

Cyfarthfa Retail Park Myrthyr Tydfil

SPECIFICATION

Landscape Soft Works including Maintenance

PLANNING

LANDSCAPE AND HORTICULTURAL DESIGN

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ND MI Hort.

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Rev	Date	By	Description
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1. CLEARANCE/EXCAVATING

- 1.1 EXISTING SERVICES: Check engineers/architects drawings and specification document for location of all existing and proposed services
- 1.2 SITE FEATURES: Before starting work verify with CA which existing fences, gates, walls, roads, paved areas and other site features are to be removed. Materials arising are to be removed from site.
- 1.3 MATERIALS ARISING
Ownership: Excavated materials, including topsoil, surplus to requirements for filling remain the property of the Employer unless the Contractor:
- Is instructed to remove them from the site, or
- Purchases them at a price to be agreed.
- 1.4 UNSTABLE GROUND: Inform CA without delay if any newly excavated face will not remain unsupported sufficiently long to allow the necessary earthwork support to be inserted. If the instability is likely to affect adjacent structures or roadways, take appropriate emergency action until instructions are obtained.
- 1.5 RECORDED FEATURES
Recorded foundations: beds, drains, manholes, etc: Break out and seal drain ends.
Contaminated earth: Remove and disinfect as required by local authority.
- 1.6 UNRECORDED FEATURES
Give notice: If unrecorded foundations, beds, voids, basements, filling, tanks, pipes, cables, drains, manholes, watercourses, ditches, etc. not shown on the drawings are encountered.
- 1.7 UNDERGROUND STRUCTURES
Remove buildings, walls, roads, foundations, disused services, drains manholes and like (subject to approval by the Main Contractor) in areas to be landscaped to a minimum depth below finished levels of
- **Grass, ground cover and perennial planting 500mm**
 - **Shrub planting 750mm**
 - **Within 2m of tree planting 1000mm**
- 1.8 DRAINAGE
All areas to receive plant material must be signed off by CA as free draining prior to any filling of soils.

2. DISPOSAL OF MATERIALS

2.1 SURPLUS TOPSOIL/SUBSOIL

It has been assumed there is no surplus topsoil or subsoil on site.

2.2 WATER

Keep all excavations free from water until foundations are covered and below ground constructions are completed

2.3 GROUND WATER LEVEL

Give notice to CA if it is considered that the excavations are below water table.

3. FILLING

3.1 HAZARDOUS, AGGRESSIVE OR UNSTABLE MATERIALS:

Do not import or use fill materials which would, either in themselves or in combination with other materials or ground water, give rise to a health hazard, damage to building structures or instability in the filling.

3.2 SUBSOIL

Materials arising from the excavations or imported, capable of compaction by light earthmoving plant, and excluding the following

- Material from marshes or bogs
- Peat, logs, stumps, slurry, mud, and perishable material
- Material susceptible to spontaneous combustion
- Material in frozen condition
- Clay of liquid limit exceeding 80 and/or plasticity exceeding 55
- Material with excessive moisture content
- Unacceptable material class U2 as defined in clause 601 of the Highways Agency 'Specification for Highway Works'

Lay in Layers not more than 200mm thick and lightly compact each layer with earth moving plant to produce a stable soil structure

3.3 COMPACTED FILLING FOR LANDSCAPE AREAS

Fill: Material capable of compaction by light earthmoving plant.

Filling: Layers not more than 150mm thick. Lightly compact each layer to produce a stable soil structure.

3.4 LOOSE TIP FILLING FOR LANDSCAPE AREAS

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

Any areas designated for planting that have become compacted must be relieved of compaction before topsoiling/planting.

4. SOILING

4.1 GRADING SUBSOIL

General: Grade to smooth flowing contours to achieve specified finished levels of topsoil.

Areas of thicker topsoil: Excavate locally.

4.2 SURFACE PREPARATION

Stones: Immediately before spreading topsoil remove stones larger than 75mm.

Other items: Remove contaminants and/or debris.

Ensure there is a minimum of 300mm depth of subsoil in all areas to be planted.

