
USACE / NAVFAC / AFCEA / NASA UFGS-02935 (May 2004)

Preparing Activity: NAVFAC MasterFormat™ 2004 - 32 05 33
 Superseding
 UFGS-02935N (September 1999)
 UFGS-02935A (January 2002)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated 23 June 2005

SECTION TABLE OF CONTENTS

DIVISION 02 - SITE CONSTRUCTION

SECTION 02935

LANDSCAPE ESTABLISHMENT

05/04

PART 1 GENERAL

- 1.1 REFERENCES
- 1.2 DEFINITIONS
 - 1.2.1 Pesticide
 - 1.2.2 Stand of Turf
 - 1.2.3 Planter Beds
- 1.3 RELATED REQUIREMENTS
- 1.4 SUBMITTALS
- 1.5 DELIVERY, STORAGE AND HANDLING
 - 1.5.1 Delivery
 - 1.5.1.1 Fertilizer, [Gypsum,] [Iron] Delivery
 - 1.5.1.2 Pesticide Delivery
 - 1.5.2 Storage
 - 1.5.2.1 Fertilizer, [Lime], [Iron,] [Mulch] Storage
 - 1.5.2.2 [Pesticides] [Antidessicants] Storage
 - 1.5.3 Handling

PART 2 PRODUCTS

- 2.1 POST-PLANT FERTILIZER
 - 2.1.1 Granular Fertilizer
- 2.2 WATER
- 2.3 MULCHES TOPDRESSING
 - 2.3.1 Inert Mulch Materials
 - 2.3.2 Organic Mulch Materials
 - 2.3.3 Recycled Organic Mulch
- 2.4 PESTICIDES

PART 3 EXECUTION

- 3.1 EXTENT OF WORK
 - 3.1.1 Policing
 - 3.1.2 Drainage System Maintenance

- 3.2 IRRIGATION ESTABLISHMENT PERIOD
 - 3.2.1 Maintenance During the Irrigation Establishment Period
 - 3.2.2 Water Restrictions
 - 3.2.3 Fire Hydrants
 - 3.2.4 Final Acceptance
 - 3.2.5 Controller Charts
- 3.3 TURF ESTABLISHMENT PERIOD
 - 3.3.1 Frequency of Maintenance
 - 3.3.2 Promotion of Turf Growth
 - 3.3.3 Mowing
 - 3.3.4 Turf Edging and Trimming
 - 3.3.5 Turf Post-Fertilizer Application
 - 3.3.6 Turf Watering
 - 3.3.7 Turf Aeration
 - 3.3.8 Turf Clearance Area
 - 3.3.9 Replanting
 - 3.3.10 Final Inspection and Acceptance
- 3.4 EXTERIOR PLANT ESTABLISHMENT PERIOD
 - 3.4.1 Frequency of Maintenance
 - 3.4.2 Promotion of Plant Growth and Vigor
 - 3.4.3 Planter Bed Maintenance
 - 3.4.3.1 Shrub Selective Maintenance
 - 3.4.3.2 Tree Maintenance
 - 3.4.4 Slope Erosion Control Maintenance
 - 3.4.5 Removal of Dying or Dead Plants
 - 3.4.6 Tracking of Unhealthy Plants
 - 3.4.7 Final Inspection
 - 3.4.7.1 Total Plants on Site
 - 3.4.7.2 Mulching and Weeding
 - 3.4.7.3 Tree Supports
 - 3.4.7.4 Remedial Work
- 3.5 PESTICIDE APPLICATION
 - 3.5.1 State Licensing
 - 3.5.2 Certified and Licensed Applicators
 - 3.5.3 Pesticide Use Inspections
 - 3.5.4 Pesticide Approval
 - 3.5.5 Application and Reporting Procedure
 - 3.5.6 Application Safety Precautions
 - 3.5.7 Hydraulic Equipment
 - 3.5.8 Personnel Injury and Property Damage Prevention
 - 3.5.9 Pesticide Disposal
 - 3.5.10 Pesticide Spills, Clean Up and Decontamination
- 3.6 FIELD QUALITY CONTROL
 - 3.6.1 Maintenance Inspection Report
 - 3.6.2 Plant Quantities
 - 3.6.3 Tree Staking and Guying Removal

