

## **Technical Specifications Attachment for**

### **South Florida National Cemetery – Grounds Maintenance Services**

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# SECTION A - UNDERGROUND SPRINKLER SYSTEM SYSTEMS INSPECTION AND MAINTENANCE

## 1. GENERAL

All work performed under this section is subject to the General Requirements and Contract Documents to bidders which form a part of these specifications, and the Contractor shall be responsible for and governed by all the requirements there under.

## 2. SCOPE

Work consists of periodic inspection and minor maintenance of the installed sprinkler system.

## 3. GENERAL REQUIREMENTS

### PART 1-GENERAL

#### 1.1 DESCRIPTION

The work specified herein shall be provided to facilitate the successful and ongoing operation of an automatically controlled underground landscape irrigation system, including system controllers and control devices, control valves, sprinkler heads and accessible field wiring. Buried and inaccessible system piping and wiring, while not specifically excluded, are not included under the inspection and maintenance requirements of this document.

### INSPECTION AND MAINTENANCE

A. This contract will cover periodic diagnostic, troubleshooting, and repair service, which includes emergency callback service, periodic inspections and preventative maintenance of all above ground irrigation system components, controllers, control devices, and pump stations. The contractor shall be required to perform the following:

#### (1) Underground Irrigation Systems with Stand-Alone Controllers

a. Provide monthly examination of irrigation system by walking site and performing a thorough inspection of grounds and irrigation components.

b. During each inspection, prepare a list of all trouble spots and problem issues that are visibly identifiable. In addition, review system operation with on-site operators to determine and record additional issues experienced during daily operation that may not be readily observable.

c. In accordance with inspection notes, physically inspect all field controllers, including visible wiring in controller cabinet. Adjust controller programs to reflect site specific requirement, seasonal changes, and cemetery staff needs.

d. Visibly inspect controller grounding grid for good mechanical connection.

e. Verify operation of all irrigation valves and spray devices by manually running each station on each controller.

f. When necessary, adjust spray devices to assure proper spray pattern and radius of water pattern.

g. When necessary, repair or replace broken or malfunctioning spray devices. Repair and replacement parts shall be furnished by the government.

h. If installed, verify that all flow sensors are operating properly. Recalibrate as required to meet manufacturer's recommendations.

i. If installed, verify that all system master valves are operating properly. Perform preventative maintenance service to valves to meet manufacturer's recommendations.

j. As required, clean all filtering devices on irrigation system, including by not limited to mainline filters, drip line filter, and spray head filter devices.

k. At least once annually, test all controller grounding for proper resistance according to equipment manufacturers recommendations. Provide written report detailing grounding resistance for each controller, highlighting deficient found locations and notifying the site manager of required action.

l. Where site conditions require, provide annual Spring Start-up and Winterization for the entire irrigation system.

m. Ensure water treatment system utilized is functioning properly; proper amount of chemicals added to the water to prevent headstones turning an unnatural color such as a rustic color. Contractor is responsible for purchasing necessary water treatment products/ chemicals.

n. Ensure irrigation heads are ground level and do not present a trip hazard. Will raise or lower irrigation heads as necessary.

o. Repair and replace all 1 1/2 diameter and less irrigation breaks to include normal wear and tear.

## (2) Underground Irrigation Systems with Computer-based Central Control

a. Perform all system inspection and maintenance tasks as outline in the previous section for Underground Irrigation Systems with Stand-Alone Controllers.

b. Check software event logs to verify system has been operating properly. Adjust program settings in the software and make required program modifications to respond to site issues or problems as necessary.

c. Verify communication is intact between Central Control computer and all field controller devices. Check program schedules for proper operation and adjust if necessary.

d. Verify system back-up function is programmed and working properly. Perform system back-up, provide back-up storage device to site manager for safe storage in remote locations.

e. Verify all field controllers have back-up programs, adjust programs as necessary to allow for changing site conditions, seasonal changes, and cemetery staff needs.

f. Verify that system Weather Station is operating properly. Perform preventative maintenance service to Weather Station to meet manufacturer's recommendations.

g. Ensure irrigation heads are ground level and do not present a trip hazard. Will raise or lower irrigation heads as necessary.

#### WORK NOT INCLUDED

A. Maintenance shall not include the performance of any work required as a result of improper use, accidents, or negligence for which the contractor is not directly responsible.

B. Underground repairs to piping and wiring are not included in this contract. If such repairs are required, and the COR request the contractor to make repairs, said repairs will be performed and billed under a separate agreement or purchase order.

## SECTION B - HEADSTONE MAINTENANCE AND CLEANING

### 1. GENERAL

All work performed under this section is subject to the General Requirements and Contract Documents to bidders which form a part of these specifications, and the Contractor shall be responsible for and governed by all the requirements there under.

### 2. SCOPE

#### A. NCA Standards and Measures

(1) Standard 4.1: Headstones, markers, and niche covers are to be clean, free of debris and objectionable accumulations.

(2) Measure 4.1a: 90% of headstones, markers, and niche covers do not show evidence of debris or objectionable accumulations.

