

ATTACHMENT A

HEADSTONE MAINTENANCE & CLEANING

1. GENERAL

All work performed in this section is subject to the General Requirements and contract documents forming a part of these specifications, and the Contractor shall be responsible for and governed by all the requirements there under.

2. SCOPE

A. NCA Standard: All headstones shall be clean, free of debris and objectionable accumulations.

B. Work consists of cleaning all headstones as specified by the Contracting Officers Technical Representative (COTR) to remove objectionable material and discoloration, such as accumulations of bird droppings or mud, tire and hose markings, grass stains, residue from trees, fungus, and so forth. There are approximately 1,232 marked gravesites in the St. Augustine National Cemetery.

3. GENERAL REQUIREMENTS

All headstones shall be cleaned prior to Memorial Day and Veteran's Day and any other time as determined by the Contracting Officers Technical Representative (COTR) with a washing of two (2) times a year minimal. 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 when found.

4. PROCEDURE

A. Clean water shall be used to clean headstone. Cleaning techniques with water shall include high pressure spraying, scrubbing and/or rinsing.

B. 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.

C. If water used in cleaning should soften the soil around the base of the headstone loosening the headstone, care shall be taken not to tip the stone out of plumb or alignment.

D. Care shall be taken to protect the turf area from any damage. Any turf damaged by the Contractor shall be restored at Contractor's cost.

E. Abrasive blasting and cleaning solution will not be used.

F. The cleaning product "Snow-cap", following label directions, will be used on all white headstones on both cleanings each year.

G. The Contractor shall pressure wash sidewalks, curbs and entrance gate and fence of cemetery.

T. No grave will be pre-dug the day before a scheduled interment. Any exceptions must be authorized by COTR.

4. DIAGRAM "D" The conditions shown in "D" will occur only rarely, and usually when the minor dependents predecease their parents or in extremely rare cases when an accident takes the lives of a family group.

5. DIAGRAM "E" When the remains are in a small casket, they will be placed in the lower corner of the gravesite, at a depth of 5 feet, permitting room for an additional like burial at the head of the first at a depth of 7 feet and the second at five feet.

6. When it is necessary to make side-by-side burials in a single gravesite, extreme care will be exercised to accurately locate the sideline of the site. Where a burial vault is used in such cases, it may be necessary to encroach several inches on adjacent site(s). This is permissible provided the site encroached upon has been or will be utilized as shown in "A" or "B".

7. Unusual conditions may require occasional deviations from the methods indicated. For cases not covered herein, the Contractor will consult with the COTR for advice on determination of action to be taken.

HEADSTONE SETTING & ALIGNMENT

1. GENERAL

The work performed in this section is subject to the General Requirements 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 STANDARD: Proper height and alignment of each headstone or marker is maintained.
- B. Work consists of setting new or replacement headstones on gravesites and 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

The type of marker to be used shall be determined by the COTR through direction of the National Cemetery Administration, Central Office (in accordance with the general plan of the cemetery). Headstones shall be installed within ten (10) days of delivery to St. Augustine National Cemetery as weather and soil conditions permit. The Contractor shall submit an annual schedule of setting and alignment prior to start of work to the COTR. The schedule will be used in performing inspections on settings and alignments.

4. PROCEDURE, NEW & REPLACEMENT HEADSTONES

- A. The responsibility for ordering headstones, checking for proper wording and initial inspection for damages shall be that of the COTR or his authorized representative.
- B. Headstones are received at St. Augustine National Cemetery. Headstones and markers shall be erected in appropriate places within ten (10) days of receipt, or if weather or soil conditions prohibit this time frame, as soon as practicable after receipt. In transporting or storage of headstones, they shall be protected from the weather to avoid damage or staining from crating materials. Each stone shall be placed so as to rest on its long edge in a vertical freestanding position for easy accessibility. Where there is a shortage of storage space and there is a wall or other substantial support at the storage area, the headstones may be stored by resting on their bottom edge and leaning against the wall at a safe and stable angle. Several stones may be stacked against the first stone to conserve space with proper separation in all cases. If there is any breakage or damage in any form due to the Contractor's handling or negligence, the cost for replacement will be borne by the Contractor. The COTR shall designate a suitable area for storage of the stones at St. Augustine National Cemetery. Initial inspection will be accomplished by COTR upon receipt. Defective headstones will not be set. Replacement stone will be ordered by Florida National Cemetery.
- C. Upright headstones for individual graves shall be erected on the centerline at the head of the grave with the inscription facing the grave. 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 National Cemeteries, all upright headstones shall be set at a height of 24 inches 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 an 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 inches given for the current standard of headstone setting is the standard height. Minor deviations in the less than nominal height are 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 set or 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. Placement of flat markers on individual gravesites will be installed with the top edge flush with the head of the gravesite. Install markers at grade level with the face of the marker parallel to the ground. If ground conditions are known to require an allowance for settlement, markers may be installed with a gravel base and will be level with ground. The height must permit passage of lawn mowing equipment without damage to the markers.

