
PART 1 GENERAL**1.1 SUMMARY**

- A. Section Includes:
1. Two Year Period of Monitoring and Maintenance of Plant Material and Irrigation Systems.

1.2 REFERENCES

- A. ANSI — American National Standards Institute:
1. Z60.1 — American Standard for Nursery Stock, Current Edition.
 2. A300 — Tree, Shrub, and Other Woody Plant Maintenance, Standard Practices, Current Edition.
- B. ICBN — International Code of Botanical Nomenclature.
- C. ICNCP — International Code of Nomenclature of Cultivated Plants.
- D. ASTM — American Society for Testing Materials: D 1557 — Test Method for Laboratory
- E. Compaction Characteristics of Soil Using Modified Effort.

1.3 DEFINITIONS

- A. IPM — Integrated Pest Management: An approach to pest control that utilizes regular monitoring to determine if and when treatments are needed and employs physical, mechanical, cultural, biological and educational tactics to keep pest numbers low enough to prevent intolerable damage or annoyance. Least-toxic chemical controls are used as a last resort.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Purchase and Delivery Documentation: Fertilizer—Within 5 working days of each application submit purchase orders, invoices and receipts showing supplier name and address, person who sold product, date of purchase, specific product purchased, quantity purchased, and delivery date.
- B. Documentation of Accepted Conditions: Within 7 working days after the Owner's acceptance of maintenance responsibility, submit color photographs and a written report documenting the accepted conditions of the plant material.
- C. Inspection Reports: Monthly plant inspection report documenting signs of stress. Monthly maintenance reports indicating tasks performed, equipment used, material required, and manpower required. Monthly maintenance reports to be broken down by week.

1.5 QUALITY ASSURANCE

- A. Landscape Maintenance Contractor Qualifications:
1. Demonstrated experience in maintenance of commercial landscape projects.
 2. Demonstrated experience in landscape maintenance supervision, with experience and training in integrated pest management, turf management, entomology, pest control, soils, fertilizers and plant identification.
 3. Thoroughly familiar and trained in the work to be accomplished and perform the task in a competent efficient manner
 4. Must directly employ and supervise the Work force at all times.
 5. Must notify the Owner's Representative of changes in supervision.
 6. Must provide proper identification for landscape maintenance firm's labor force.
- B. Regulatory Requirements:
1. Meet requirements of applicable laws, codes, and regulations required by authorities having jurisdiction over Work.

2. Provide for inspections and permits required by Federal, State, or local authorities in furnishing, transporting, and installing of chemicals.
3. Submit a record of herbicides, insecticides and disease control chemicals used to the County Agricultural Commissioner's Office as required by law.

1.6 SITE CONDITIONS

- A. Environmental Requirements: Do not apply chemicals during windy conditions (in excess of 20 miles per hour).

1.7 EQUENCING AND SCHEDULING

- A. Work Schedule:
1. Perform maintenance during normal working hours.
 2. Be present at the project site at least once a week and as often as necessary to perform specified maintenance.
- B. Chemical Applications:
1. Notify the Owner's Representative in advance of required chemical applications.
 2. Obtain the Owner's Representative's approval of application schedule.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Replacement Plant Material:
1. Match existing genus, species, cultivar and size.
 2. Meet requirements of ANSI Z60.1, ICBN and ICNCP.
- B. Fertilizers for Tree Areas: As specified by the maintenance fertilization program accepted by the Owner's Representative.
- C. Herbicides, Insecticides, and Fungicides: Legal commercial quality non-staining materials with original manufacturers' containers, properly labeled with guaranteed analysis, least toxic required.
- D. Replacement Staking Materials: Same as original installation.
- E. Mulch: Same as original installation.

PART 3 EXECUTION

3.1 PREPARATION

- A. Protection of Existing Conditions:
1. Use every possible precaution to prevent damage to existing conditions to remain such as structures, utilities, plant materials and walks on or adjacent to the site of the Work.
 2. Provide barricades, fences or other barriers to protect existing conditions from damage during maintenance operations.
 3. Use every possible precaution to prevent excessive compaction of planting area soil within or adjacent to the areas of Work.
 4. Do not store materials or equipment, or operate or park equipment under or near the branches of plants.
 5. Submit written notification of damaged plants and structures to the Owner's Representative immediately.

3.2 GENERAL MAINTENANCE

- A. Maintenance Period: Continuously maintain plants, planted areas, and irrigation system during progress of Work, and for a minimum period of 2 years after date of Final Completion and until the Owner accepts maintenance responsibility.

- B. Integrated Pest Management: Employ principles of integrated pest management for each aspect of maintenance through duration of maintenance period.

3.3 TREE MAINTENANCE

A. General Watering:

1. Using a soil sample tube and tensiometers, check rootball moisture and surrounding soil moisture.
2. Check soil channels through inspection access tubes at least once a week during the first 3 months of plant maintenance period and at least once every two weeks thereafter. If standing water is evident, inspect the Area Drains in planting areas and take action to restore drainage to any drains that are not draining properly.
3. Adjust frequency and length of time for watering cycles according to moisture testing of soil in soil channels and rootball and species requirements.
4. When required, apply supplemental water by hand activating the irrigation systems as required to maintain optimum moisture to the tree root systems.
5. Do not permit crown roots to become exposed to air through dislodging of soil and mulch.
6. Maintain depth of mulch to reduce evaporation and frequency of watering.