B. Work consists of cleaning all headstones as specified by the Contracting Officers Representative (COR) to remove objectionable material and discoloration, such as accumulations of bird droppings, mud, tire, hose markings, grass stains, flower stains, residue from trees, fungus, and so forth. The number of headstones in the South Florida National Cemetery will increase at an approximate rate of 1500 per year.

### 3. GENERAL REQUIREMENTS

All headstones shall be cleaned prior to Memorial Day and Veteran's Day as well as spot cleaning where needed throughout the year and any other time as determined by the COR or Director. The natural surfaces shall be retained. They shall not be painted, white washed or calcimined. Any headstones that have any dirt splash up or grass debris from mowing/trimming will be promptly cleaned immediately after mowing has been completed.

#### A. Procedure

(1) Clean water shall be used to clean headstones. Cleaning techniques with water shall include high pressure spraying, scrubbing and/or rinsing.

(2) When water under pressure is used, the pressure will not exceed 800 psi. Excessive soil may be removed with plain water and a stiff brush (no wire brushes), followed by rinsing with clear water.

(3) If water used in cleaning should soften the soil around the base of the headstone, loosening the stone, care shall be taken not to tip the stone out of plumb or alignment. If cleaning should create a hole or damage around the headstone base, contractor shall ensure the grade of the base of the headstone is replaced to match the grade of the surrounding area or gravesite.

(4) Care shall be taken to protect the turf area from any damage. Any turf damage by the Contractor shall be restored at the Contractor's expense.

(5) Abrasive blasting and cleaning solution will not be used. Currently, the use of D/2 is approved.

## SECTION C - HEADSTONE RAISE, LOWER, REALIGN, RESET

### 1. GENERAL

All work performed under this section is subject to the General Requirements and Contract Documents to bidders which form a part of these specifications, and the Contractor shall be responsible for and governed by all the requirements there under.

### 2. SCOPE

#### A. NCA Standards and Measures

(1) Standard 4.2: Proper height and alignment of each headstone and marker is maintained.

(2) Measure 4.2: The percent of headstones and/or markers in a national cemetery that are at the proper height and alignment shall be at 95%.

B. Work consists of resetting or realigning those already in place that have shifted out of vertical or horizontal alignment. It includes reporting physical defects to the Contracting Officer or his authorized representative.

### 3. GENERAL REQUIREMENTS

Upright white marble headstones are to be used at the South Florida NC as determined through direction of the National Cemetery Administration, Central Office (in accordance with the general plan of the cemetery). The Contractor shall submit an annual schedule of resetting and alignment prior to start of work to the COR. The schedule will be used in performing inspections on resetting and alignments.

A. Contractor shall unload pallets from blank headstone delivery vehicle with forklift or similar equipment, remove blank headstones from pallets and place properly in area set aside for cemetery staff to visually inspect. Contractor shall also dispose of all pallets and packing material.

B. Upright headstones for individual graves shall be erected on the centerline seven (12) inches in from the head of the grave with the inscription facing the grave (section 20 and 21); and there is no inset on section 39. They shall be set plumb and aligned laterally, transversely, and diagonally with the headstones on other graves. Measurements shall be taken from the selection layout control points and not from headstones previously set. New and replacement headstones in old sections of National Cemeteries where such stones have not been and cannot be set at the standard height shall be set at the same distance above the ground as the adjacent headstones, provided they can be set with the inscription above the ground level. In new sections of Nation Cemeteries, all upright headstones shall be set at a height of 24-26" from the finished grave to the top of the arc. Where headstones have been previously set at other heights above grade, but in general, at a uniform height throughout the area, and otherwise present a neat overall appearance with the inscription visible, resetting for the sole purpose of attaining the stated height is unnecessary. The nominal height of 24-26" given for the current standard of headstone setting is the standard height. Minor deviations are the less than nominal height is permissible to provide a uniform appearance in the top line to compensate for slight ground rises or depression within a burial section. Where a considerable number of adjacent stones are reset in a section, and ground

conditions are known to require an allowance for vertical settlement, an extra inch may be permissible in the above ground projection when the stone is initially set.

C. Trees or shrubs obstructing headstones shall be noted and the COR shall determine remedial action, and any modification needed for installation of a headstone.

D. Realignment, when consisting merely of straightening the headstone, called fine tune and alignment, may be accomplished by one person.

E. Older headstones will be realigned laterally, transversely and diagonally in the same manner as new markers.



## SECTION D - REFILLING OF SUNKEN GRAVES AND GROUNDS REPAIR

### 1. GENERAL

All work performed under this section is subject to the General Requirements and Contract Documents to bidders which form a part of these specifications, and the Contractor shall be responsible for and governed by all the requirements there under.

### 2. SCOPE

#### A. NCA Standards and Measures

(1) Standard 4.2: Proper Grounds are maintained in a manner that avoids safety hazards for visitors and staff.

a. Measure 4.2a: Safety hazards (holes, pests, hazardous trees and branches, sprinkler heads, etc.) that are identified and corrective action initiated within the same workday.

(2) Standard 2.4: The grade of every gravesite blends in with adjacent grade levels.

a. Measure 2.4a: Gravesites have grades which are level and blend with adjacent grade levels.

b. Measure 2.4b: Sunken graves have been identified and repaired to re-establish the ground level in accordance with NCA Standards and Measures.