4.3 IMPORTED SUBSOIL

Subsoil is to be naturally occurring material, excavated from a level immediately below the vegetable topsoil down to a maximum depth of 2.0m from the original ground level. To comply with clause D20/515

The material shall be a friable consistency, free draining, free from extraneous material and pernicious weeds and with a clay content of no greater than 10%. The subsoil must contain no chemical or domestic refuse or pollutants that would be harmful to short term or permanent plant life. The material will have a pH level between 6.5 and 7.5.

All sources of material shall be stated and a sample be provided for analysis, inspection and approval prior to deliveries to site. All supplies thereafter shall conform to approved samples.

4.4 IMPORTED TOPSOIL

All areas to be soft landscaped

Provide as necessary to make up any deficiency of topsoil existing on site and to complete the work

Source : The source of the material shall be confirmed in writing to the CA prior to delivery on site, and a certificate of analysis from a reputable soil analysis shall be provided for every 500cu m prior to delivery at no extra cost to the contract. A 5cu m sample of the topsoil shall be submitted to the Construction Manager prior to the commencement of bulk deliveries to site. Once approval has been given all supplies thereafter shall be derived from the same source and shall conform in every respect to the submitted sample

- Texture: Medium loam in a workable consistency, having been stripped to a depth not exceeding 250mm from original ground level with its content of humus not less than 58% on a dry weight basis to BS 3882, figure K1
- Reaction: pH 6.0 to 7.5 to BS 1377 : part 3
- Organic Matter : Not less than 4%
- Nutrient content: Nitrogen, phosphorus, potassium and magnesium. Minimum index values to be as for general purpose grade of BS 3882. Nitrogen (N) : Not less than 0.2%. Available Phosphorus (P) not less than 70ppm when extracted with 4.2% NAHCOPz at pH8.5. Available Potassium (K) : not less than 330ppm when extracted with 8% ammonium nitrate. Electrical conductivity : below 1500 micro-ohms per cm in 1.2%
- Made up of: discernible crumbs typically 2-7mm diameter, each comprising an

- aggregation of soil particles attracted around a sticky humus centre.
- Maximum size of stone in any dimension : 50mm
- Maximum stone content by dry weight : reasonably free of stone up to 10% in any dimension
- On visual inspection : free of fragments and roots of aggressive weeds, sticks, straw, subsoil, pieces of brick, concrete, glass, wire, large lumps of clay or vegetation, or any other foreign matter exceeding 50mm in size

Other requirements: Manufactured soil is not acceptable

4.5 CONTAMINATION

General: Do not use topsoil contaminated with subsoil, rubbish or other materials that are:

- Corrosive, explosive or flammable.
- Hazardous to human or animal life.
- Detrimental to healthy plant growth.

Subsoil: In areas to receive topsoil, do not use subsoil contaminated with the above materials.

Give notice: If any evidence or symptoms of soil contamination are discovered on the site or in topsoil to be imported.

4.6 SPREADING TOPSOIL

Temporary roads/surfacing: Remove before spreading topsoil See clause 1.2.

Layers:

- Depth (maximum): 150 mm.
- Gently firm each layer before spreading the next.

Depths after firming and settlement (minimum) Grass areas 200mm, shrub and transplant areas 450mm, 700mm for trees.

Crumb structure: Do not compact topsoil. Preserve a friable texture of separate visible crumbs wherever possible.

All areas on a minimum depth of 300mm of subsoil

4.7 FINISHED LEVELS OF TOPSOIL AFTER SETTLEMENT

Above adjoining paving or kerbs: 30 mm.

Below DPC of adjoining buildings: Not less than 150 mm.

4.8 WEED CONTROL

Maintain all top soiled or subsoil areas to be landscaped free from weed growth up to the time of cultivation by the use of a suitable approved herbicide complying strictly with all manufacturers recommendations.

5. EXTERNAL PLANTING

5.1 SOIL CONDITIONS:

Cultivate and plant into moist friable soil that is not waterlogged.

Do not plant into frozen or snow covered soil without prior approval of the CA. Provide adequate additional root protection and prevent planting pit sides and bases backfill materials from freezing.

5.2 CLIMATIC CONDITIONS:

Carry out the work while soil and weather conditions are suitable for the relevant operations. Do not plant during periods of frost or strong winds. Plant only during the following periods:

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 are provided.

