

SECTION 02911

TREE, PLANT, AND HARDSCAPE PROTECTION

Date: 20nov01

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Tree root barriers; various depths and combinations may be required.
 - 2. Tree trunk protectors.
 - 3. Water barriers.
 - 4. Staking and guying materials.
- B. Related sections:
 - 1. Section 02722: Field Subdrainage System
 - 2. Section 02800: Site Improvements
 - 3. Section 02813: Lawn Irrigation
 - 4. Section 02905: Plants, Planting, and Transplanting
 - 5. Section 02930: Exterior Plants

1.02 REFERENCES

- A. Standards of the following as referenced:
 - 1. American National Standards Institute (ANSI).
 - 2. ASTM.

1.03 DEFINITIONS

- A. Terms:
 - 1. Tree root barrier: Mechanical barrier and root deflector to prevent tree roots from damaging hardscapes and landscapes.
 - 2. Tree trunk protector: Material to protect young tree trunks from rodents, string trimmers, and lawn mowers.
 - 3. Water barriers:
 - a. Controls run-off, preventing hardscape damage.
 - b. Prevents irrigation water from percolating under pavement.
 - c. Water corral for planting areas preventing pavement damage and saves water.
 - d. Prevents snow, ice, and saltwater run-off from polluting planting areas adjacent to roadways and parking areas.
 - e. Liner to separate golf greens and turf.
 - f. Bamboo control.

1.04 SUBMITTALS

- A. Product data: Manufacturer=s standard literature defining materials for use on this Project.
- B. Shop drawings:
 - 1. Indicate locations and extent for tree root barrier material.
 - 2. Indicate trees receiving tree trunk protectors.
 - 3. Indicate locations and extent of water barriers.
 - 4. Indicate trees and plants to be staked and guyed.
- C. Samples; if required by Architect:
 - 1. Tree root barrier: One full length panel .
 - 2. Tree trunk protector: One unit.

3. Water barrier: One lineal foot of material.
 4. Staking and guying: One lineal foot.
- D. Quality control submittals; manufacturer's instructions: Complete installation instructions for each item specified; may be combined with product data.
- 1.05 QUALITY ASSURANCE
- A. Qualifications; manufacturer: Minimum 20 years experience in tree and plant protection and accessories.
- 1.06 DELIVERY, STORAGE, AND HANDLING
- A. Packing and shipping: Provide materials in original unopened containers with manufacturer's labels intact and legible.
- B. Acceptance at site:
1. Damaged materials determined by visual inspection will not be accepted.
 2. Remove rejected materials from Project site immediately.
- C. Storage and protection: Store materials in dry area in manufacturer's protective packaging; in original containers with labels and instruction instructions intact.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable manufacturers:
1. Products specified as standard of quality are manufactured by DeepRoot Partners, L.P. (Deep Root); 530 Washington Street, San Francisco, CA 94111; 415.781.9700; 800.458.7668; fax 800.277.7668; www.deeproot.com.
 2. Products of manufacturers meeting indicated standards and specified manufacturer's product data characteristics, are acceptable for use, subject to approval of product list and samples.

2.02 MANUFACTURED UNITS

- A. Tree root barriers:
1. 12" depth:
 - a. Product standard of quality: DeepRoot; Tree Root Barriers; LB 12-2.
 - b. Material: 0.080" wall thickness, nominal, injection molded 50% post-consumer recycled polypropylene panels with UV inhibitors.
 - c. Panel specifics:
 - 1) 7/16" wide integral molded 0.080" thickness double top edge with stiffening ribs; bottom edge attached to vertical root deflecting ribs.
 - 2) Integral molded 0.080" thickness by 2" deep vertical root directing ribs spaced at 6" O.C.
 - 3) Integral molded 0.080" thickness by 2" long by 3/8" wide horizontal anti-lift ground lock tabs; minimum three per panel.
 - d. Size: 24" wide by 12" deep.
 - e. Preassembled joiner system for panel connection to adjacent panel.
 - f. Color: Black.
 2. 18" depth:
 - a. Product standard of quality: DeepRoot; Tree Root Barriers; UB 18-2.
 - b. Material: 0.080" wall thickness, nominal, nominal, injection molded 50% post-consumer recycled polypropylene panels with UV inhibitors.

