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Specification for cultivation and planting.

At

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Ruislip
Uxbridge
HA4

Planning Consent Ref:
23977/APP/2021/2040

Prepared by:

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1. INTRODUCTION

This specification is to be read in conjunction with the Landscape Proposals drawing no 2681-DC-101 and plant schedule where all plant species, sizes, numbers and planting distances are detailed.

2. GENERAL

2.1. Soil conditions:

- Cultivate and plant into moist friable soil that is not waterlogged.
- Do not plant into frozen or snow covered soil.

2.2. 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:

- Bare root deciduous trees and shrubs: Late October to late March.
- Container grown plants: At any time if ground and weather conditions are favourable. Ensure that adequate watering and weed control is provided.

2.3. 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.

2.4. Underground services

1. The landscape contractor is responsible for familiarising them with the location of any underground services and shall take all precautions to prevent any damage occurring to them.
2. Immediately inform the appropriate body if any damage occurs.
3. The landscape contractor shall be responsible for any claims resulting from such damage.

2.5. Implementation

The soft landscape works will be carried out during the first planting season after the completion of the building works, subject to weather conditions and the availability of plant material. The planting season will run from early October to mid April.

3. SOIL

3.1. Reference:

BS 3882: 2015 Specification for Top Soil

3.2. Definitions:

Top soil: Top layer of soil, darker in colour and with more organic matter than the layer below or manufactured to similar properties, generally the top 250-300mm.
Sub-soil: Soil layer extending between the top soil and the little weathered parent material below.

3.3. Stripping and retention of top soil:

Tracked machinery to be used with access routes planned and suitably protected to minimize soil compaction
Top soil should not be stripped, handled or trafficked:

- In a waterlogged condition.
- When the ground is frozen or covered by snow.
- When there are pools of water on the ground surface.

If sustained heavy rainfall (>10mm in 24 hours) occurs during stripping operations then the work must be suspended until the ground has had at least 24 hours to drain or has reached a suitable moisture content .

3.4. Soil Storage:

Retained top soil (free of subsoil, pernicious weeds, demolition or construction rubbish, roots or other contaminants) should be loose tipped in linear heaps on to the agreed & prepared storage site, ensuring the heaps do not exceed 1.5m in height and 3m in width. Heap sides should be shaped to allow run off but should not exceed 30°.
Weed control to be carried out at monthly intervals to prevent the establishment of pernicious weeds using a translocated non residual herbicide. If the soil is to be stored in excess of 6 months the heaps should be protected from erosion by covering. The heaps will not be used for any other type of storage and no construction plant should drive over them.

3.5. Sub-soil grading:

Grade sub-soil to smooth flowing contours to achieve finished levels of topsoil no greater than 300mm. Areas of thicker sub-soil to be excavated and removed as required to ensure a depth of cover appropriate to the area (150-300mm). Should subsoil need to be imported to make up any deficiency it should be supplied with reference to section 3.7 and BS3882:2015. Material should be placed in layers no greater than 150mm before consolidating.

3.6. Sub-soil preparation

Loosening to be carried out with a tracked tractor using a suitable ripping tine to the depths described below after determining the nature of the sub-soil on site:

- Light and non-cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 300 mm.
- Stiff clay and cohesive subsoils: When ground conditions are reasonably dry, loosen thoroughly to a depth of 450 mm.
- Stones: Immediately before spreading topsoil, remove surface stones (larger than 75 mm in any direction), contaminants and any other debris or builders rubble.

3.7. Top soil supply (if required):

Soil classification – Multi-purpose imported material as required to make-up any deficiency to specified works. Soil analysis should comply with BS3382 2015 and be within Ph6-7 range. Material should be free from sub-soil, debris or any contaminant that is hazardous to human or animal life

or detrimental for plant growth. A representative sample should be provided for approval before being brought to site.

3.8. Preparation of undisturbed ground:

Existing woody vegetation: Remove existing planting, visible roots and large stones with a diameter greater than 50 mm. Plough or dig over to full depth of topsoil ensuring sub-soil is not brought to the surface. Fallow period (minimum) one month before further works.

