing the number of visits and operations as required to keep the landscape in optimum condition.

- Species Rich Grass Generally 1 cut per year (Late Summer)
- Hedging Generally 6 weedings/2 firm ups/ 1 fertiliser/ 1 trim to shape
- Shrubs Beds Generally 6 weedings/ 2 firm ups/ 1 fertiliser/ 1 prune if directed / Water as required.
- Staked Trees Generally 6 visits for stakes, ties and firming/ 1 fertiliser/ 1 crown prune (when required watering to field capacity/ cut stakes down to half height at end of third year or as directed.

## 6 YEAR 1 /DEFECTS PERIOD

## INSTRUCTIONS FOR THE CONTRACTOR

### WILDFLOWER AND MEADOW GRASSES

Ground preparation should follow the supplier's instructions with the soil across proposed wildflower areas to be free draining, with low nutrient levels. Area to be tilled and cultivated prior to seeding, debris, litter and stones of over 50 mm diameter. The seed will be sown following development activities during times of sufficient warmth and moisture, ideally in late spring or early autumn when temperatures are consistently above 4 degrees.

The majority of the sown meadow species are perennial and therefore will be slow to germinate and grow. They will generally not flower in the first growing season. There will often be a flush of annual weeds from the soil in the first growing season. This weed growth is easily controlled by topping. Avoid cutting in the spring and early summer if the mixture is autumn sown and contains Yellow Rattle, or if the mixture has been sown with a nurse of cornfield annuals. These sown annuals should be allowed to flower, then in mid-summer cut and remove the vegetation. It is important to cut back the annuals before they die back, set seed and collapse: this cut will reveal the developing meadow mixture and give it the space it needs to develop.

Where grass/wildflower mix has failed to establish or growing sparsely, over-seeding may be necessary.

Wildflower areas shall generally only require one cut per year in late summer.

### Performance Indicator/ Target

Areas identified for species rich grasses will require ongoing monitoring & intervention. The mowing regime is critical to long term success, and the College should ensure that landscape operatives are familiar with maintaining species rich grassland. – The resultant matrix should contain a rich diversity of species throughout the year.

### **AVENUE AND SPECIMEN TREES: (All staked trees):**

During Year 1 all new planting area to have maintenance visits at 4 or max 6 week intervals as required, and depending on weather and general growing conditions.

These maintenance visits shall include the inspection and care for all existing trees and planting within the site, including minor pruning, bark and general health inspection by suitably qualified and experienced person. All trees to be inspect a minimum of twice per year.

- All trees planted will be staked as per submitted landscape detail. **The Contractor** is to check all trees on each visit for wind firmness, and carry out a stake and tree tie check. Damaged stakes and ties should be replaced immediately.
- Biodegradable tree guards, where provided, to be inspected and made good as necessary to ensure that they are securely fixed, and that all trees are adequately watered during dry periods.
- During the first 3 years of establishment staked trees in grass areas to have a c.500mm dia area around their base kept grass and weed free - This can be achieved through, cultivation and or application of mulch layer or approved mulch mat.
- Dead, dying or diseased trees to be removed and replaced with plant of same species / height as specified, during next available planting season.
- Formative pruning to remove dead or damaged branches is to be carried out as necessary. Any trees which have been damaged, broken or stolen due to vandalism are to be brought to the attention of the School who will assess and determine if they should be replaced.
- Orchard / fruit trees to be pruned according to best horticultural practice.

#### Performance Indicator/ Target

All existing and proposed trees to be maintained to maturity in a healthy condition. Should any trees die or become diseased or damaged during the defects period, this is the responsibility of **The Contractor** to replace, thereafter the School should take action as required. Should any tree or shrub require removal with agreement of the School, it shall be replaced with a suitable substitute during the next available planting season.

Actions required to trees and shrubs in order to maintain a quality landscape setting at the site.