- c. Panel specifics:
 - 1) 7/16" wide integral molded 0.080" thickness double top edge with stiffening ribs; bottom edge attached to vertical root deflecting ribs.
 - 2) Integral molded 0.080" thickness by 2" deep vertical root directing ribs spaced at 6" O.C.
 - 3) Integral molded 0.080" thickness by 2" long by 3/8" wide horizontal anti-lift ground lock tabs; minimum nine per panel.
 - d. Size: 24" wide by 18" deep.
 - e. Integrated zipper joining system for panel connection to adjacent panel.
 - f. Color: Black.
3. 24" depth:
 - a. Product standard of quality: DeepRoot; Tree Root Barriers; UB 24-2.
 - b. Material: 0.085" wall thickness, nominal, nominal, injection molded 50% post-consumer recycled polypropylene panels with UV inhibitors.
 - c. Panel specifics:
 - 1) 7/16" wide integral molded 0.085" thickness double top edge with stiffening ribs; bottom edge attached to vertical root deflecting ribs.
 - 2) Integral molded 0.085" thickness by 2" deep vertical root directing ribs spaced at 6" O.C.
 - 3) Integral molded 0.085" thickness by 2" long by 3/8" wide horizontal anti-lift ground lock tabs; minimum nine per panel.
 - d. Size: 24" wide by 24" deep.
 - e. Integrated zipper joining system for panel connection to adjacent panel.
 - f. Color: Black.
 4. 36" depth:
 - a. Product standard of quality: DeepRoot; Tree Root Barriers; UB 36-2 and UB 48-2.
 - b. Material: 0.080" thickness extruded Homopolymer Polyethylene with UV inhibitors, root deflecting ribs at 6" O.C. vertically, and built-in joining system.
 - c. Panel size: 24" wide by 36" deep.
 5. 48" depth:
 - a. Product standard of quality: DeepRoot; Tree Root Barriers; UB 36-2 and UB 48-2.
 - b. Material: 0.080" thickness extruded Homopolymer Polyethylene with UV inhibitors, root deflecting ribs at 6" O.C. vertically, and built-in joining system.
 - c. Panel size: 24" wide by 48" deep.
- B. Tree trunk protectors:
1. Product standard of quality: DeepRoot; ArborGard+7 AG 9-4.
 2. Material: 0.060" thickness polyethylene with UV inhibitors, recyclable.
 3. Size: 9" high by single length accommodating tree up to 4" dia.
 4. Larger trees indicated for protection: Couple two or more sections together.
- C. Water barriers:
1. Product standard of quality: DeepRoot; Water Barrier WB Series.
 2. Material: ** 0.030" ** 0.040" ** thickness High Density Polyethylene (HPDE).
(SELECT THICKNESS DESIRED - DELETE OTHER)
 3. Sizes: 24", 30", and 36" wide by 300'-0" rolls.
 4. Manufacturer=s standard sealing tape.
 5. Sealant: Silicone type recommended by water barrier manufacturer for certain applications; applications requiring sealant indicated in manufacturer=s product data.
- D. Staking and guying materials:
1. Product standard of quality: DeepRoot; ArborTie7.
 2. Material: Flat, woven polypropylene; 900 lb. break strength.
 3. Size: : " wide by manufacturer=s standard roll lengths.
 4. Color: ** Green. ** White. ** **(SELECT COLOR)**

2.03 ACCESSORIES

- A. Provide related materials for complete installation of specified materials.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verification of conditions:
1. Verify other work in other sections, in, at, and around landscaping work is complete to extent that no damage will occur to newly planted materials or, any possible construction related damage will be minimal and replacement plant material is readily available for planting at no additional cost.
 2. Obtain verification, in writing, from work required in other Sections directly involving work in this Section regarding correct grades have been provided, coordination of topsoil spreading, and lawns and grasses planting.
 3. Beginning work without fulfilling conditions below requiring removal or replanting work in this section becomes responsibility of this section.
 - a. Not providing written notification to Architect of unacceptable conditions indicates acceptance of site.
 - b. Not receiving verification indicated above.
 - c. Work required not indicated as unacceptable requiring removal or replanting work.

3.02 PREPARATION

- A. Surface protection: Use methods necessary to prevent damage to completed sitework performed in other Sections. Protect access to and areas around planted materials. Restore damaged areas to original compaction, grades, and lines; repair damaged grassed areas.

3.03 INSTALLATION

- A. Tree root barriers: Install in accord with manufacturer=s reviewed installation instructions where indicated on reviewed shop drawings with vertical root directing ribs facing inwards towards trees or plants; connect panels together as required.
- B. Tree trunk protectors:
1. Install in accord with manufacturer=s reviewed installation instructions where indicated on reviewed shop drawings.
 2. Join two or more segments together for trees over 4" dia.
- C. Water barriers:
1. Install where indicated on reviewed shop drawings in accord with manufacturer=s reviewed installation instructions using material widths required for conditions encountered.
 2. Seal to hardscape surfaces with specified sealant.
 3. Join material lengths with manufacturer=s sealing tape.
- D. Staking and guying materials:
1. Immediately after planting, guy and stake designated trees and large plants.
 2. Include tightening of guying materials to bring trees and plants to upright position.

END OF SECTION 02911

Specifications prepared by:
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