- B. Settled or Leaning Plants: Reset and maintain trees in upright plumb position at all times.

C. Weed Control:

1. Keep mulched areas at trees weed free by hand removal.
2. Avoid soil cultivation that destroys shallow roots.

D. General Tree Pruning:

1. Meet requirements of ANSI A300 for Definitions, Pruning Tools and Equipment, Pruning Cuts, and Wound Treatment as accepted by Owner's Representative.
2. Perform crown cleaning to eliminate weak branches, water sprouts, dead growth, dying growth, diseased growth, and damaged growth.
3. Perform crown thinning to reduce toppling and wind damage.
4. Perform crown reduction and shaping to maintain growth within space limitations and maintain a natural appearance.
5. Retain lower branches in a "tipped back" or pinched condition to promote caliper trunk growth.
6. Do not cut back to fewer than six buds or leaves on branches.
7. Prune damaged trees or those that constitute health or safety hazards at any time of year.

E. Dust Removal:

1. Remove dust caused by construction traffic and operations from the foliage of plants as often as required to keep dust from having a detrimental effect on the health of the plants.
2. Remove dust by spraying with potable water.

- F. Replacement of Plants: Replace, at no additional cost to the Owner, and as soon as weather conditions permit, plants not in a vigorous, thriving condition, during and at the end of the maintenance period.

3.4 FERTILIZING

A. Fertilization During Growing Season:

1. Apply fertilizer as specified by the accepted fertilization program after planting, until the completion and Owner's acceptance of the maintenance period.
2. Meet requirements of fertilizer manufacturer's current printed instructions.
3. Apply fertilizers evenly through irrigation systems.

- B. Augment missing and damaged mulch at no additional cost to the Owner, as soon as soil and weather conditions permit during and at the end of the maintenance period.

3.5 INSECTS, PESTS, AND DISEASE CONTROL

A. General:

1. Employ principles of IPM in the selection of preventative and control measures for plant pests and diseases.
2. Insignificant pests will be tolerated providing they do not seriously threaten planting health and appearance.
3. Monitor the site closely and take timely action to address problems identified.
4. Use licensed and experienced personnel using materials approved by the EPA and conform to applicable laws, codes and regulations, under the direction of a licensed certified pest control operator.
5. Spray with extreme care to avoid hazards to any person, animal, or automobile in the area or adjacent areas.
6. Provide warning signs and barricades to restrict entry during spraying.
7. Meet requirements of chemical manufacturer's current printed instructions.
8. The Contractor shall be held liable for plant damage due to the use of chemicals.

B. Inspection:

1. Inspect plant material weekly for signs of stress and damage.
2. Submit a written and photographic inspection report of findings monthly to the Owner's Representative.

C. Spraying:

1. When necessary apply the least toxic chemical required for the existing problem.
2. Meet requirements of manufacturer's current printed instructions.
3. Apply sprays only if a pest or disease is a serious threat and cease application after problem is under control.

3.6 IRRIGATION SYSTEM

A. Damages:

1. Repair at no additional cost to the Owner damages to system caused by Contractor's operations.
2. Perform repairs before next irrigation cycle commences.

B. Cleaning and Monitoring the System:

1. Continually monitor the irrigation systems to verify that they are functioning properly as designed.
2. Monitor the irrigation fertilization systems during the fertilization process.
3. Clean filters and strainers at least once a month and as often as necessary to keep the irrigation systems free of sand and other debris.
4. Set and continuously adjust and program automatic controller for seasonal water requirement.
5. Make program adjustments as required by changing field conditions.
6. At least once a week, daily when required, use a soil sampling tube and tensiometers to check the rootball moisture of representative plants as well as the surrounding soil in the soil channels.

3.7 AGGREGATE MULCH AREAS

A. Surface Smoothness: Maintain mulched surfaces smooth and even at all times.

B. Weed Control:

1. Maintain areas weed-free by hand pulling.

C. Mulch Replenishment: Inspect mulched planting areas monthly and add mulch to settled areas to bring finished surfaces back to the smooth uniform levels indicated on the Drawings.

3.8 FIELD QUALITY CONTROL

A. Maintenance Review:

1. At the end of the two-year maintenance period, request the Owner's Representative to review
2. Submit a written request at least five working days prior to the anticipated date of review.
3. If the Owner's Representative observes Work that fails to meet the Contract Document requirements the Contractor will receive written notification from the Owner's Representative of corrective Work preventing Owner acceptance of the maintenance Work.
4. Perform corrective Work within 10 calendar days after the review.
5. Upon completion of the corrective Work, request the Owner's Representative to review the Work.

6. Corrective Work followed by Owner's Representative review will be required until the Owner's Representative no longer observes Work not meeting the Contract Document requirements.
- B. Owner's Acceptance of Maintenance Responsibility:
1. When it appears to the Owner's Representative that the maintenance Work conforms to the requirements of the Contract Documents the Contractor will receive written notification designating the day which the Owner will accept maintenance responsibility.
 2. Continue maintenance of landscape Work until the date that the Owner accepts maintenance responsibility.

END OF SECTION