

NFDC TREE STRATEGY
APPENDIX 4
POLICY AND PROCEDURES

ENVIRONMENTAL SERVICES

1. Persons Responsible

Corporate & Planning Tree Officers
Planning Officers
Grounds Maintenance Staff

2. Introduction

This document aims to provide guidance to be followed for specifying tree stock during procurement phase. Included are approved methods for successful tree planting, and also background information to give context to the specifications.

3. Scope

All development projects within NFDC area that contain either tree planting or landscaping works that may involve an element of tree planting should be issued with this document and comply fully with the steps outlined.

This guidance may be issued as a planning condition.

NFDC's nominated tree planting contractors will adhere to this guidance

4. Stock Specification

- Suppliers must be registered with the plant health authorities and be authorised and be able to issue plant passports as required. Plant passporting documentation must be supplied at the time of delivery. All trees must be grown in the UK for the full duration of the production cycle.
- All whips and standard sized tree planting stock, and all other nursery stock is to be specified as sustainably grown, without peat or peat-based compost. This is in recognition that extraction of peat for horticulture is unsustainable, contributing to greenhouse gas emissions and damaging to rare habitat and archaeology, complying with the UK Governments pledge for local authorities to go peat free by 2015 in relation to the direct procurement in contracts for plants in Government and the public sector (new contracts)
- NFDC will only use suppliers who can comply with these conditions and will encourage others to document stated aims within a formal strategy that will ensure compliance in the near future.

5. Procedure

This addresses unpaved sites and is relevant to a range of standard tree sizes. For more detailed information please consult **BS8545:2014 Trees: from nursery to independence in the landscape – Recommendations.**

Site constraints check

When an area is identified for tree planting there are a number of check procedures that must be undertaken. An initial visual survey for site constraints, such as nearby street lighting, overhead lines, road signs, and sight lines at the approach to any junctions or turnings. The presence of any of these may not prevent tree planting but should be taken into account.

- Underground services – Check mapping data of all underground services. Tree planting shall not take place directly over live services unless they are in excess of 3m deep, or in the case of mains water and drains, 5m deep. CAT scan must be carried out before the commencement of any excavation works
- Aerial services – trees must not be planted where, as they increase in size, they may foul overhead cables, interfere with street lighting or CCTV cameras.
- Existing trees will affect the growth of the new trees due to shading and competition and will affect the proposed planting location. New trees will not thrive or grow evenly under the canopy of existing trees.
- Planting time - The planting season for trees runs from **mid-November to mid-March**, when deciduous trees remain dormant.

Rootballing, cold storage and containerisation can extend this period, to an extent. Any tree planted after early March will be on the verge of coming into leaf, a critical period when additional stress, through root damage or drought, can lead to poor development from which the tree may never recover. Any planting beyond the March deadline must only be carried out if a comprehensive and regular irrigation programme can be guaranteed.

Transportation to site

- All bare root trees should have their root systems covered and fully protected to prevent desiccation. Co-extruded bags, which are black inside and white outside, should be used for bare root trees. The white outer covering prevents roots from overheating and drying out while the black inner covering prevents light penetration.
- Ideally transportation to site is to be on closed covered lorry, ensuring that the trees remain cool and moist at all times. On open lorries, the trees should be completely covered with opaque sheeting (through which light cannot pass) which has been firmly secured to protect the trees from desiccation due to wind. This is a particularly important step if trees are in leaf.

Pre-planting

- Operatives must carry out a risk assessment
- Site must be surveyed before digging with a Cat Scan by an experienced operative to ensure no un-mapped services will be struck as the planting pit is dug
- Excavation work should be carried out carefully and follow recognised safe digging practices

- Trees must be healthy, true to type and of good form with no growth defects that will cause future developmental or safety problems. Any trees of poor quality must be rejected and replaced.

The Planting Pit

- Adjacent surfaces must **always** be protected during the course of the works by laying timber sheeting or heavy gauge polythene onto which arisings can be temporarily placed
- Planting pits shall be a minimum of 600 mm wider than the diameter of the rootball with a **minimum size of 900 x 900 mm**
- The pit must always be **square** in shape rather than round as this helps to stop root girdling as the tree establishes
- **Minimum depth of pit is to be 600mm.** Where necessary the depth shall be increased to accommodate the depth of the rootball, and to obtain the correct planting level
- Break up bottom of pit to **150mm deep** and create a domed profile to the bottom of the planting pit. Scarify the sides of the pit with a fork, this step will stop the typical glazing of the pit walls and allows roots to penetrate, aiding establishment
- Remove any moisture-retentive material or co-extruded polythene bagging used to prevent the roots drying out during transport from the nursery, ensuring roots remain protected from sun and wind during the planting operation. Move the wire mesh support and root packing away from the trunk of the tree if necessary, but do not cut away from the main rootball - the integrity of the wire mesh must not be damaged.
- Planting depth - The depth must be measured against the tree, by measuring from the base of the rootball to the 'collar' where the trunk starts to thicken out above the roots. The natural thickening between the trunk and the root collar shall be at the finished top surface of the planting medium.