Existing turf or thick sward: Apply a translocated non residual herbicide. After total kill achieved (2-3 weeks) remove visible roots and large stones (with a diameter greater than 50 mm), plough or dig over to the full depth of topsoil, ensuring sub-soil is not brought to the surface. Fallow period (minimum) one month before further works.

4. Composts, mulches & other bulk soil ameliorants

4.1. Green waste composts supply:

Imported sanitized green waste and stabilized composts should be manufactured in accordance with PAS 100. Submit declaration of analysis and representative sample for approval.

4.2. Application rates:

General planting: compost etc. applied at the rate of 7.5m³/100 m² to 75mm depth over planting area. Lawn areas (if required) compost etc. to be applied at the rate of 2.5m³/100 m² to 25mm depth over planting area.

4.3. Timing:

Spread to specified depth and incorporate into the top 200mm of the top soil using rotary cultivator, or by hand, before planting or lawn establishment works.

4.4. Peat:

Peat must not be used as a soil ameliorant.

4.5. Sand:

Horticultural washed sand for lawn top dressing or improving drainage within planting areas. Application rates as required. Particle size of between 0-4mm. Material should be free from pests, disease, fungus, weeds or any contaminant that is hazardous to human or animal life or detrimental for plant growth. Confirm source and analysis before bringing to site.

4.6. Bark mulches:

For mulching new tree or shrub planting medium grade ornamental bark mulch particle size 0-30mm, wood content <20%. Dust and fines minimum, durability 1-2 years, FSC certified, free from pests disease fungus weeds or any contaminant that is hazardous to human or animal life or detrimental for plant growth.

5. PLANT MATERIAL

5.1. Plant quality in general

- In compliance with the relevant part of BS 3936 and BS 5236 for any advanced nursery stock where applicable
- 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.
- With balanced root and branch systems
- True to the names and sizes indicated within the plant schedule

5.2. Bare root plants

- All bare root plants shall have vigorous fibrous root systems which are reasonably equally developed in all directions and of adequate extent to support the growth of the plant's root system.

5.3. 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 well watered.
- 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.

5.4. Rootballed plants

- Root balls shall be well filled with fibrous roots and consist of reasonably cohesive natural soil which has been carefully lifted at the nursery so that it remains fully attached to the roots of the plant
- Plants which have had bear roots "bagged up" with soil or "containerised" are not acceptable.

5.5. Trees

- Overall height shall be 1.5 - 2.0 metres
- Transplanted at least twice in the nursery
- Single, straight leader.
- Substantial and evenly developed side shoots to within 0.5 metres of ground level. Main stem to be substantial enough to be supported by short stake and single tie only.

5.6. Shrubs

- Container grown shrub species shall have a minimum of three substantial stems (breaks) from the lower third of the plant and a well branched form

- Container sizes are specified within the plant schedule.

5.7. Labelling:

- When supplied to site all trees/plants shall be labelled in accordance with the relevant part of BS 3936 in order that they can be easily identified.

5.8. Substitutes

- If specified plants are unobtainable or known to be likely to be unobtainable at the time of ordering, submit alternatives and obtain approval before making any substitution.

6. FERTILISERS, SOIL AMELIORANTS AND PLANTING ACCESSORIES

6.1. All materials:

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

6.2. Fertilisers

- Fertiliser for planting shall be 1Enmag' slow release fertiliser as supplied by Scottish Agricultural Industries.
- Pre grass seeding fertiliser to be granular fertiliser N:P:K ratio 10:15:10

6.3. Tree stakes/ crossbars

- These shall be of round peeled preserved softwood, straight, with bottoms pointed, all snags and burrs removed and to the following sizes:
- 1 no. 50 mm diameter x 1OOO mm for feathered trees.