- D. Trees or shrubs obstructing headstones shall be noted and the COTR shall determine remedial action, and any modification needed for installation of a headstone.
- E. Headstones shall be lifted and transported or set by at least two (2) people unless special one-person devices are approved. Realignment, when consisting merely of straightening the headstone, called bump and run, may be accomplished by one person.
- F. Older headstones will be realigned laterally, transversely and diagonally in the same manner as new markers.
- G. Damaged headstones and replacement headstones ordered would be, upon receipt of the new headstones, destroyed by the Contractor by means of breaking the headstone with a maul or sledge hammer. Resultant debris will be removed from the cemetery grounds.
- H. Headstone(s) will be set within ten (10) days after receipt at the cemetery.
- I. Contractor personnel are responsible for the unloading of headstones from the delivery truck.

5. PROCEDURE, REALIGNMENT OF HEADSTONES

- A. Headstone re-alignment will be accomplished by one of two methods depending on the severity of the misalignment. Those two methods are the "bump and run" method and the "removal and reset" method.
- B. Bump and Run Method - "Bump and Run" is a procedure used to quickly align the headstones without removing them from their sockets. It requires at least two field employees using a wooden hand tamper and a torpedo level. The first employee will go to the end of the row being aligned and will point out which stones are out of alignment. The second employee, working under the direction of the first, will use the wooden hand tamper to "bump" or lever

the headstone back into alignment, using the level to insure that the headstone is vertically plumb. The second employee will use the wooden hand tamper to tamp the soil around the headstone to hold it in position.

C. Removal and Reset Method -

1. The realign crew starts on a row of headstones close to the center of the section to be realigned. Headstones are chosen to be "key" stones. These keystones are ones that are visibly in line with the majority of the rest of the headstones in the row, and are as close as possible to the proper measurements for that section of headstones. "Key" stones are to be chosen and utilized at a maximum of every 10th headstone (or more frequently in areas of rolling terrain). These keystones are then aligned by leveling front and back and side-to-side, and raised or lowered to a height of 25 inches above topsoil level (or 22" for the 39"/35" long headstones, or 12" for unknown 30" long headstone markers)
2. At the start of work in each burial section, the first row of reset/realigned headstones in each burial section is to be inspected by COTR for appearance, spacing, depth, alignment, plumb, height, accuracy, and smoothness in grade transition. No further setting of headstones shall be done until this first row has been inspected and accepted by the COTR. It is the Contractors responsibility to notify the COTR 24 hours in advance of when each of these inspections will be needed.
3. Heavy strings or lines must run along the backs, sides, and tops of these keystones. These lines are marked with the proper measurements- (size of section) for the section being aligned. All remaining headstones in the row are then aligned along the strings front to back and side-to-side even with the measured marks on the line. Each headstone is leveled and plumbed front to back and side-to-side keeping the back of the headstone along the string and the side of the headstone along the measured mark. Maximum vertical, lateral, and transverse tolerance of any headstone off the alignment string lines and/or marks shall be 1/8", or less. Each headstone is also raised or lowered as necessary to ensure a uniform measurement of 25 inches above topsoil level (or 22" for the 39"/35" long headstones, or 12" for unknown 30" long headstone markers). The headstone is then aligned along the string front to back and side-to-side even with the measured mark on the line. The headstone is leveled and plumbed front to back and side-to-side keeping the back of headstone along the string and the side of the headstone along the measured mark.
4. Headstones will be removed from their sockets by using wooden, and or metal clamps. If metal clamps are used the area that contacts the headstone must be protected with a rigid fabric that will prevent damage to, and marking of, the headstone. Clamps may be attached to a Bob Cat or similar Machine to extract headstone from socket. Use care not to scratch or damage headstones in any manner. Contractor is responsible for restoring all damages caused to turf and headstones during performance of this work.
5. All shallow and correct depth headstone sockets are to be dugout to a minimum depth of 3" below final required bottom elevation of the headstone, and then moistened Crushed Limestone Base Material (graded aggregate sizes ranging from crushed fines up to 3/8" maximum) is to be added and heavily tamped to full compaction in the bottom of the socket to provide a minimum 3" footing for the headstone to set on prior