B. Work consists of refilling sunken graves with suitable soil to match existing adjacent graves. The cemetery will be checked for holes and washouts and will be filled immediately.

C. Damage to the grounds occurs due to pests and can be the cause of injury to visitors and personnel. The cemetery will be checked for pest holes regularly and will be filled immediately.

### 3. GENERAL REQUIREMENTS

A. A sunken grave is defined as any gravesite that has receded two (2) inches from the existing adjacent grade. Standard graves excavated and backfilled are approximately three and one-half feet wide and approximately eight feet long. The Contractor will identify sunken graves requiring repair.

B. Refilling of sunken graves will be accomplished as soon as practical.

C. Partially sunken graves may occur after weather events. This can appear as a small to medium hole outlining the grave or headstone setting. This type of grade issue can cause injury to visitors and staff and must be repaired as soon as possible.

D. Any graves identified as sunken must be secured with safety barriers until repairs can be affected, by grave boards or cones to prevent injury to visitors and personnel.

E. Pest holes will be repaired as found.

F. Gravesites that are high and above grade will need to be addressed by removing excess suitable fill, replacing sod to blend with adjacent graves/area.

#### 4. PROCEDURE

A. Sunken graves will be filled with approved select backfill and tamped to within two (2) inches of established grade. Topsoil will be added to bring the gravesite to established grade. The disturbed area will then be raked free of stones and any other debris larger than one (1) inch measured in any direction. The area will then be sodded/seeded as specified (See Attachment F, Lawn Maintenance: Sodding/Seeding).

B. When possible, sod should be removed and replaced.

C. Area should be tamped level after filling the grave.

D. All damaged graves will be secured with safety barriers until repairs can be addressed, by grave boards and/or cones to prevent injury to visitors and personnel.

E. Small holes caused by pests will be repaired immediately due to the danger they pose to personnel visiting or working on the grounds. Small holes can be filled and hand tamped.

(1) The area will then be sodded/seeded as required. (See Attachment F, Lawn Maintenance: Sodding/Seeding)

F. Any damage to headstones, cemetery fixtures, grounds or equipment during grounds maintenance operations must be reported to the COR immediately.

## SECTION E - LAWN MAINTENANCE: MOWING, TRIMMING AND EDGING

### 1. GENERAL

All work performed under this section is subject to the General Requirements and Contract Documents to bidders which form a part of these specifications, and the Contractor shall be responsible for and governed by all the requirements there under.

### 2. SCOPE

#### A. NCA Standards and Measures

(1) Standard 2.1: Visually prominent areas have a well-established, healthy stand of turf.

a. Measure 2.1a: Visually prominent areas are generally weed free.

b. Measure 2.1b: Visually prominent areas with established turf is generally free of bare areas, there shall be no signs of “grass burns” caused by improper use of mowers.

c. Measure 2.1c: Turf in visually prominent areas is maintained within one inch above the range of that which is professionally recommended for that type and region according to the Cemetery Grounds Management Plan. Optimally, the height is no more than half an inch above that range.

(2) Standard 2.6: Visually prominent areas in the cemetery are properly trimmed and edged.

a. Measure 2.6a: Headstones show turf trimmed to the recommended mowing height. There shall be no signs of turf being scalped by string trimmers.

b. Requirement 2.6c: Other features on cemetery grounds are trimmed or edged within appropriate limits.

B. Contractor shall be responsible for mowing: edging and trimming all grass within the cemetery as specified by the COR.

### 3. EQUIPMENT

A. Riding mowers may be used provided that they are not operated within two (2) inches of headstones, markers, monuments, tree trunks or other vertical surfaces.

B. Commercial grade power trimmers and power edgers will be used to trim grass from around headstones, monuments, markers, etc.

C. Cutting blades on mowing and trimming equipment must be kept sharp so that grass tips are properly cut—not torn or damaged. Cutting heights of all mowing equipment shall be set according to heights specified below. The height of grass is what is measured to get correct cutting height.

D. All mowers must have mulching checks with mulching blades.

E. Equipment used on cemetery inclines must meet proper OSHA and equipment manufacturer regulations and/or guidelines for safety.

#### 4. GENERAL REQUIREMENTS

A. Contractor shall be responsible for mowing: edging and trimming all grass within the cemetery as specified by COR.

B. Turf shall be cut to maintain heights as set forth below:

Cutting Height, Inches	Turf grass Species
1 ½ - 2	Seashore Paspalum
1 ½ - 2	Celebration Bermuda
2 – 3	St. Augustine
2 – 3	Bahia Grass

C. Mowing will be done a minimum of once a week during growing season, which is April through October. The growing season may require mowing twice weekly. Mowing should be performed often enough so that no more than 1/3 of leafage is removed at any one mowing. During dormant periods, mowing will be done as necessary to maintain National Cemetery Standards. Turf in burial and public areas should be maintained at a height within one-inch range of that which is professionally recommended for the recommended grass type for that geographic region. Optimally, the height should be no more than half an inch above that range. For example, the height of Bermuda turf should be between 1 ½ inch and 2 inches. Grass is trimmed on borders.

All grass clippings clumped together excessively due to rapid growth or wet grass, the contractor will remove immediately after mowing.

