Nashville City Cemetery

Preservation Plan

Nashville, Tennessee

December 13, 2006

Prepared for:

The Metropolitan Historical
Commission of Nashville
& Davidson County

Prepared by:

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December 13, 2006

Tim Walker
Metropolitan Historic Zoning Commission
3000 Granny White Pike
Nashville, TN 37204-2901

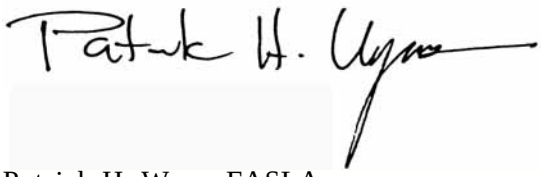
Dear Tim:

We are very pleased to submit the final *Preservation Plan for Nashville City Cemetery*. This report represents about twelve months of site investigation, historical research, public input and development of recommendations. We have made every effort to be thorough in all aspects of this preservation plan.

Accompanying this plan, please find an electronic version of the complete report. This will assist in your use of the information during implementation of the study recommendations.

It is a great pleasure to work with your organization on this project. I look forward to seeing the Nashville City Cemetery undergo the long-awaited restoration activity.

Sincerely,



Patrick H. Wyss, FASLA
President

PRESERVATION PLAN
for
NASHVILLE CITY CEMETERY

Nashville, Tennessee

Wyss Associates' Project No. – 05701

Owner

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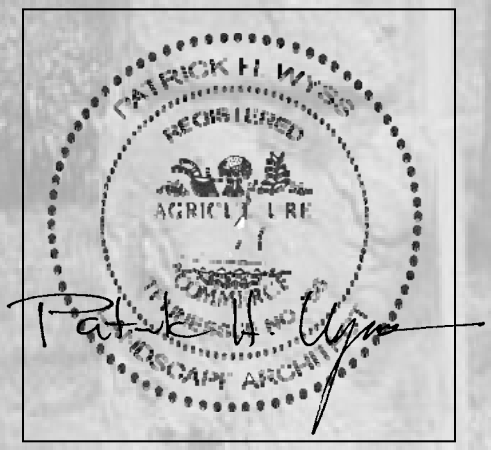

I hereby certify that this preservation plan has been prepared by me or under my direct supervision and that I am a duly registered Landscape Architect under the laws of Tennessee.

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Purpose:

The Preservation Master Plan will guide current and future plans for the Nashville City Cemetery.

The general goals addressed in the Master Plan include:

- Preserve, conserve, and restore historic resources.
- Improve the Cemetery image to the general public.
- Increase awareness about the irreplaceable resource of the City Cemetery.
- Increase educational and interpretive opportunities within the Cemetery.
- Strengthen the overall approach to maintenance and management of the Cemetery.
- Foster stewardship and continuity of appropriate care for the City Cemetery.

Early Photo of Perimeter Wall

Brief History of the City Cemetery:

The 4 acre Nashville City Cemetery opened in 1822 with plans laid out by Captain Alpha Kingsley. Over time, the Cemetery was expanded to reach a maximum size of 27 acres, and today is approximately 19 acres. Key *Periods of Significance* have shaped the Cemetery facility:

Rural Cemetery Movement: The original cemetery plan predates the Rural Cemetery Movement. Plots were laid out in a utilitarian fashion. In 1843 Captain Kingsley prepared an extensive plan for the Cemetery including family plots generally along a grid pattern. Typical of the Rural Cemetery Movement, the family plots facilitated weekend visits to the Cemetery and to seek relief from the crowded city.

Growth around the Cemetery: By 1855, the number of interred had exceeded 11,000 and nearby rail lines made this area of Nashville a desirable place for industrial development. The development of Mt. Olivet Cemetery on Lebanon Pike in 1855 caused many families to move their family members to the new graveyard.

Civil War Years: The Civil War had a lasting impact on the City Cemetery. In 1862 the Union Army built fortifications on surrounding hilltops and the Cemetery fell into disrepair. Approximately 15,000 soldiers were buried in the open field at the southwest corner of the Cemetery. The effect on the Cemetery in that potion of the site is significant.

Post-Civil War Years: A diphtheria epidemic spread through Nashville in 1878. The holding vault within the City Cemetery was a suspected source of the disease. The holding vault was burned; and the Cemetery was closed. The Tennessee state legislature though, repealed the closing of the City Cemetery.

Interments sometimes still occur in plots owned by descendants of those 19th century owners when space is still available.

Preservation Efforts: In 1889 a wire fence replaced the wooden plank fence that surrounded the Cemetery. In 1907 an open sewer that transected the southwest portion of the Cemetery was removed. A memorial gate was constructed in 1911 and the following year, a stone wall replaced portions of the wire fence. A Chapter of the Daughters of the American Revolution adopted the James Robertson Family plot in 1927 and funded an iron enclosure. In 1958 Mayor Ben West led a major preservation effort, including marker repairs, road maintenance, new water mains, lighting, and a masonry tool house. No major preservation projects have been carried out since that time. The Cemetery has fallen victim to vandalism, theft, and storms. In 1972 the Nashville City Cemetery became the first cemetery in Tennessee listed on the National Register. The Nashville City Cemetery Association, has since been formed, and its members are vocal advocates for the Cemetery.

Burials and other events take place in the cemetery

Opportunities for Funding: The funding for historic cemetery preservation can follow many avenues. Locally the Metro Council has appropriated funds for significant preservation efforts in the Nashville City Cemetery. Some states such as Oregon use lottery funds for cemetery preservation. Some federal programs such as the Historic American Landscapes program are organized for funding preservation projects. The City of Deadwood, SD has earmarked gaming revenues for cemetery and other local preservation projects.

Foundation for the Preservation Master Plan: The Nashville City Cemetery represents a rich cultural and historic picture of Nashville. The Cemetery displays numerous fragile artifacts of the City's early beginnings. Unfortunately though, the Cemetery has suffered years of deterioration, lack of continued maintenance, vandalism, and theft. The Nashville City Cemetery is a local Historic Landmark District, and work within the Cemetery must comply with the many standards identified in this report.

Marker Studies, Unique Features:

Grave Markers: The wide variety of marker types adds significant value for the cemetery as a local resource. Burial places of individuals and families of local and national importance are found throughout the Cemetery, including Nashville mayors, state and national legislators, Nashville founding families, Tennessee governors, and other influential people in Nashville's history. This report documents a wide variety of marker conservation recommendations applicable to the City Cemetery.

Demonstration Plots: A series of demonstration plots are recommended as a first phase quality control effort for restoration activities. The criteria for recommending the demonstration plots include visibility, prominence of family members, materials, treatment approach, uniqueness, impacts on Cemetery, cost/benefit and interpretive value.

*Ironwork: W*rought iron and cast iron are the two common metals used within the Cemetery. Due to the era of this Cemetery, wrought iron dominates in quantity within the City Cemetery. The report includes step by step recommendations for restoration of ironwork in the Cemetery.

