HAVANT ACADEMY

SOFT LANDSCAPE SPECIFICATION FOR ENABLING WORKS

August 2011

Our Ref: **JSL1845**

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1 LANDSCAPE CONTRACTOR

1.1 The works described in this specification shall be carried out by a suitably qualified Contractor, one who complies with all Client requirements (such as the ability to complete the job, Member of BALI).

1.2 The proposed Landscape Contractor shall (unless otherwise agreed) be agreed with the client / Landscape Architect.

1.3 The works described in this specification shall be carried out under supervision by suitably qualified Member of the Landscape Institute or other approved supervisor.

1.4 The contractor's attention is drawn to the presence of ‘Protected Species’ on the site. In this instance ‘Protected Species’ refers to any species specially protected under the following legislation:

- The Conservation Habitats and Species Regulations 2010.
- European Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora 92/43/EEC (the Habitats Directive) Annex II and IV;
- Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive) Annex I;
- Wildlife and Countryside Act 1981 (as amended); and
- Protection of Badger Act 1992.

2 SCOPE OF WORKS

2.1 The Soft Landscape Contractor shall carry out the following works as listed within the Soft Landscape Specification, including but not limited to:

- Prepare sub-grade, and excavate to depths stated
- Prepare and grade subsoil to planting beds and tree pits.
- Import (where required) / spread and cultivate topsoil including required soil analysis and any amelioration.
- Supply and deliver specified plants..
- Carry out all planting works including associated works.
- Carry out all grass seeding works.
- Provide maintenance up to Practical Completion.
- Provide 12 months maintenance and defects period post Practical Completion for all shrubs and trees.

3 SAFETY / PROTECTION

3.1 **Generally**

3.1.1 HSE Approved Codes Of Practice

Comply with the following:

- Management of health and safety at work.
- Managing construction for health and safety.

3.1.2 The Construction (Design & Management) Regulations 2007

Comply with The Construction (Design & Management) Regulations 2007. Review prepared risk assessment and action accordingly.

3.1.3 Safety - Residual Hazards

The contractor shall make himself aware of all residual hazards identified in the H&S File. In particular: -

- Steep, unstable nature of banks of the brook
- The sites operations and security requirements
- Ground Conditions

The contractor shall ensure that all necessary safety requirements are adhered to prior to commencing any works.

3.1.4 Forestry & Arboriculture

Comply with Forestry and Arboriculture Safety and Training Council Safety Guidelines. All tree works shall be in accordance with BS 3998: 1989 Recommendations for Tree Work.

3.2 **Protect against the following:**

3.2.1 Pollution

- Take all reasonable precautions to prevent pollution of the site, the Works and the general environment including streams and waterways.

3.2.2 Fuel, Lubricants and Hydraulic Fluids

- Store and handle, including refuelling, only on hard-standing or other approved areas, away from watercourses and drains.
- Keep well away from soil, planting and grassed areas.
- Ensure that vehicles and plant are secure from leakage and spillage. If spillage occurs, take appropriate emergency action and inform the CA immediately.

3.2.3 Use of Pesticides

Prior to using any chemicals as part of the landscape works or maintenance operations, agreement should be sought from the contractor / client. Should agreement be forthcoming the following shall apply.

- Comply with Section 5.2 (Chemicals) of this specification.
- Use only where specified or approved, and then only suitable products as listed in the UK Pesticide Guide.
- Where work is near water, drainage ditches or land drains; comply with the MAFF guidelines for the use of herbicides on weeds in or near watercourses and lakes.
- Observe all precautions recommended by the manufacturer and remove containers from site immediately they have been emptied or are no longer required.
- Operatives must hold a BASIS Certificate of Competence all required soft landscape implementation and maintenance works, or work under the supervision of a Certificate holder

3.2.4 Nuisance

Take all necessary precautions to prevent nuisance from smoke, dust, rubbish, vermin and other causes.

3.2.5 Burning On Site

Burning of materials arising from the work will not be permitted.

3.2.6 Waste

- Remove rubbish, debris, surplus material and spoil regularly and keep the site and Works clean and tidy.
- Ensure that non-hazardous material is disposed of at a tip approved by a Waste Regulation Authority.
- Remove all surplus hazardous materials and their containers regularly for disposal off site in a safe and competent manner as approved by a Waste Regulation Authority and in accordance with relevant regulations.
- Retain waste transfer documentation on site.

3.3 **Protect the following:**

3.3.1 Work In All Sections

Adequately protect all types of work and all parts of the Works, including work carried out by others, throughout the Contract. Wherever work is of an especially vulnerable nature or is exposed to abnormal risks provide special protection to ensure that damage does not occur.