-- End of Section Table of Contents --

USACE / NAVFAC / AFCEA / NASA UFGS-02935 (May 2004)

Preparing Activity: NAVFAC MasterFormat™ 2004 - 32 05 33
Superseding
UFGS-02935N (September 1999)
UFGS-02935A (January 2002)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated 23 June 2005

SECTION 02935

LANDSCAPE ESTABLISHMENT 05/04

NOTE: This guide specification covers the requirements for plant material and irrigation during the establishment period.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

PART 1 GENERAL

1.1 REFERENCES

NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically
be deleted from this section of the project
specification when you choose to reconcile
references in the publish print process.

The publications listed below form a part of this specification to the
extent referenced. The publications are referred to within the text by the
basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z133.1 (2001) Arboricultural Operations -- Safety
Requirements for Pruning, Repairing,
Maintaining, and Removing Trees, and
Cutting Brush

ANSI Z88.2 (1992) Respiratory Protection

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910-SUBPART Z Toxic and Hazardous Substances

1.2 DEFINITIONS

1.2.1 Pesticide

Any substance or mixture of substances, including biological control
agents, that may prevent, destroy, repel, or mitigate pests and are
specifically labeled for use by the U.S. Environmental Protection Agency
(EPA). Also, any substance used as a plant regulator, defoliant,
disinfectant, or biocide. Examples of pesticides include fumigants,
herbicides, insecticides, fungicides, nematocides, molluscicides and
rodenticides.

1.2.2 Stand of Turf

[100] [95] percent ground cover of the established species.

1.2.3 Planter Beds

A planter bed is defined as an area containing one or a combination of the
following plant types: shrubs, vines, wildflowers, annuals, perennials,
ground cover, [and a mulch topdressing] excluding turf. Trees may also be
found in planter beds.

1.3 RELATED REQUIREMENTS

[Section 02811 IRRIGATION SPRINKLER SYSTEM applies to this section for
installation of irrigation equipment requirements, with additions and
modifications herein.]

[Section 02921 SEEDING] [Section 02922 SODDING] [Section 02923 SPRIGGING]
applies to this section for installation of [seed] [sod] [sprigging]
requirements, with additions and modifications herein.

[Section 02930 EXTERIOR PLANTS applies to this section for installation of
[trees,] [shrubs,] [ground cover,] [vines,] and [wildflower,] with
additions and modifications herein.]

[Section 02915 TRANSPLANTING EXTERIOR PLANTS applies to this section for transplanting of [trees,] [shrubs,] [ground cover,] [vines,] and [wildflower,] with additions and modifications herein.]

1.4 SUBMITTALS

NOTE: Review submittal description (SD) definitions in Section 01330 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Choose the first bracketed item for Navy, Air Force and NASA projects, or choose the second bracketed item for Army projects.

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.] [for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

[Pesticides]

Provide list of pesticides proposed for use on the appropriate [pesticides purchase and use approval request form] [_____].

SD-03 Product Data

[Fertilizer[; G][; G, [_____]]]

[Pesticides[; G][; G, [____]]]

Provide pesticide label and Material Safety Data Sheet for each proposed pesticide.

Include physical characteristics, application instructions and recommendations.

SD-07 Certificates

Pesticide applicator's certification

Maintenance inspection report

[Plant quantities[; G][; G, [____]]
]

SD-08 Manufacturer's Instructions

Pesticides

SD-11 Closeout Submittals

Pesticides

Tree, staking and guying removal

Provide list of pesticides used on the project; submit on the appropriate [Pest Management Record Form] [____].