5.3 MACHINES AND TOOLS:

Use only machinery and tools suitable for the site conditions and the work to be carried out. Use hand tools around trees, plants and in confined spaces where it is impracticable to use machinery.

5.4 WATERING IN GENERAL:

Ensure the full depth of topsoil is thoroughly wetted.

Use a fine rose where appropriate to avoid damaging or loosening plants.

5.5 WATERING: Water as necessary to ensure the establishment and continued thriving of all planting.

5.6 WATER RESTRICTIONS:

If the 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.

5.7 NOTICE TO CA:

Provide 3 days notice of the following operations, to give the CA the opportunity of being present:

- Setting out
- Application of herbicide
- Application of fertilizer
- Delivery of plants
- Spreading of topsoil
- Planting of trees/ shrubs/ grass seeding/ native hedge planting
- Each site visit during the maintenance period

5.8 PREPARATION, PLANTING AND MULCHING MATERIALS GENERALLY:

Do not use materials containing concentrations of toxins, pathogens or other extraneous substances harmful to plant, animal or human life, except as specified elsewhere.

Submit to CA a supplier's certificate for the following materials and obtain approval

before ordering or using the materials: any materials requested. The certificates must provide the following information

- Source of supply
- Analysis of content
- Confirmation of suitability for proposed purpose
- Confirmation of absence of harmful substances

5.9 SETTING OUT

Clearly mark boundaries of planting areas and location of trees and obtain approval before starting work.

5.10 USE OF CHEMICALS GENERALLY:

The Contractor must use a certified operator, take appropriate safety precautions and comply with the Control of Pesticides Regulations 1986, the conditions of approval for the chemical and any relevant Code of Practice issued by MAFF.

- The Contractor must dispose of empty or unwanted containers and chemicals, including unused diluted tank mixture, in a safe way in accordance with the methods approved by the Control of Pesticides Regulations and relevant Codes of Practice. Disposal will be off site unless prior arrangements have been made.
- The Contractor must notify the CA of his intention to apply chemicals, the product to be used and the dose rates.

6. TREES/PLANTS/GENERALLY

6.1 PLANT MATERIAL

Materially undamaged, sturdy, healthy, vigorous, of good shape and without elongated shoots.

Grown in a suitable environment and hardened off.

Free from pests, diseases, discoloration, weeds and physiological disorders.

Budded or grafted plants to be bottom worked, unless otherwise specified or approved.

With balanced root and branch systems, root system and condition in accordance with the relevant part of the National Plant Specification.

True to name.

6.2 CONDITION OF MATERIAL:

All plant material is to be healthy, vigorous and sound nursery stock, with well-formed fibrous roots, well-formed heads and to have been grown at, or grown on, the supply nursery for a minimum of one year.

6.3 TREES/PLANTS:

Name, forms, dimensions and other criteria as scheduled and defined in the National Plant Specification.

6.4 CONTAINER GROWN PLANTS:

Supplied in a growing medium with adequate nutrients for the plant to thrive until permanently planted.

Centred in the container, firmed and watered well.

With root growth substantially filling the container, but not root bound, and in a condition conducive to successful transplanting.

Grown in the open for at least two months before being supplied.

Grown in containers with holes adequate for drainage when placed on any substrate commonly used under irrigation systems.

Supplier: as approved by client/CA/landscape architect

6.5 LABELLING AND INFORMATION

Provide each tree / plants of a single species or cultivar with supplier's labelling for delivery to site, showing:

- The full botanically name
- Total number
- Number of bundles
- Part bundles
- Suppliers name
- Employers name and project reference
- Plant specification, in accordance with the scheduled National Plant Specification categories

When requested provide to the CA additional stock information as follows:

- Propagation methods and dates
- Country of origin
- Impact of pest / disease

6.6 LABELLING AND INFORMATION:

Label all trees/plants in accordance with the relevant part of BS 3936.

6.7 SUPPLY OF TREES / PLANTS

Unless specified otherwise, obtain trees / plants from suppliers listed in the Horticultural Trades Association Nursery Certificate scheme.