3.3.2 Existing Services

- Notify all service authorities and adjacent owners of the proposed works not less than one week before commencing site operations.
- Before starting work check and mark positions of existing services. If the presence of services cannot be ruled out proceed on the basis that they are present.
- Observe service authority's recommendations for work adjacent to existing services. Do not interfere with their operation without consent of the service authorities or other owners.
- Identify below ground services with signboards giving type and depth, and overhead services with headroom markers.
- Obtain all necessary 'Permits to Work' and comply with all Client site works requirements.
- If any damage to services results from the Works, notify CA immediately and appropriate service authority. Make arrangements for making good without delay to the satisfaction of the service authority or other owner as appropriate.
- Replace marker tapes or protective covers disturbed by site operations to the service authority's recommendations.

3.3.3 Roads and Footpaths

Adequately maintain roads and footpaths within and adjacent to the site and keep clear of mud and debris. Any damage to roads and footpaths caused by site traffic or otherwise consequent upon the Works must be made good to the satisfaction of the Local Authority or other owner. Bear any costs arising.

3.3.4 Existing Topsoil/Subsoil

Protect existing topsoil and subsoil from over-compaction in those areas which may be damaged by construction traffic, parking of vehicles, temporary site accommodation or storage of materials and which will require reinstatement prior to completion of the Works. Agree extent of reinstatement with the CA and bear any costs arising.

3.3.5 Retained Trees/Hedges/Shrubs/Grassed Areas

- Adequately protect and preserve, except those which are to be removed.
- Replace to approval or treat as instructed any species or areas damaged or removed without approval.
- Trees and shrubs which, due to the Contractor's negligence, are uprooted, destroyed, or in the opinion of the CA, damaged beyond reasonable chance of survival in their original shape, must be replaced with those of a similar type and age at the Contractor's expense.

3.3.6 Trees to be Retained

Unless agreed otherwise by the CA, do not:

- Remove or cut existing trees or vegetation without specific instructions.

- Dump spoil or rubbish, excavate or disturb topsoil, park vehicles or plant, store materials or place temporary accommodation within the branch spread.
- Sever roots exceeding 50 mm in diameter or branches from growing trees, without express prior permission.
- Change level of ground within an area 3 m beyond the branch spread.

3.3.7 Protection of Existing Trees

- The contractor shall maintain existing protective fencing or where necessary erect a temporary protective barrier in accordance with Figure 2 of BS 5837:2005 Trees in relation to construction. The barrier shall consist of a 2.3m high vertical and horizontal scaffold framework, well braced to resist impacts with vertical tubes driven into the ground at a maximum interval of 3m. Secure weldmesh panels onto framework and apply sign stating 'NO ENTRY: TREE PROTECTION FENCE'. The contractor shall take all necessary precautions to protect in the course of his work all existing trees or vegetation from malicious or accidental damage.
- The temporary fence will be retained intact for the whole duration of the works unless otherwise instructed by the Contract Administrator. On issue of the practical completion certificate the protective fencing shall be removed and the ground made good and post holes filled with soil and lightly compacted.

3.3.8 Protected Species

Several protected species are known to occupy the site therefore prior to commencing any operations the landscape contractor shall seek clarification from the CA as to the presence and extent of any protected species.

Birds

All naturally occurring wild birds in Great Britain are protected by the Wildlife and Countryside Act 1981 and the Birds Directive. It is illegal to kill, injure or 'take' any wild bird, take or damage the nest of any wild bird whilst in use or being built. The eggs of all wild birds are also protected. Possession of any live wild birds, egg(s) or any part of a wild bird is an offence.

All tree works shall be undertaken outside the bird nesting season (mid Feburary to mid September inclusive). Works outside this period shall only be completed with the express permission of the CA and only then following a visual inspection of the affected vegetation.

The birds listed in Schedule 1 are further protected by Special Penalties. The species listed in Annex I of the Birds Directive are the subject of special conservation measures to ensure their survival and reproduction in their area of distribution. Some species are also listed as UKBAP Priority Species.

Bats

Bats are protected by the Wildlife and Countryside Act 1981 Schedule 5 (as amended) and the Habitats Directive. The combined legislation means that it is illegal to intentionally or deliberately kill, injure or capture bats, deliberately disturb bats (in or out of a roost), recklessly disturb

roosting bats or obstruct access to their roosts, damage or destroy bat roosts, possess or transport a bat, or bat part, unless acquired legally, sell (or offer for sale) or exchange bats or bat parts. Any works that could potentially affect a bat or its place of rest can only be conducted under a licence required in advance from Natural England.

Amphibians and Invertebrates

Slow-worm (Anguis fragilis), common or viviparous lizard (Lacerta vivipara), adder (Vipera berus) and grass snake (Natrix natrix) are protected by the Wildlife and Countryside Act 1981(as amended by the Countryside and Rights of Way Act 2000) by part of Section 9(1) and all of Section 9(5). This means that they are protected against intentional or reckless killing and injuring (but not 'taking') and against sale and transporting for sale.