1.5 DELIVERY, STORAGE AND HANDLING

1.5.1 Delivery

1.5.1.1 Fertilizer, [Gypsum,] [Iron] Delivery

Deliver to the site in original containers bearing manufacturer's chemical analysis, name, trade name, or trademark, and indication of conformance to state and federal laws. Instead of containers, fertilizer, [gypsum] may be furnished in bulk with a certificate indicating the above information.

1.5.1.2 Pesticide Delivery

Deliver to the site in original containers with legible manufacturer's label attached.

1.5.2 Storage

1.5.2.1 Fertilizer, [Lime], [Iron,] [Mulch] Storage

Material shall be stored in designated areas. [Lime and] fertilizer shall be stored in cool, dry locations away from contaminants.

1.5.2.2 [Pesticides] [Antidessicants] Storage

Do not store with fertilizers or other landscape maintenance materials. Store herbicides "downwind," relative to the airflow in the storage building, from other pesticides, and provide physical separation between herbicides and other pesticides.

1.5.3 Handling

Do not drop or dump materials from vehicles.

PART 2 PRODUCTS

2.1 POST-PLANT FERTILIZER

NOTE: Check with the local Agriculture County
Extension Service Office for recommended fertilizer
mixture for local conditions.

2.1.1 Granular Fertilizer

[Organic][synthetic], granular controlled release fertilizer containing the following minimum percentages, by weight, of plant food nutrients:

[] percent available nitrogen
[] percent available phosphorus
[] percent available potassium
[] percent sulfur
[] percent iron

2.2 WATER

NOTE: When water is Government furnished, locate the source. Recycled or reclaimed irrigation water may be available through a tertiary treatment plant on or off site. It is preferred that this type of water be used for irrigation whenever possible. Check project specific conditions.

Unless otherwise directed, water shall be the responsibility of the Contractor. Water source shall be potable or non-potable. If non-potable edit specification accordingly. Source of water shall be approved by the Contracting Officer and shall be of suitable quality for irrigation, containing no elements toxic to plant life.

Coordinate information presented here with Section 01500, "Temporary Facilities and Controls."

Source of water shall be approved by the Contracting Officer, and be of suitable quality for irrigation.

2.3 MULCHES TOPDRESSING

NOTE: Check with the local Agriculture County Extension Service Office for recommended and locally available mulch material. Specify only one type of mulch for the project.

Free from noxious weeds, mold, or other deleterious materials.

2.3.1 Inert Mulch Materials

[Riverbank stone] [crushed pit-run rock] [granite chips] [marble chips]
[crushed bricks] [volcanic rock] [_____] ranging in size from [_____] to
[_____] mm inches.

2.3.2 Organic Mulch Materials

**NOTE: For projects at Camp Lejeune and New River,
use pine straw mulch only. Delete all other options.**

[Wood chips] [ground or shredded bark] [shredded hardwood] [bark peelings]
[pine straw mulch] [pine needles] [recycled] [_____] .

2.3.3 Recycled Organic Mulch

Recycled mulch may include compost, tree trimmings, or pine needles with a gradation that passes through a 65 by 65 mm2-1/2 by 2-1/2 inch screen. It shall be cleaned of all sticks a minimum 25 mm1 inch in diameter and plastic materials a minimum 75 mm3 inch length. The material shall be treated to retard the growth of mold and fungi.

2.4 PESTICIDES

**NOTE: Use material and method acceptable to the
local Agriculture County Extension Service Office,
or Engineering Field Office, Applied Biology
Section, in the project area. Pre-emergence
herbicides can be harmful to seed germination in new
seeding as well as detrimental to roots of new sod
or sprigs. Caution should be indicated when these
materials are specified. Check with the local
Department of Agriculture County Extension Service
for recommendations for local conditions.**

[Fumigant] [Herbicide] [Insecticide] [Fungicide] [and] [Rodenticide]: EPA registered and approved. Furnish for [preemergence] [and] [postemergence] application for [crabgrass control] [and] [broadleaf weed control]. Comply with Federal Insecticide, Fungicide, and Rodenticide Act (Title 7 U.S.C. Section 136) for requirements on contractor's licensing, certification, and record keeping. Contractor to keep records of all pesticide applications and forward data monthly to Contracting Officer. Submit record keeping format to Contracting Officer for approval. Contact the Installation Pest Management Coordinator prior to starting work.