#### **HERBACEOUS, ORNAMENTAL GRASSES AND SHRUB PLANTING**

- In the early stages of establishment within shrub areas, the primary objective is the suppression of perennial weeds and grasses which if unchecked can dominate and outcompete young shrubs and ornamental grasses. Action to remove weed/ dominate grass, should be carried out immediately by cultivation, forking, handweeding or through other herbicide free techniques such as Formstream.
- The maintenance visit will also remove any litter and foreign matter from shrub beds or gravelled areas, with particular attention being given to paper, plastic bags, bottles and glass.
- Any dead dying or diseased shrub or plants to be removed and replaced with a plant of similar species size and original specification as soon as possible.
- Shrubs are to be pruned at appropriate times of the year according to species to remove dead, dying and diseased wood and suckers to promote healthy growth and natural shape. Long shoots of shrubs are to be pruned where they adjoin footpaths or road curbs, and whips and shrub understory planting shall be inspected and straightened as required with all minor pruning undertaken during this period as required.
- Avoid cutting ornamental grasses, with exception of hand removal of head stalks
- All shrub planting areas are to be watered as necessary by the contractor to ensure proper plant establishment, the contractor will be entirely responsible for replacement of all dead plants including those caused by drought during the defects period.
- The contractor to check all plants for wind firmness on regular visits and take appropriate action when necessary.
- Any plants which have been staked and tied are also to be checked and ties replaced as necessary.
- All plant beds to receive the following fertiliser applications:  
In Spring, 35/M2 of 15:10:10 Spring fertiliser
- Any shrubs or tree whips which have been damaged broken or stolen due to vandalism are the contractors responsibility whilst they have charge of the grounds security – thereafter should this occur it should be brought to the attention of the school as soon as possible. The college will assess the need for replacement.

- Feature herbaceous plants will require additional maintenance to the actions outlined above. By the end of Autumn old foliage and flowers of herbaceous plants will begin to die back. With the exception of plants that retain an attractive seedheads (which should be retained through the winter), old foliage should be cut back to the ground (care should be taken not to damage the crown or base of the plant) then lightly mulch round the base.
- In spring as new growth emerges from the plant crown, all dead stems from the previous year should be cut away (including seedheads) etc and suitable fertiliser added.

#### Performance Indicator/ Target

All existing and proposed shrubs to be maintained to maturity in a healthy condition. Should any plants die or become diseased or damaged during the defects period, this is the responsibility of **The Contractor** to replace, thereafter the School should take action as required. Should any tree or shrub require removal with agreement of **The College**, it shall be replaced with a suitable substitute during the next available planting season.

Actions required to trees and shrubs in order to maintain a quality landscape setting at the site.

#### **HEDGES**

- All hedges to be grown and maintained to heights as indicated on landscape plan.
- All hedges species as per landscape plan.
- Hedges should ideally be planted in the autumn when the soil is warm after the summer and damp from autumn rain. Planted in double or triple row of trees to create width. If space is restricted a single row of plants zig-zagged slightly to allow root space. Do not cut top leader growth until plants have reached 1.1m high.
- Prune hedges in the autumn when there is no chance of disturbing nesting birds. The nesting season usually runs from 1<sup>st</sup> March to 31<sup>st</sup> August each year, however time of nesting can be weather dependent and some birds may nest outside this period, so it is essential to always check carefully for active nests prior to cutting. It is an offence under Section 1 of the Wildlife and Countryside Act of 1981 to intentionally take, damage or destroy the nest of any wild bird while it is in use or being built, or to intentionally kill, injure or take chicks or adults, or intentionally take or destroy any eggs. In addition The Wildlife and Natural Environment (NI) Act 2011 also protects nesting birds and it is an offence under this legislation to disturb nesting birds, their chicks, nests or eggs at any time of the year.
- It is best to prune deciduous varieties in late autumn when they are dormant. Cut back quite hard in the first couple of years so the hedge thickens up at the base.
- Deciduous species are usually pruned twice annually, first in winter (before 1<sup>st</sup> March) while dormant and again in late summer (after 31<sup>st</sup> Aug). If using electrical or fuel powered shears, exercise all precautions as instructed by manufacturer.
- Cut hedge in an 'A' profile (Tapered sides) Heavy snowfall lying on top of a hedge can cause serious damage. Ensure snow is removed as soon as possible to reduce the unaccustomed weight.
- Woody pruning's can attract fungal diseases such as coral spot if they are left to decay where they fall. It is best to clear them up when you finish hedge trimming.
- All Hedge planting areas to receive the following fertiliser applications:  
In Spring, 35/M2 of 15:10:10 Spring fertiliser

#### **NOTE:**

Unless specified on the landscape plan – in general all internal hedging should not exceed 1.1m height, and all external hedging (site boundaries) should not exceed 2m in height unless specified on landscape plan.



In the High Hedge Act (NI 2011), a "high hedge" means so much of a barrier to light as-

- (a) is formed wholly or predominantly by a line of two or more evergreens; and
- (b) rises to a height of more than two metres above ground level.

Implications of the High Hedge Act (NI 2011) will generally only be a consideration where a proposed hedge adjoins a neighbouring residential properties.