to the installation of the headstone to the required depth so that 25" of the 42" long headstones (or 22" for the 39"/35" long headstones, or 12" for unknown 30" long headstone markers) is extending from the soil level to the top of the arc on the headstone. Moistened Crushed Limestone Base Material (graded aggregate sizes ranging from crushed fines up to 3/8" maximum) is to be placed around all sides of the headstones and heavily tamped to full compaction at each three (3) inch vertical interval, leaving the last 3 inches at the top to have tamped topsoil and grass seed applied.

6. Deep headstone sockets are to be filled at bottom with a minimum of 3" moistened Crushed Limestone Base Material (graded aggregate sizes ranging from crushed fines up to 3/8" maximum) added and tamped to full compaction in the bottom of the socket to provide a minimum 3" footing for the headstone to set on prior to the installation of the headstone to the required depth so that 25" of the headstone (or 22" for the 39"/35" long headstones, or 12" for unknown 30" long headstone markers) is extending from the soil level to the top of the arc on the headstone. Moistened Crushed Limestone Base Material (graded aggregate sizes ranging from crushed fines up to 3/8" maximum) will be placed around all sides of the headstones and thoroughly tamped to full compaction at each three (3) inch vertical interval, leaving the last 3 inches at the top to have tamped topsoil and grass seed applied.
7. For Straight Rows: Headstones shall be set vertically plumb in all directions, in all cases in a line vertically and laterally, and where possible transversely (coordinate with COTR), with headstones of other graves using a top string, a back of headstone string line, and a side of headstone string line. Maximum vertical, lateral, and transverse tolerance of any headstone off the alignment string lines and/or marks shall be 1/8", or less. All measurements and string line set ups/row layouts shall be taken from existing established burial section layout control point grid monuments when these are available, not from previously set headstones, unless otherwise directed by the COTR. Prior to starting work in each burial section, coordinate the correct grid control monument and grave row/grave spacing layout dimensioning requirements with COTR. In irregular terrain where sloping and uneven ground conditions exist, all headstones and markers will be set at proper heights and levels to provide a flowing transition through uneven terrain. The completed raised and realigned headstones in all soil and terrain conditions shall be anchored firmly in place so that the headstones are rigid with no give or play.
8. For Curved Rows: Headstones shall be set vertically plumb in all directions. In all cases along the arched rows, headstones shall be set vertically and laterally to maintain a uniform visually symmetrical and uniformly flowing arched curve along the rows, and where possible transversely (coordinate with COTR), with headstones of other graves. Maximum vertical tolerance of any headstone shall be 1/8", or less from adjacent headstones in the arched row. Maximum horizontal tolerance from the line of the flowing symmetrical arch of the row shall be 1/4". In irregular terrain where sloping and uneven ground conditions exist, all headstones and markers will be set at proper heights and levels to provide a uniformly flowing transition through the sloped terrain. Completed raised and realigned headstones in all soil and terrain conditions shall be firmly set in place so that the headstones are rigid with no give or play.