PART 3 EXECUTION

3.1 EXTENT OF WORK

Provide landscape construction maintenance to include [irrigation equipment cleaning and adjustments,] [mowing,] [edging,] [overseeding,] [aeration,] [fertilizing,] [watering,] [weeding,] [pruning,] [stake and guy adjusting,] [and] [pesticide application] [_____] for all [newly installed] [renovated]

landscape areas [and existing plant material], unless indicated otherwise, and at all areas inside or outside the limits of the construction that are disturbed by the Contractor's operations.

[3.1.1 Policing

The Contractor shall police all landscaped areas. Policing includes removal of leaves, branches and limbs regardless of length or diameter, dead vegetation, paper, trash, cigarette butts, garbage, rocks or other debris. [Policing shall extend to both sides of fencing or walls.] Collected debris shall be promptly removed and disposed of at an approved disposal site.

] [3.1.2 Drainage System Maintenance

The Contractor shall remove all obstructions from surface and subsurface drain lines to allow water to flow unrestricted in [swales,] [gutters,] [catch basins,] [storm drain curb inlets,] [and] [yard drains]. Remove grates and clear debris in catch basins. Open drainage channels are to be maintained free of all debris and vegetation at all times. Edges of these channels shall be clear of any encroachment by vegetation.

] [3.2 IRRIGATION ESTABLISHMENT PERIOD

The irrigation establishment period will commence on the date that inspection by the Contracting Officer shows that the [new] [repaired] irrigation equipment furnished under this contract have been satisfactorily installed and is functional and shall continue for a period of [365] [_____] days.

3.2.1 Maintenance During the Irrigation Establishment Period

Begin maintenance immediately after irrigation equipment has been installed and is functional. Inspect irrigation equipment at least [once a week] [_____] during the installation and establishment period and perform needed maintenance promptly. Automatic controllers not equipped with rain shut-off sensors shall be turned off during periods of rain that exceed twelve hours of continuous rainfall in one day or during rain storms of one day or more. Once the rain has subsided timers shall be reactivated. Irrigation controllers shall be inspected and reprogrammed after power outages. Contractor shall be responsible for winterization and startup. Sprinkler heads shall direct water away from buildings and hard surfaced areas.

3.2.2 Water Restrictions

The Contractor shall abide by state, local or other water conservation regulations in force during the establishment period. Automatic controller shall be adjusted to comply with the water conservation regulations schedule.

3.2.3 Fire Hydrants

NOTE: Coordinate information presented here with
Section 01500, "Temporary Facilities and Controls."

To use a fire hydrant for irrigation, the Contractor shall obtain prior

clearance from the Contracting Officer and provide the tools and connections approved for use on fire hydrants. If a fire hydrant is used, Contractor shall provide a reduced pressure backflow preventer for each connection between hose and fire hydrant. Backflow preventer used shall be tested once per month by a certified backflow preventer tester.

3.2.4 Final Acceptance

Operation and coverage test is acceptable if system operates through at least one complete cycle for areas to be irrigated and all leaks or repairs have been completed.

3.2.5 Controller Charts

Provide one chart for each controller supplied. Indicate in chart area controlled by the automatic controller. The chart is a reduction of the actual plan[s] that will fit the maximum dimensions inside the controller housing. Use a black line print for the chart and a different pastel or transparent color to indicate each station zone of coverage. After chart is completed and approved for final acceptance, seal chart between two 0.5 mm 20 mil pieces of clear plastic.

