SECTION 32 90 00
LANDSCAPE CONSTRUCTION

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Provide all material, labor, equipment and services necessary to do all Landscape Construction work and other related items necessary to complete the Project as indicated by the Contract Documents unless specifically excluded. Work is to include, but is not limited to, the following:

1. Soil Testing
2. Clearing, Ripping and Grading
3. Cultivation, Soil Amending and Leaching
4. Furnish and Plant Plants and Trees
5. Fertilization
6. Turfgrass Repair - Sod Installation
7. Weeding
8. Staking
9. Clean-up and Maintenance

1.2 RELATED SPECIFICATION SECTIONS

Division 31	EARTHWORK
32 8400	LANDSCAPE IRRIGATION
Division 03	CONCRETE
Division 26	ELECTRICAL

1.3 STANDARDS

A. Materials and installation shall conform with all State and Local codes and regulations governing the trades included in this work. Requirements of these plans and specifications not conforming therewith, but exceeding code requirements, then the plans and specifications shall govern.

1.4 DEFINITIONS

A. The term approved shall mean by the Architect, and only in writing.

1.5 EXAMINATION OF SPECIFICATIONS, PLANS AND SITE

A. It shall be the responsibility of the Contractor to carefully examine the site, plans and

specifications relating to this work for completeness, accuracy and clarity. Any conflict, error, or clarification shall be immediately brought to the attention of the Owner's authorized representative in writing to obtain a ruling. Failure to do so prior to bidding shall result in any corrective work necessary shall be completed at the Contractor's expense.

1.6 PERMITS AND INSPECTIONS

A. The Contractor shall obtain and pay required fees to any governmental or public agency. Permits for the installation or construction or the work included under this Contract, which are required by legally constituted authorities having jurisdiction, shall be obtained and paid for by the Contractor, each at the proper time. Contractor shall also arrange for and pay costs in connection with inspections and examination required by these authorities.

1.7 GUARANTEE

A. Guarantee shrubs, ground covers, and lawn as to growth and health for one (1) year after final acceptance by Owner. The contractor is responsible for replacement of plant materials due to theft and vandalism until final acceptance of the project by the Owner after completion of the specified maintenance period.

B. Guarantee trees to live and grow upright for a period of one (1) year after completion and final acceptance by the Owner. The contractor is responsible for replacement of trees due to theft and vandalism until final acceptance of the project by the Owner after completion of the specified maintenance period.

C. Replace plants which lose more than 30% of their original leaves within the below described time limits.

D. Remove and replace plants within 15 days of notification which fail to conform. Replace with materials as originally specified. Guarantee for replaced materials shall begin with date of replanting and shall be as previously described.

1.8 SUBMITTALS

A. Within the required time period stated, the Contractor shall submit six (6) copies of complete lists of proposed materials to Landscape Architect including source, manufacturers name and catalog numbers.

B. Materials and equipment shall not be ordered until given written approval by Landscape Architect.

C. The Contractor shall confirm availability of plant material, supplies and materials for inclusion in the submittal. If a plant is found not to be suitable or available, the Contractor is to submit a list of three to five appropriate substitutions that are available for selection by the Landscape Architect.

1.9 UNDERGROUND OBSTRUCTION

A. The Contractor shall verify all underground obstructions and / or utilities, existing or proposed prior to making landscape excavations or installing tree stakes. Contractor shall avail themselves of any as built drawings of the site, Underground Service Alert (USA) 1-800-227-2600 and records of existing and proposed site work.

B. If there is a conflict with the utilities and the planting, notify the Landscape Architect for a ruling prior to planting.

1.10 PROJECT CONDITIONS

A. No plants shall be planted in situations that show obvious poor drainage. Such situations shall be brought to the attention of the Landscape Architect and Owner's authorized representative. Generally, the drainage problem is to be corrected prior to installing plant material.

B. All landscape areas are to be deep ripped to a depth of twelve inches (12") below finish grade in two directions. All trees are to have 18" diameter drainage holes that are 10' deep.

C. The Contractor shall guarantee repair of damage to any part of the premises resulting from leaks, defects in materials, equipment or workmanship. The Contractor shall be liable for any and all accidents resulting from their work, including open holes and trenches during construction.

