

City of Knoxville Contractor Tree/Shrub Planting Specifications

- 1. Tennessee One-Call System:** The contractor is **required** to contact Tennessee One-Call at each job site and comply with all related directives for utilities. Hand excavation is required, as necessary, to minimize the possibility of damaging underground utilities.
- 2. Work Zone Traffic Safety:** The contractor shall comply with all specifications and standards of the manual on Uniform Traffic Control Services for Streets and Highways (MUTCD). The contractor will be responsible for public safety at job sites.
- 3. Training:** All contractor personnel involved with installing City of Knoxville trees/shrubs may attend a brief on-site training session before installation commences. The City of Knoxville Urban Forester is available to provide onsite training to demonstrate proper planting practices according to these specifications. All training is at the contractor's expense and the Urban Forester must be given a 48 hour advanced notice.
- 4. Planting Hole:** Planting hole shall be excavated with sloped side 2 - 3 times the diameter of the container or rootball. Mechanical diggers such as augers may be used but sloped sides of the planting hole must be excavated and scarified with a hand tool to remove glazed surfaces. Before placing the rootball in the hole the contractor shall determine if the depth of the hole is the same as, or slightly less than the distance between the topmost structural root and the bottom of the rootball. In no case shall the topmost structural root be lower than the adjacent grade. **Installations with root balls planted too deep will be rejected.** All trees/shrubs shall be set upright and oriented to give the best relationship to adjacent traffic, structures, and trees. The top of the rootball does not denote the topmost structural root, in some instances the top of the rootball shall be removed to expose the root flare or topmost structural root.
- 5. Backfill:** After putting $\frac{1}{4}$ of the backfill soil in the hole, all burlap, twine, rope, and wire baskets shall be cut off and removed at least 8 to 10 inches below the topmost structural root. If roots are circling or girdling, they shall be cut and removed. The hole shall be backfilled with the same soil removed from the hole. Soil shall be tamped **slightly** to pack rootball firmly within the planting hole. When the hole is $\frac{2}{3}$ full, water should be applied to eliminate air pockets, and tamping of the soil shall not occur once the soil has been watered. The remaining portion of the rootball shall be filled with remaining excavated soil. No soil shall be placed above the topmost structural root. **If excess soil is not necessary for the backfill of the rootball as determined by the City of Knoxville Urban Forester, it shall be removed from the site by the contractor. Excess soil shall not be used to create a planting berm.**
- 6. Staking:** Trees/shrubs should not be staked unless necessary. If staking materials are installed, they should be removed by contractor within one year of installation and/or before trunk girdling can occur. If staking materials are used,

they must be approved by the City of Knoxville Urban Forester before installation.

- 7. Mulch:** Mulch shall be temperature stabilized hardwood or recycled greenwaste material and shall not exceed 4" in length and ½" in width. No recycled woodwaste, fine composted, or dyed mulches shall be used. Mulch shall be installed on top of the root system and planting hole and extend to the dripline of the canopy. **Mulch shall be 2" in depth, uniform in appearance and shall not touch the tree/shrub trunk.** Mulch shall be supplied by the contractor.
- 8. Containerized Trees and Shrubs:** Containerized trees and shrubs shall be removed from the container before installation. All four sides and the bottom of the root ball shall be cut with a hand saw or electric saw in order to cut circling roots. Cuts should be made approximately 1 to 2 inches from the sides of the root ball.
- 9. Watering:** All trees and shrubs should be watered by the contractor immediately after they are installed unless a rain event is projected to occur within 24 hours after the tree/shrub is installed.
- 10. Weather:** Trees/shrubs will not be installed into wet sites, water-logged soils, or sites where precipitation has occurred within 72 hours unless approved by City of Knoxville Urban Forester. Weekend plantings shall be coordinated with the City of Knoxville Urban Forester.
- 11. Final Acceptance:** The City of Knoxville Urban Forester or representative may be present when trees/shrubs are installed. The City shall perform a final inspection of completed work. The City will inspect the tree/shrub species, condition, and installation to determine and note any discrepancies with this specification. The Installer will be notified of any discrepancies and must repair, replace, or fix any discrepancies before the work is accepted. Discrepancies that are amended will be reinspected during the following inspection. Work may be accepted in parts, if City determines that the work completed to be in the best interest of the Installer and the City.
- 12. Time Frame:** Planting should be from November 1 through March 1 of each year. If planted outside of these time periods, a watering regime shall be in place at the contractors expense.