] 3.3 TURF ESTABLISHMENT PERIOD

Turf establishment period will commence on the date that inspection by the Contracting Officer shows that the [new] [renovated] turf furnished under this contract has been satisfactorily installed to a [_____] [[95 percent] [100 percent] stand of coverage. The establishment period shall continue for a period of [365] [_____] days.

3.3.1 Frequency of Maintenance

Begin maintenance immediately after turf has been [installed] [fully renovated]. Inspect turf area[s] [once a week] [_____] during the installation and establishment period and perform needed maintenance promptly.

3.3.2 Promotion of Turf Growth

Turf shall be maintained in a manner that promotes proper health, growth, rich natural green color, and neat uniform manicured appearance, free of bare areas, ruts, holes, weeds, pests, dead vegetation, debris, and unwanted vegetation that present an unsightly appearance. Mow, remove excess clippings, eradicate weeds, water, fertilize, [overseed,] [aerate,] [topdress] and perform other operations necessary to promote turf growth.

3.3.3 Mowing

**NOTE: Check with the local Agriculture County
Extension Service for turf mowing heights as this
requirement may vary due to local conditions and
specie specified.**

Turf shall be mowed at a uniform finished height. Mow turfed area[s] to an average height of [_____] mm inches when average height of grass becomes [_____] mm inches for spring/summer maintenance and to an average height of [_____] mm inches when the average height of grass reaches [_____] mm inches

for fall [winter] maintenance. The height of turf is measured from the soil. Mowing of turf shall be performed in a manner that prevents scalping, rutting, bruising, uneven and rough cutting. Prior to mowing, all rubbish, debris, trash, leaves, rocks, paper, and limbs or branches on a turf area shall be picked up and disposed. Adjacent paved areas shall be swept/vacuumed clean.

3.3.4 Turf Edging and Trimming

Perimeter of planter bed edges, sidewalks, driveways, curbs, and other paved surfaces shall be edged. Uniformly edge these areas to prevent encroachment of vegetation onto paved surfaces and to provide a clear cut division line between planter beds, turf, and ground cover. Edging is to be accomplished in a manner that prevents scalping, rutting, bruising, uneven and rough cutting. Edging shall be performed on the same day that turf is mowed. Use of string line trimmers is permitted in "soft" areas such as an edge between turfgrass and a planter bed. Care shall be exercised to avoid damage to any plant materials, structures, and other landscape features.

Trimming around [trees,] [fences,] [poles,] [walls,] [irrigation valve boxes] and other similar objects is to be accomplished to match the height and appearance of surrounding mowed turf growth. Trimming shall be performed on the same day the turf's mowed. Care shall be exercised to avoid "Girdling" trees located in turf areas. The use of protective tree collars on trees in turf areas may be utilized as a temporary means to avoid injury to tree trunks. At the end of the plant establishment period Contractor will be responsible for removing all protective tree collars.

3.3.5 Turf Post-Fertilizer Application

**NOTE: Check with the local Agriculture County
Extension Service for type of fertilizer, time
intervals, and application rate as these
requirements may vary due to local conditions and
specie specified.**

Apply fertilizer in a manner that promotes health, growth, vigor, color and appearance of cultivated turf areas. The method of application, fertilizer type and frequencies shall be determined by the laboratory soil analysis results the requirements of the particular turf species. [Organic fertilizer shall be used. In the event that organic fertilizer is not producing the desired effect, the Contractor shall contract the Contracting Officer for approval prior to the use of a synthetic type of fertilizer.] Fertilizer shall be applied by approved methods in accordance with the manufacturer's recommendations.

3.3.6 Turf Watering

The Contractor shall perform irrigation in a manner that promotes the health, growth, color and appearance of cultivated vegetation and that complies with all Federal, State, and local water agencies and authorities directives. The Contractor shall be responsible to prevent over watering, water run-off, erosion, and ponding due to excessive quantities or rate of application. The Contractor shall abide by state, local or other water conservation regulations or restrictions in force during the establishment period. [Irrigation controllers shall be adjusted to comply with the water

conservation regulations schedule].