Vegetation: This report addresses the wide variety of large trees, shrubs and extensive turf within the Cemetery. Some of the recommendations include suggestions for tree crown-raising, selective tree removal and annual maintenance procedures. Advice is also provided for shrub pruning, vine control and groundcover alternatives.

Infrastructure:

The infrastructure within the Cemetery includes the built features accommodating public use and comfort. The report addresses such infrastructure matters as:

Roads/Pathways: Streets and paths in the Cemetery primarily follow a straight-forward grid system, defining each section. The asphalt paving is in various degrees of condition. The streets were typically surfaced with gravel or crushed stone material. The drives are narrow, with room for one vehicle to pass comfortably. Macadam highways were common in America earlier in this century, and would be very appropriate for use within the Cemetery. Recommendations pertaining to roads and pathways include the use of historically appropriate materials, minor road realignments, a primary automobile loop and a path system.

Keeble Building

Cemetery Buildings: The Keeble Building was erected in 1947 as the Cemetery headquarters and is named after its architect, Edwin Keeble. The building was used as an office until the mid-1970s. Cemetery records were housed in the building. The storage building, assumed to be constructed in the late 1950s or early 1960s serves to house gravestones that need repair.

Water Service: There is currently water service to the Keeble Building. Two historic outdoor hydrants date to the first half of the 20th century. If the office building is converted to public restrooms, the size of the service line may need upgraded.

Electric Service/Lighting: The Fourth Avenue and Oak overhead power line feeds the Keeble Building with electrical service. The other electrical service comes in along the south side of the Cemetery and provides power to the storage building. Recommendations for electrical service include underground power lines where possible, period lighting with outlets and keeping the Driver plot electrical outlet.

Drainage: Site drainage is adequate and flows from north to south across the site. Adjacent parking lot and roof drainage to the west causes significant on-site drainage/erosion problems. Recommendations pertaining to drainage include control of off-site drainage flowing onto the Cemetery, repair of clay tile drainpipe, repair of eroded areas and the removal of silt and vegetation from the adjacent granite lined ditch.

Cemetery Interpretation, Signage and Furnishings: Wood picnic tables and various informational panels are located in the Cemetery. Recommendations in the reports include the restoration of street signs, new historically appropriate benches and the preparation of a comprehensive cemetery interpretive plan.

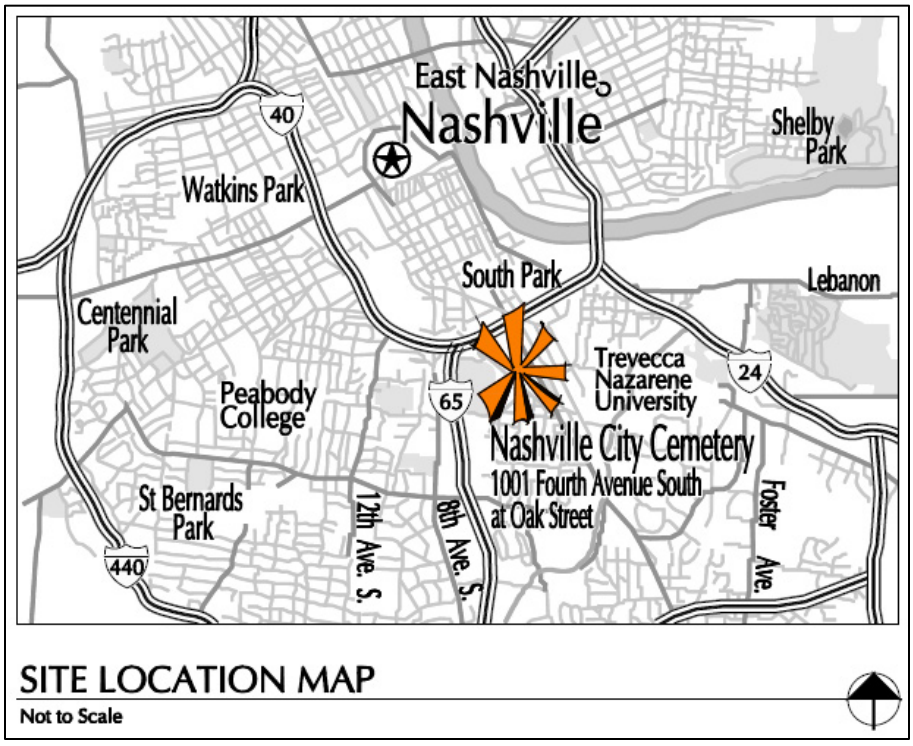
Phasing:

A project of this scope and complexity will take numerous years to implement and is very dependent on funding. The following is one phasing plan presented for consideration, and as presented to the Metro Council:

Phase 1: This phase includes items that should be undertaken as soon as possible. This work includes the south edge fence, marker consolidation and marker repairs on those with genealogical data intact, reconstruct damaged box tombs, implement new vegetation management policies, tree trimming, stabilization of remaining ironworks, repair of theft-recovered ironworks and Keeble Building renovation.

Phase 2: This phase includes items that are not an immediate concern but should continue be a high priority as funding becomes available. This work includes the repair of the perimeter stone wall, survey/analysis of ground vaults and mausoleums, new interpretive displays, new pathways, underground power lines, cleaning of granite ditch and the installation of new amenities.

Future Phases: These items are not immediately critical but if funding is available, they should be implemented once the Phase 1 and 2 priority items are completed. This work includes the installation of new light fixtures.



General Information

General Information

Introduction

Nashville's City Cemetery was consecrated in 1822 and is the final resting place of some of Tennessee's earliest citizens and the state's, as well as Nashville's, most important political figures. The Cemetery tells an invaluable story of Nashville's society, artistry, culture, religious influences, and architectural styles. The City Cemetery is a resource that provides a window into a past era telling us about craftsmen, trades people, politicians, immigrants, African slaves, and everyday citizens that formed Nashville into the city it is today. All of these stories and histories are an important resource that needs to be preserved for many generations to come.

General View of Nashville Cemetery as it exists today.

The Cemetery is estimated to have over 21,000 interred within its stone walls. The people who rest here were instrumental in helping to shape Nashville into the city it is today. The grave markers no matter the size tell an important story of the shaping of Nashville. Their carvings and epitaphs tell the citizens' stories, hold invaluable genealogical information, and exhibit the skill of local stone masons. There are collections of box tombs, tablets, artistic sculpture, large obelisks, family mausoleums, ground vaults, stone copings, and ironwork. All of these things exhibit the attitudes of death at the time, tell about local burial customs, and give insight into Nashville's rich heritage.

The Henrietta Bland tablet/base combination is an example of a well done restoration effort.