D. During landscape construction operations keep hardscaped surfaces clean and work areas organized.

E. Landscape concrete mow strips are to be installed so that they do not conflict with site drainage or impede drainage away from buildings. Generally, a minimum 2% slope away from buildings is to be maintained for positive site drainage. Concrete mow strips are not to trap water or cause puddling.

1.11 WORKMANSHIP

A. The Contractor shall have experience and demonstrated ability in the installation of landscapes of this type. No work shall be completed without supervision by a qualified foreman. All work shall be installed by skilled persons proficient in the trades required, in a neat, orderly and organized manner, with the recognized standards of craftsmanship developed for the industry and as described in the plans, specifications and manufacturers installation instructions.

1.12 SOIL TESTING

A. An independent soil testing laboratory is to test the existing soil after rough grading operations are completed with a complete fertility assay to evaluate the soils ability to maintain and support the ornamental landscaping. Samples from two (2) locations on the site are to be taken, with two samples from each location, one at four (4") inches in depth, and the second at sixteen (16") inches in depth (four samples). The soil testing laboratory is also to complete a preliminary screening for detrimental agricultural chemical residue

that may be present on site, if these results are positive, notify the Owners authorized representative for a ruling. The contractor is to pay for all required soil tests and consulting time with the soil scientist for detailed recommendations to be submitted to the Owners authorized representative for evaluation.

B. After the soil amending and leaching process, if required, has been completed, the Contractor is to take additional samples from the two (2) locations on the site, with two samples from each location, one at four (4") inches in depth, and the second at sixteen (16") inches in depth (four samples) to evaluate the progress and effectiveness of the soil amending and leaching work. The contractor is to pay for all required soil tests and consulting time with the soil scientist for detailed recommendations to be submitted to the Owners authorized representative for evaluation.

1.13 CONSTRUCTION OBSERVATION

A. The Contractor is to coordinate construction observation site visits with the Landscape Architect during the appropriate phases of construction, or as required by the Landscape Architect. The Contractor is to schedule site visits a minimum of one week in advance at the required phases of construction. The following outlines the phases of construction which require a site visit, however it is not limited to the following construction phases:

1. Preconstruction meeting
2. Staking of plant and tree locations prior to irrigation installation.
3. Staking of sprinklers and mainline routing.
4. Mainlines, wiring, lateral pipes, & valve manifolds prior to backfill.
5. Irrigation coverage test and rough grading.
6. Trees & plants prior to installation, still in containers.
7. Fine grading of turf areas prior to sod and stolon installation.
8. Substantial completion to start maintenance.
9. Final acceptance after successful maintenance period.

The Owner will pay for initial construction observation visits, however, any additional visits required due to non-compliance, incomplete work, or substandard performance will be paid by the contractor at a cost of $300.00 per extra visit.

1.14 PROTECTION TO THE PUBLIC HEALTH AND WELFARE

A. The Contractor in the course of their work shall make every effort to guard the public health, safety and welfare during construction. This shall include erection of barricades, night warning lights and all necessary devices required to protect the public health and welfare or as required by existing governmental codes. The Contractor shall accept any and all liabilities arising from accident or injury on the job and after construction. All equipment which protrudes above grade shall be installed against a structure or an appropriate barricade shall be erected to protect public safety.

PART 2 - MATERIALS

2.1 PLANTS

A. Conform to list of plant materials on drawings. Contractor is to provide digital photos of representative example of each plant and tree type to be used and submit to Landscape Architect for review and comment. Plants and trees are also to be inspected when delivered to the site so non-conforming materials can be identified prior to planting.

B. Plants shall be the best of their kind and class, and of optimum age, and in conformance with the standards of the American Society of Nurserymen.

C. Plants shall have normal, well-developed branch systems and shall not be root or pot-bound. Do not prune or top trees prior to delivery.

D. Delivery to be made not more than 2 days prior to installation unless nursery area approved by landscape architect is established.

E. It will be the responsibility of the contractor to place material order(s) sufficiently in advance of planting to assure availability of plants in species and size specified. Substitutions for plants and trees will not be made due to lack of advance planning.