D. EDGING: All streets, curbs, walkways, tree wells and shrub beds shall be edged inside and outside cemetery grounds. COR will conduct random inspections of edging weekly.

E. All un-mowed grass around headstones, monuments, markers, and other vertical surfaces shall be trimmed to keep the grass at the height standard described in section D.2 of this attachment.

- (1) Care will be taken in the vicinity of headstones to prevent damage to the headstone.
- (2) Grass clippings/strains will be removed from headstone bases after trimming is completed.
- (3) Trimmers will be kept level to prevent scalping between and around headstone.
- (4) Discarded trimmer string shall be removed from the grounds after trimming operations are complete.

F. Care and maintenance of shrubs and flower bed areas. Shrubs will be trimmed monthly during summer months/growing season. Shrub trimmings should be removed. Shrub area shall be kept free of shrub trimmings and any other debris.

- G. The walkways (inside and out), flagpole bases, interment area, and roads will be cleaned up of grass clippings and leaves after mowing, weed eating, edging, and trimming.
- H. Any damage to headstones, cemetery fixtures, grounds or equipment during grounds maintenance operations must be reported to the COR immediately.
- I. Extra care should be exercised in trimming operations when visitors are in the vicinity of operations.

## SECTION F - LAWN MAINTENANCE: SODDING/SEEDING

### 1. GENERAL

All work performed under this section is subject to the General Requirements and Contract Documents to bidders which form a part of these specifications, and the Contractor shall be responsible for and governed by all the requirements there under.

### 2. SCOPE

#### A. NCA Standards and Measures

(1) Standard 2.2: The turf used is compatible with the geographic region.

a. Measure 2.1a: The percentage of national cemeteries using turf.

(2) Standard 2.6: Gravesite re-openers avoid damage and ensure continuation of a well-established, healthy stand of turf.

a. Measure 2.7a: 100% of grave re-openers during the growing season that show healthy turf re-established within 60 days of the interment.

b. Measure 2.7b: 100% of winter grave re-openers that show healthy turf re-established within 60 days of the start of the growing season.

(3) Standard 2.8: Avoid damage and ensure continuation of a well-established, healthy stand of turf during grounds maintenance operations.

a. Requirement 2.8: Turf damage due to grounds maintenance tasks is identified and corrective action initiated by close of business the same day.

B. Work consist of sod bed preparation and sodding/seeding of areas of the cemetery where the turf has been disturbed or has died. In particular, all newly dug or refilled graves will need resodding/seeding.

C. Approximately 1000 graves will require resodding/seeding annually.

D. The Contractor will be responsible for removing and replacing sod in the new interment areas and for daily interments.

E. The Contractor may be allowed to store sod in designated area for use.

F. The Contractor shall be responsible for the removal and disposition of dead turf and shall refill the site with quality topsoil and perform the sodding/seeding to include the bare areas to insure a quality turf.

G. Delivery tickets, indicating date, weight, analysis, purity, and vendor's name, etc. are to be submitted to the COR.

### 3. GENERAL REQUIREMENTS:

Kind of Sod/Seed Type	% Purity	% Germination
Seashore Paspalum (Paspalum Vaginatatum)	98-99	86-90
St. Augustine (Stenotaphrum Secundatum)	98-99	86-90
Bahaia Grass (Paspalum Motatum)	98-99	86-90
Celebration Bermuda	98-99	86-90

4. Only cultivars of grass sod/seed that have been adapted in the State of Florida and certified by the State Agronomy Testing Laboratory will be accepted. Any substitution of sod/seed type weight or application must be specifically approved by the COR in writing. Sod/seed is to be free of all noxious weeds. Bermuda is to be the primary turf to be developed.

### 5. GUARANTEE

A. The Contractor shall be responsible for mowing and watering all sodded/seeded areas and maintaining them in a healthy and vigorous condition. Spot watering will be accomplished with hoses or other watering methods. Irrigation will not be used for watering individual sites.

B. The Contractor shall, at his own expense, replace any sod which has died or been damaged during the establishment period.

C. Healthy turf shall be re-established within 60 days on all grave re-openers during the growing season.

D. Any damage to headstones, cemetery fixtures, grounds or equipment during grounds maintenance operations must be reported to the COR immediately.

## SECTION G - LAWN MAINTENANCE: FERTILIZING, WEEDING

### 1. GENERAL

All work performed under this section is subject to the General Requirements and Contract Documents to bidders which form a part of these specifications, and the Contractor shall be responsible for and governed by all the requirements there under.

### 2. SCOPE

#### A. NCA Standards and Measures

(1) Standard 2.1: Visually prominent areas have a well-established, healthy stand of turf.

a. Measure 2.1a: 100% of visually prominent areas that are generally weed free.

b. Measure 2.1b: 95% of visually prominent areas with established turf that are generally free of bare areas.

(2) Standard 4.2: Grounds are maintained in a manner that avoids safety hazards for visitors and staff.

a. Measure 4.2a: Safety hazards (holes, pests, hazardous trees and branches, sprinkler heads, etc.) that are identified and corrective action initiated within the same workday.