[3.3.7 Turf Aeration

Upon completion of weed eradication operations and Contracting Officer's approval to proceed, aerate turf areas by approved device. Core, by pulling soil plugs, to a minimum depth of [_____] mm inches. [Leave all soil plugs, that are produced, in the turf area.] [Remove all debris generated during this operation off site.] [After aeration operations are complete, topdress entire area [6.35] [12.70] mm [1/4] [1/2] inch depth with the following mixture:

[[_____] percent sand]
[[_____] percent humus]
[[_____] percent gypsum]
[[_____] percent lime]

Blend all parts of topdressing mixture to a uniform consistency throughout.] Keep clean at all times at least one paved pedestrian access route and one paved vehicular access route to each building. Clean all soil plugs off of other paving when work is complete. This work shall commence [_____] days prior final acceptance of the maintenance establishment period.

]3.3.8 Turf Clearance Area

Trees located in turf areas shall be maintained with a growth free clearance of[450 mm 18 inches][_____] from the tree trunk base. The use of mechanical weed whips to accomplish the turf growth free bed area is prohibited.

]3.3.9 Replanting

Replant in accordance with [Section 02921 SEEDING][Section 02922 SODDING][Section 02923, SPRIGGING] and within specified planting dates areas which do not have a satisfactory stand of turf.

3.3.10 Final Inspection and Acceptance

Final inspection will be make upon written request from the Contractor at least 10 days prior to the last day of the turf establishment period. Final acceptance will be based upon a satisfactory stand of turf.

]3.4 EXTERIOR PLANT ESTABLISHMENT PERIOD

**NOTE: It is advisable to coordinate the Planter Bed
Establishment Period Time Frame with the Guarantee
Period.**

The exterior plant establishment period will commence on the date that inspection by the Contracting Officer shows that the [new plants][transplanted plants] furnished under this contract [has][have] been satisfactorily installed and shall continue for a period of [365] [_____] days.

3.4.1 Frequency of Maintenance

Begin maintenance immediately after plants have been installed. Inspect exterior plants at least [once a week] [_____] during the installation and establishment period and perform needed maintenance promptly.

3.4.2 Promotion of Plant Growth and Vigor

Water, prune, fertilize, mulch, adjust stakes, guys and turnbuckles, eradicate weeds and perform other operations necessary to promote plant growth, and vigor.

3.4.3 Planter Bed Maintenance

Planter beds shall be weeded, fertilized, irrigated, kept pest free, turf free, pruned, and mulch levels maintained. Planter beds will not be allowed to encroach into turf areas. A definite break shall be maintained between turf areas and planter beds.

3.4.3.1 Shrub Selective Maintenance

In addition to the above requirements, shrubs shall be selectively pruned, and shaped for health and safety when the following conditions exist: Remove growth in front of windows, over entrance ways or walks, and any growth which will obstruct vision at street intersections; Remove dead, damaged or diseased branches or limbs; where shrub growth obstructs pedestrian walkways; where shrub growth is found growing against or over structures. All pruning debris shall be disposed of in a proper manner.

3.4.3.2 Tree Maintenance

Tree maintenance shall include adjustment of stakes, ties, guy supports [and turnbuckles], watering, fertilizing, pest control, mulching, pruning for health and safety [and fall leaf cleanup]. Stakes, ties, guy supports [and turnbuckles] shall be inspected and adjusted to avoid girdling and promote natural development. All trees within the project boundaries, regardless of caliper, shall be selectively pruned for safety and health reasons. These include but are not limited to removal of dead and broken branches and correction of structural defects. Prune trees according to their natural growth characteristics leaving trees well shaped and balanced. Pruning of all trees including palm trees shall be accomplished by or in the presence of a certified member of the International Society of Arboriculture and in accordance with ANSI Z133.1. All pruning debris generated shall be disposed of in a proper manner.