All native amphibians are partially protected against sale under Section 9(5) of the Wildlife and Countryside Act 1981 (as amended). Great crested newts are fully protected under the Act, and are listed on Schedule 2 of the Conservation Regulations, 1994, (Regulation 38) and on Annexes II and IV of the EC Habitats Directive.

3.3.9 Existing Features

- Prevent damage to existing buildings, fences, gates, walls, roads, paved areas and other site features which are to remain in position during the execution of the Works.

4 SUB SOIL & TOPSOIL

4.1 All excavations, cultivations and grading required beneath the canopy of retained trees or within 3m of a hedge line shall be carried out by hand using hand tools taking extreme care not to damage or disturb any tree roots.

4.2 **Subsoil**

4.2.1 Subsoil grading of the site shall leave landscape areas with smooth flowing contours to achieve the specified finished levels when topsoiled.

- Prior to placing topsoil / subsoil formation should be loosened and/or ripped to a depth of 400mm. Check for presence of underground services prior to commencing any ripping. The contractor shall satisfy himself as to the presence of any services prior to any ripping or cultivation operations – if in doubt advise CA and seek further instruction.
- Any areas compacted during construction works shall be ripped and de-compacted to ensure surface water drainage.
- Any areas found to be wet or waterlogged shall be alleviated by positive land and/or tree pit drainage as necessary to ensure all tree and shrub planting areas are free draining.

4.3 **Topsoil**

4.3.1 Topsoil Analysis For: Existing topsoil to be re-used on site.

- Collect a sample in accordance with BS 3882, Annex A from agreed locations across the site. Submit for chemical analysis to provide as a minimum the following indicators:

  - pH
  - Electrical conductivity
  - Mechanical analysis
  - Stone content
  - Nutrient levels for Nitrogen, Available Phosphorous, Available Potassium
  - Lime status
  - Organic matter
  - Confirmation of soil grade as defined by BS 3882
  - Recommendations for making good any deficiencies and fertiliser treatment to meet the required classification, BS 3882: 2007, grade: General Amenity

- A report detailing the soil analyst's recommendations
- Carry out any recommendations from the soil analyst for soil amelioration and/or soil handling to the approval of the CA.

4.3.2 Imported Topsoil:

It is anticipated that the landscape contractor may need to import topsoil to make up deficiencies on site. In such circumstances the contractor is to comply with the following:

- All imported topsoil shall comply with the following:-

Topsoil: BS 3882 general purpose grade meeting the following specification

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.

- Soil reaction: 5.5 to 7.5 pH
- Reasonably free of stones
- Maximum content of stones up to 50mm in any dimension is 10%
- Organic matter: not less than 4%
- Electrical conductivity: below 1500 micro-ohms per cm in 1.2% soil: water extract
- 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 300ppm when extracted with 8% ammonium nitrate.
- Manufactured soil is not acceptable.
- Free from weed seeds, roots of pernicious weeds, sticks, straw, subsoil, clay lumps and foreign matter exceeding 50mm in size.

Contamination:

- 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.
- In areas to receive topsoil, do not use subsoil contaminated with the above materials
- Inform the CA if any evidence or symptoms of soil contamination are discovered on the site, or in topsoil to be imported.

The source of material shall be confirmed in writing to the Landscape Consultant prior to delivery to site, and a certificate of analysis from a reputable soil analyst in accordance with 3.3.1 above shall be provided for every 500m3 prior to delivery at no extra cost to the Contract. A 5m3 sample of the topsoil shall be delivered to site for the approval of the Landscape Consultant 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.

Samples for analysis shall be representative of the soil, being offered and 10 equal samples shall be taken and be well mixed and quartered.

The Employer may ask for additional tests for toxicity, water holding capacity or mechanical composition which shall be at no extra cost to the Contract.

The Contractor will not place any topsoil prior to the receipt of the topsoil analysis results and will ensure that they agree with the specification herein.

The Contractor will set out in his proposal to the Employer any action which may be necessary should a sample fail.

4.3.3 Spreading Topsoil

IN ALL CASES THE CONTRACTOR SHALL ENSURE THAT THE SUBSOIL / FORMATION LAYER IS FREE DRAINING PRIOR TO PLACING TOPSOIL. ADVISE THE CA IF THIS CANNOT BE ACHIEVED AND SEEK INSTRUCTION BEFORE PROCEEDING.

- Remove temporary surfaces before spreading topsoil.
- Spread over prepared subsoil in layers not exceeding 150mm and gently firm each layer before spreading the next.
- Overall minimum depths after firming and settlement to be:

Grass areas	150mm
Hedgerow areas	400mm
Structure planting	350mm
Tree pits as specified	varies

- Do not compact topsoil. Preserve a friable texture of separate visible crumbs whenever possible.