As the Cemetery exists today, it is in a delicate condition due to a lack of continuous conservation efforts throughout its history and the fact that many of the markers are carved out of a soft native limestone, which has eroded over time. Additionally, many marble tombstones are severely eroded and illegible. In addition to the erosion of markers and artifacts over time, the site has been subject to changing surrounding land uses, industrial encroachment, vandalism, theft, and other outside factors which have adversely affected this historically significant Nashville landmark.

While there have been past preservation efforts, much more is needed in order to stabilize the deteriorating resources within the Cemetery. Past studies, inventories, and surveys give testimony to the incredibly valuable resource that exists in the City Cemetery for the City of Nashville. Time is of the essence if the historic fabric of the Cemetery is to be preserved for future Nashville generations. The development of this document will help guide that effort.

Brief History of the City Cemetery

Two small public burial grounds predate the City Cemetery – one on the original public square, the second on a hillside overlooking Sulphur Spring Bottom in North Nashville. When it became evident that more space was needed, a four-acre parcel at a distance from the center of town was acquired in 1820. Captain Alpha Kingsley, a captain in the U.S. Army and local business owner, along with Louisa Grundy McGavock, daughter of Nashville's largest landowner, Felix Grundy, laid out the plans for the new City Cemetery, which opened in 1822.

This collection of early headstones and footstones exhibit the "graveyard" layout of the earliest areas of the City Cemetery.

During the first few years, most of the bodies from Nashville's original burial ground on the Public Square and the burial ground at the Sulphur Spring site were moved into the new City Cemetery. As the Cemetery filled, it was expanded from its original four acres as needed to accommodate new burials. The first expansion occurred in 1836 with the purchase of an additional two and one-half acres; two years later, another two acres were added. Over the next twenty years, the Cemetery expanded eight times to reach a maximum size of 27 acres. The City sold five acres to the Catholic Diocese of Nashville for creation of a Catholic burial ground in the southwest portion of the Cemetery. Today the City Cemetery is approximately 19 acres.

The following sections describe the key Periods of Significance having direct affect on the Nashville City Cemetery.

This family gravesite exhibits the influence of the later trends that developed within the City Cemetery. The plots became larger, more ornate, and were sometimes very ornately designed.

Rural Cemetery Movement

In the early years of the Cemetery, the graves were laid out in the pattern that had been traditional in graveyards, with graves spaced tightly together in a utilitarian fashion. These early graves gave little consideration to appearance or for the future allowance of having family members buried next to each other.

Being established in 1822, the Cemetery predates the beginning of the Rural Cemetery Movement by almost a decade but the influence is present throughout the Cemetery. As this new approach to cemetery design reached Nashville, the burial grounds began to reflect those influences. In 1843 Alpha Kingsley began an extensive planning process for the Cemetery which shaped its circulation network and developed family plots which in turn provided revenue for overall maintenance.

The introduction of family plots presented opportunities to provide ornamental plantings and garden-like arrangements within them. In that era, families would have visited the Cemetery on weekends to maintain their plots and to find relief in a rural setting away from the crowded city.

Aerial image showing the relationship of Fort Negley to the City Cemetery.

Nashville's Cemetery did not adopt the Rural Cemetery Movement wholeheartedly, though; its layout continued to follow the original grid pathway system rather than adopting the curvilinear system found in cemeteries more closely associated with that movement.

Growth around the Cemetery

The number of burials increased until, by 1855, the number of interred had exceeded 11,000. Because Nashville was growing into a busy trade and retail center, with a population over 30,000, the City Cemetery no longer lay outside the city boundaries. Rail lines networked the area, making it a desirable place for mills, warehouses, and other industries. The Catholic section was separated from the main body of the Cemetery by railroad tracks.

The development of Mt. Olivet Cemetery on Lebanon Pike in 1855 caused many families to consider moving their family members from the City Cemetery to the new graveyard. In addition to the changing environment around the Cemetery and decreasing available space within its walls, other pressures came when Nashville was occupied during the Civil War.

Historic Gate

Civil War Years

The Civil War had a tremendous impact on the city and on the City Cemetery. The Union Army occupied Nashville in early 1862 and built a series of fortifications on the surrounding hilltops. The largest of those, Fort Negley, was built on St. Cloud's Hill adjacent to the Cemetery. Family members, concerned about lawlessness and vandalism, ceased to visit and tend to their plots; and the Cemetery fell into disrepair.

The burial of fallen soldiers also affected the Cemetery. It is estimated that approximately 15,000 men were buried during the war in the open field at the southwest corner of the

Cemetery. Their shallow graves were marked by simple wooden headboards with black lettering. After the war, the Union soldiers were removed from the Cemetery and buried in the National Cemetery on Gallatin Pike. The Confederate soldiers who were not claimed by family members remained until 1869 when they were reburied in a large plot at Mt. Olivet Cemetery. As one can see today, the effect on the Cemetery in that potion of the site is significant.

Governors, legislators, City founders, mayors and many other notable persons are interred at the City Cemetery. (Above Photo: William Driver monument.)

Post-Civil War Years

Neglect after the Civil War years led to further abandonment of the City Cemetery and reburials of family members at Mt. Olivet. The removal of family graves, monuments, and associated elements also had a significant effect on the Cemetery's appearance. Today, several open areas exist where there were once family plots. In 1868, the Catholic Diocese developed Calvary Cemetery on Lebanon Pike adjacent to Mt. Olivet, and its interments were moved from the City Cemetery.

Then, in 1878, a diphtheria epidemic spread through Nashville; many people believed its cause was the holding vault within the City Cemetery. Subsequently, the holding vault was burned; and the Nashville Board of Alderman voted to close the City Cemetery. This created controversy among families who still wanted loved ones buried within their family plots. The Tennessee state legislature repealed the closing of the City Cemetery and also passed a bill prohibiting further sales of lots by the city while allowing current lot owners to bury their dead in the City Cemetery.

That policy continues. Interments, while rare, do occur in plots owned by descendants of those 19th century owners when space is still available.

The cemetery has a fine collection of tablets which have unique profiles, relief carvings and lettering techniques

Preservation Efforts

Efforts were made to preserve the Cemetery in the following years. In 1889, the wooden plank fence that surrounded the Cemetery had fallen into disrepair and was replaced with a wire one. In 1907, Councilman Charles A. Marlin made a public plea to the citizens of Nashville that led to the appropriation of funds to remove an open sewer that transected the southwest portion of the Cemetery. These early efforts had only limited effect on the conditions of the Cemetery; and within a few years, a movement formed to remove all of the bodies from the Cemetery and transform the land into a city park. These discussions led the Women's Federation of South Nashville to defend the Cemetery and come to its aid. They joined forces with the Women's Historical Association of Tennessee and raised funds to erect a memorial gateway at the Fifth Avenue entrance of the Cemetery.

In 1911, a memorial gate was constructed at the northeast corner entrance. The following year, a stone wall replaced the wire fence along the north and east sides of the Cemetery. The Fifth Avenue gate was damaged beyond repair in the early 1930s, and the stone wall filled in its opening.