F. No substitutions will be made without approval of the Landscape Architect or authorized representative.

2.2 SOIL AMENDMENTS

A. Soil amendments (type and quantity) are to be based on the soil test results and recommendations by the soil testing laboratory. The contractor is to include the amendments outlined in part 3.03 of this Section in the bid price. Prices for the soil amendments are to be quoted as unit prices to be adjusted based upon the recommendation of the testing lab. The contractor is to pay for all required soil tests and consulting time with the soil scientist for detailed recommendations.

B. Nitrified Aged Fir Bark Humus (forest product) as supplied by Superior Soil Supplements, Hanford, California, (559) 904-3372.

C. Commercial fertilizer (15-15-15), Best Pre-plant fertilizer (6-20-20 XB), slow release fertilizer Best All Season (19-6-12) with Polyon 43.

D. Gypsum (95% purity) and Elemental Soil Sulfur (99% purity) as supplied by Superior Soil Supplements, Hanford, California, (559) 904-3372.

E. Plant fertilizer tabs: Agriform, Best-Tabs or approved equal, quantities as shown below: 1 gallon plant (2 tabs), 5 gallon plant (4 tabs), 15 gallon plant (6 tabs) & box size tree (8 tabs).

F. Terra C Premium Humate as supplied by Superior Soil Supplements, Hanford, California, (559) 904-3372.

G. Certificates: In addition to any certificates specified, the Contractor shall furnish a certificate with each delivery of bulk material stating the source, quantity, date, and type of material. All certificates shall be delivered to the Owners authorized representative at the

time of each delivery.

H. Samples: The contractor is to submit samples of the materials to be used for inspection and approval.

2.3 ACCESSORIES

A. Tree Stakes: 2 inches by 2 inches by 10 feet long treated lodgepole or natural redwood. Use two stakes per tree. See the tree installation detail.

B. Tree Ties: flexible vinyl "Cinch-Tie", manufactured by V.I.T. Products, San Diego, California, (619) 673-1760, and distributed by Horizon Sales, Pleasanton, California, (510) 462-6602. Use a minimum of four 24" ties per tree. See the tree installation detail.

C. Tree String Trimmer Guard: polyethylene "Trim Guard", manufactured by V.I.T. Products, San Diego, California, (619) 673-1760, and distributed by Horizon Sales, Pleasanton, California, (510) 462-6602. Use one Trim Guard per tree in the lawn areas only.

D. Tree Root Barriers: All trees within ten (10'-0") feet of a hardscaped surface, perimeter fence or building are to have root barriers installed that are 24" deep by 24" wide as manufactured by Root Solutions, Inc. and distributed by Vespro Inc., San Rafael, California, (415) 434-3072. Root barriers are to be installed as shown on the Landscape Tree Layout and Root Barrier Plan. Otherwise, each fifteen gallon tree is to have up to 12 panels and box size trees are to have additional panels as required. If the concrete is only on one side of the tree, then 6 panels (centered on the tree) are to be installed in a straight line along the concrete or boundary as recommended by the manufacturer, or if the concrete is on two sides of the tree, then install 6 panels (centered on the tree) on two sides or the 12 panels are to be installed in a circular pattern around the tree, if concrete is on more than two sides of the tree as recommended by the manufacturer.

E. Top Soil: If required, imported topsoil shall be natural, fertile, friable loam, capable of sustaining vigorous plant growth, free of subsoil, roots, grass, excessive amount of weeds, salt, stone and foreign matter; acidity range of pH 5.5 to 7.5; containing a minimum of 4% and a maximum of 25% organic matter. Obtain approval of the Landscape Architect or Authorized representative for placement. The contractor is to submit a topsoil sample to an approved testing lab for a complete fertility assay for approval prior to importing the material on-site.

F. Import Soil: If required, imported fill dirt shall be tested with a fertility assay from Dellavalle Laboratories to certify that the fill dirt is free of salt, boron or other deleterious minerals or matter prior to delivery and placement on the site. Contractor is responsible for all remediation required for the placement of substandard fill dirt containing salt, boron or other deleterious minerals or matter that may require the installation of additional soil amendments, leaching, additional soil testing, replacement of failed plant materials to bring the non-conforming soil into compliance at the Contractors sole expense.