6.8 PREDELIVERY INSPECTION:

The following are to be inspected by CA before supplying to site then clearly identified as being reserved for use on this project:

- **All trees.**

6.9 PRE-SELECTED PLANT MATERIAL

The Contractor is required to place an order for the plant material and be responsible for it in every respect, from the point it leaves the supply nursery. In particular the Contractor must:

- Satisfy their self that the plant material leaves the supply nursery in prime condition and that no deterioration has resulted from the lifting operation.
- Comply in full with any requirements of the supplier in order to maintain the effectiveness of the guarantees
- Obtain a valid PHYTO-SANITARY certificate
- Take a receipt of the stock on arrival in the UK and transport to a suitable holding nursery
- Maintain the plant material in a healthy condition until required on site
- Co-ordinate all deliveries of plant material from the supply nursery
- Give 3 days notice to the CA of all deliveries to site

The CA reserves the right to reject damaged or sub-specification plant material at any time in the collection and delivery process.

The Contractor will visit the supply nursery at the end of the growing season making provision for the CM and CA to accompany him, and at that time check the health and quality of the plant material.

6.10 SUBSTITUTES:

If specified plants are unobtainable or known to be likely to be unobtainable at the time of ordering, submit alternatives to the CA, stating price and how they differ from the specification. Such substitutions may not be acceptable and submission of further alternatives may be required. **Obtain approval before making any substitution.**

6.11 PLANT/TREE HANDLING STORAGE AND TRANSPORT:

Comply with CPSE 'Handling and establishing landscape plants' (obtainable from the Horticultural Trades Association) Part I, Part II and Part III, paragraphs 1.3.3 to 1.3.6, 3.0, and 4.0.

Protect plants/trees from frost.

Handle plants/trees with care. Protect from mechanical damage and do not subject to shock, e.g. by dropping from a vehicle.

Packaging of bulk quantities: pallets or bins sealed with polyethylene and shrink wrapped.

6.12 PLANTING GENERALLY:

Comply with CPSE 'Handling and establishing landscape plants' (obtainable from the Horticultural Trades Association) Part III, paragraphs 6.2 to 6.6.

Plant upright or well balanced with best side to front.

6.13 SURPLACE MATERIAL

Including subsoil, stones, debris, wrapping material, canes, ties, temporary labelling and prunings to be removed from the site.

7 PREPARATION OF PLANTING BEDS/PLANTING MATERIALS

7.1 HERBICIDE:

Prevent weeds from seeding and perennial weeds from becoming established, by applying a suitable herbicide. Allow period of time to elapse as recommended by manufacturer before cultivation.

7.2 GENERAL FERTILIZER:

Manufacturer and reference: ENMag by Scottish Agriculture Plc or similar approved. Apply evenly over all planting beds at 55 g/m², or as specified by soil analysis after soil analysis.

7.3 PEAT: Do not use peat or products containing peat.

7.4 SOIL CONDITIONER/AMELIORANT:

One of the following used as backfill material for all tree pits in the percentages stated in clause 8.2:

Manure: Well rotted horse or farmyard dung but not poultry or pig manure.

Leaf mould: Well rotted broad leaves from deciduous trees but not ash, poplar or sycamore leaves.

Other well rotted organic material, subject to approval.

Each batch shall be accompanied by a Certificate of Analysis from an approved independent testing station detailing its nutrient, pH and organic matter content.

7.5 CULTIVATION:

Break up any compacted topsoil to full depth.

Within a few days before planting, but in suitably dry weather and ground conditions, cultivate top 100 mm of all planting beds, using suitable plant to loosen, aerate and break up the soil into particles of 2-8 mm.

Leave surface regular and even, with levels as previously described.

Remove weeds, perennial weed roots and undesirable material brought to the surface including stones and clods larger than 50 mm in any dimension, roots, tufts of grass and foreign matter.

8 PLANTING SHRUBS/HERBACEOUS PLANTS

8.1 SHRUB PLANTING PITS:

Excavate not more than 2 days before planting and retain topsoil for re-use where specified.

Break up bottoms of pits to a depth of 150mm

Backfilling material: As per clause 8.2.

8.2 BACKFILLING MATERIAL: A previously prepared mixture of topsoil excavated from the pit and additional topsoil as required, together with:

Compost/soil conditioner/ameliorant: as specified in Clauses 7.2 and 7.4.