4.3.4 Finished Levels of Topsoil after settlement, unless otherwise stated, to be:

- 50mm below adjoining paving or kerbs,
- Unchanged within the root spread of existing trees,
- Not less than 150mm below dpc of adjoining buildings,
- Where mulch is specified, topsoil is to be neatly pulled back at edges minimum 75mm deep to allow retention of mulch.
- Married in with adjoining soil areas.

5 PLANTING

5.1 Generally planting should be carried out in accordance with the following British Standards:

- BS 4043: 1989 Recommendation for Transplanting Root Balled Trees
- BS 4428: 1989 Code of Practice for General Landscape Operations

5.1.1 Times of Year for Planting

- Seeding – mid March to the end of April or late August to mid October.
- Root balled / Bare root Deciduous trees and Shrubs – late November to late March.
- Root balled Conifers / evergreens / emergents / water plants – September - November or March - May.
- Turf, Container grown shrubs and trees (including spring ringed) – At any time if ground and weather conditions are favourable. Ensure that adequate watering, drainage and weed control is provided.
- Water-logging shall be avoided through proper ground preparation and tree pit excavation.

5.1.2 Watering

- Quantity – where required to field capacity.
- Application – Even and without displacing seeds, seedlings or soil.
- Frequency – As necessary to ensure the establishment and continued thriving of all seeding/ turf and all planting.

5.1.3 Setting Out

Clearly mark boundaries of seeding / turfing and planting areas, and location of trees and obtain approval before starting work.

5.1.4 Tree Surgery to Existing Trees

- Where scheduled, or as instructed, existing trees shall have all dead, dangerous or damaged branches removed. Lower branches shall be removed to a clear stem height of 2.0m. Ivy shall be severed at the base and removed to a minimum height of 3.0m.
- All tree surgery shall be carried out by an approved tree surgeon in accordance with BS 3998: 1989.
- Branches to be removed should be cut back to leave the final surface as close to the tree as possible, without exaggerating the size of the wound. This will usually coincide with the limit of branch buttressing. The size of the wound shall be as small as practicable, therefore flush pruning should be avoided; pruning which leaves a small collar at the base of the branch is preferred. Drain all cavities where appropriate.

5.2 Chemicals

Prior to using any chemicals as part of the landscape works or maintenance operations, agreement should be sought from the CA. In all cases the following shall apply.

5.2.1 Legislation

- Pesticides include herbicides, insecticides, fungicides, and plant growth regulators.
- The use of pesticides is governed by legislation. The Contractor must comply with 'The Control of Pesticides Regulations 1986' made under the 'Food and Environmental Protection Act 1988' and 'The Control of Substances Hazardous to Health Regulations 1988' made under the 'Health and Safety at Work Act 1974'.
- All pesticides used must be products on the current list of the Agricultural Chemicals Approval Scheme. All pesticide users shall comply with the conditions of approval relating to use clearly stated on the product label.
- The Contractor must comply with all relevant Codes of Practice issued by MAFF.
- In particular where work is near water, drainage ditches or land drains, comply with the 'Code of Practice for the Use of Herbicides on Weeds in Water Courses and Lakes'.

5.2.2 Certificates

- A recognised nominated storekeepers certificate of compliance (BASIS) is required by a Contractor storing more than 200 litres of pesticides.
- All pesticides transported or stored in Contractor's vehicles (regardless of quantity) shall be locked in a separate compartment in the vehicle or within a lockable container in 'pickups' which is bolted to the floor of the vehicle. The storage locker must be sealed and clearly marked as containing pesticides and must bear a standard black and yellow hazard sign.
- A Certificate of Competence (National Proficiency Training Council Certificate) must be held by the contractor applying pesticides and only Certificate of Competence holders shall specify, mix, apply and dispose of pesticides on the site.

5.2.3 Use of Pesticides

- Notification of at least 24 hours shall be given to the Contract Administrator of the Contractor's intention to carry out application of pesticides. The contractor shall select the most appropriate and effective method for each particular area or situation or for any particular use or specific work, and shall notify the Contract Administrator of the type of pesticide, active ingredient, and method and timing of application.
- The contractor shall keep a written logbook detailing all uses and pesticide applications carried out and a copy shall be submitted to the Contract Administrator.
- The contractor is required to notify the public / adjacent land owners of any pesticide application. A warning sign shall be posted at the entrances to the areas treated. Where contained solely within planting beds the sign shall be placed adjacent to edges in noticeable positions. Details of the application and a contact person shall be indicated on the sign.

- The contractor shall in accordance with COSHH Regulations protect employees and other persons, including the general public, who may be exposed to substances hazardous to health.

5.2.4 Disposal

- The contractor shall dispose of waste pesticides and containers in accordance with the 'Control of Pesticides Regulations 1986', 'Control of Pollution Act 1974', and 'Water Act 1989'.
- Safe disposal arrangements shall be made before starting to apply pesticides.
- Concentrated pesticides shall be disposed of in arrangement with the local Environmental Health Department or with a specialist waste disposal contractor.
- Empty containers shall not be re-used for any purpose and containers shall be cleaned thoroughly in accordance with label instructions prior to safe disposal.