[3.4.4 Slope Erosion Control Maintenance

The Contractor shall provide slope erosion control maintenance to prevent undermining of all slopes in [newly landscaped] [and] [natural growth areas]. Maintenance tasks include immediate repairs to weak spots in sloped areas, [and] [maintaining clean, clear [culverts,] and graded [berms,] [and] [terraces] to intercept and direct water flow to prevent development of large gullies and slope erosion] [and] [during periods of extended rainfall, irrigation systems shall be secured.] Eroded areas shall be filled with amended topsoil and replanted with the same plant species. [Erosion control [netting] [blankets] damaged due to slope erosion shall be reinstalled.]

]3.4.5 Removal of Dying or Dead Plants

Remove dead and dying plants and provide new plants immediately upon commencement of the specified planting season, and replace [stakes,] [guys,] mulch and eroded earth mound water basins. No additional plant establishment period will be required for replacement plants beyond the original warranty period. A tree shall be considered dying or dead when the main leader has died back, or a minimum of 20 percent of the crown has died. A shrub or ground cover shall be considered dying or dead when a minimum of 20 percent of the plant has died. This condition shall be determined by scraping on a branch an area 2 mm1/16 inch square, maximum, to determine the cause for dying plant material and shall provide recommendations for replacement. The Contractor shall determine the cause for dying plant material and provide recommendations for replacement.

3.4.6 Tracking of Unhealthy Plants

Note plants not in healthy growing condition, as determined by the Contracting Officer, and as soon as seasonal conditions permit, remove and replace with plants of the same species and sizes as originally specified. Install replacement plantings in accordance with Section 02930 EXTERIOR PLANTS.

3.4.7 Final Inspection

Final inspection will be made upon written request from the Contractor at least 10 days prior to the last day of the establishment period. Final inspection will be based on the following:

3.4.7.1 Total Plants on Site

Plants have been accepted and required number of replacements have been installed.

3.4.7.2 Mulching and Weeding

Planter beds and earth mound water basins are properly mulched and free of weeds.

[3.4.7.3 Tree Supports

[Stakes] [guys] guys and turnbuckles are in good condition.

]3.4.7.4 Remedial Work

Remedial measures directed by the Contracting Officer to ensure plant material survival and promote healthy growth have been completed.

3.5 PESTICIDE APPLICATION

Use pesticides when required to eliminate plant diseases and harmful insects or insect eggs from plant materials. The Contractor shall furnish all labor, supervision, tools, materials, equipment, and transportation necessary to provide Pest Control Services as required.

3.5.1 State Licensing

The Contractor shall be licensed by the State to provide pest control in the categories in which work will be performed.

3.5.2 Certified and Licensed Applicators

All pesticide applications shall be performed by individuals who are state licensed or certified in the appropriate categories for the type of pest control to be performed. The applicator must be capable of reading, understanding and executing all of the requirements and recommendations outlined on the manufacturer's label. All pesticides must be used in accordance with the Federal, state, local, and installation laws, publications, and any requirements identified in attachments. All pesticides shall be procured, processed, handled, and applied in strict accordance with the manufacturer's label. All pesticides shall be registered with the U.S. Environmental Protection Agency and State in which they will be used.

3.5.3 Pesticide Use Inspections

Pesticide applications will be inspected by a Government designated Pest Management Coordinator or trained Pest Management Quality Assurance Evaluator. The Contractor shall notify the Contracting Officer immediately, by telephone, of any inspection visits by any Federal or State enforcement officials.

3.5.4 Pesticide Approval

The Contractor shall submit to the Contracting Officer a list of pesticides "proposed for use" prior to initiation of work on the correct submission form. The Contracting Officer must approve the pesticides proposed before they can be used. Copies of the pesticide complete label and Material Safety Data Sheet (MSDS) for each pesticide proposed for use must be included. Copies of the State business license as an applicator of pesticides and the pesticide applicator's certification information must also be attached. If the Contractor wishes to use a pesticide not currently on the "list" (previously submitted), the new pesticide must be submitted to the Contracting Officer for approval on the correct submission form. Once pesticides are approved by the Contracting Officer, they can be used throughout the course of the contract provided that registration is not revoked by the EPA or the State. The government reserves the right to remove any pesticide from use at anytime.

