

ITEM 802

TREE PRUNING, SOIL AMENDING AND FERTILIZATION

PART 1 GENERAL

1.01 DESCRIPTION:

The purpose of this specification is to describe a procedure for maintaining preserved trees before, during and after construction and for furnishing all materials, water, labor, tools, equipments and supplies required as specified by this item or as indicated on the plans.

1.02 REFERENCE STANDARDS:

The contractor shall comply with the applicable provisions and recommendations of the publication listed below and these shall be utilized as reference standards, and form a part of this specification to the extent indicated by reference:

American National Standard Institute - ANSI A300-2002

PART 2 PRODUCTS

2.01 MATERIALS:

1. Tree pruning paint: Any latex, oil or asphalt base wound dressing.
2. Soil amendment: Organic soil amendment with nitrogen content 10% or less.
3. Commercial fertilizer: Urea form based liquid suspension, which is soil injected. Salt Index is less than 3.5 (True Green, Boost) and a longevity period of up to 2 years.
4. Mulch: Shredded wood residue with size of pieces not more than 6 inches in length.
5. Water-By truck for trees.

PART 3 EXECUTION

3.01 CARE OF TREES PRIOR TO AND DURING CONSTRUCTION:

1. Prior to erecting tree enclosure and the start of any phase of construction, arborist will provide mycorrhizal inoculation and deep root fertilization to the tree roots, using 3 lbs. of actual nitrogen per 1000 square feet of root area in a slow release soil injection method. Then a certified arborist will perform pruning before construction to remove dead wood, improve the health of the trees to better tolerate the stresses endured during construction activities. In addition all pruning shall adhere to the standard practices in the American National Standard Institute ANS/A300-1995, and to improve the level of safety
 - a. Crown Cleaning – shall consist of the removal of dead, dying, and diseased wood one inch in diameter and greater. Many of the existing trees are above and within the proposed walkway. This dead wood shall be removed to improve safety and liability issues.
2. No site preparation work shall begin in areas where tree preservation and treatment measures have not been completed and approved.
 - a. Crown Raising – shall consist of removing lower limbs to provide a clearance specification of 8 feet over walkways and 13 feet over the

main road for vehicle clearance. Branches may be tied back instead of removed, in order to alleviate conflict. These specifications should protect the existing trees. Tree contractor is to be briefed by Project Engineer/Arborist prior to project commencement. All pruning and removals shall be overseen by a Certified Arborist. The awarded company shall have a Certified Arborist on staff to be able to bid on this Project.

3. No pruning or removal of limbs shall be allowed to provide clearance for work unless approved by the engineer.
4. Removal of limbs which are 6 inches in diameter or greater is prohibited without consent of the City Arborist. Occasional branches, up to 1/4 inch in diameter, which are dead, dying, diseased may remain when it is not practical to remove it.
5. Oak wounds must be painted with wound paint within 30 minutes to prevent infection of the Oak Wilt fungal organism.
6. Soil amendments will be applied within the drip line (RPZ).
7. Soil fertilization will be completed by a soil injection method, which will occur at a spacing of 3 feet on center around the tree within the drip line (Root Protection Zone, RPZ) only for those trees specified.
8. Excavate within drip line of trees only where required. Where excavating for new construction is required within drip line of trees, hand excavate to minimize damage to root systems. Use narrow spading forks and comb soil to expose roots. Relocate roots back into backfill areas wherever possible. If large main lateral roots are encountered, expose beyond excavation limits as required to bend and relocate without breaking. If root relocation is not practical, then contact Client representative for approval to cut roots 1/2" or greater. If approved, clean cut roots using handsaw or chainsaw approximately 3 inches back from new construction. Where existing grade is above new finish grade, carefully excavate within the drip line to the new finish grade. Carefully hand excavate an additional 8 inch below the finish grade. Use narrow line spading forks to comb the soil to expose the roots and prune the exposed root structure as recommended by the Arborist. After pruning and treatment is complete, backfill to within the finish grade with 8" of approved landscape fill material. Temporarily support and protect roots against damage until permanently relocated and do not allow exposure of root to air to occur beyond 12 hours. Cover with damp soil, peat moss, 8"bark or gunny sacks in order to keep moist so as not to dry out and permanently cover roots as soon as possible. Where it has been determined that trenching for utilities can seriously impact the roots of a desirable tree, then bore or tunnel under tree to minimize root impact.
9. The Contractor shall be responsible for coordinating all construction activities that may impact trees with clients representative and the Arborist, who will do the necessary pruning and deep root fertilization deemed necessary by the Arborist.

3.02 POST CONSTRUCTION CARE OF TREES:

1. The Contractor shall water when it is necessary to supplement natural rainfalls required preventing excess drying of the tree root area.

2. The Contractor is responsible for a fall and spring fertilization of the following year using a deep root fertilization method on trees deemed necessary by the Client.
3. The Contractor shall perform post construction care under the supervision of the arborist.

3.03 QUALITY ASSURANCE:

All tree pruning and fertilization work shall be performed by a single firm specializing in tree pruning work, with a minimum of 3 years experience in the acceptable performance of similar work to that specified. Pruning is to be performed by personnel who, by training and on the job experience, are familiar with the techniques and hazards of this work. The firm performing the work shall have the following minimum qualifications and certifications.