In 1927, a Chapter of the Daughters of the American Revolution adopted the James Robertson Family plot and funded an iron enclosure. An oak and a willow tree were planted outside of the plot to provide shade at the gravesites.

The next major preservation effort was led by Mayor Ben West in 1958. This was a major preservation project in which, at the urging of Mayor West, the City Council appropriated $75,000 for repairs at the Cemetery. The work included marker repairs, resetting, re-inscribing, road and pathway maintenance, installation of water mains, lighting, and the construction of a masonry tool house. Existing trees were trimmed, dead trees were removed, and new trees were planted in their place, including 36 magnolia trees as well as shrubs, such as boxwood and other ornamentals. Cast iron fences were repaired and painted, and a flagpole was dedicated near the administration building at the center of the Cemetery.

Since that time, no major preservation projects have been carried out. The Cemetery has fallen victim to vandalism, theft, and storms. Because it long ago ceased as an active cemetery and stopped generating revenues for maintenance and upkeep, it has become the responsibility of the citizens of Nashville to care for it. Owned by the Metropolitan Board of Parks and Recreation, which carries out physical maintenance, the Cemetery's administration is the responsibility of the Metropolitan Historical Commission. Funding for maintenance has been limited. In 1972 the Nashville City Cemetery became the first cemetery in Tennessee listed on the National register. Metropolitan Parks handed over administration of the Cemetery to MHC in 1976.

Proper maintenance practices can help protect cemetery features

The last ten years have seen an increased level of volunteerism in the Cemetery. Significant maintenance and general upkeep has been accomplished through the volunteer efforts of the Metropolitan Parks, MHC, Boy Scouts, Master Gardeners, Colonial Dames, DAR, CAR, Sherriff's Office, American Legion, Girl Scouts, Hands on Nashville and numerous local businesses. Local fund raising activities have been very successful for the Cemetery, including the Living History Tour by MHC and the Memorial Day Dash by NCCA.

A non-profit organization, the Nashville City Cemetery Association, has been formed and its members are vocal advocates. With their support, and the work of the Historical Commission Board of Parks, Mayor Bill Purcell, and the Metro Council, they have raised awareness that has led to local landmark designation in 2004, and in the summer of 2006, to an appropriation for restoration work. This plan is offered as a guide for the future.

Opportunities for Funding

The funding for historic cemetery preservation can follow many avenues. Locally the Metro Council has appropriated funds for significant preservation efforts in the Nashville City Cemetery. One very important tool for fund raising efforts is this preservation document which identifies funding needs and indicates a definitive priority for preservation of the Nashville City Cemetery. Some states such as Oregon use lottery funds for cemetery preservation efforts. The State of Nevada Historic Preservation Office directly funds cemetery preservation projects. Some federal programs such as the Conservation Assessment Program or the Historic American Landscapes program are organized for funding preservation projects such as cemeteries. The City of Deadwood, SD has earmarked gaming revenues for cemetery and other local preservation projects. Local Nashville fund raising efforts such as those mentioned above should be considered as well as contacts with State preservation organizations.

Foundation for the Preservation Master Plan

The Nashville City Cemetery is one of the richest cultural and historic records of Nashville. The site is rich with genealogical data, artistry, craftsmanship, and information about evolving views toward death, burial practices and public landscapes. The City Cemetery honorably displays the fragile, artistic artifacts of Nashville's early beginnings. As stated earlier, the City Cemetery has suffered years of adverse impacts from deterioration, lack of continued maintenance, vandalism, and theft.

Before an overall program for physical improvements to the Cemetery can begin, careful planning is needed to determine an overall approach to the issues at hand and to set priorities for work. This is most effectively accomplished through the preservation planning process which has three steps: documentation, evaluation, and decision making.

Above: The John C. Shivers tablet exhibits common issues found in the Cemetery. Preservation efforts need to happen soon to prevent further loss of historic fabric and valuable data.

In 2005, The Metropolitan Historical Commission of Nashville and Davidson County (MHC) hired Wyss Associates, Inc. to prepare a Preservation Master Plan for the Nashville City Cemetery. This Preservation Master Plan provides solid and detailed information and recommendations related to the preservation, restoration, rehabilitation, and continued maintenance for Nashville's City Cemetery. The Preservation Master Plan will guide current and future plans for the Cemetery as well as serve as a long term guide for appropriate preservation, conservation, restoration, & maintenance of the Cemetery and its valuable but endangered historic fabric.

Below are some overall goals addressed in the Master Plan:

- Preserve, conserve, and restore historic resources within the Nashville City Cemetery.
- Reinforce, preserve and improve the overall image of the City Cemetery to the City of Nashville, its residents, visitors to the Cemetery, and relatives of those interred there.

- Increase awareness about the irreplaceable resource of the City Cemetery, its artifacts, and their value to historians, genealogists, archeologists, researchers and future generations of Nashville residents.