5.2.5 Generally

- The contractor shall be responsible for making good and or compensation for any damage resulting from negligence in the application, handling and storage of pesticides.
- The contractor shall be responsible for keeping up to date with all legislation and regulations regarding the use of pesticides.

5.3 Ground Preparation Generally

5.3.1 Peat

Do not use peat or products containing peat.

5.3.2 Cultivation

- Compacted topsoil: Break up to full depth.
- Incorporate specified compost and fertiliser.
- Tilth: Within a few days before seeding / turfing or planting cultivate topsoil using a suitable mechanical cultivator until a fine tilth is achieved to a depth of:

  - 300mm – Shrub planting areas
  - 150mm – Grass seeded areas

- Remove from site undesirable material brought to the surface including stones and clay balls larger than 50 mm in any dimension, roots, tufts of grass, rubbish and debris and foreign matter.
- Any areas which remain waterlogged after cultivation, shall receive additional remediation or positive drainage to maintain suitable aerobic growing conditions.

6 GRASS AREAS

6.1 General Amenity Grass

6.1.1 Fertiliser for Grass Areas

- Type: Fisions PS5 pre-seeding fertiliser.
- Application: Before final cultivation and three to five days before seeding.
- Coverage: Spread evenly at 70 g/m².

6.1.2 Final Cultivation

- Timing – After grading and fertilising.
- Seed bed - Lightly rake to a true, even surface. Remove surface stones/earth clods exceeding 50 mm.
- Adjacent levels: Extend cultivation into existing adjacent grassed areas sufficient to ensure full marrying in of levels.
- The contractor should allow for all cultivation operations to achieve a good seedbed, including hand raking and hand digging on slopes and banks inaccessible to machinery, and against the backs of kerbs and paths.
- Seed type: British Seed Houses – A22 (35g/m2)

6.1.3 Watering

During establishment of grass areas ensure that sufficient water is applied using a fine rose sprinkler to maintain healthy growth.

6.1.4 First Cut of Grassed Areas

- Timing: When grass reaches 75 mm high and is reasonably dry.
- Before cutting, remove debris, litter, and stones and earth clods larger than 25 mm in any dimension and roll with a light roller.
- Method: 48 hours later cut with a suitable cylinder box mower, or suitable rotary mower on slopes and banks.
- Height of first cut: 60 mm.
- Arisings: Remove and dispose of all arisings.

6.1.5 Maintenance

Between the first cut and Practical Completion the height of growth must not exceed to practical completion 100mm. Cut as many times as necessary with machinery and to heights as specified for the first cut.

6.1.6 Failures of grass seed

Bare areas and areas of dead grass which become apparent before the end of the Defects Liability Period will be regarded as defects due to materials or workmanship not in accordance with the Contract.

6.1.7 Maintaining Grassed Areas

- Maximum height of growth at any time: 100mm
- Preparation: Before each cut remove all litter and debris.
  - Cutting: Cut at two weekly intervals as required through the growing season.
  - Arisings: Remove and dispose of all arisings.
  - Trimming: At the time of each cut, trim all grass edges, including round the base of trees, manholes, etc and remove arisings.
  - Weed control: Keep the sward substantially free of broad-leaved weeds by applying an approved selective herbicide.
- Where excessive annual weed growth threatens to smother new grass areas, cut back growth to a height of 50mm with a scythe or rotary cutter and carefully rake off cuttings. Spot treat coarse perennial weeds with a suitable herbicide such as Glyphosate gel.

6.1.8 Fertiliser for Grass Areas

- March application: 11:6:9 Spring/summer turf fertiliser at 35-50 g/m² or equivalent.

7 TREES AND SHRUBS

7.1 Supply and Storage

7.1.1 Trees and Plants Generally

- 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.
- Root system and condition: To requirements of the relevant parts of BS 3936 and balanced with branch system.
- Species: True to name.

7.1.2 Plant / Tree Substitution

- Plants/ trees unobtainable or known to be likely to be unobtainable at time of tendering: Submit alternatives stating proposed substitutions and cost implications.
- Obtain written approval before making any substitution.

7.1.3 Plant / Tree Handling, Storage and Transport

To 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.

7.1.4 Planting Generally

To 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.

7.2 Preparation of Planting Beds/ Planting Materials

7.2.1 Soil Ameliorant / Conditioner / Fertiliser (All subject to topsoil analysis apply the following)

- Locations: All planting areas.

7.3 Planting Operations

7.3.1 Plant Layout

- Spacing: Evenly
- Density: As scheduled.