NAA - National Arborist Association Certified or
ISA - International Society of Arborists Certification
Be licensed for application and use of pesticides
Meet state requirements for insurance
Must be bonded

The Arborist shall:

- a. Establish lines of communication for all work which may potentially impact trees, under story, or areas that are to be protected from construction activity.
- b. Locate and properly identify or mark in the field trees, under story and areas that are to be protected from construction activity and are the responsibility of the Prime Contractor to protect.
- c. Identify limits and extent of protective fencing around these trees, under story vegetation and other areas.

LEVEL II:

3.04 CARE OF TREES PRIOR TO AND DURING CONSTRUCTION:

1. Prior to erecting tree enclosure and the start of any phase of construction; provide mycorrhizal inoculation and deep root fertilization to the tree roots, using 3 lbs. of actual nitrogen per 1000 square feet of root area. Then pruning will be performed by a certified arborist before construction to remove dead wood, improve the health of the trees to better tolerate the stresses endured during construction activities. In addition all pruning shall adhere to the standard practices in the American National Standard Institute ANS/A300-1995, and to improve the level of safety
2. No site preparation work shall begin in areas where tree preservation and treatment measures have not been completed and approved.
3. No pruning or removal of limbs shall be allowed to provide clearance for work unless approved by the engineer.
4. Removal of limbs which are 6 inches in diameter or greater is prohibited without consent of the City Arborist. Occasional branches, up to 1/4 inch in diameter, which are dead, dying, diseased may remain when it is not practical to remove it.
5. Oak wounds must be painted with wound paint within 30 minutes to prevent infection of the Oak Wilt fungal organism.

6. Excavate within drip line of trees only where required. Where excavating for new construction is required within drip line of trees, hand excavate to minimize damage to root systems. Use narrow spading forks and comb soil to expose roots. Relocate roots back into backfill areas wherever possible. If large main lateral roots are encountered, expose beyond excavation limits as required to bend and relocate without breaking. If root relocation is not practical, then contact Client representative for approval to cut roots 1/2" or greater. If approved, clean cut roots using a handsaw or chainsaw approximately 3 inches back from new construction. Where existing grade is above new finish grade, carefully excavate within the drip line to the new finish grade. Carefully hand excavate an additional 8 inch below the finish grade. Use narrow line spading forks to comb the soil to expose the roots and prune the exposed root structure as recommended by the Arborist. After pruning and treatment is complete, backfill to within the finish grade with 8" of approved landscape fill material. Temporarily support and protect roots against damage until permanently relocated and do not allow exposure of root to air to occur beyond 12 hours. Cover with damp soil, peat moss, bark or gunny sacks in order to keep moist so as not to dry out and permanently cover roots as soon as possible. Where it has been determined that trenching for utilities can seriously impact the roots of a desirable tree, then bore or tunnel under tree to minimize root impact.
7. Water deeply trees that are substantially trimmed or within drip line of excavation work for the duration of this contract.
8. Water deeply trees that show signs of stress and are located in areas where the groundwater table has been lowered due to construction activities.
9. The Contractor shall be responsible for coordinating all construction activities that may impact trees with clients representative and the Arborist, who will do the necessary pruning and deep root fertilization deemed necessary by the Architect.

3.05 POST CONSTRUCTION CARE OF TREES:

1. The Contractor shall water when it is necessary to supplement natural rainfalls required preventing excess drying of the tree root area. Barring natural rainfall, the Contractor should apply 1" per week over entire root protection zone.
2. The Arborist shall monitor and authorize for removal the trees which show symptoms of stress, which might be indicated by branch die back chlorosis or fringe browning of the leaves. This would indicate that the crown is not in equilibrium with roots and additional pruning would be necessary. Subsequent pruning should remove only as much green wood as deemed necessary to reestablish equilibrium. If trees die during construction due to contractor negligence up to a one year post construction period, the Contractor will be required to replace trees at his or her own expense as called for in Paragraph 3.6.
3. The Contractor shall perform post construction care under the supervision of an arborist.

3.06 QUALITY ASSURANCE:

Same as Level I

3.07 MEASUREMENT:

“Maintenance Pruning” Soil Amendment, and Fertilization” , ½” or larger of dead, diseased wood.

“Maintenance Pruning” 1” or larger of dead, diseased wood.

3.08 PAYMENT:

Work performed and materials furnished as prescribed by this item and measured as provided under “Measurement” will be paid for as follows:

“Level I Pruning, Soil Amendment, and Fertilization” Will be paid for at the unit price bid per each tree receiving “Level I Pruning, Soil Amendment, and Fertilization” of the size called for , which price shall be full compensation for furnishing all materials; preparation, hauling, handling charges, placement, labor, tools, and incidentals necessary to complete the work.

Level II Pruning will be paid for at the contract lump sum price bid, which price shall be full compensation for work herein specified, including the furnishing of all materials, equipment, tools, labor, and incidentals necessary to complete the work.

3.09 BID ITEM:

Item 802.1 - Level I Pruning, Soil Amendment, and Fertilization - per each tree

Item 802.2 - Level II Pruning - per Lump Sum