6.4. Tree ties

All ties for trees are to be rubber with rubber spacer, such as 'Tom's Tie' supplied by J Tom's Ltd., 7, Marley Farm, Headcorn Road, Smarden, Ashford, Kent TN27 8PJ tel: 01233 770066.

7. GROUND PREPARATION AND TOP SOIL

Top soil spreading:

On completion of building works the contractor shall remove all rubble, timber and other arising from areas to the planted.
The formation levels shall be lowered to accept top soil and ground loosened to a depth of 150mm and lightly firmed.
This must be carried out in a planned and systematic way to ensure the prepared sub-soil does not become compacted. Top soil must be handled with reference to section 3.3. Top soil to be loose tipped with a minimum of handling to ensure correct depths and levels.

The site must be allowed to settle for one month before planting operations begin, at which time deficiencies in depths or levels should be addressed. During this fallow period weed

control using a translocated non residual herbicide or cultural methods are to be carried out, as required, to control significant weed growth.

- Top soil shall to be clean selected medium soil to BS 3882:2015 with a pH of 6.0-7.0, stone free.
- Spread top soil evenly to the following depths:
  Grass Areas: 100mm after firming
  Shrub Areas: 400mm after firming
  Tree pits: 600mm after firming
- Remove any stone in excess of 50mm diameter.
- Soil shall not be handled in inappropriate conditions of weather and soil moisture i.e.
  During or shortly after heavy precipitation
  When soil is in a waterlogged condition
  When ground is frozen or covered in snow
  When there are pools of water on the grounds surface

8. GRASS SEEDING

8.1. Top soil, in compliance with, BS 3882:2015 should be a minimum of 100mm (4") depth and free from vegetation.
8.2. The topsoil should be turned over, levelled, lightly consolidated and free from surface stone, other debris and perennial weeds, graded to 25mm above paved surfaces.

Timing:
8.3. Carry out work while soil and conditions are suitable with reference to section 3.3. Seeding and turfing should be carried out between September-October or March-April. Grass sward establishment is possible at other times of year, but will be reliant on irrigation or suitable weather windows.

Specified products:
8.4. General purpose amenity grass seed: Perennial Ryegrass blend containing 25% Tetragreen, 25% Fabian, 25% Columbine, 25% Berlioz such as Rigby Taylor mix R140
Lawn establishment using seed:

Initial preparation:
8.5. In accordance with section 3.5-3.9 minimum top soil depth 100mm.
Consolidation:
8.6. Lightly consolidate with a light "Cambridge" (Ribbed) type roller or, for smaller areas, by walking with the operatives putting their weight onto their heels and walking systematically over the site in two directions.

Finished levels:

8.7. Following rolling any variations in levels will be apparent and addressed by adding top soil or spreading the surface layer. Finished layers to meet the falls and levels of the surrounding grassed areas (acceptable variation +25mm to -10mm). Finished level to adjacent hard surfaces, such as drains, kerbs and paving, +25mm above hard surface.

Seed bed preparation:

8.8. The surface should be lightly and uniformly raked to produce a friable tilth. All surface stones 10mm+ (in any dimension) should be removed from site.

Fertilizer:

8.9. The area to have a suitable, pre-approved, base fertilizer (6:9:6) applied at the manufacturer's recommended rates.

Seeding:

8.10. In calm conditions apply pre-approved seed at a rate of 35-50g per m². The calculated seed quantity should be split in two and applied at right angles to each other to ensure an even coverage. Lightly rake in to cover the seed and leave a final level surface. Larger areas can be sown using a suitable seed drill, if conditions allow following consultation with the HoGM.

Irrigation:

8.11. Wet the top 100mm (minimum) to full depth of topsoil, ensuring even coverage without displacing seed, seedlings or soil if required. Repeat/apply as necessary to ensure even germination and establishment of all sown areas to result in a healthy, vigorous grass sward, free from the visible effects of pests, weeds and disease.

Site.

8.12. Turf will not be laid when soil is frost covered, frozen or when the ground is waterlogged.

8.13. If more than one pallet is on site, turf will be drawn equally from each pallet as work progresses so as not to leave one pallet substantially drier than the others.