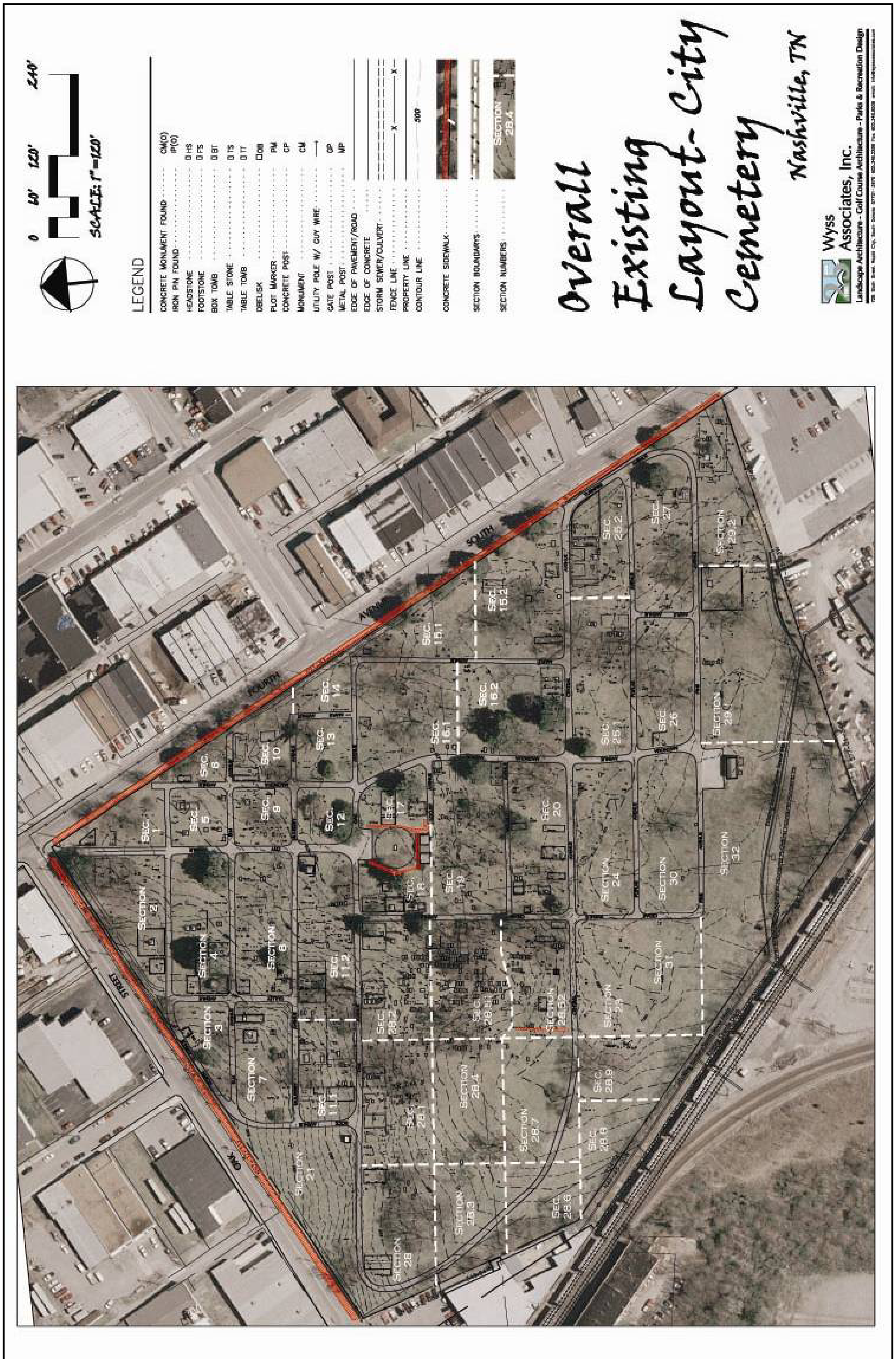
- Increase educational and interpretive opportunities within the Cemetery to share the history, culture, traditions, and importance of preservation. The Cemetery has undergone significant changes over time as described earlier in this report. The interpretation and preservation efforts should seek to illustrate these eras as significant events impacting the Cemetery resource.

- Develop and strengthen the overall approach to maintenance and management of the Cemetery and its fragile resources.

- Foster stewardship and continuity of appropriate care for the City Cemetery.

Later in the report recommendations have been made for each major group of elements within the Cemetery. These recommendations can serve as models for both long and short term conservation planning and future improvements within the Nashville City Cemetery.

Certain standards must be considered for future restoration work within the Cemetery. The Nashville City Cemetery, the first cemetery in Tennessee is to be listed in the National Register of Historic Places (1972), is also a local Historic Landmark District, designated by the Metro Council with the support of Mayor Bill Purcell in 2004. All work within the Cemetery must comply with the local Landmark Design Guidelines, which are based on the Secretary of Interior Standards. All work must be reviewed and approved, with the issuance of a Certificate of Appropriateness (or Preservation Permit), by the Metro Historic Zoning Commission. The Association for Gravestone Studies provides useful technical information concerning the preservation and conservation of Cemetery features.


LEGEND
CONCRETE MONUMENT FOUND
IRON PIN FOUND
HEADSTONE
FOOTSTONE
BOX TOMB
TABLE STONE
TABLE TOMB
OBELISK
PLOT MARKER
CONCRETE POST
MONUMENT
UTILITY POLE W/ GUY WIRE
GATE POST
METAL POST
EDGE OF PAVEMENT/ROAD
EDGE OF CONCRETE
STORM SEWER/CULVERT
FENCE LINE
PROPERTY LINE
CONTOUR LINE
CONCRETE SIDEWALK
SECTION BOUNDARYS
SECTION NUMBERS
SCALE: 1"=120'
Overall Existing Layout- City Cemetery
Nashville, TN
Wyss Associates, Inc.
Landscape Architecture - Golf Course Architecture - Parks & Recreation Design

In Field Review of Unique Features / Interpretive Opportunities

Below Ground Vaults

Above: The McNairy ground vault provides a great opportunity for interpretation and education of past burial practices.

Below ground vaults offer a unique opportunity for interpretation within the Cemetery. Since modern cemeteries don't use such burial practices much anymore, these historic below ground burial chambers offer some insight into past burial practices. There are several ground vaults located throughout the Cemetery which could be noted within a walking tour.

Recommendations

1. Develop interpretive story boards at a few of the ground vaults. Interpretation could include information about the family, historic photos (if available), and architectural drawings of the inside of the vault to show the arrangement of a below ground burial vault.

2. Incorporate ground vaults into the interpretive walking tour throughout the Cemetery. Of particular interest are the McNairy Family vault, the J.D. Hill Family vault and the Robert P. Currin vault.

3. Consider performing a structural analysis and preparing architectural recordation of the interiors of the ground vaults. These will document the ground vaults for historic information and can be used to develop the story boards at a few of the ground vaults. The structural analysis would help determine the stability of the ground vaults and identify structural issues that may need to be remedied.

Mausoleums (Above Ground Vaults)

There are a handful of very nice Mausoleums scattered throughout the City Cemetery which also provide an excellent opportunity for interpretation. They vary in construction, materials and condition; however, they still provide opportunity for interpretation of burial customs and trends of the time. Currently, most of the Mausoleums have the doors boarded or covered with parging. The condition of the existing doors is unknown and they could provide some very interesting interpretive opportunities.

Recommendations

1. Conduct architectural condition survey of each mausoleum and develop a preliminary needs assessment for each one.

2. Remove parging (where present) or plywood from entrances and determine the condition of the original door. If possible, the door should be restored. If beyond restoration, replace the door with a simple steel plate bolted the mausoleum walls. The steel plate could be

Above: The W.A. Johnson family vault offers a great opportunity for interpretation and as use as a demonstration project. This mausoleum is a fine example of the craftsmanship and artistry available during the Cemetery's period of significance.

painted black or a very dark green. These colors were very commonly used for the door colors on mausoleums.

3. Develop a mausoleum "style guide" for interpretive purposes. This could include the architectural style, the date when the mausoleum was constructed, the designer or architect (if known), construction techniques, and other interesting data.

4. Develop a demonstration project using the W.A. Johnson family vault. This project could be used for demonstrating stone composite repairs, stone consolidation, injection mortars, and other stone conservation treatments. A demonstration project on a very visible and prominent structure could help generate great interest in the preservation of the Cemetery.