A straight edge laid horizontally over the pit, edge to edge, will provide a gauge by which to judge the correct depth. Traditionally trees have been planted at a depth indicated by the 'nursery mark', a dark area of stem extending above the root zone. This is not a reliable indicator, and must not be used as a method of establishing the correct planting depth, the collar should be used instead.

- Plant tree upright and in the centre of the pit. A straight edge placed across the pit at finished surface level will assist in gauging the correct level. If necessary the depth of the pit must be adjusted to ensure the correct planting level.
- Backfilling - The planting pit containing the new tree shall be backfilled only when the weather is dry and the soil in a relatively dry condition. The pits should be backfilled in layers not exceeding 300mm and lightly 'settled' rather than compacted between each layer. As long as the soil is not wet or heavy this is best achieved by light treading.

Tree support

The purpose of staking is to anchor the tree and stabilise the rootball until new roots are established into the surrounding soil, not as a method of protecting from vandalism or physical damage. Support is required until the roots, damaged during the lifting process, have made sufficient new growth. In reasonable growing conditions this should be achieved within three seasons after planting.

- Staking should consist of **three** untreated softwood timber stakes, of **75-100mm diameter**, driven at least **300mm into the base of the pit**. Stakes shall be peeled, free of stubs or large knots and untreated with preservative.
- Stakes shall be set at an equal distance apart (**approx. 1000mm**) and clear of the rootball, to form an **equilateral triangle**. Use a 'pinch' bar or similar to produce a vertical guide hole then drive the stake until firm and at least 300mm below the base of the tree pit. The final height of the stake shall be approximately one third the clear stem height of the tree, approximately 600mm high.
- Ties shall be of proprietary rubber strapping 25 – 50mm wide. Attached to the tree at approximately 600mm above ground level, each of the 3 individual ties to be looped around the tree and one stake.

The height at which the stake is attached to the tree has a direct bearing on the subsequent growth and establishment of the tree. A tree will establish anchor roots and increase stem girth more quickly if it is allowed to move with the wind (while remaining firmly fixed at ground level). This is best achieved by using low stakes which are attached to the tree at approximately 600 mm above ground level. A further advantage of low stakes is that snapping a young tree is much more difficult when the lever point is low as opposed to a rigid point higher up.

- Watering - Immediately after planting the tree shall be watered over the soil surface with approximately 25 litres of water to ensure that the contact of soil between the rootball and backfill material is uniformly moist. A comprehensive and regular irrigation programme should be in place for a minimum of the following two summers between end of May – end of September to ensure successful establishment. Allow for 12 waterings of 40 litres each time, from end of May to the end of September. This requirement shall not relieve the general responsibility to take such precautions, including additional watering if necessary, to ensure the establishment of strong and healthy trees.
- Galvanised weld mesh roll, 12.5mm x 12.5mm aperture, 0.61m in height should be wrapped around the perimeter of the tree posts at ground level and attached with heavy duty staples or equivalent. This adds additional protection to the tree, and act to hold the mulch layer in place.
- Mulch - Top up with medium grade woodchip mulch to maintain a mulch layer of 75mm, within the triangle mesh. Do not leave mulch piled up against the stem.

Removal of supports - Above ground supports must be removed as soon as the tree is growing strongly, an indication that the roots are re-established, thus allowing movement in the wind which leads to increased thickening of the trunk. Trees where the removal of the stakes has been delayed may display reduced girth, therefore a weakened stem relative to the crown that may result in stem failure. In reasonable growing conditions support should be removed within three seasons after planting. The ties are to be removed, with posts cut down to just above the wire guard approx. 250-300mm. The Mower guard must remain in place.

Reinstatement of plantings

Remove and replace dead and damaged trees, and those that have not developed full foliage throughout their branches or are not fully healthy for whatever reason before adoption. Replacements will be at developer's expense, using methods, materials and plants which comply in every respect with the original NFDC approved specification.

Detail drawings

3 stake, 3 ties and wire mesh method

The tree should be fixed to the stakes using 3 individual lengths of proprietary rubber strapping. The strapping is attached to the stake with a nail, looped around the tree, and firmly fixed to the stake. This is repeated for the second and third tie. This configuration allows the tree to move freely, thus promoting root growth with no risk of chafing.



References

Highway Tree Design Guide, Newcastle City Council, 17 May 2006

Test Valley Borough Council Amelia Williams