City of Knoxville Contractor Tree and Shrub Purchase Specifications

- 1. Inspection:** The City of Knoxville Urban Forester may choose to inspect nursery planting depth, tree/shrub health and vigor, pruning practices, and tree/shrub form. If plant material does not meet the requirements set in these specifications, the City of Knoxville may choose to inspect and award the contract to a different Supplier.

2. **Qualification:** The supply of the trees/shrubs shall be performed by a nursery that grows and produces trees/shrubs according to the “American Standard of Nursery Stock”.
3. **Plant Materials:** All plant materials shall comply with the specifications set forth in the American Standard for Nursery Stock ANSI Z60.1-2004. All plant materials must meet all phytosanitary, nursery inspection, pest freedom, plant regulation, certification, or any other legal requirements of the Tennessee Department of agriculture division of Regulatory Services. All trees/shrubs purchased shall derive from tree/shrub stock with a similar latitude and plant hardiness zone (6b-7b) as the State of Tennessee.
4. **Quality Control:** All nursery stock certificates, registration or certification tags, seals, etc. shall be furnished to the City of Knoxville Urban Forester when plants are shipped to installer or installed. **All trees/shrubs may be inspected at the nursery furnishing the plants by the City of Knoxville Urban Forester before the plants are dug.** The City of Knoxville Urban Forester has the right to choose stock or reject stock in order to meet standards set in this specification and the “American Standard for Nursery Stock”.
5. **Quality and Size:** Sizes and methods for sizing height, caliper, and root ball shall be in accordance of “American Standard for Nursery Stock”. Trees/shrubs should have a straight trunk and leader with well spaced branching and wide angled branch unions. Certain plant material may be exceptions of the single leader and well spaced branching requirement, but only when determined to be allowable by the City of Knoxville Urban Forester. Plant materials shall be free of injuries or abrasions, fresh pruning cuts not showing woundwood response, and pruning cuts shall be less than 1” in diameter. The crown of the tree/shrub shall be typical for the species, and free of irregular pruning cuts. Trees/shrubs that have numerous irregular pruning cuts in the crown of the tree/shrub will be rejected. Trees that have been staked during the growing season preceding digging shall not be accepted. Tree/shrub caliper shall be taken on the trunk 6 inches above the root collar.
6. **Root Ball:** All trees/shrubs provided shall have a firm, freshly dug root ball that is standard size according to “American Standard of Nursery Stock”. The root ball should be sufficient in size to encompass a fibrous root system necessary for the recovery of the tree/shrub after the transplant. Root balls shall be wrapped with non-synthetic, biodegradable burlap and rope or twine. The root collar or the first order of structural roots should be apparent at the surface of the ball. City of Knoxville Urban Forester may inspect the depth of the tree/shrub within the root ball and may reject any tree/shrub that has been planted too deep in the nursery. **The tree/shrub should be free from adventitious roots above the root collar or first order of structural roots.** Root balls that have been cracked, frozen, broken, or softened are subject to rejection by the City of Knoxville Urban Forester.
7. **Containerized/ Bare Root Trees/Shrubs:** Containerized trees/shrubs shall not be pot bound or have girdling roots. Root collars should be apparent at the

surface of the container. Bare root trees/shrubs shall have a healthy, well branched root system that is characteristic of the species.

8. **Transportation:** Root balls shall be protected against freezing, softening, cracking, and breaking. Branches should be tied with sisal or jute twine to avoid breaking branches during transport. Trunk protection shall be installed during the handling and transport to avoid scraping and damaging bark. Trees/shrubs shall be protected during transport to prevent wind and sun from dying out trees/shrubs. Trees/shrubs subjected to injury, damage, or other conditions unfavorable to plant recovery and growth will be rejected by City of Knoxville Urban Forester.