Thoroughly mix the following prior to planting:

- Shrubs
- 70% topsoil
- 30% compost As per clause 7.4
- 250g/m³ fertiliser As per clause 7.2

8.3 AFTER PLANTING:

Water plants thoroughly immediately after planting, using a fine rose or sprinkler where necessary to avoid damaging plants.

Lightly firm soil around plants and fork and/or rake soil, without damaging roots, to a fine tilth with approved gentle cambers and no hollows.

8.4 MULCHING TO ALL PLANT AREAS

All shrub areas with: Melcourt Industries ornamental medium grade bark mulch or equivalent. Clear all weeds, water soil thoroughly and mulch whole surface of shrub planting beds. Depth 50mm and should not cover any plant material.

Bark shall have been rested for 90 days to remove tannin, shall have neutral pH and shall not include sticks, bark strippings, pulp or other timber yard waste.

The Contractor will submit sample for approval.

The timing of the above operation shall be such that the ground is moist when the mulch is applied. If necessary, apply water to soak ground beforehand.

8.5 MULCHING TO ZONES ADJACENT TO FENCE

(as set out on drawing)

Melcourt Industries ornamental medium grade bark mulch or equivalent.

Depth 75mm

Must be 15mm below kerb edging.

Bark shall have been rested for 90 days to remove tannin, shall have neutral pH and shall not include sticks, bark strippings, pulp or other timber yard waste.

The Contractor will submit sample for approval.

9 PLANTING TREES

9.1 TREE PITS GENERALLY:

Orientation: Before lifting, mark north side of trees to ensure that orientation is the same where replanted.

Plant trees upright, unless otherwise instructed, in centre of pit and at original soil depth.

Pruning: Damage to roots, bark or branches to be removed and wounds over 25mm diameter treated with fungicidal sealant. The CA has the right to reject any tree where pruning has resulted in the loss of the natural form of the tree and where extensive damage may result in the death of the tree.

Remove non-perishable containers and rootball wrappings prior to planting. Non-galvanised wire mesh cages and timber frames may be retained during planting. Thoroughly water to field capacity immediately after planting using a low pressure hose.

Supply bark mulch to 50mm depth as per clause 8.4.

9.2 BACKFILLING MATERIAL:

A previously prepared mixture of topsoil excavated from the pit and additional topsoil as required, together with:

Compost/soil conditioner/ameliorant: as specified in Clauses 7.2 and 7.4.

Thoroughly mix the following prior to planting:

- Trees
- 70% topsoil
- 30% compost As per clause 7.4
- 250g/m³ fertiliser As per clause 7.2

Break up bottoms of pits to a depth of 300mm and scarify sides.

9.3 TREE SUPPORTS

Supply and install system in accordance with good horticultural practice.

Obtain approval of system from CA prior to purchase/installation.

10. LANDSCAPE MAINTENANCE.

10.1 MAINTENANCE

Carry out the following operations from completion of planting until the end of the defects liability period which will operate for 12 months.

A revised, bound manual is to be prepared by the contractor at the end of the 12 month Defects Liability Period for use of the employers representative.

Make visits at approximately fortnightly intervals during the growing season and as necessary to fulfil the requirements of this specification.

10.2 FAILURES OF PLANTING:

Excepting theft or malicious damage after practical completion, any trees/shrubs/plants that have failed to thrive, which are apparent during the Defects Liability Period will be regarded as defects due to materials or workmanship not in accordance with the Contract. Unless otherwise instructed they must be replaced by approved equivalent trees/shrubs/plants during the next available planting season. Replacements must match the size of adjacent or nearby plants of the same species or should match the original specification, whichever is the greater.

10.3 VANDALISM:

The cost of reinstating any loss or damage resulting from malicious damage or theft during the Defects Liability Period will be met by the Employer. Any claim in this connection must be lodged with the CA in writing at the earliest possible time and be capable of proof that the damage has been so caused.

Where work is to be reinstated, the cost will be determined where possible from rates in the Schedules/Bills of Quantities.

13.4 MAINTENANCE OF TREES AND PLANTED AREAS:

Maintain plants and planted areas in good condition up to the end of the Defects Liability Period which will operate for 24 months for multi-stems and semi-mature stock and 12 months for all else.

Maintenance is to include watering, pruning, application of approved chemicals to combat insect attack, disease and weeds, forking and hoeing of beds, firming plants and stakes and removal of all rubbish.