Effects of Civil War/Burial Area of Soldiers

The effect of the Civil War on the Cemetery is a good interpretive opportunity to tell the story of how the Cemetery was used during the war for soldier burials as well as how the Cemetery was affected by the Civil War. The area where soldiers were buried continues to remain open and devoid of markers. There are several storylines for visitors that could be developed. How the Cemetery was affected due to it's proximity to Fort Negley, where the soldiers were buried and their subsequent removal and reburial at the National Cemetery (for Union soldiers) and at Mount Olivet (for unclaimed Confederate soldiers), and the decline of the Cemetery during and after the Civil war are all possible subjects for developing interpretive story boards.

Above: The entrance gate installed in 1911.

Entrance Gates

The entrance gate that exists at the corner of Oak Street and Fourth Avenue provides a great example to provide an informative discussion about the original gates that existed and how the existing gates came to exist. Additional discussion and photos could be provided about the memorial gate that existed at Fifth Avenue and why it is no longer in existence.

The entrance gates that currently exist should be restored to their original condition and their operation restored. The gate that exists adjacent to Fourth Avenue can remain in a locked condition but nonetheless the ironwork should be restored.

Marker Studies

Marker Studies

Markers – Types Present

The Cemetery is rich with a variety of marker types which adds to its uniqueness and historic artistic value as a cultural resource for the City of Nashville and its residents. There are some incredibly detailed and highly stylistic monuments present throughout the Cemetery giving insight into the talent and expertise of the craftsmen that were present in Nashville during development of the site.

One of the more interesting features of the Cemetery is the collection of stone box tombs (false crypts) that are present in the Cemetery, particularly in Sections 19 and 28. The box tombs are in varying degrees of degradation, repair, and stability, nonetheless, they represent a fine collection of stone work and an important era in the Cemetery's history.

Numerous box tombs throughout cemetery are in dire need of repair

Another very prominent feature is the collection of tablets and table stones on the site. The table stones are in various states of condition, including numerous severe slumping of the table tops. The tablets represent a variety of shapes, types of bonnets, relief carving, and lettering styles. The tablet profiles represent a number of different cultural influences within the Cemetery. In addition to several profile types, fine relief carvings depicting scenes of mourning, religious scenes or other iconography exist on the stone tablets. These artistic works are extremely important to the overall story of the City Cemetery and preservation efforts directed toward them whenever feasible.

In addition, several large monuments depicting important local and national individuals and their families are found within the Cemetery. There are numerous Nashville Mayors, state and national legislators, Nashville founders, a Tennessee governor, and other influential and key people in Nashville's history. At a smaller scale, numerous family plots are identified with stone boundary markers and curbing. Some site-specific repairs to these features will be necessary on a case-by-case basis.

Markers – General Needs

The collection of markers has been exposed to over 180 years of natural weathering, environmental influences, vandalism, theft, poor previous repair efforts, and other factors which have affected the markers overall condition and stability. Several small preservation efforts and repairs have been accomplished over the years but these have been fairly limited in scope and have only addressed the crisis at hand.

In the current state, many of the markers are in serious decline and many markers have already lost the data, artistic elements, and craftsmanship that once graced their faces. The soft native limestone markers are the stones that appear to be most seriously threatened. A large number of tablets and other marker types constructed of the native limestone are showing significant signs of delaminating, particle erosion, spalling, and fractures. Box tombs also constructed from native limestone are also showing the same signs of deterioration.

Marker Conservation Treatments

Stone Tablets

Over the site, there is a substantial collection of tablets in various conditions. These tablets offer a range of styles, artistry, and stone types.

Some of the markers are lying flat on the ground. There are several problems associated with fallen markers: accelerated deterioration due to moisture, higher potential for breakage, and trapped moisture in carvings causing deterioration.

Whenever possible, markers should be reset in an upright position as quickly as possible. If the markers have been snapped off, the top portion of the tablet can be placed directly behind the remaining tablet in the ground or behind the base. While this is a temporary measure, it is better than allowing the marker to remain on the ground. The preferred treatment is to repair the stone using a stone epoxy or polyester resin. Dowels can be used if the tablet is thick enough (generally 2-inches or more). The stone must be in very stable condition for dowels to be used; otherwise drilling for dowel placement may cause more damage to the marker. The dowels should be treated nylon or Teflon. Stainless steel can be used but it must be high quality or corrosion problems may occur.

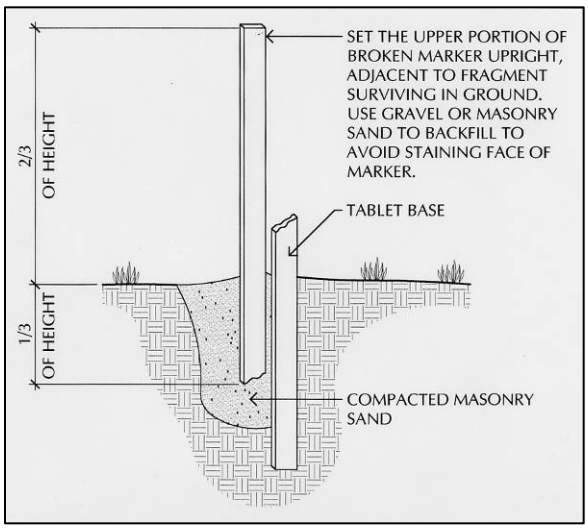


Figure 3.01: Temporary Tablet Resetting Detail. This can help preserve a tablet from becoming further damaged from foot traffic, maintenance

Dowels should be used with caution because the dowels can cause pressure points along the face of the stone and if the repair fails in the future, the dowels have a great possibility of damaging the face or the marker.

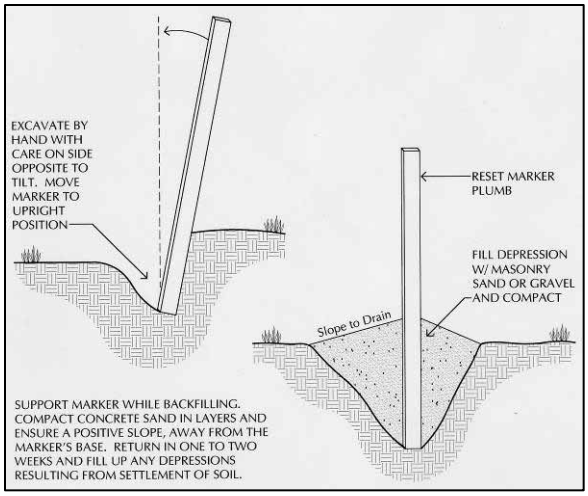


Figure 3.02: Severely tilted markers should be reset plumb to prevent them from being snapped off. Markers should be dug from the back side whenever possible to prevent damage to decorative elements.

Soil in front of the tablet should be removed and the tablet set flush. Gravel, masonry sand, or crushed rock mixed with sand should be used to fill the hole around the marker. This porous backfill will help prevent the tablet from wicking up moisture. The top of the backfill should be sloped to drain away from the marker.