G. Other Materials: Materials not specifically indicated, but necessary for the proper execution of the work, shall be of first quality as selected by the Contractor subject to approval of the Landscape Architect.

2.4 WEED CONTROL

A. Methods and chemicals shall be suitable with regard to season and shall control weeds and shall be approved by all governing agencies.

B. Treatment shall not damage or impede growth of trees, shrubs, and ground covers to be planted, nor kill or damage any existing plant material specified to remain.

C. Applicator shall be a licensed State of California Agricultural Pest Control Operator, Category E, or as required by all governing agencies.

D. Contractor shall obtain required permits from County Agricultural Commissioner. Weed control treatment shall be in accordance with Federal, State of California, County and local codes and regulations, and shall be safe, not cause a health hazard, nor disrupt or inconvenience continuing business operations of the Owner and neighbors, public street, parking lot and sidewalk use or construction activities.

E. Method of treatment shall be strictly in accordance with manufacturer's recommendations.

F. Method of application and chemicals to be reviewed and approved by the Owners representative.

G. Contractor shall ascertain and insure that all planted areas are weed-free prior to planting and maintain the site weed free during construction and maintenance periods.

PART 3 - EXECUTION

3.1 SITE INSPECTION

A. Locate cables, conduit, piping, and other obstacles prior to beginning excavation. Notify Owners representative of obstacles requiring relocation.

B. Remove rocks and other similar underground obstructions to depths necessary to permit proper installation of lawns and planting.

C. Verify that landscape irrigation system has been properly installed and is fully operational.

D. Verify dimensions shown on plan and notify Owners representative of any discrepancy.

E. Review plant list and consult Owners representative with any questions or concerns.

3.2 GRADING

A. Contractor is to remove weeds and debris from site prior to starting grading operations and is to maintain the site weed free throughout the progress of construction.

B. Contractor is to work soil in a manner which does not cause excessive compaction or clods which will not break easily. Apply water as necessary to obtain optimum moisture content for tilling and planting. The Contractor is to coordinate deep ripping of all landscape areas

to a depth of twelve inches (12") to break up compacted areas to improve drainage.

C. After the grades have been reestablished after irrigation trench backfill and prior to planting, the Contractor is to heavily irrigate the site to the point of producing runoff to verify that the site is free draining without puddles or low spots. Contractor is to address grading problems and repeat the test until all puddles and areas of standing water drain within one half hour (1/2 hr). Contractor is to fill settled areas as required. Planting shall not proceed until all grading corrections have been completed and the areas have been retested to confirm conformance.

D. The contractor is responsible for the grading of all planting areas. The grades shall be gently flowing with no abrupt changes. The contractor is responsible to insure that the planting areas have adequate soil and is to fill low areas as needed. The contractor is to grade the areas to drain as intended by the site grading plan by the Project Civil Engineer. Typically the planter areas are to be slightly crowned or cross sloped to insure positive drainage away from planted areas to the perimeter to drain as intended by the Site Drainage Plan. No standing water will be permitted in planter areas where plants and trees are located. Slope surfaces away from buildings at a 2% slope with no pockets of standing water. The contractor is responsible for all import or export of soil and removal of debris, trash, or other elements off site at Contractors expense to provide the Owner with a completed landscape project at no additional cost to the Owner.

E. Provide neat, smooth, and uniform finish grade. Final soil elevations in perimeter areas are to be as noted below. Grades may taper from perimeter areas over a smooth gradual transition.

1. Sodded Turf Areas: 1” below the adjacent sidewalks or other hardscape features.
2. Planter Areas: 1 1/2” to 2” below the adjacent sidewalks or other hardscape features.

F. Notify Owners representative upon completion of grading for approval and to verify the smoothness and accuracy of fine grading and clod-free condition of planting surface. No planting is to be started prior to obtaining the approval of the fine grading from the Owners authorized representative.

