

LS 2950
TREE PLANTING

PART 1 - GENERAL

1.1 Related Documents

Drawings and the front end document provisions of the contract, including General Trade Specifications and the General Trade Supplemental Specifications, apply to this section.

Ohio Department of Transportation Construction and Material Specifications (CMS), 2002 Edition.

American Nurserymen's Association Manual, latest edition.

Tree species names shall be found in Standard Plant Names, Second Edition, 1942, by the American Joint Committee of Horticulture Nomenclature or The Manual of Cultivated Trees and Shrubs by Alfred E. Render.

1.2 Summary

This Section includes all required tools, materials and labor required to furnish and install trees on tree lawns.

Related specification Sections:

- Division 2 Section "Site Clearing"
- Division 2 Section "Earthwork"
- Division 2 Section "Landscaping"

All work covered by this Section shall comply with CMS Item 661 Planting Trees, Shrubs and Vines, as modified herein and as approved by the City Engineer and/or City Forester.

All costs incurred to perform the work defined in this Section shall be included in the tabulated item for tree planting and/or distributed among other tabulated items.

1.3 Submittals

All plant materials shall be documented as complying with CMS 661.02, 661.03 and 661.05. All such documentation shall be turned over to the City's on-site representative prior to planting.

1.4 Quality Assurance

All planting materials and procedures are subject to approval of the City Engineer or the Lakewood City Forester who will be verifying compliance with the specifications. All unapproved deviations shall be corrected at the Contractor's expense.

All work done under this Section is subject to approval of the City Forester, who will periodically observe the work. The City Forester will reject any work that does not conform to these Specifications and will require all such work to be replaced at Contractor's expense. The City Forester is available to answer any questions as to materials and procedures specified herein.

PART 2 – PRODUCTS

2.1 Backfill Soil

Planting soil mix shall comply with CMS 661.11 or a mixture of 50% CMS Item 653 and 50% native soil, mixed at the time of planting. A sufficient quantity to fill the planting holes after tree installation shall be provided.

2.2 Trees

Tree species and number to be planted shall be as noted in the bid tabulation for each street.

All trees shall be a minimum 10 feet in height. Trees shall be balled and burlapped (B&B) with a minimum caliper (standard tree caliper), measured 12 inches above the root ball, of 2-3/4 inches.

All trees shall be sound, healthy, vigorous, nursery grown in a climate similar to or more severe than northern Ohio and freshly dug. Trees shall be completely free of mechanical or cultural injury, including damage by rodents and insects. Protect trunks from damage during shipping. All damaged trees shall be rejected.

Plant materials shall be completely free of insects, insect eggs and larvae. A Certification of Inspection, including the name of the nursery, shall be submitted to the City Forester upon tree shipment to the job site. The Certification of Inspection shall be issued by the authorities having jurisdiction over uses and shipment. Vendors must comply with the Ohio Pest Law.

Nursery: For the purposes of this specification, a nursery is an established commercial enterprise (not in the process of liquidation) which propagates, grows and sells or offers for sale to the general public nursery grown nursery stock produced upon its own land (or purchased from its commercial competitors) as its sole or principal occupation activity. Those whose principal occupation is not production of plants for general public sale at a profit are not qualified as suppliers per these specifications.

Trees shall be delivered with hard, compact, natural balls of earth wrapped and tied in burlap (B&B) that is of decomposable type. Trees with fractured balls shall be rejected. Size of the ball shall be in accordance with the Standards listed in the American Nurserymen's Association Manual, latest edition.

Canes, defined as branches rising from the root ball or trunk less than 4 inches from the root ball, shall be accepted only as directed and approved by the City Forester. Branching trees shall have a straight trunk to the lowest branch, unless otherwise approved by the City Forester. Pruning shall not be done at the nursery unless as directed by the City Forester.

PART 3 – EXECUTION

3.1 Project Conditions

Utilities: Determine the location of any underground sprinkler systems or other utilities and perform the work in a manner that will prevent damage. The City reserves the right to reject any excavation method, at Contractor expense, that is causing excessive damage to utilities or other construction to remain. Any required utility relocation or repair work shall be paid for by the Contractor.

All soil preparation work such as excavation, backfill and grading required prior to excavating planting holes shall be paid for under this or other tabulated items. Sufficient removal of existing roots shall be included with this or other tabulated items.

3.2 Water

Water shall be obtained from fire hydrants **only with the expressed permission** of the Lakewood Division of Water (529-6820). **A permit is required (at no cost) to access the hydrants.** The Contractor must supply an adapter with a shut-off valve to convert from the Cleveland Standard threads on the Lakewood hydrants. **ONLY** the correct hydrant key shall be used. **THE HYDRANT SHALL BE OPERATED SLOWLY WHILE OPENING AND CLOSING!** Rapid hydrant operation will cause watermain breaks **THE REPAIR OF WHICH WILL BE THE CONTRACTOR'S TOTAL**

FINANCIAL RESPONSIBILITY. The City advises the Contractor to utilize his own water supply equipment, such as tank trucks, and to avoid using the hydrants.