Carry out provisional/additional works within 14 days of receiving written instruction from the CA.

Give written notice to CA within 7 days to confirm completion of individual maintenance operations.

10.5 MAINTENANCE PROGRAMME:

The Landscape Contractor will provide a maintenance programme covering the requirements of this specification no later than 14 days after the acceptance of Practical Completion. Programme to identify:

- Number of visits
- Approximate dates
- Operations to be undertaken at each visit
- Chemicals to be used, location and quantities
- Machinery and labour.

Within the programme provide space for ratification by the CA or Client Representative that the work has been completed. Give 48 hours notice to CA of

intention to carry out maintenance works. At end of each visit inform CA in writing of operations carried out, within 48 hours. Failure to notify CA and record work done may result in non-payment.

10.6 REPLACEMENTS:

Replacements Inspection: Trees and shrubs at the end of the 12 months Defects Liability Period. An inspection will be made by the CA, all trees and shrubs which are dead, have failed to show leaf, or are seen to be seriously retarded in growth to such a degree that they are below the standard originally specified, or which are in an unhealthy condition shall be removed from the site. These and others failing/missing due to the Contractor's negligence shall be replaced by the Landscape Contractor as soon as planting conditions permit during the normal planting season.

Replacement: If trees/shrubs fail to come into leaf in the second growing season they shall again be replaced at the appropriate season at no additional cost.

Malicious damage: The Contractor is to inspect the planting at intervals to ascertain the extent of any losses or damage resulting from vandalism or other causes outside his control. Any such damage shall be immediately brought to the attention of the CA and the Contractor shall carry out such remedial works as instructed.

If more than 5% of replacements fail to come to leaf during the season following the end of Defects Liability Period they will again be replaced at the appropriate season at no additional cost.

10.7 REINSTATEMENT

Reinstate to original condition and within a reasonable period of time (according to season), any damage or disturbance occurring during work, to soil structure, planting, grass, fencing, hard landscaping, structures or buildings.

10.8 CONTROL OF MAMMALIAN PESTS

Employ only approved firms and methods.

10.9 CLEANLINESS:

At completion and at each visit, remove soil and other debris from all hard surfaces and grassed areas and leave the works in a clean tidy condition.

10.10 PEST CONTROL

Apply approved pesticides as necessary to control and insect or fungal attack. Report to CA any signs of insect and/ or fungal attack and apply approved pesticides immediately as instructed.

10.11 PLANTING MAINTENANCE: During the Defects Liability Period carry out maintenance of the planted areas as follows:

Keep planting beds clear of weeds, by hand weeding only. **Do not use herbicide.**

Fork over beds as necessary to keep soil loose with gentle cambers and no hollows, taking care not to reduce depth or effect of mulch.

Every 6 months check condition of dead man anchors. Re-tension and make good where necessary.

10.12 WATERING GENERALLY

Obtain CA's approval before using a supply other than potable mains water.

Ensure the full depth of topsoil is thoroughly wetted.

Use a fine rose or low pressure hose where appropriate to avoid damaging or loosening plants.

Where necessary, loosen soil or form depressions around the stem base of plants to ensure that water reaches the root zone instead of dispersing on the surface

10.13 WATERING

Ensure that sufficient water is applied in accordance with good horticultural practice to maintain healthy growth of trees and shrubs using a fine rose or sprinkle until the full depth of topsoil is saturated.

Contractor to provide CA with suggested watering regime for tree and shrub areas during summer months (establishment period).

10.14 PLANTING MAINTENANCE - PRUNING: Prune at appropriate times, to remove dead or dying and diseased wood and suckers, to promote healthy growth and natural shape. Prune trees to favour a single central leading shoot, unless specified otherwise.

10.15 PLANTING MAINTENANCE – GRASS AREAS: Mow and maintain as per manufacturer's instructions. Report areas failed due to pedestrian or vehicle damage to CA. Any other failed areas to be repaired and re-instated to original specification as per manufacturer's instructions. Remove arisings off-site.

During the Defects Liability Period apply one of the following, according to when during the year the Period falls:

In March: 15:10:10 Spring turf fertiliser at 35g/sq m or equivalent.