G. Install concrete mow strips between all turf and planter boundaries. Install the mow strips as shown in the Concrete Mow Strip Detail and as outlined in the project plans and specifications. Contractor is to insure that concrete mow strips do not interfere with site drainage and do not trap water or cause puddling.

3.3 SOIL PREPARATION

A. Soil Amendments, Cultivation and Weed Control:

1. The contractor is to cultivate the soil amendments into the top eight (8") inches of soil. The following soil amendment types and quantities are to be included in the bid. Pending the results of the soil tests, and recommendations of the soil testing laboratory, adjustments to the types and quantities of soil amendments to be used may be necessary. The contract price will be adjusted according to the actual soil amendments installed on the project. The contractor is to include the following soil amendments as part of the bid:

a. Lawn Areas:

1) Gypsum (95% purity) (Preplant), (2 tons per acre).
2) Soil Sulfur (99% purity) (Preplant), (1/2 ton per acre).
3) Best Triple Pro Fertilizer (Preplant) - (15-15-15), (500 lbs per acre).
4) Best Preplant Fertilizer (Preplant) - (6-20-20 XB), (500 lbs per acre).
5) Terra C Premium Humate (Preplant), (250 lbs per acre).
6) Best All Season Fertilizer with Polyon 43 (Maintenance) - (19-6-12), maintenance applications and rates as follows:
   Sodded Turf Areas: (200 lbs per acre) per maintenance application. Minimum of four maintenance applications required for bid. Fertilize sodded areas monthly. Actual application will conform to soil test results.
7) Pelletized Gypsum, (Maintenance) - (2 tons per acre). One maintenance application required for bid. Actual application will conform to soil test results.
8) Terra C Premium Humate, (Maintenance) - (250 lbs per acre). One maintenance application required for bid. Actual application will conform to soil test results.

b. Planter Areas:

1) Nitrified Aged Fir Humus (forest product) (Preplant), (3 cu. yds. per 1000 sq. ft.).
2) Gypsum (95% purity) (Preplant), (2 tons per acre).
3) Soil Sulfur (99% purity) (Preplant), (1/2 ton per acre).
4) Best Triple Pro Fertilizer (Preplant), (15-15-15), 500 lbs per acre.
5) Best Preplant Fertilizer (Preplant), (6-20-20 XB), (500 lbs per acre).
6) Terra C Premium Humate (Preplant), (250 lbs per acre).
7) Best All Season Fertilizer with Polyon 43 (Maintenance) - (19-6-12), maintenance applications and rates as follows:
   Planter Areas: (200 lbs per acre) per maintenance application. Minimum of four maintenance applications required for bid. Fertilize planter areas monthly. Actual application will conform to soil test results.
8) Pelletized Gypsum, (Maintenance) - (2 tons per acre). One maintenance application required for bid. Actual application will conform with soil test results.
9) Terra C Premium Humate, (Maintenance) - (250 lbs per acre). One maintenance application required for bid. Actual application will conform to soil test results.

The Owners authorized representative and Contractor shall negotiate the differences in costs according to the materials required based upon the recommendations of the soil testing laboratory. No labor difference in cost will be allowed for application of the corrected materials to be used.

2. Soil Amending – Application #1: If salt is present in the soil test results, Contractor is to apply and incorporate the following soil amendments into the soil – Gypsum, Soil Sulfur and Nitrified Aged Fir Humus (planter areas only). Contractor is to reestablish site grades (smooth areas without displacing amendments) and leach the soils for four to six weeks.
3. Contractor is to retest the site soils as noted in 1.12 (B) above, if salt is present in the soil test results and leaching is required.

4. Soil Amending – Application #2: Contractor is to apply and incorporate the following soil amendments into the soil – Preplant Fertilizers and Humate amendments. Contractor is to reestablish site grades (smooth areas without displacing amendments) and leach the soils for one to two weeks.
5. If there are no or low salts in the soil test reports and leaching is not required, then the Contractor can combine Preplant Soil Amendment Applications #1 & #2 and delete the leaching requirement and issue a credit to the District.
6. After cultivation, water the site until the first weed crop is established. Cultivate or treat with chemicals to assure a weed-free condition.
7. Planting beds may be established after the second cultivation and final fine grading has been inspected and approved.