7.3.2 Shrub Planting Pits

To BS 3936: Part 1: 1980 (1992)

- Timing: Excavate immediately prior to planting.
- Sizes: 150 mm wider than roots when fully spread and 400 mm deep.
- Additional requirements: Increase dimensions where necessary to ensure that pits are at least 75 mm deeper than root system and wide enough to accommodate roots when fully spread.
- Finished level to be at original soil mark on shrubs

7.3.3 Bare Root Whips

Where bare root plants are to be stored briefly on site ensure roots are kept moist and not allowed to dry out. Where stock is bagged do not remove from packaging. Where delays of more than a couple of days are encountered plants should be heeled in moist friable soil to or supported upright on a well drained site and the roots covered in a deep layer of damp straw or similar material which will keep the roots moist. Water periodically and protect from wind and small mammal damage.

7.3.4 Backfilling Material

Composition: Generally previously prepared mixture of topsoil and additives excavated from pit and additional topsoil as required. Note: specific requirements for aquatic plants and meadow areas.

7.3.5 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.
- Immediately after planting shrubs carefully cut back any damaged, dead or diseased branches and remove any weak, thin or malformed growth.
- When directed and to the extent appropriate for the species cut back to encourage growth.

7.3.6 Mulching (Amenity Planting Beds / All Hedgerows)

- Amenity Grade Bark Mulch as supplied by Melcourt Industries Tel: 01666 502711 or equal approved.
- Fire resistance to BS 4790 - 1987.
- Sample to be provided and approved by LA before delivery to site.
- Coverage: settled depth of 50mm
- Do not mulch emergent planting areas.

7.4 **Native Hedgerow Planting**

- Plant native planting at centres and percentages as shown

- Plant into individual pits min 300 x 300 x 300mm deep or 150mm greater than the root spread in all directions as required.
- Prior to planting bare root stock dip roots in Broadleaf P4 root dip.
- Place in centre of pit and backfill with a mixture of 3 parts imported topsoil and 1 part peat free tree/shrub compost plus Broadleaf P4 water storing granules at manufacturer's recommendations (typically 4gms per litre of compost).
- Install 40mm dia x 600mm high green tinted spiral guards to all stock. Include 90cm x 12-14lb/100 bamboo cane where stock is not staked.
- Secure 1200mm+ feathered tree stock with single 32 x 32mm timber stake driven 1/3 stem height and secure with rubber spacer block and rubber belt and tree shelter guard as supplied by J Toms Ltd or equal and approved.
- Install 200mm dia x 600mm high 'shelterguard' and ties plus 25 x 25mm timber stake to all holly plants.
- Ensure stakes are positioned on windward side of plant to avoid stem damage

7.5 Planting Trees

7.5.1 Tree Pits

Sizes as scheduled below:

i) Semi – Mature Stock (+20cm) = 1500 x 1500 x 850mm deep*

ii) Extra heavy standard trees (14-18cm) = 1200 x 1200 x 850mm deep*

iii) Heavy standard trees (12-14cm) = 1000 x 1000 x 750mm deep*

iv) Standard & Select Standard trees (8-10cm) = 800 x 800 x 750mm deep*

* Depth of tree pit taken above any additional drainage layer

7.5.2 Tree Pit Aeration/Irrigation Pipe

- Locations: All trees 8cm girth and above.
- Type: PVC pipe, black, 50mm diameter x 4000mm maximum length with associated end cap.
- Insert during backfill around the rootball; one end shall be placed in the drainage layer and the top end shall be cut off at a height of not more than 25mm above finished ground level and capped.

Short Single Staking for Feathered trees:

- Staking: Drive stake diagonally at least 300 mm into bottom of pit on before planting. Consolidate material around stake during backfilling.
- Height of stake: Cut to approximately 600mm above ground level or 1/3 whichever is the lowest.

- Tie: 38mm reinforced flexible rubber webbing and rubber (not plastic) spacer sleeve secured 25mm from top of stake.

7.5.3 Backfilling Material

Ensure that all tree pits are free draining prior to backfilling. Do not back fill pits that are not free draining – notify Landscape Architect and CA of any pits retaining water.

Topsoil shall NOT be used at a depth greater than 500mm unless agreed with the landscape architect.

Backfill prepared tree pit 200mm layer of washed coarse sand (not builders sand) or horticultural grit. Place rootball onto sand and backfill with a further 100mm washed coarse sand to within 500mm of the finished ground level. Backfill remainder of pit with previously prepared mixture of topsoil excavated from pit and additional topsoil as required, together with –

- Ameliorant/ Conditioner: Planting Compost at the following rates:

  - Standard Trees 40 litres
  - Fertiliser: Fisons Ficote 180 (16:10:10) at a rate of 22 grms/cm girth.
  - In dry/mounded areas apply Broadleaf P4 water storing granules at manufacturers recommendations (typically 4gms per litre of compost)

8 PROTECTING/ MAINTAINING/ MAKING GOOD DEFECTS POST PRACTICAL COMPLETION

8.1 Maintenance

- Duration: Carry out the operations in the following clauses from completion of planting until the end of the maintenance and defects liability period.
- Frequency of maintenance visits: Minimum of fortnightly during growing season.
- Meadow grass to be cut annually only in late September.