Performance Indicator/ Target

All hedges to be maintained to maturity in a healthy condition. Should any sections die or become diseased or damaged, they should be replaced with a suitable substitute during the next available planting season.

Actions required to hedges in order to maintain a quality landscape setting at the site.

**WILDFLOWER AND MEADOW GRASSES**

Ongoing maintenance of wildflower and meadow grass areas should follow instructions set out in section 6 above.

It is important to emphasise that whilst wildflower areas are low maintenance, they are not maintenance free.

- Wildflower areas shall be cut once per year in late summer.
- Typically 80% of the seed mix will be grass species (predominantly fescues) which are selected to complement wildflower species. However over time should more vigorous grasses emerge, it will be important to suppress these so that they do not dominate and outcompete wildflowers. This can be achieved by adding Yellow rattle seeds into the area to weaken grass growth.
- In a learning environment such as a school, it will be acceptable to add annual wildflower seeds for immediacy and impact.

Performance Indicator/ Target

Areas identified for species rich grasses will require ongoing monitoring & intervention. The mowing regime will be critical to success and the School should ensure that landscape operatives are familiar with maintaining species rich grassland. – The resultant matrix should contain a rich diversity of species throughout the year.

**AVENUE AND SPECIMEN TREES: (All staked trees):**

Ongoing maintenance of Avenue and Specimen Trees should follow instructions set out in section 6 above. In addition over time interventions and guidance as set out below may be required.

- **Staked Trees Year 4-10**  
1 no. basic-level inspection per annum. (Trees subject to cable bracing, staking or other mechanical support should be inspected twice each year). Trees in lower-risk areas may be subject to longer inspection intervals by qualified arboriculturist (in spring to identify foliar issues) to check physiological and biological condition.  
Mulching tree base (c800m dia) in April and/or August as required to control weed growth  
Stakes removed at year 5 or as instructed.  
Remove dead, dying or deformed branches every other year  
Prune, shape and raise crown years 5 and 10  
Replace damaged or failed trees in accordance with the original planting specification. A method statement should be prepared for these operations.
- **Staked Trees Year 11-20**  
1 no. basic-level inspection per annum by qualified arboriculturist (in autumn to coincide with fungal fruiting) to check physiological and biological condition  
Professional-level inspections and arboricultural works as necessary arising from basic-level inspections  
Prune and remove basal growth (3 year cycle)  
Prune, shape and raise crown years 15 and 20
- **Staked Trees Year 21 +**  
1 no. basic-level inspection per annum by qualified arboriculturist (in autumn to coincide with fungal fruiting) to check physiological and biological condition  
Professional-level inspections and arboricultural works as necessary arising from basic-level inspections

Prune and remove basal growth (3 year cycle)

Pollard and crown reduction and even selective removal of trees considered at year 21 would be carried out to maintain attractive form, regular and compact crown architecture, prevent the development of heavy branches and reduce the overall requirement of the trees' rooting systems. This operation would be repeated as necessary to prevent crown interference in adjacent trees, typically every 10 years. A method statement should be prepared for these operations

NOTE : Following the annual inspection, a report will be submitted to the School outlining any recommendations in relation to trees on the site.

All works to trees and shrubs to comply with BS 3998:2010 and Health & Safety Executive (HSE) 'Forestry and arboriculture safety leaflets'.

#### Performance Indicator/ Target

All existing and proposed trees to be maintained to maturity in a healthy condition. Should any trees die or become diseased or damaged, the school should be informed and actions agreed. Should any tree require removal with agreement of the school, it shall be replaced with a suitable substitute during the next available planting season.

Actions required to trees in order to maintain a quality landscape setting at the site.

### **HERBACEOUS, ORNAMENTAL GRASSES AND SHRUB PLANTING**

Ongoing maintenance of Herbaceous, Shrubs and Ornamental Grasses should follow instructions set out in section 6 above. In addition:

- The spread of self-suckering and self-seeded plants should be monitored. Typically after a number of years some species may begin to dominate others, at this point the College may consider it appropriate to cut back or thin out.
- Alternatively some beds may become sparse due to disease to other environmental factors, again the College may consider it appropriate to interplant with new plants or relocate plants from elsewhere in the grounds.
- Landscape operatives should be trained in recognising invasive species and plant disease and should monitor the grounds for their presence. Should invasive emerge, the College should agree an action plan to address the problem.

#### Performance Indicator/ Target

All Shrubs and grasses to be maintained to maturity in a healthy condition. Should any die or become diseased or damaged, the College should be informed and actions agreed. Should any require removal with agreement of the College they shall be replaced with a suitable substitute during the next available planting season.