B. Contractors shall be responsible for maintaining the turf area of the cemetery and the immediate area surroundings of the cemetery in a healthy condition by proper application of fertilizers, chemicals (to control weeds, diseases and insect pests) and lime (if soil tests indicate it is needed). Turf in burial areas should be 90 percent weed free. Pest and disease free turf should cover at least 95 percent of the area. The turf is to be aerated with a core aerator in the spring (March or April).

### 3. EQUIPMENT AND SUPPLIES

A. The contractor is to supply all necessary applicators, hoses and other equipment.

B. Water will be furnished by the Government, this facility has an automatic irrigation system throughout which will be monitored and regulated by the Contractor under the supervision of the COR.

C. The Contractor shall furnish all required chemicals, fertilizers and any other supplies. The Contractor shall determine the necessary formulation of fertilizers and the required amount of lime as indicated by the soil tests. Soil tests are obtained by COR or their representative quarterly. Soil samples sent to the Florida Department of Agriculture for analysis. Copy of results are mailed to COR and Contractor. Test results will show any deficiencies and the needed corrections.

### 4. GENERAL REQUIREMENTS

A. The Contractor shall be responsible for taking all precautions to prevent damage to the cemetery, in any manner, including headstones, markers, monuments, flower bases, trees and other structures during



maintenance operations. The Contractor shall be charged current replacement costs for headstones/markers, other cemetery structures or property damage as a result of actions by contractor personnel.

B. Fertilizer shall be applied based on the results and recommendations of a soil test for each section. The Contractor will conduct the soil test and provide a copy to the Contracting Officer Representative (COR). Fertilizer will be applied during the growing period (March – August) per recommendation (approximately 4 times per year). Only fertilizer that is recommended for the test results will be used and nitrogen formulated used should be slow release. This will be reported to the COR on the appropriate form no later than 5 working days.

C. Lime. When soil tests indicate a need for lime, it shall be applied at the rate indicated in those tests. Time of applications shall be in late fall or early winter, unless local practice indicates a more favorable time.

D. Weed Control. All weed growth and turf disease shall be controlled by means of mowing, trimming and pesticide application or any other method approved by the COR. All personnel using such spays shall be properly trained, and the person in charge shall be duly licensed by the State of Florida to use pesticides. Treatment for weeds will be accomplished in the spring, summer and the fall of each year. Turf in high maintenance areas shall be maintained at 90 percent weed free. The entire cemetery will be treated with sufficient amount of pre-emergence during the month of March to prevent germination of crab grass.

E. Armadillos, Moles and any other Pests: Armadillos, moles and any other pest shall be controlled by elimination of their food source through the use of pesticides applied by a licensed applicator. The Contractor shall ensure that soil shall be tamped into holes and turf replaced or reseeded to insure acceptable appearance at all times.

F. Pesticides and Herbicides: Contractor will keep record of all pesticides/herbicides applied and furnish copy to COR within five working days of application. Records will show type, amount, application area, and weather conditions. Signs will be posted informing the public that a chemical has been applied (Date and Time of Applications). Turf in high maintenance areas shall be at least 95 percent pest and disease free.

G. Control of Fire Ants and other Ant species: Contractor shall make a weekly inspection for fire ants and/or other ant species will apply necessary chemicals applications to control ants. After ants are killed, mounds will be leveled. Necessary repairs to turf will be made by Contractor.

H. Any damage to headstones, cemetery fixtures, grounds or equipment during grounds maintenance operations must be reported to the COR immediately.

## SECTION H - OTHER GROUNDS MAINTENANCE – LEAF COLLECTION AND REMOVAL

### 1. GENERAL

All work performed under this section is subject to the General Requirements and Contract Documents to bidders which form a part of these specifications, and the Contractor shall be responsible for and governed by all the requirements there under.

### 2. SCOPE

#### A. NCA Standards and Measures

(1) Standard 2.3: All turf is free of debris, i.e, leaves, fallen branches and trash.

a. Requirement 2.3a: Turf areas are cleared of leaves and other natural debris as needed or at least weekly.

b. Measure 2.3b: Turf in visually prominent areas is free of debris.

(2) Standard 6.2: All areas where cemetery operations have been conducted are neat, clean and free of debris and equipment at the end of the workday.

a. Requirement 6.2a: Debris, equipment, tools and supplies are removed at the conclusion of each task or at the end of the workday.

b. Requirement 6.2b: Roads, walkways, shelters, and burial sections are free of grounds maintenance debris by the end of the workday.

(3) Standard 1.3: Roads, curbs, sidewalks, paths, parking lots, entry features, and perimeter walls/fences are clean and well-maintained.

a. Measure 1.3a: Roads, curbs, sidewalks, paths, parking lots, entry features, and perimeter walls/fences are assessed as acceptable for their function based on a current Facilities maintenance Checklist.

b. Curbs, walkways, and sidewalks will also be power washed / sprayed twice a year near Memorial Day and Veterans Day similar to headstone cleaning schedule.

B. Work consists of collecting and removing from the cemetery grounds and the immediate area outside the cemetery boundary, all fallen leaves, nuts, and twigs as frequently as necessary to keep a debris free appearance. Random inspections shall be conducted by the COR on a daily bases.