Stone Tablets on Bases

In most cases, stone tablets fall due to some type of marker base deterioration such as breakage or grout decay where the tablet is inserted into the base. Temporarily the marker can be reset behind the base as

described above. The preferred treatment approach is to repair the marker base and reset the tablet. A composite stone repair mortar can be used, as they are formulated for different types of stone. Only experienced/trained personnel should be making repairs.

Should the tablet key be broken or missing, composite stone repair mortar may also be used to create a new tab at the bottom of the tablet. For high quality and stable stones, one can also elect to cut a new key and reset. This should be carefully considered to make sure the stone doesn't have too much of the original material cut away at the base and doesn't look out of place when reset into the base.

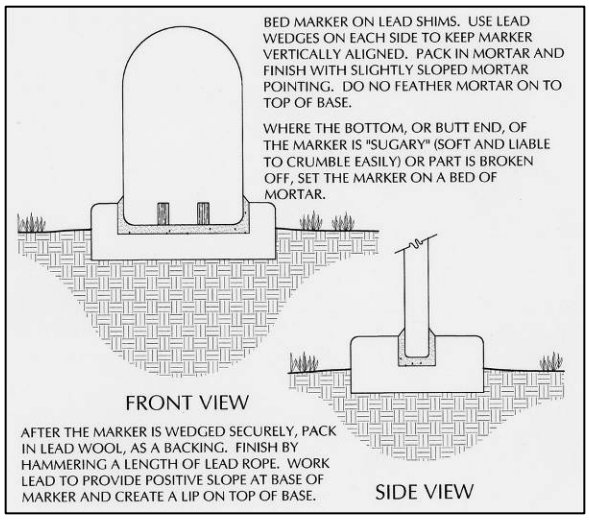


Figure 3.03: Resetting detail for a tablet onto an existing or new base.

When the marker's base is deteriorated beyond repair, a new base can be cast from concrete or a similar type of stone depending on availability and costs. The new base should match the old base as closely as possible in dimensions, profile, texture and color. The tablet should never be cast into the base itself but rather be set into the key. Setting a tablet directly into concrete should never be an accepted treatment because of additional damage it can cause to the softer stone of the marker. Simply make the key slightly larger than the tablet and grout in place with an acceptable grouting material which is compatible with the stone of the marker, or pack with lead wool, lead rope or a non-shrink grout material.

Handling and Storage of Marker Fragments

During any large scale preservation effort, many fragments of markers will be found. In most cases these fragments cannot immediately be repaired until their parent markers are found or they are able to be pieced together with other pieces of the "puzzle" to form the original marker. These fragments are extremely susceptible to theft, additional breakage, or other types of damage. Immediate protection is a high priority and consideration should be given to the removal and storage of the marker fragments. The storage procedures currently used by the City Cemetery appear to be adequate for saving fragments until they can be reattached or reassembled. Additional storage facilities for fragments may be needed in future depending on how quickly a major preservation effort for the markers can be accomplished.

Appropriate documentation and survey recording is essential. No artifact should be removed from the cemeteries without documenting location, appearance, and material. Specific field notes and drawings should be created. Two black and white photographs from different directions should be taken. In the future a small fragment could prove to be a piece of the "puzzle," but not without appropriate documentation.

The removal of any artifacts from the cemeteries is not recommended without forethought and careful planning. Another option employed which may be employed by the City Cemetery to store fragments and/or miscellaneous artifacts within the associated gravesite. The artifacts are labeled, placed in a plastic bag, and buried behind the main marker on the backside. Nashville's climate may have an impact on whether this could be accomplished successfully. Typically, fragments and markers placed below

grade in protective bags deteriorate less rapidly than when stored above ground. When buried, the fragments are protected from potential theft, foot traffic, and maintenance damage.

Recommendations

1. Develop a project and secure funding for the repair and resetting of monuments that are currently in storage. It is important that these monuments find their way back into the Cemetery as soon as financially possible. The longer monuments remain in storage, the less the likelihood of being reset at their original locations within the Cemetery.

2. Continue with the methods of storage for fragments removed from the Cemetery. This system seems to be adequate and will protect them from further damage and theft.

3. Perform a thorough inventory of the stones and fragments that are currently in storage and develop a priority list of markers repairs and marker resets.

Resetting

The appearance of upright markers within a cemetery is one of the most important visual impressions conveyed to visitors to show a cemetery is being cared for and watched over. Resetting markers is also one of the least expensive conservation measures for the value received. Severely leaning or fallen markers should be reset into an upright position as soon as possible. Left in place, leaning or fallen markers are more susceptible to lawn mower damage, vandalism and theft. Deterioration can also be accelerated due to rainwater collecting on the face of the marker in the depressed areas of artistic carving or lettering. When a marker is lying flat on the ground, it can also absorb additional moisture from the soil creating a potential for freeze thaw fractures. Due to Nashville's mild climate, however, this would be a very minor concern. A larger concern would be the marker becoming overgrown with vegetation if it were allowed to remain fallen for a long period of time. The marker could be lost forever if it became overgrown with vegetation or prone to damage from foot traffic or lawn maintenance operations.

Above: These fallen markers are the result of vandalism. When such acts occur, it's imperative that the markers get reset as quickly as possible. Consideration should be given to set up a yearly budget specifically to deal with situations such as this.

Within the Cemetery, the most widespread issue with tablets and other monuments observed was the number of substantially tilted, fallen or unstable gravestones. In addition, several markers have been heaved by root systems of nearby trees. Stones tilted 15 degrees or greater are susceptible to breaking off at ground level due to their own weight not to mention being easy targets for vandals. While not as prevalent of a problem in the Cemetery, sunken stones also need to be reset. Sunken stones are subject to damage to their inscriptions from lawnmower scarring.

Recommendations

1. Prior to any work, all markers should be inventoried and prioritized for conservation in terms of significance.

2. All stones that are substantially tilted (greater than 15 degrees out of vertical) or fallen should be reset in a secure upright position. Slightly tilted markers should be left as is and placed in a "monitor" status and reviewed on an annual basis.

3. Figure 3.02 shows the proper way to reset a tilted marker or tablet. When resetting a simple tablet, keep in mind that in most cases, there is almost as much stone below grade as above grade.

4. When resetting the tablet or marker, a stable cushion of sand or crushed gravel should be placed in the bottom of the excavation to create a stable base for the marker. The stone should be set vertical and carefully braced while the excavation is filled with alternating layers of soil and masonry sand or crushed stone, periodically wetting the layers to compact them. The surface grade should slope away from the stone to help reduce moisture penetration into the stone.

5. A marker should not be reset if the stone appears in fragile condition. Other conservation and repair procedures should be implemented to stabilize the monument prior to resetting. Only when the marker's integrity has been restored should resetting occur.

6. Markers should be left in their original orientation and should not be moved or turned to straighten minor tilts or "correct" orientation. Once a stone is moved it no serves as a grave marker because it no longer marks a burial site. The only exception to this would be if there is significant evidence that a stone was oriented a certain direction or in a specific place when originally set.