3.3 Delivery and Storage

Roots shall be continuously protected from drying by all means necessary. Trees with dry root balls shall be rejected and removed from the project site.

Security of the storage site is the Contractor's responsibility.

3.4 Excavation

The requirements of CMS 661.09 and 661.12 shall be followed.

All waste soil not needed for backfill, roots, rocks larger than 3 inches and all other debris shall be removed by the Contractor.

3.5 Planting

Tree plantings, when settled, shall have the same root ball coverage as they had at the nursery. All plantings shall be done on a bed of tamped soil mix.

The following sequence shall be followed: B & B stock shall be centered in the pit with wrapping intact. Turn tree to present fullest foliage toward the private property. Remove all staves, platforms and cordage not binding the ball. When backfill has reached the widest part of the ball, firmly work and tamp soil mix carefully under and around the base to fill all voids. Cut ball ties and remove burlap from top and sides of ball, cutting and adjusting the burlap to prevent voids. Do not pull burlap from under the ball. Cut top 1/3 of wire basket and remove prior to completing backfill. Remove all excess rope and twine from pit before backfill completion.

In dry weather or drought, tree root balls shall be set in their pits, backfilled $\frac{3}{4}$ full and filled to the top with water. The soil backfill and water shall then be thoroughly mixed with a rod (such as a shovel handle) by rocking the root ball, being careful not to damage the roots. The remainder of the backfill shall then be placed and tamped the next day.

In cold weather: Planting operations shall stop if the soil is frozen or muddy.

Pruning: During planting, broken roots shall be severed to remove damaged sections close to the injury point, leaving as much intact root as possible. Cut shall be cleanly made at right angles. Crossed, dead and/or broken branches shall be removed below attachment point. Leaders shall not be pruned. The City Forester will approve all pruning; poorly pruned trees are subject to replacement at Contractor's expense.

The tree planting schedule shall be as specified in CMS 661.06. Any trees planted between June 2 and September 14 will be rejected, unless written approval is obtained from the City Forester.

Trees shall be planted in the center of the tree lawns, midway between the drive aprons. Alternate locations will be permitted to avoid utilities or other obstructions only with the expressed approval of the City Forester.

3.6 Watering

Thoroughly water all trees immediately after planting by completely saturating the backfill in the planting pits the same day as the planting. Water shall be applied at a very low pressure to avoid air pockets and damage to roots. Trees shall remain vertical; any trunk lean shall be immediately corrected.

3.7 Wrapping, Staking and Guying

Trees shall not be wrapped unless directed by the City Forester.

All trees shall be staked according to CMS 661.16. Stakes shall consist of 2" by 2" hardwood or metal tree stakes with a minimum of three (3) per tree. Stakes shall be plumb and extend to the full height of the tree.

Guy wires shall be secured to a single ring of #10 galvanized wire, protected by rubber hose, installed around the trunk. An alternate ring can be #14 mil 080 soft galvanized wire with tree straps.

3.8 Mulching

All trees shall be mulched with approved shredded hardwood bark, installed no more than three (3") inches deep. Mulch shall be installed in a round ring around – but not in direct contact – with the trunk.

3.9 Clean Up

The Contractor is responsible for the removal of all waste materials generated by this project, including all construction and landscaping debris.

3.10 Guarantee

All trees shall be guaranteed to be alive and thriving for a period of one (1) full year following the date of acceptance by the City Forester. All trees replaced as a result of call-back work shall be guaranteed for another one (1) full year after planting.

The following conditions must be met: Spring planted trees shall be in full leaf and in vigorous condition by June 15th of the succeeding year. Any trees that die before September 15th shall be replaced after September 15th. Fall planted trees shall be in full leaf and in vigorous condition the succeeding spring. The City Forester will designate

the trees that must be replaced. Replacements shall be in-kind and shall be scheduled for replanting after the next September 15. All requirements contained in the project specifications shall be enforced for all call-back work.

All guarantee honors or call-back work shall be at Contractor's expense.

PART 4 - PAYMENT

4.1 Method of Measurement

The City of Lakewood will measure and pay for Trees by the actual number of trees planted. Payment for these items shall be considered full compensation for all labor and material.

4.2 Basis of Payment

The City will pay for accepted quantities at the contract unit prices as follows:

<u>Item</u>	<u>Unit</u>	<u>Description</u>
LS 2950	EACH	Tree, Furnish and Install

END OF SECTION LS 2950