8.14. Planks should be placed on newly laid turf for walking along and working from.

8.15. Ensure complete contract between soil and the underside of each turf, if necessary; use the head of a rake held vertically and press (tamp) this against the turf.

8.16. Use whole turf at any edges.

8.17. Trim turf with edging shears or a half moon.

8.18. Finished grass levels are to be 40mm above surrounding kerbs, paving and plant bed edges.

8.19. Start watering on the day turf is laid. On hot days, watering may need to commence prior to laying all of the turf.

8.20. After cultivations and prior to grass seeding, supply spread and lightly rake into the tilth a granular pre-seeding fertiliser N:P:K ration 10:15:10 at a rate of 60 grams per m².

9. TREE PLANTING

Tree planting to be in accordance with BS 8545:2014 *Trees: From Nursery to independence in the landscape*

9.1. **Climatic conditions:**

- No planting to be carried out in extremes of temperature <3°c or > 24°c (without provision for irrigation). If the water supply is, or is likely to be, restricted by emergency legislation then planting should be suspended. Planting in periods of forecast high wind, especially in low or high temperature, must be avoided.

9.2. **Times of year for planting:**

- Container grown trees from late September- mid March (Optimum Late September-November)
- Bare root deciduous trees: Mid October (as available) up to mid-March. (Optimum October-December)
- Container grown conifers and evergreen trees: September/ October or April/ May. Container grown trees and conifers can be planted at other times but only if adequate irrigation can be provided.

9.3. **Tree quality:**

- Tree stock to be in accordance with BS3936: Nursery Stock Part 1 Trees and Shrubs.
- The contractor will ensure that, upon delivery to site, trees will have the following attributes:
- Condition: Materially undamaged, sturdy, healthy and vigorous.
- Appearance: A clearly defined leader, a balanced branching framework subordinate to the central leader evenly spaced along the stem, defined stem taper.
- Budded or grafted plants: Bottom worked, free from the signs of graft incompatibility e.g. disproportionate growth of stock or scion, excessive sucker growth.
- Plant nutrition: Plant foliage is not showing any signs of chlorosis due to nutrient deficiency.
- Health: Free from pests, diseases, discoloration, weeds and physiological disorders.
- Plants: Centred and stable within containers.
- Root growth: Substantially filling containers and able to hold the compost together, but not root bound, and in a condition conducive to successful transplanting.
- Moisture: Root ball soaked to full depth of container no signs of drought stress or foliage scorch.
- Containers: Trees supplied are to be supplied inlight pots, or similar approved container, which stimulates fibrous root growth, with holes adequate for drainage when placed on any substrate commonly used under irrigation systems.
- Hardiness: Grown in a suitable environment and hardened off.
- Species: Labelled with full botanical name, true to type as specified. The contactor is liable for all replacement costs if not true to type.
- Provenance: Country of origin known with appropriate EU plant passport if applicable.
- Material not considered to be in an appropriate condition or standard will not be accepted.
- Planting locations are to be agreed and inspected with the site manager.

- A site assessment will be made with consideration given to tree species, access, overhead and underground services plus general safety.
- The planting site shall be naturally or physically drained to prevent the trees from being waterlogged at any time.
- Excavations for tree pits should be at least twice the diameter of the root spread, and 1.5 times the depth of the roots of the stock to be planted.
- Before planting, the sides of the pit shall be broken up and the base dug over to a depth of 150mm to improve drainage.
- The tree will be planted to the same depth as it was in the nursery. Backfill will be firmed in around the rootball to prevent any air pockets.
- An irrigation/aeration system will be installed comprising of perforated pipe around the rootball.
- Installation of a supporting system for the tree will be necessary and will be in the form of an appropriately sized tree stake and accompanying tree ties. For most trees and locations a single stake and one tie should provide adequate anchorage. "Tall Standard" trees and root- balled trees may need two stakes and a tie from each stake to the tree; or two stakes, a crossbar and a tie; in order to hold the root collar steady.
- Single stakes, which should generally be on the windward side of a tree, should be driven into the ground vertically, although on hillsides/slopes a slanting stake may need to be installed on the higher side.
- All tree stakes on the same site should be of a uniform height.
- Any necessary formative pruning will be carried out and where appropriate, woodchip/bark mulch applied to a depth of 50mm, and to at least the edge of the planting pit, minimum of 500mm diameter from tree, leaving 100mm gap around base oif tree.
- Maintain the surface of the planting pit as a weed free area by hoeing or chemical control.