B. Planting holes:

1. All 15 gallon size trees or larger, are to have one 18" diameter hole drilled up to ten (10') deep to insure proper drainage. Holes are to be off set with tree root balls "benched" into the top of the hole to prevent the tree against settlement.
2. Holes are to be excavated three times the size of the rootball. The contractor is to slightly off-set the drainage holes to prevent settling of plants after installation. The contractor is to guarantee that the trees and shrubs will not settle below grade. Trees in turf grass areas are to be planted after the stolons and sod has become established and no longer requires excessive irrigation, which may cause undue stress to the trees.
3. Holes are to be in damp (but not saturated) and friable condition with all hidden obstructions removed before planting. The backfill is to be mixed thoroughly as specified adjacent to the planting hole prior to planting.

C. Leaching: Leaching of the soils is a critical element in how fast the soils will be reclaimed. The Contractor is to expedite the irrigation installation during the early stages of the project to allow leaching operations with the irrigation system at the earliest possible time in the project schedule. The Contractor is to provide labor and materials as needed to leach soils with irrigation water in areas that will not delay the progress of other site improvements. During leaching operations, the Contractor is to maintain the soil saturated while limiting runoff. Contractor is to monitor depth of soil saturation to plan periods of drying appropriately.
Contractor is responsible for temporary measures required to retrofit the planter area irrigation system for leaching by installing spray nozzles on bubbler pop ups, installing temporary sprinklers, relocating sprinkler or other improvements required to insure good coverage of all planter areas for the purposes of leaching. Once leaching has been completed, contractor is to remove temporary improvements and restore the system to conform to the project documents.

3.4 PLANTING

A. Water plants immediately upon delivery to site. Maintain in moist condition until planted.

B. Space plants uniformly as shown on plans. The Contractor is to stake the locations of plants and tree locations prior to layout of irrigation system for review and approval by the Landscape Architect in the field prior to trenching. Contractor is to use color coded flags to stake plant materials by variety. After the plant layout has been approved, the Contractor is to stake the bubbler locations for each plant and tree. Bubblers are to be located on the

uphill side of the plant within the plant basin. Landscape Architect may move, add or delete plants or trees in the field and the Contractor is to adjust the work as required at no additional cost to the District. Contractor is not to proceed with irrigation or planting operations, until the planting locations have been approved by the Landscape Architect in the field.

C. Cut cans by cutting vertically on two opposite sides of can with can cutter, or as recommended by the nursery for the type and size of containers supplied with the plant materials. Do not damage plant.

D. Plant immediately after removal from the can or flat. Position the top of the plant root ball 1" above finish grade. Backfill as follows:

1. (85%) native soil.
2. (15%) nitrified humus.
3. Azaleas and camellias are to have an additional 2 cu. ft. Camellia Mix in backfill.
4. Agriform / Best plant tabs as indicated on plans. Place plant tabs beside root ball as recommended by the fertilizer manufacturer. Construct a watering well one foot radius from stem or trunk that will allow water to fill well at least 3" deep for shrubs and two foot radius from trunk that will allow water to fill well at least 4" deep for trees. Fill water well at least six times by hand after planting.

E. Fertilize all ground cover areas with post-plant commercial slow release fertilizer 19-6-12 upon completion of planting, and every 30 days through the first growing season at a rate of 5 lbs per 1000 square feet, or as recommended by the soil test results.

F. At completion of planting, all non-turf planted areas are to receive a three inch (3") layer of topdressing mulch of shredded walk-on fir bark, Superior Walk-On Bark as supplied by Superior Soil Supplements, (559) 904-3372. Wash excess bark off leaves and do not engulf stems of plants and ground cover.