3.5.5 Application and Reporting Procedure

Notify the Contracting Officer 24 hours before application. Apply pesticides in accordance with EPA label restrictions and recommendations and federal and state laws. Make daily reports to the Contracting Officer stating areas treated with each chemical, the quantity applied, and spray mixture or formulation used. The Contractor shall maintain a label book of pesticides used, including all appropriate Material Safety Data Sheets (MSDS), and have it readily available at all times for inspection. Pesticides shall always be stored in original containers having EPA-registered labels attached or in service containers that conform to all federal, state, or local regulations regarding containers for pesticide storage.

3.5.6 Application Safety Precautions

Apply in well ventilated areas. Avoid inhalation, injection, or spilling on clothing or skin. Wear personal protective equipment (PPE) that meets or exceeds the requirements indicated by the manufacturer's pesticide label.

Do not expose personnel to pesticides exceeding the exposure levels recommended in the most stringent of the following: OSHA, 29 CFR 1910-SUBPART Z, or the manufacturer's material safety data sheet. If excessive exposures are unavoidable, use respirators approved by the National Institute for Occupational Safety and Health for protection from pesticides. Conform to the selection and usage guidance in ANSI Z88.2. Ensure that application sites are clearly posted with re-entry intervals as required by the manufacturer's pesticide label.

3.5.7 Hydraulic Equipment

For liquid application of chemicals, hydraulic equipment shall have leakproof tanks and a positive agitation method. Calibrate and meter equipment so that application of chemicals in specified amounts can be determined. Provide equipment with gauges and valves capable of maintaining constant application pressures. Use application equipment appropriate for the nature and size of work, that is clean, calibrated, and in proper operational condition. Never leave equipment unattended during filling, and during application usage.

3.5.8 Personnel Injury and Property Damage Prevention

Apply in a manner to prevent injury to personnel, and damage to property, from either direct spray, or drifting of chemicals both on and off Government property.

3.5.9 Pesticide Disposal

The Contractor shall dispose of all excess pesticides, pesticide rinse water, empty pesticide containers, and any pesticide contaminated article in accordance with the label, applicable State and Federal regulations and with [Section 01575N TEMPORARY ENVIRONMENTAL CONTROLS.] [Section 01355A ENVIRONMENTAL PROTECTION.] Pesticides, pesticide containers, pesticide residue, pesticide rinse water, or any pesticide contaminated articles shall not be disposed of on the installation or on any Federally owned property. However, rinse water may be used as diluent for the mixing the same pesticide.

3.5.10 Pesticide Spills, Clean Up and Decontamination

The Contractor shall be responsible for proper reporting, containment, clean up and decontamination of pesticide spills, as required by EPA and State Laws and Regulations. All spills shall be immediately reported to the Contracting Officer.

3.6 FIELD QUALITY CONTROL

3.6.1 Maintenance Inspection Report

Provide maintenance inspection report to assure that landscape maintenance is being performed in accordance with the specifications and in the best interest of plant growth and survivability. Site observations shall be documented at the start of the establishment period, then quarterly following the start, and at the end of establishment period. Results of site observation visits shall be submitted to the Contracting Officer within 7 calendar days of each site observation visit.

[3.6.2 Plant Quantities

The Contractor shall provide Contracting Officer with the number of plant quantities. In addition, provide total exterior area of hardscape and landscaping such as turf and total number of shrubs.

]3.6.3 Tree Staking and Guying Removal

The Contractor shall provide a certified letter that all stakes and guys are removed from all project trees at the end of the establishment period.

-- End of Section --