9.4. **Supply of root balled or bare root material:**

- Only to be considered if containerised material not available, or, if small sized, e.g. whips or transplants are specified.

9.5. **Root balled material:**

- Root balls are to be well filled with fibrous roots and cohesive natural soil, which has been carefully lifted with the plant and remains attached to the root system. Bare root plants which have been bagged with soil or containerised will not be accepted.

9.6. **Bare root material**:

- To be supplied in co-extruded black and white polyethylene bags tied and bundled in groups appropriate to the size and material. A high proportion of fibrous roots should be evident.

9.7. **Plant handling, storage and transport:**

Plants to be handled and dispatched in accordance with the National plant specification, with special reference to the following:

- Frost: Protect bare root plants and frost susceptible plants.
- Handling: Trees must be handled with care. Protect from mechanical damage. Do not subject to shock. Ensure adequate staff levels are available to take delivery.
- Trees to be protected from falling before planting e.g. carefully lay against hedge at 45°
- Plant packaging: Bare root material to be sealed in co-extruded Black and white polyethylene bags.

10. SHRUB PLANTING

- When inspected visually, plants shall be free from pests and diseases, damage and signs of nutrient deficiency and toxicity.
- Plants will have adequate root systems and flowering plants shall have a reasonable expectation that they will give a good flower display the season following their planting out into open ground.
- All shrubs, hedging plants, climbers, herbaceous plants and bulbs should comply with BS 3936.
- Planting will be avoided in frozen ground conditions and waterlogged soil.
- Temporary wind barrier protection should be provided if planting in periods of persistent wind.
- All plants will be firmed and watered if they are planted in dry weather. Planting holes should be about 150mm wider than the root spread.
- The shrubs should be set in the holes so that the soil level, after settlement, will be at the original root collar level on the stem of the shrub.
- The holes should be backfilled to half their depth then firmed by treading before the remainder of the topsoil is returned and firmed again.
- Native Hedge planting and Thicket planting shrubs to be protected with Tubex Easy wrap or similar protection collar.
- All shrub species should represent the character of the local landscape and where possible link with existing vegetation
- The shrubs used should be wildlife friendly such as scented species with a succession of flowering times and diverse range of petal shapes
- Where possible shrubs and seeds should be locally sourced
- On completion spread wood chips mulch to a depth of 50mm over shrub bed

11. WORK NEAR TREES

Refer to BS 5837 Trees in relation to construction - Section 9.

12. DAMAGE TO PLANTS TO BE RETAINED

- If a plant to be retained is damaged, the plant is to be repaired or replaced by the contractor at their own expense.
- "Damaged" means:
- The destruction of a plant
- The breaking of branches or roots
- The debarking of trunks or limbs
- The contamination of root zone soil or plants from drift sprays, dust or contaminated storm water
- The damage by the placement of fill or building materials within the canopy perimeter or otherwise.

13. WEEDING

- A plant that roots directly from its base and has shallow roots is to be removed by hand, by removing the main root system.
- A weed that grows from a clumped, fibrous root system is to be removed using the crowning method, by cutting the roots from the crown of the weed.
- A large weed infestation is to be removed by spraying an approved chemical directly onto the target infestation.
- A plant being a tree or a vine is to be removed using the cut and paint method, by cutting the base of the stem close to the ground and immediately applying herbicide to the cut.