G. Lawn Installation (Sod):

1. The turf areas, as indicated on the plans, shall be sodded in one operation after all weed removal, soil preparation, grading and irrigation system have been completely installed and approved. Trees are to be installed after the turf has been established. Stake tree locations during turf establishment.
2. Finish grade is to be smooth and firm to prevent differential settlement. Sod is to be laid in staggered rows (brick like pattern). Edges are to be firmly butted together to insure soil to soil contact between sod pieces. Sodded areas are to be rolled (water roller) to remove air pockets and insure good soil contact.
3. The area to be sodded shall be slightly moist after the last watering and final weeding operations. The grading must be approved prior to sodding. The site must be free draining prior to sodding.
4. A minimum of one trained workman shall be on the site 2 hrs per day after sodding and through the maintenance period. The sodded areas shall be watered immediately and kept damp during the entire establishment period. Areas that are drying out too soon due to wind or other causes shall be watered by hand until the whole grass area is established in a uniform manner. Care shall be used to not overwater, which would create erosion and fungus. All erosion scars are to be repaired the same day.
5. The contractor is to carefully observe the newly planted grass to keep moist and in a

healthy growing condition. The contractor is to water and fertilize as needed to keep the turf in a vigorous healthy condition.

6. The contractor is to protect the newly sodded area from foot traffic as needed. The contractor is to continuously resod and repair damaged areas as required.

3.5 STAKING AND TYING

A. Remove nursery stakes and ties.

B. Install tree stakes 18" deep on windward and leeward sides of tree and tie to tree with 4 ties. Install ties loose enough to avoid injuring cambium layer of tree and to allow limited movement.

C. Remove nursery ties from shrubs and espaliered plants and install new plastic ties in a loose manner so new plant growth will not girdle the branch or stem.

3.6 MAINTENANCE

A. Maintain planted areas during the progress of the work and through the maintenance period. A minimum of one trained workman shall be on the site 2 hrs per day after planting until the fourth mowing and as needed through the maintenance period.

B. The maintenance period begins when the work is substantially completed and accepted by the Owner. The turf areas are to be completely planted and show active growth and reasonable coverage before the specified maintenance period can begin. The maintenance period shall be for ninety days (90) days, after substantial completion by the Owner. The Owner and Landscape Architect shall be notified a minimum of 10 days prior to the time that the work is ready for final inspection. This final inspection is required before the maintenance period can begin. The contractor is responsible to provide all materials and labor to maintain the site for the maintenance period at no cost to the Owner. The maintenance period may be extended at no cost to the Owner should prevailing site conditions not warrant final acceptance by the Owner. The site should be in a weed free condition, the lawns should be established, vigorous, have minimum 99% coverage, be weed free, and fertilized, and all plants and trees are to be in good condition. The maintenance period will be extended in one month increments until the Contractor brings the site into compliance at no additional cost to the Owner.

C. During the maintenance period the contractor shall provide the following services, but is not limited to the services outlined below.

1. Maintain surfaces and supply additional top soil where necessary, including areas affected by erosion.
2. Water to ensure uniform stolon growth and to keep surface of soil damp. Fertilize as specified on a monthly, or as needed basis.
3. Apply water slowly so that surface of soil will not puddle and crust.
4. Maintain turf & planted areas weed free. Hand weed or use chemicals at the Contractor's option.
5. Mow and maintain the turf areas, and pick up grass clippings to be hauled off site at the Contractors expense.

3.7 CLEAN-UP

A. Remove rubbish, trash, and debris resulting from the operation at the end of each working day.

B. Wash paved surfaces clean.

C. Maintenance period will begin with acceptance of installation by the Owner and will continue as noted in article 3.06.

3.8 EXTRA LANDSCAPE MATERIALS

A. Contractor shall supply the following extra materials to be installed at the direction of the Landscape Architect during the project at any time. Each item is to include all associated materials (landscape and irrigation) and all appurtenances associated with the item, including material, labor and equipment costs for a complete installation in accordance with the project documents at no additional cost to the Owner. Should any items not be installed as part of the project, the remaining items are to be delivered to Owner or a credit issued at the Owner's option as part of the project completion documentation.

1. Ten (10): One gallon size plants (Variety to be determined in the field)
2. Three (3): Fifteen gallon size plants (Variety to be determined in the field)
3. Three (3): Fifteen gallon size trees (Variety to be determined in the field)

All work is to be in compliance with all project specifications and construction details at no additional cost to the Owner.

END OF SECTION