Actions required to trees in order to maintain a quality landscape setting at the site.

### **HEDGES**

Ongoing maintenance of hedges should follow instructions set out in section 6 above.

#### NOTE:

All internal hedging should not exceed 1.1m height,

All external hedging (site boundaries) should not exceed 2m in height unless specified on landscape plan.

## APPENDIX 1 LANDSCAPE MAINTENANCE SPECIFICATION

### Q35 Landscape maintenance

To be read with Preliminaries/ General conditions.

#### GENERALLY

##### 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.

##### 140 CONTROL OF MAMMALIAN PESTS

- Specialist firms: Submit proposals.
- Method: Submit proposals.

##### 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: Remove to recycling facility.
- Tree roots and stumps: Remove from site.
- Shrub and tree prunings: Remove to recycling facility.
- Litter and non-biodegradable arisings: Remove from site.

##### 180 CHIPPING, SHREDDING OR BURNING

- General: Not permitted on site.

##### 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.

#### 198A REVIEW

- The implementation and effectiveness of the maintenance operations described above shall be kept under review by the contractor and the Employer during each season and adjustments made accordingly.

#### GRASSED AREAS

##### 210A 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.
- 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.

##### 226 TREE STEMS

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

##### 250 LEAF REMOVAL

- Operations: Collect fallen leaves.
- Special requirements: None.
- Disposal: Remove from site for recycling.

##### 255 FIRST CUT OF SPECIES RICH GRASSLAND

- Height of initial growth: 75 mm.
- Preparation:
  - Debris and litter: Remove.
  - Stones and earth clods larger than 50 mm in any dimension: Remove
- Height of first cut: 50 mm.
- Mower type: Strimmer.
- Arisings: Cut in late Oct or as above, leave to dry for 2-3 weeks until seeds have dropped. Shake and remove chaff after this period.

#### 255A FIRST CUT OF WET WILDFLOWER GRASSLAND

- Height of initial growth: 100 mm.
- Preparation:
  - Debris and litter: Remove.
  - Stones and earth clods larger than 25 mm in any dimension: Remove
- Height of first cut: 50 mm.
- Mower type: Contractor's choice.
- Arisings: Remove for composting on site.

#### 265 MOWING GENERAL AREAS

- Grass height: Maintain between 25 and 50 mm.
- Arisings: Remove for composting on site.

#### 272 MAINTAINING GRASSED AREAS WITH PERENNIAL WILD FLOWERS

- Preparation: Before each cut remove litter and debris.
- Height and frequency of cut in first growing season:
  - Time of first cut: March/ April after autumn sowing or May/ June after spring sowing if 100mm high.
  - Height of first cut: 50 mm .
  - Frequency of subsequent cutting (minimum): Every 6 to 8 weeks until autumn.
  - Height of growth permitted (maximum): 150 mm.
- Height and frequency of cut in second growing season:
  - Time of cut: March/ April to remove excess grass and September/ October after flowering.
  - Height of cut: 75 mm.
  - Trimming: All edges.
  - Arisings: Remove.
  - Watering: as clause 155.

#### 295 SPIKING

- Location: as required.
- Timing: As necessary to relieve compaction.
- Operations: Aerate the soil and improve surface water penetration.
- Depth (minimum): Contractor's choice.

#### 325 RELIEVING SURFACE COMPACTION IN TURF

- Standard: To BS 7370-3.
- Method: Spiking.
- Top dressing: Not required.
- Depth: -.

#### 345 CONTROL OF JAPANESE KNOTWEED

- Operations: Spot treat in June and September during suitable weather conditions and when plants are growing vigorously.
- Herbicide: In accordance with the Environment Agency 'Code of Practice for the management, destruction and disposal of Japanese knotweed'.
- Application: In accordance with the Environment Agency 'Code of Practice for the management, destruction and disposal of Japanese knotweed'.
- Arisings: In accordance with the Environment Agency 'Code of Practice for the management, destruction and disposal of Japanese knotweed'.

## SHRUBS/TREES/HEDGES

### 500 ESTABLISHMENT OF NEW PLANTING

- Duration: Five years.
- 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 required to ensure establishment and continued growth.

### 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: When instructed.
- Fill stake holes with lightly compacted soil.

### 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.

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

#### 550 PRUNING OF EXCESSIVE HEIGHT

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

#### 555 PRUNING TREES AND SHRUBS

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

#### 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: Member of the Arboricultural Association.

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

#### 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.

#### 630 DEAD AND DISEASED PLANTS

- Removal: As soon as possible.
- Replacement: In the next scheduled round of replacement planting.