9. **Removal/Handling/Storage of Headstones:** When headstones are removed from a section they will be verified with contractor produced grave plotting maps. Verify these maps with COTR prior to removing any headstones. Markers shall be stacked on a pallet for storage with cardboard separation between each marker, not to exceed 20 markers per pallet. Markers must be handled and stored in a dignified manner. Coordinate with COTR to locate appropriate areas for temporary storage. Before headstones are removed from any row to complete required work, each end of the row shall have a temporary control pin marker placed by a registered surveyor, and contractor shall create an as-built map showing specific location of each individual headstone by actual number and name in order to facilitate precise headstone reinstallation in the correct location.
 10. In cases where headstone sockets need to be realigned/shifted, and/or re-dug, the headstone sockets (holes) to receive headstones shall be dug by hand and/or mechanical devices to a sufficient depth so that 25 inches of the headstone is extending from the soil level to the top of the arc on the headstone. Contractor shall not dig a headstone socket wider than twelve (12) inches, twenty (20) inches in length, or exceed a depth of 20 inches that may cause the headstone to settle below height requirement.
 11. The measurements between rows of headstones and headstones within each row may differ from one section to the next, discuss with COTR where this is found to occur. These measurements must be adhered to as closely as possible. Some variances may be allowed in order to keep a uniform appearance of headstones being aligned. Headstones will be accurately and precisely reinstalled on the correct gravesites with the utilization of temporary grave plotting maps, existing permanent control markers where available, and temporary contractor installed control markers accurately and precisely installed at the ends of each gravesite row
 12. The alignment of the headstones should be checked frequently during this process because the tamping may move the headstone out of level or off the mark on the line. This process of raising and realigning is repeated for each row of headstones. Upright headstones in all completed work areas shall be firmly set and anchored in place with no movement from forces subjected by the COTR.
- D. Any upright headstones broken or damaged by the Contractor shall be reported to the Cemetery Administrator or COTR by close of business each working day in order that the grave can be properly marked. The Contractor shall be responsible for the cost of the headstone replacement. All headstone replacements must be coordinated with the COTR. Any grid or sectional monuments disturbed, displaced or broken shall be replaced by the Contractor at his cost. All grid or sectional monuments disturbed, etc., shall be properly reset by a licensed land surveyor at Contractor's expense. Curbs, roads, walks, turf, trees, utilities, etc. existing above and below the ground that are damaged or disturbed by the contractor during performance of contract work shall be repaired at the expense of the contractor. Repairs to the above shall be corrected by the Contractor within fourteen (14) workdays, unless otherwise agreed to with the COTR.

GRAVE, EXCAVATION, BACKFILL, AND INTERMENTS**1. GENERAL**

Any/all work done in this section is subject to the General Requirements that 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 excavation, backfilling and preparing for interments specified by the Contracting Officer Technical Representative (COTR). There will be approximately 2 casketed and 3 cremation interments per year. The COTR or representative will notify the Contractor 24 hours in advance of gravesite to be opened. Normally interments will be accomplished Monday through Friday during the hours of 9:00 a.m. to 3:00 p.m. However, there may be instances where the Contractor will be required to perform interments on weekends and/or holidays and outside the regular hours.

3. GENERAL REQUIREMENTS

A. All gravesites excavations, casket or cremains, will be completed within a minimum of one hour prior to the interment service. If an outer container is to be used, the gravesite excavation will be completed to allow the vault to be pre-set in the grave one hour and fifteen minutes prior to the service. All gravesites will be ready for viewing by the next of kin within one and one-half hours after the interment service.

B. It shall be the COTR's responsibility to notify the Contractor of any underground utilities in the vicinity of gravesite excavation.

C. Graves will measure 4' x 8' unless otherwise advised by the COTR and shall be excavated to five (5) feet or seven (7) feet, depending on the number of interments. Graves for cremated remains will be approximately 18 inches square and (3) three feet deep. The COTR shall advise the Contractor of the required depth, and position prior to any excavation operation. Contractor should probe all full interments prior to excavation to assure adequate depth for 2nd interment. COTR should be notified immediately of insufficient depth to accomplish interment.

D. When a grave is opened to receive a second interment and is found to be of insufficient depth to permit interment, due to a vault not being deep enough, the remains of the first interment shall be removed and the grave excavated to a depth to accommodate both interments. Arrangement and payment for disinterment of the vault of the first decedent is the COTR's responsibility.

E. Excavating the grave to a greater depth to accommodate the second interment is the responsibility of the contractor; and is considered as a part of the regular grave excavation price. COTR or his representative will be present and will be responsible for insuring the gravesite is deepened to accommodate both interments. The gravesite will be screened from the public view during the removal and reinterment of any remains.