### 3. GENERAL REQUIREMENTS

A. Leaf collection and removal will be accomplished all year long. All fallen leaves must be removed except when delayed by the onset of severe weather conditions. The Contractor shall schedule removal work accordingly.

#### 4. PROCEDURE

A. Leaves, nuts, and twigs will be hand raked, vacuumed or blown by hand held and/or walk-behind push type machines from interment areas into the roadways, and then collected and properly disposed of from cemetery grounds which includes right of way outside cemetery boundary. Any accumulation of mulched leaves will be removed from the cemetery.

B. The Contractor will inspect all areas of the cemetery and ensure that there is no accumulation of leaves in any area.

C. Any damage to headstones, cemetery fixtures, grounds or equipment during grounds maintenance operations must be reported to the COR immediately.

## SECTION I - PLANT MATERIAL MAINTENANCE

### 1. GENERAL

All work performed under this section is subject to the General Requirements and Contract Documents to bidders which form a part of these specifications, and the Contractor shall be responsible for and governed by all the requirements there under.

### 2. SCOPE

#### A. NCA Standards and Measures

(1) Standard 3.2: Trees and shrubs are healthy, vigorous, and free of pests and disease and/or are maintained in accordance with the Cemetery Grounds management Plan.

a. Requirement 3.2: Trees and shrubs are healthy, vigorous, and free of pests and disease and/or are maintained in accordance with the Cemetery Ground Management Plan.

(1) Trees and shrubs are to be maintained in a healthy, vigorous condition free of pests and disease.

(2) Trees and shrubs shall be trimmed and maintained at a proper size and shape for its particular size and type according to industry standards.

(3) Trees and shrubs shall be trimmed & maintained so not to impede on sidewalks or roadways.

(2) Standard 3.3: Trees and shrubs are maintained so that they enhance and do not detract from the appearance of public areas.

(3) Standard 4.1: Cemetery planting beds are well maintained, attracted, and is compatible with the geographic region.

a. Plants and planting beds are to be maintained in a healthy, vigorous condition free of pests and disease.

b. Cemetery planting beds are well maintained and attractive.

(4) Standard 4.2: Grounds are maintained in a manner that avoids safety hazards for visitors and staff.

a. Measure 4.2a: Safety hazards (holes, pests, hazardous trees and branches, sprinkler heads, etc.) that are identified and corrective action initiated within the same workday.

b. Trees shall be maintained in a condition free of broken limbs or branches.

c. Ornamental trees and shrubs shall be pruned in a manner that ensures they do not pose a hazard to staff and visitors.

(5) Buffer areas are maintained so that they enhance and do not detract from public areas.

(6) High maintenance areas, in which turf is not a part of the cemetery design, will be maintained in a manner that is appropriate for the medium in place.

(7) Work consists of, but is not limited to, maintaining shrubs and trees in a healthy and attractive condition by proper watering, pruning, removal of dead branches, cultivation and mulching. Notify COR of any pest infestation in trees and obtain further guidance from the COR.

### 3. GENERAL REQUIREMENTS

A. Personnel shall be properly trained in the operations they are to perform. If pesticide sprays are used, the person in direct charge will be licensed by the State.

### 4. EQUIPMENT

A. All necessary equipment for this maintenance performance shall be furnished by the Contractor unless specifically stated otherwise.

B. All cutting tools will be kept sharp and properly functioning

C. Materials for spraying and fertilizing will be supplied by the Contractor and proper records kept in accordance with state regulations.

D. Lifts needed for trees such as palm trees are not provided by the cemetery.

### 4. PROCEDURE

A. Trees will be kept free of suckers and broken branches.

B. All cuts will be made according to ANSI A300 Standards.

C. The saucers (watering basins) around newly planted trees will be kept free of grass and weeds. Cypress mulch (or equipment) will be added when required and/or ordered by the COR or his/her authorized representative. No bark chips or nuggets will be allowed.

D. All new trees shall be staked (as indicated in the Department of Memorial Affairs Standard Specifications-obtained from the COR). Any tree showing adverse affect from high winds will also be staked. Trees, which have been damaged in any way, will be reported to the COR, or his authorized representative. All plant material destroyed by the Contractor will be replaced at Contractor's cost.

E. Hedges will be trimmed to promote a healthy and attractive appearance and uniform growth over all parts of the plant, with the bottom wider than the top. Hedges and shrubs shall be kept free of dead branches, leaves and all weed growth. Weeds and their root system will be removed.

F. Beds containing shrubs shall be kept attractive and free of weeds. Any cultivation shall be generally shallow to avoid any damage to roots. Dead or dying plant material shall be reported to the COR. Replacement plants, if needed, shall be furnished by the COR and planted by the Contractor, as funds are available.

G. All shrubs shall be watered during the growing season to the degree needed to maintain an attractive appearance should natural rainfall fail to provide the moisture needed.

H. Any damage to headstones, cemetery fixtures, grounds and equipment during grounds maintenance operations must be reported to the COR immediately.

## SECTION J - PRUNING STANDARDS FOR SHADE TREES

### 1. GENERAL

All work performed under this section is subject to the General Requirements and Contract Documents to bidders which form a part of these specifications, and the Contractor shall be responsible for and governed by all the requirements there under.