#### 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: Submit details and cost of plants before ordering.
- Dressing: Slow release fertilizer:
- Type: Organic. Suitable for use near water.
- Application rate: As manufacturer's recommendations.

#### 645 WEED CONTROL GENERALLY

- Weed tolerance: At all times, weed cover less than 5% and no weed to exceed 100 mm high.
- 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 75 mm.
- Herbicides: Do not use.

#### 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: as required.
- Mulch spill on adjacent areas: Remove weeds and rubbish and return to planted area.
- Weeding: Remove weeds growing on or in mulch by hand weeding.

#### 693 MAINTENANCE OF MULCH MATTING/ SHEET MULCHES

- General: Inspect and reattach or refirm mulch mats and sheet mulches.
- Type: biodegradeable.
- Remove: After -.

#### 710 WOODLAND PLANTING MAINTENANCE

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

## 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 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.
- 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.

### 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, clause 8.

### 825 PREVENTION OF DISEASE TRANSMISSION

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

### 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 -.

### 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.

### 860 REMOVING TREES, SHRUBS AND HEDGES

- Standards: To BS 3998, Appendix A and Health & Safety Executive (HSE)/ Arboricultural and Forestry Advisory Group Safety Leaflets.

- Existing services: Check for below and above ground services. Give notice if they may be affected.
- Shrubs and smaller trees: Cut down and grub up roots.
- Tree stumps:
  - Removal: Remove mechanically to a minimum depth of 300 mm below ground level.
  - Removal by winching: Give notice. Do not use other trees as supports or anchors.
- Protection: Avoid damage to neighbouring trees, plants and property.
- 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.
- Filling holes:
  - Material: Use as-dug material and/ or imported soil as required.
  - Finishing: Consolidate and grade to marry in with surrounding ground level.

#### 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.

#### WATER AREAS

##### 895 CLEARANCE OF WATERCOURSES

- Clearance: Remove litter, debris, accumulated silt and excessive vegetation causing an obstruction.
- Frequency: As instructed.
- Time of year: Autumn.
- Method: By land based excavator.
- Access: From one bank only.
- Position: At least 1 m from the top of the bank.
- Phasing: A 10 m<sup>2</sup> section each year from alternate sides.

#### HARD LANDSCAPE AREAS/FENCING

##### 920A FENCING

- Fences: Inspect and repair to maintain boundary definition March

#### IMPORTED TOPSOIL:

To BS 3882.

Texture:

- Sand (0.05-2.00mm) max 75% min 20%
- Silt (0.002-0.05mm) max 60% min 5%
- Clay (less than 0.002mm) max 30% min 5%

Soil reaction: pH5.5-7.8

Stone content: 35% by dry weight of which the fraction 2.5mm must not exceed 20% by dry weight.

Maximum size of stone in any dimension: 50mm.

Electrical conductivity : less than 1500 microhoms per cm when expressed on a 1:2.5 soil: water extract.

Organic matter: not less than 4%

Nitrogen (N): not less than 0.2%

Available phosphorous (P): not less than 45mg/kg

Available potassium (K): not less than 240mg/kg

Available magnesium (Mg): not less than 80mg/kg

Phytotoxic elements:

- Total Copper (Cu): less than 130mg/kg
- Total Nickel (Ni): less than 70mg/kg
- Total Zinc (Zn): less than 300mg/kg.
- Water-soluble Boron (B): less than 3mg/kg

Zootoxic elements:

- Total Arsenic (As): less than 40mg/kg
- Total Cadmium (Cd): less than 15mg/kg
- Total Chromium (Cr): less than 1000mg/kg
- Total Lead (Pb): less than 2000mg/kg
- Total Mercury (Hg): less than 20mg/kg

Free from weeds, roots of perennial weeds, sticks, subsoil, rubble any other foreign matter and chemical contamination.

From an approved source.

Obtain approval of a sample load of not less than 5m<sup>3</sup>. Sample to be retained for comparison with subsequent loads.

TOPSOIL ANALYSIS:

Submit Certificate of Analysis from an approved independent Testing Laboratory for each new source of imported topsoil (allow two weeks minimum for testing).

Analysis to cover:-

- Soil reaction
- Soil texture
- Stone content
- Electrical conductivity
- Nutrient levels
- Organic matter
- Phytotoxic/zootoxic elements
- Recommendations for making good any deficiencies.