8.2 Failures of Planting

- General: Plants/ trees/ shrubs that have failed to thrive (unless due to theft or malicious damage after completion) during period stated, will be regarded as defects due to materials or workmanship not in accordance with the Contract. 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 the earliest appropriate planting season.
- Landscape contractor shall seek approval of any substitutions with CA / LPA prior to implementation.

8.3 Planting Maintenance Generally

- Weed control: Maintain weed free area around each tree and shrub, minimum diameter the larger of 1 m or the surface of original planting pit.
- Keep planting beds clear of weeds, by cultivation, use of approved herbicides and maintaining full thickness of mulch.
- 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.
- Staking: Check condition of stakes, ties, guys and guards. Replace broken or missing items. Adjust if necessary to allow for growth and prevent rubbing of bark. Cut back any damaged bark.
- Subject to favourable plant establishment and lack of rabbit activity, remove any shelters / spiral guards which no longer serve their intended purpose. If still required, refirm / reinstall guards which become dislodged.
- Frequency of checks: 3 months.

- Trees: Spray crown when in leaf during warm weather. Carry out in the evening.
- Standard Trees: Maintain the clear stem of standard trees by pruning away any new growth which may appear along the trunk or basal areas of the tree.

8.4 **Re-firm Planting**

- Re-firm plants that have been disturbed by wind rock or frost, particularly after heavy winds or storms.

8.5 **Pest Control**

- Allow for pest control by spaying with a suitable approved pesticide in cases of bad insect and pest infestation. All spraying must be carried out in accordance with manufacturers written recommendations.
- All damage that occurs, as a result of spraying, shall be made good at the Contractor's own cost.

8.6 **Planting Maintenance – Fertiliser**

- Time of year: Annually in March or April.
- Fertiliser to planting beds: Manufacturer: Fisons Ficote. Product reference: 180 16:10:10.
- Application: Evenly spread, carefully incorporating below mulch materials.
- Coverage: 112 grms/m2.
- Year 3 slow release fertiliser application to trees and shrubs in March or April.

8.7 **Planting Maintenance – Pruning**

- General: 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.

8.8 **Planting Maintenance – Watering**

- Ensure that sufficient water is applied to maintain healthy growth. Carry out as and when necessary using a fine rose or sprinkler until full depth of topsoil is saturated. Regularly water plants in shadow of roof overhangs.
- Water trees from above ensuring root ball is sufficiently saturated to maintain healthy growth – do not rely on watering pipe alone.
- Where applicable carry out regular inspections of the ‘vertical inspection pipe’ to monitor conditions within the pits. Should standing water appear and nor dissipate quickly allow for pumping out as necessary to the satisfaction of the landscape architect.

8.9 **Final Mulching**

- Timing: At end of the maintenance period stated.

- Watering: Ensure that soil is thoroughly moistened prior to remulching, applying water where necessary.
- Planting beds: Re-mulch as specified. Coverage: minimum 65mm depth required at handover.
- Trees: Re-mulch as specified.

8.10 **General Amenity Grass areas**

- Maximum height of growth at any time: 75mm
- Preparation: Before each cut remove all litter and debris.

  - Cutting: Cut at two weekly intervals as required through the growing season.
  - Arisings: Remove and dispose of all arisings.
  - Trimming: At the time of each cut, trim all grass edges, including round the base of trees, manholes, etc and remove arisings.
  - Weed control: Keep the sward substantially free of broad-leaved weeds by applying an approved selective herbicide.