### 2. SCOPE

#### A. NCA Standards and Measures

(1) Standard 3.2: Trees and shrubs are healthy, vigorous, and free of pests and disease and/or are maintained in accordance with the Cemetery Grounds management Plan.

a. Requirement 3.2: Trees and shrubs are healthy, vigorous, and free of pests and disease and/or are maintained in accordance with the Cemetery Ground Management Plan.

(1) Trees and shrubs are to be maintained in a healthy, vigorous condition free of pests and disease.

(2) Standard 3.3: Trees and shrubs are maintained so that they enhance and do not detract from the appearance of public areas.

(3) Trees and Shrubs shall be trimmed and maintained at a proper size, form and shape for its particular size and type according to industry standards. Trees shall be maintained in a condition that is free of broken limbs or branches.

B. Pruning should focus on maintaining tree structure, form, health and appearance by: removing dead, dying, diseased branches to be provided by the Contractor.

### 3. GENERAL REQUIREMENTS

A. The types of pruning generally used in the tree industry are as follows: Crown Cleaning, Crown Thinning, Crown Raising, Crown Shaping and Crown Restoration as found in ANSI A300 standards. Contractor is required to maintain trees at a maximum height of 15 feet.

### 4. PROCEDURE

A. Crown Cleaning: Crown Cleaning shall consist of the selective removal of one or more of the following items: dead, dying, diseased, weak branches and water sprouts from a tree's crown.

B. Crown Thinning: Crown Thinning shall consists of the selective removal of branches to increase light penetration, air movement and reduce weight.

C. Crown Raising: Crown Raising shall consist of the removal of the lower branches of a tree in order to provide clearance.

D. Crown Shaping: Crown Shaping reduces the height and/or spread of a tree. Consideration should be given to the ability of a species to sustain this type of pruning.

E. Crown Restoration: Crown Restoration should improve the structure, form and appearance of trees that have been severely headed, vandalized or storm damage.

#### F. METHODS:

(1) When cutting back trees, drop crotch as much as possible and avoid cutting back to small suckers. Remove smaller limbs and twigs in such a manner as to leave the foliage pattern evenly distributed.

(2) In reducing overall size, attention is to be given to symmetrical appearance. The top is to be higher and the sides reduced in order to maintain a tree-like form.

(3) When cutting back trees, one should have in mind to make them shapely and typically of their species.

(4) In lifting the bottom branches of trees for under clearance which should be about fifteen (15) feet, care should be given to symmetrical appearance, and cuts should not be made so large they will prevent normal sap flow. Trim high enough to allow sunlight to penetrate trunk sometimes during the day.

(5) In general reduction of size (cutting back or topping) not more than one third of the total area should be reduced in a single operation.

G. Any damage to headstones, cemetery fixtures, grounds or equipment during grounds maintenance operations must be reported to the COR immediately.



## SECTION K - TRASH AND DEBRIS REMOVAL

### 1. GENERAL

All work performed under this section is subject to the General Requirements and Contract Documents to bidders which form a part of these specifications, and the Contractor shall be responsible for and governed by all the requirements there under.

### 2. SCOPE

#### A. NCA Standards and Measures

(1) Standard 5.2: Trash is collected, disposed of, and does not detract from cemetery appearance.

a. Measure 5.2a: The percent of national cemeteries that have central trash collection points established in locations that are screened from public view.

a. Requirement 5.2b: Public-use trash containers are adequate in number and well-marked, clean, neat, and in good repair.

B. Work consists of collecting and removing all trash (i.e. paper, cans, bottles, cigarette butts, etc), debris, dead or unsightly flowers, tree limbs, as well as any other debris within area defined by the COR, in accordance with the floral regulations of the cemetery.

### 3. GENERAL REQUIREMENTS

A. All trash (i.e. paper, cans, bottles, cigarette butts, etc), debris, contents of trash cans (including all recycled bins), dead or unsightly flowers and fallen limbs will be removed from the cemetery areas daily or as needed.

B. All unsightly grave decorations and/or flowers will be removed weekly or as needed in accordance with cemetery floral regulations. Floral vases that are clean and in workable condition will be placed in the floral vase containers near the burial sections and admin. American flags will be disposed of appropriately.

1. Potted plants and other decorative items are only allowed on gravesites 5 days before through 5 days after Easter Sunday, Mother's Day, Memorial Day and Yom Kippur.
2. Seasonal Holiday Adornments for Christmas and Hanukkah, such as wreaths, potted plants and other seasonal items may be placed on graves from December 1<sup>st</sup> through January 20<sup>th</sup>.
3. Traditional gravesites; fresh cut flowers may be placed any time of the year and will be removed when they become unsightly and/or to facilitate cemetery operations such as mowing or trimming.
4. All grave decorations once picked up will be held for a minimum of 60 days in a designated location. If not retrieved by NOK, they will be discarded.

C. Contractor will provide the necessary labor and suitable conveyance each workday for pickup of this debris from cemetery grounds. A dumpster placement area should be located within the contractor's designated area of this cemetery and screened from public view.