In September: 5:10:10 Autumn turf fertiliser at 50g/sq m or equivalent.

10.16 MULCHING PLANTING BEDS: Ensure that ground is moist before mulching, either by timing operation to follow rainfall, or by applying mulch immediately after watering. Mulched areas: As Clause 8.4 to all planted areas top up to original specification.

10.17 MAINTENANCE INSTRUCTIONS: Before the end of the Defects Liability Period submit printed instructions recommending procedures to be established by the Employer for maintenance of the planting work for one full year.

11 LANDSCAPE MAINTENANCE 5 YEARS

Period covering first 5 years post completion of works to be read with:
PROTECTING/MAINTAINING/MAKING GOOD DEFECTS.

GENERALLY

- 11.1 **WATERING:** Water as necessary to ensure the continued thriving of all planting.
- 11.2 **DISPOSAL OF ARISING GENERALLY:** unless specified otherwise, dispose of arisings from all specified operations by removing from site.
- 11.3 **LITTER COLLECTION:** Collect and remove all extraneous rubbish from all planted areas not arising from the contract work and detrimental to the appearance of the site, including paper, packaging materials, bottles, cans, and similar debris.
- 11.4 **CLEANLINESS:** Remove soil and arisings from hard surfaces and leave the works in a clean, tidy condition after maintenance operations.

SHRUBS/TREES

- 11.5 **ESTABLISHMENT OF NEW PLANTING:** During the initial establishment of newly planted trees and shrubs, carry out maintenance of the planted areas as follows:
Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows, taking care not to reduce depth or effect of mulch.
- 11.6 **ESTABLISHMENT OF NEW PLANTING- FERTILIZER**
In March or April, evenly spread approved compound fertilizer, carefully incorporating below mulch materials. Follow manufacturers recommendations for quantities.
- 11.7 **REFIRMING:** Ensure that trees and shrubs remain firmly bedded after strong winds, frost heave and other disturbances. Re-firm by treading around the base. 'Collars' at the base of tree stems created by tree movement to be broken up by fork, avoiding damage to roots, backfilled with topsoil as necessary, and re-firmed.
- 11.8 **PRUNING GENERALLY:**
Prune in accordance with good horticultural practice. Prune larger branches and woody stems in accordance with good arboricultural practice.
Thin, trim and shape appropriately to each species, location, season, and stage of growth, leaving a well-balanced natural appearance.
Use clean sharp secateurs, hand saws or other tools approved by the CA. Trim off ragged edges of bark or wood with a sharp knife.
Remove branches without damaging or tearing the stem.
Keep wounds as small as possible and cut cleanly back to sound wood. Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on cut area.
Prune larger branches neither flush, or leaving a stub, but using the branch bark ridge or branch collar as a pruning guide.
Notify the CA of any disease or fungus. Do not apply growth retardants, fungicide or sealant unless instructed by the CA.

- 11.9 PRUNING OF EXCESSIVE OVERHANG
Remove annually any growth encroaching onto grassed areas, paths, roads, signs, sightlines and light fittings.
- 11.10 PRUNING OF EXCESSIVE HEIGHT
Remove excessive height annually and/or as instructed by CA.
- 11.11 PRUNING TREES AND SHRUBS
Except where specified otherwise, prune as recommended by BS 7370: Part 4, clauses 3.6.3 to 3.6.5.
- 11.12 PRUNING ORNAMENTAL SHRUBS
Prune to encourage healthy and bushy growth and desirable ornamental features, eg. Flowers, fruit, autumn colour, stem colour.
Remove all suckers by cutting back level with the source stem or root.
- 11.13 PRUNING FLOWERING SPECIES:
Winter flowering shrubs in spring.
Shrubs flowering between March and July immediately after the flowering period.
Shrubs flowering between July and October back to old wood in winter.
- 11.14 REMOVAL OF DEAD PLANT MATERIAL
At the end of the growing season, check all dead foliage, dead wood, and broken or damaged branches and stems and remove off site.
- 11.15 REMOVE AND REPLACE DEAD PLANTS
As soon as possible, and in any case within terms of clause 10.2 – 10.5.
- 11.16 REINSTATEMENT OF SHRUB/ HERBACEOUS AREAS
Remove dead and damaged plants as identified by the CA.
Carefully move any mulch materials to one side and dig over the soil, leaving it fit for replanting. Take care not to disturb roots of adjacent plants.
Replace plants, using pits and plants to the original specification or to match the size of adjacent plants of the same species, whichever is the greater.
Dress with SA1 Enmag slow release fertilizer or equivalent at 55g/ sq. m.
Agree details of replacement plants with CA before ordering.
- 11.17 REPLACEMENTS:
Replacements Inspection: Trees and shrubs at the end of each year and up to 5 years post completion to be inspected by the CA. All trees and shrubs which are dead, have failed to show leaf, or are seen to be seriously retarded in growth to such a degree that they are below the standard originally specified, or which are in an unhealthy condition shall be removed from the site. These and others failing/missing due to the Contractor's negligence shall be replaced by the Landscape Contractor as soon as planting conditions permit during the normal planting season.
Replacement at 5 years: If trees/shrubs fail to come into leaf in the second growing season following a replacement at 5 years, they shall again be replaced at the appropriate season at no additional cost.
Malicious damage: The Contractor is to inspect the planting at intervals to ascertain the extent of any losses or damage resulting from vandalism or other causes outside