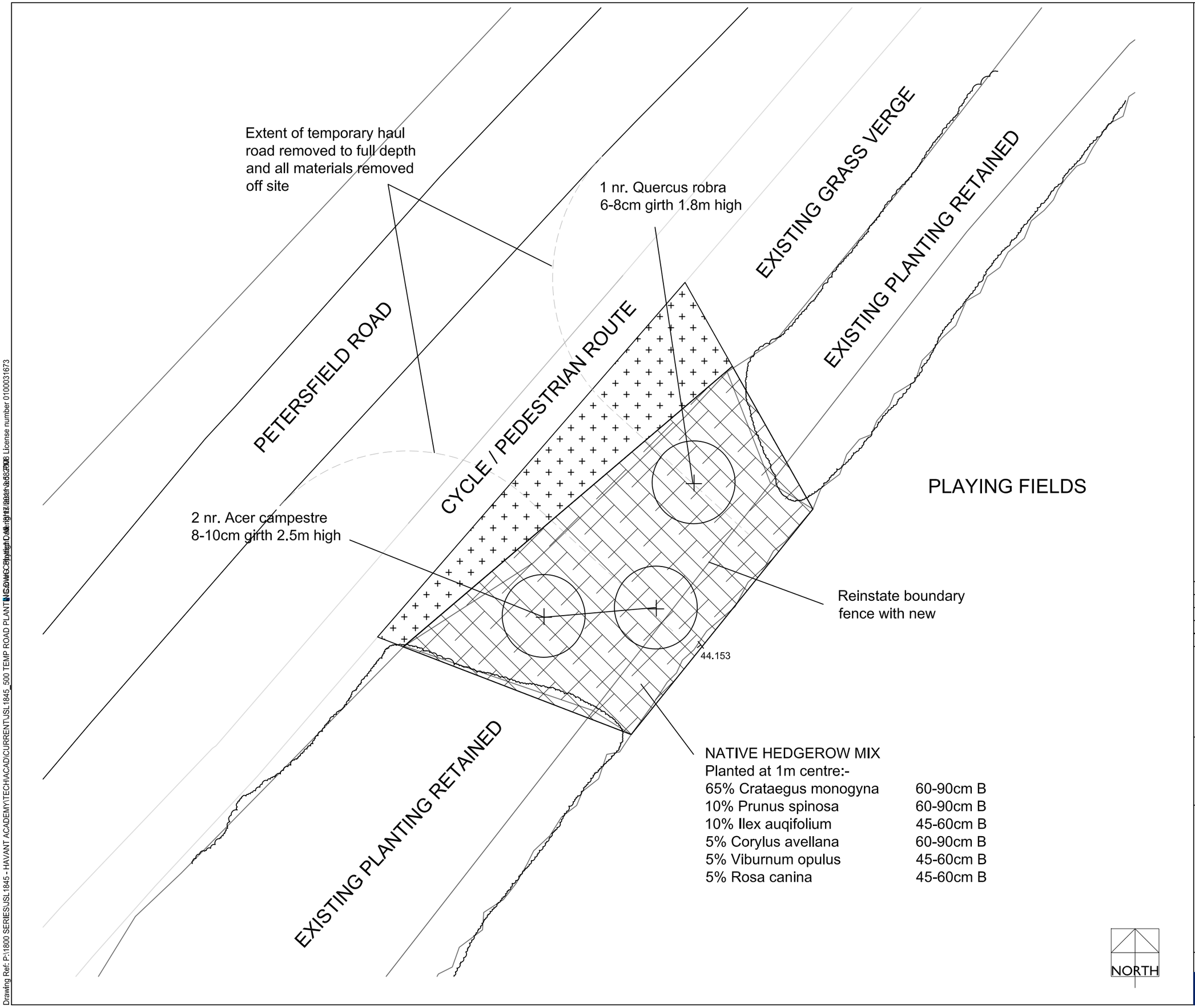
- Where excessive annual weed growth threatens to smother new grass areas, cut back growth to a height of 50mm with a scythe or rotary cutter and carefully rake off cuttings. Spot treat coarse perennial weeds with a suitable herbicide such as Glyphosate gel.
- Fertiliser application: 11:6:9 Spring/summer turf fertiliser at 35-50 g/m²

8.11 **Native Hedgerow Planting**

- Maintain a 1000mm diameter weed free circle around each plant position
- Adjust stakes and guards on a regular basis
- Maintain / re-firm posts to all rabbit proof fencing

APPENDIX I

Planting Plan JSL1845:500



KEY

- 150mm topsoil and amenity grade grass seed mix
- 350mm topsoil and native shrub planting
- Tree planting in prepared pits secured to single timber stake with rubber tie and spacer

Note:

- The proposals assume all areas of hardstaning including all edges, haunching, all sundaries and associated foundations will be borken out to full depth and all materials removed off site prior to any planting operation, by others to satisfaction of the CA.
- All areas of planting to be ripped to a depth of 400mm PRIOR to planting to ensure area is free drainage and decompacted, taking care not to cultivate using machinery within the canopy of existing trees.
- All new levels following grading are to be marry in with adjoining soil levels, taking care not to alter existing soil levels within the canopy of existing trees.
- The extent of planting is indicative ONLY and shall marry in with existing areas of planting retained to provide a continual vegetative screen with no gaps.

Rev:	Date:	Amendment:	Name:	Checked:

Drawing Based Upon: 1040-SETS-A0-001

Status: For Planning

Notes: Contractors are not to scale from this drawing. All dimensions to be checked on site and any discrepancies, ambiguities and/or omissions between this drawing and information given elsewhere must be reported to this office.
If in doubt, ask.

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Client: BAM

Project: Havant Academy
Havant

Title: Temporary Haul Road
Planting Plan

Date: 08/11 Scale: 1:20 Paper Size: A3

Drawn: NJ Checked: CT Job Ref: JSL 1845

Drawing Number: 500 Rev: -

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