D. Removal of all debris and/or trash from cemetery operations is the responsibility of the contractor.

E. All walkways, roads, and parking areas will be swept prior to interment services or as instructed by the COR. All roads, streets, committal shelters and public areas (to include the service roads behind committal shelters) will be cleaned daily or as instructed by the COR prior to the start of daily burial operations or at the conclusion of burial operations. The roads, streets, committal shelters and public areas will be cleaned of all debris (i.e. mud, dirt, twigs, leaves, grass clippings, animal excrement's, etc).

F. All pavement areas, benches and signs (to include pavement under benches) around the PIC will be cleaned of debris and animal droppings each work day.

G. Committal Shelters will be swept free of bugs and debris on a weekly basis. Light power spray with water to clean exterior will be conducted monthly at the PIC/Admin and Committal Shelters, then quarterly at the maintenance building (break room and honor guard locations). If the windows are dirtied during the process of the cleaning, they will be cleaned to keep a neat appearance.

H. Storm Clean-up (wind, rain, hail, snow, ice, etc.): Cemetery should be checked and cleaned up the next working day following the storm unless the extent of the storm prompts civil defense authorities to declare emergency movement only. Should this occur, clean-up should be done as soon as emergency restrictions are lifted.

I. The cemetery property includes all surrounding areas inside and outside the entrance to the main road.

J. Any damage to headstones, cemetery fixtures, grounds or equipment during grounds maintenance operations must be reported to the COR immediately.

## SECTION L - SNOW AND ICE REMOVAL

### 1. GENERAL

All work performed under this section is subject to the General Requirements and Contract Documents to bidders which form a part of these specifications, and the Contractor shall be responsible for and governed by all the requirements there under.

### 2. SCOPE

A. Work shall consist of removal of snow and ice from the Cemetery's driveway, all walkways on the cemetery's grounds, all steps to buildings and structures, city sidewalks surrounding the cemetery's site, and areas outside the cemetery's walls/fences/gates as designated by the COR. In the event of an interment during the snow season, the contractor shall clear passages from the roadway to the gravesite.

### 3. GENERAL REQUIREMENTS

A. The Contractor shall remove snow by using a plow attached to a tractor or a self-propelled unit, snow blower or shovel.

B. The Contractor shall remove ice by applying de-icer. This de-icer shall be of the type that will not stain or damage carpet, flooring or turf, shrubbery, trees, walkways and driveways.

C. The Contractor shall take precautions to prevent damage to buildings, roadways, sidewalks, curbing, trees, headstones and markers by equipment used to remove snow and ice. The contractor shall be responsible for repairing any damage caused by equipment in the performance of snow and ice removal.

D. Snow shall not be piled on graves or roadways, but must be spread to allow it to melt as soon as possible.

E. Snow and ice removal will be performed by the contractor for accumulation of snow and/or ice of 2 inches or more.

## SECTION M - TRANSPORTATION SERVICES

### 1. GENERAL

All work performed under this section is subject to the General Requirements and Contract Documents to bidders which form a part of these specifications, and the Contractor shall be responsible for and governed by all the requirements there under. All equipment and supplies to be provided by the contractor

### 2. SCOPE

A. Work consists of the transportation of cremations and/or casket from committal shelters or another designated location to assigned gravesite location using transportation van.

### 3. GENERAL REQUIREMENTS

A. Contractor shall verify, sign and maintain daily log sheet required by South Florida National Cemetery SOP on each and every transported cremation/casket.

B. Contractor shall pickup cremation/casket in a dignified manner using either a 2 person team for casket with a vehicle specifically made to transport caskets in a dignified manner; or 1 person for cremation. The main transportation vehicle should preferably have no windows on the sides. Vehicle should have casket rollers to assist in the transport of caskets. Vehicle should have the capability to drive into grave sections during all weather conditions. \*An additional small utility vehicle that can carry a casket in a dignified manner (like Toro Casket Carrier) will be used for subsequent/reopener burials. This utility vehicle should be able to drive from the committal shelter, into grave sections and between rows of headstones to deliver caskets to adjacent graves. This vehicle should have casket rollers, latched door for casket safety, casket carrier portion should be able to rotate 90 degrees or more and clear the height of headstone at 3 ft. Contractor will be required to conduct preventative maintenance measures and assure all vehicles are operable during hours of cemetery operation.\* Both vehicles will be clean inside and out, and present a professional image worthy of transporting the remains of Veterans within a National Shrine. No smoking will be allowed in the transport vehicle. Transport drivers will maintain a professional demeanor and be in appropriate attire.

C. Contractor shall pickup any and all flowers belonging to committal service along with casket/cremation.

D. Contractor shall transport cremation/casket to specific gravesite, unloading cremation/casket assisting cemetery staff placing casket on lowering device if needed.

E. When convenient to the South Florida National Cemetery and when the burial schedule dictates cremations at shelter B, South Florida National Cemetery; Cemetery Representatives will determine at the time of the service if transportation will be needed from shelter B to the Columbarium. If transportation will not be needed, then contracting services will not be charged for that specific disposition of remains.

F. In the case where there is a Direct Family Attendance (DFA) or Direct No Attendance (DNA) for a cremated remains transport, service will not be employed and no contract charge for that disposition of remains will apply.

**\* SEE BELOW**