his control. Any such damage shall be immediately brought to the attention of the CA and the Contractor shall carry out such remedial works as instructed.

11.17 WEED CONTROL GENERALLY

Remove and/ or prevent plant growth that is not required in the landscape to achieve full weed control – **no use of herbicides within planted areas.**

11.18 HAND WEEDING

Remove all weeds, including roots, by hand using hoes, trowel or forks, taking care to remove not more than a minimum quantity of soil, causing minimum disturbance to trees, plants, mulched surfaces and bulbs and leaving the area in a neat, raked, clean condition.

11.19 SOIL AERATION

Prick up trodden or otherwise compacted soil surfaces using a border fork as specified in BS 7370: Part 4, clause 3.4.5.6 to aerate the soil of root areas. Do not damage plants and their roots.

11.20 MAINTENANCE OF MULCH

Top up with ornamental medium grade bark mulch to a thickness of 50mm, as per clause 8.4 to all planted areas.

Sweep up and replace mulch spilling onto adjacent areas and, if not contaminated with weeds or rubbish, return to planted area.

Remove weeds growing on or in mulch by hand weeding.

Ensure that ground is moist before mulching, either by timing operation to follow rainfall, or by applying mulch immediately after watering.

Record materials required, and submit authenticated receipts to CA.

Allow visits annually as necessary to keep the above.

GRASS AREAS

11.21 MAINTENANCE: Mow and maintain as per manufacturer's instructions. Report areas failed due to pedestrian or vehicle damage to CA. Any other failed areas to be repaired and re-instated to original specification as per manufacturer's instructions. Remove arisings off-site.

11.22 FERTILISER:

In March: 15:10:10 Spring turf fertiliser at 35g/sq m or equivalent.

In September: 5:10:10 Autumn turf fertiliser at 50g/sq m or equivalent.

11.23 TRIM EDGES

Cut edges of grass bordering planting areas, pavings etc.

11.24 CLEANLINESS:

Generally: remove arisings from hard surfaces/planting beds and maintain site in a clean and tidy condition.

Litter removal:

During the mowing season, remove litter/tipped rubbish from grass areas prior to each cut.

During the dormant season, visit the site at weekly intervals and collect and remove all litter/tipped rubbish.

Include adjoining fence lines, paving etc. in litter removal.

Collect and remove all litter/tipped rubbish from the whole site fortnightly during the maintenance period.

Leaf collection:

Rake and collect fallen leaves from wooded areas during October/November. Four visits allowed for, to be scheduled with the Construction Manager or Employer's Representative.

12 MAINTENANCE PROGRAMME:

- 12.1 Provide maintenance programme with the contract submittals to cover the specification requirements.
Identify:
Number of visits
Approximate dates
Operations to be undertaken at each visit
Chemicals used
Machinery and labour
Within the programme provide space for ratification by the CM and CA that the work has been completed. Give written notice to the CM within 7 days to confirm completion of individual maintenance operations.

13 TIMING OF WORKS

Any failures during the 5 years maintenance period will be identified in the spring and carried out the following autumn/winter.