F. Sod should be removed from the gravesite prior to excavation and shall be reused on the gravesite. Any excess backfill shall be hauled and dumped. Sod will be cut 4" to 6" deep to keep roots healthy. Soil remains left at gravesite will be covered with green carpet.

G. When a grave is opened, the Contractor is responsible for removing any headstone needed to ensure access for the vault and the remains and subsequently replaced.

H. The Contractor will transfer the remains in a dignified manner from the interment shelter to the proper gravesite following all NCA policies. The Contractor will be required to lower casketed remains into gravesite with a mechanical lowering device in a safe and efficient manner, with dignity, and without damage to casket.

I. Backfill material surrounding the liner/container will be sufficiently pliable to allow voids to be filled for more solid compaction to reduce subsequent ground settlement. Backfill shall be brought to established grade in one (1) foot lifts. Each lift shall be thoroughly compacted by means of an approved mechanical or hand tamper. Backfill should not be mounded, but should conform to existing grades. The contractor will remove all unusable dirt, rocks, roots and other types of objects from the cemetery grounds.

J. If the excavation is five feet deep or deeper, a worker is prohibited from entering into the hole until the sides of the grave are shored in a safe manner in accordance with OSHA standards.

K. If the grave has an existing headstone, it shall be removed and carefully placed in an area near the gravesite and covered with proper protection. The headstone will be replaced after the grave is backfilled. A temporary marker for the second interment will be centered directly in front of existing headstone.

L. After backfilling is complete and compacted, the remaining two inches will be filled with topsoil and the sod will be replaced, if there is not enough sod to cover the grave sod will be added and tamped to ground level. The sod will be thoroughly watered every few days for two weeks thus reestablishing sod. If the grave does not have usable sod, new sod will be put on the grave.

M. The Contractor or his/her representative shall place the temporary marker on the grave and setting of new headstone or marker when it is delivered is part of new interment.

N. All floral bouquets and arrangements left at the gravesite by the funeral party will be neatly arranged upon the grave and removed when they become unsightly. All stands from floral wreaths will be removed before placing the wreath flat on the grave.

O. See attached sheet for gravesite diagram and handling of multiple interments.

P. The Contractor will arrange 12 chairs with covers at the interment shelter. There are chairs stored in the bier for each interment service. Area around interment shelter will be cleaned and shelter will be clean, free of webs and any other dirt or debris.

Q. The Contractor will designate a member of his staff to keep visitors away from open gravesite and man the gate 30 minutes prior to interment service and provide other duties as assigned by the COTR.

R. The Contractor will lower flag to half-mast ½ hour before interment services.

S. Contractor will raise flag to full mast 1/2 hour after interment service has completed and all family members have departed.

LAWN MAINTENANCE: FERTILIZING, WEEDING**1. GENERAL**

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

1. SCOPE

A. **NCA STANDARD:** High maintenance areas have a well-established, healthy stand of turf.

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 or de-thatched in the spring (March or April). Approximately 1.0 acre of turf will be treated.

3. EQUIPMENT AND SUPPLIES

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

B. Water shall be furnished by the Contractor, no irrigation system exists.

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 COTR or their representative. Soil samples sent to NC Department of Agriculture for analysis. Copy of results mailed to COTR 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 damaged 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 Contracting Officer Technical Representative (COTR) will conduct the soil test with a copy provided to the Contractor. Fertilizer will be applied in spring and fall of each year, unless local practice indicates a more favorable time. 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 COTR on the appropriate form no later than 5 working days.

3. GENERAL REQUIREMENTS

A. Kind of Sod/Seed

1. Type	% Purity	% Germination
St. Augustine	98 – 99	86 - 90

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

4. GUARANTEE

- A. The contractor shall mow and water all sodded/seeded areas and maintain them in a healthy and vigorous condition. Spot watering shall be accomplished with hoses or other watering methods, irrigation shall not be used for watering individual sites.
- B. The contractor shall, at his/her own expense, replace any sod which has died or been damaged during the establishment period.
- C. Healthy turf shall be re-established within thirty (30) calendar days on all grave re-openers during the growing season.
- D. The contractor shall have all areas of the Cemetery covered with a healthy turf, those areas needing turf will be sodded by the contractor.
- E. Any damages to headstones, cemetery fixtures, grounds or equipment during grounds maintenance operation shall be reported to the COR as soon as possible.