7. Upright fallen markers as soon as possible to help prevent further damage to the marker. If the marker is broken at grade, the marker can be reset temporarily as shown in Figure 3.01. Further investigation should take place in the area of the stone to attempt to find the lower portion of the stone. Many times this can be a foot or more below grade due to sinking over time. If found, the broken pieces can be cleaned up and the marker repaired and reset.

A large number of markers are in an advanced stage of erosion and decay

8. When the lower portion of a marker cannot be found, a new buried concrete base can be created to set the marker into. The concrete should be set a few inches below grade so when complete, the base is out of sight. The new base can easily be constructed of concrete with Styrofoam set into form to create a slot for the tablet to set. Once set, the foam can be removed and the tablet set into the void with a soft, high lime mortar to fill in the void around the tablet. The tablets should never be inserted directly into concrete because this will cause future problems with deterioration of the much softer stone material.

9. If markers are being impacted or heaved by tree growth, consideration should be given to removing the tree impacting the marker. The marker should always be given priority due to its historic significance and purpose of marking a gravesite. In the City Cemetery, there were several cases where one tree was impacting several gravesites. In this case, the decision to remove the tree is an easy one.

Table stones are suffering from slow structural failure

Constructing New Marker Base

Some historic monuments may have loose rock or concrete bases or none at all. When resetting historic monuments it may be advisable to install a new concrete or stone base, even if it never had one. This will increase the cost of the reset, but will also make it more permanent. As noted earlier in this report, markers should never be set directly into new concrete. the bases should have a formed key for marker placement.

If a new footing is not installed, a bed of crushed stone or gravel could be placed and packed into a level position. Then the monuments base may be reset followed by the successive monumental sections, until the resetting operation is complete.

Fracture Repairs (adhesive repairs)

At times, adhesive repairs are necessary for stone monuments. The following procedures may be followed:

A. Carefully remove loose stone fragments in areas to be repaired. Reuse only pieces of spalled stone that are in sound condition.

B. Remove soil, loose stone particles, mortar, and other debris or foreign material from the surfaces to be bonded on both the fragment and the building stone from which fragment was removed by cleaning with a stiff-fiber brush.

C. Apply adhesive to comply with adhesive manufacturer's written instructions. Coat bonding surface of building stone with stone-to-stone adhesive, completely filling all voids and covering all surfaces. Fit stone fragments onto building stone before adhesive is tacky and hold fragment securely in place until adhesive has cured.

D. Clean residual adhesive from edges when adhesive is rubbery (set but not cured). Wet stone, fill chipped areas, and drill holes with patching mortar. Avoid featheredging. Finish patched areas to match texture of and be level with adjacent stone surfaces. Keep patching mortar damp for 72 hours.

E. After adhesive has fully cured, and confirming that the assembly is a structural unit, further anchor stone fragments if determined necessary, with 1/4-inch- diameter, plain stainless-steel rods set into 1/4-inch- diameter holes drilled at a 45-degree downward angle through the face of the stone. Center and space anchor rods between 3 and 5 inches apart and at least 2 inches

from any edge. Insert rods at least 2 inches into backing stone and 2 inches into fragment with end countersunk at least 3/4 inch from the exposed face of the stone.

Composite Repairs (stone patches)

At times, stone patching is necessary for restoration of monuments. The following procedures may be followed:

A. Cut out deteriorated stone and adjacent stone that has begun to deteriorate. Remove additional stone so patch will not have feathered edges and will be at least 1/4 inch thick.

B. Remove loose particles, soil, debris, oil, and other contaminants from existing stone units at locations indicated by cleaning with a stiff-fiber brush.

C. Brush-coat stone surfaces with mortar-to-stone adhesive complying with manufacturer's written instructions. Follow patching material manufacturer's written instructions regarding the use of adhesives.

D. Place patching mortar in layers no thicker than 2 inches. Roughen surface of each layer to provide a key for the next layer.

Repair work needs site-by-site and stone-by-stone attention to detail

E. Build patch up 1/4 inch above surrounding stone and carve surface to match adjoining stone after mortar has hardened, but not completely cured.

F. Keep each layer damp for 72 hours or until mortar has set.

G. Unacceptable patches are those with hairline cracks or that show separation from stone at edges, and those that do not match adjoining stone in color or texture. Remove patches and refill to provide patches free of these defects.

Mortar Repairs

The following procedures may be considered for mortar repair activities on the Cemetery monuments:

Repointing Stonework: Rake out joints as follows:

1. Rake out mortar from joints to depths equal to 2-1/2 times their widths, but not less than 1/2 inch or not less than that required to expose sound, unweathered mortar.

2. Remove mortar from stonework surfaces within raked-out joints to provide reveals with square backs and to expose stone for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
3. Do not spall edges of stone units or widen joints. Replace damaged stone units.
    a. Cut out old mortar by hand with a chisel and mallet, unless otherwise indicated.
    b. Do not use power-operated grinders.

Point joints as follows:

1. Rinse stonework-joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at the time of pointing, excess water has evaporated or run off and joint surfaces are damp but free of standing water.
2. Apply the first layer of pointing mortar to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8 inch until a uniform depth is formed. Compact each layer thoroughly and allow it to become thumbprint hard before applying the next layer.
3. After joints have been filled to a uniform depth, place remaining pointing mortar in 3 layers with first and second layers each filling about two-fifths of joint depth; third layer, the remaining one-fifth. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing stone has rounded edges, slightly recess final layer from face. Take care not to spread mortar over edges onto exposed stone surfaces or to featheredge mortar.
4. When mortar is thumbprint hard, tool joints to match original appearance of joints, unless otherwise indicated. Remove excess mortar from edge of joint by brushing.
5. Cure mortar by maintaining in a damp condition for at least 72 hours.
6. Where repointing work precedes cleaning of existing stone, allow mortar to harden at least 30 days before beginning cleaning work.

Final Cleaning

1. Before mortar has hardened, thoroughly clean exposed stonework surfaces of excess mortar and foreign matter; use stiff-nylon or -fiber brushes and clean water.
2. Do not use metal scrapers or brushes.
3. Do not use acidic or alkaline cleaners.

Climatic conditions affect the long-term condition of markers

Consolidation

Consolidation is the process whereby a weakened stone is treated to strengthen it, and prolong its life span. Stone materials are typically considered very durable for construction purposes. However, masonry materials in cemeteries are not as durable as once believed. Placed in the exterior environment, these masonry materials and stone markers have been left to weather naturally over the past 180-plus years within the Cemetery. Numerous marble and a very large number of native limestone markers are in a rapid state of stone deterioration due to sugaring, particle erosion, delamination, or spalling. Some have already been completely lost due to deterioration and are lost forever. The same effect is seen

with the stone retaining walls and stone copings that surround numerous gravesites. The remaining artifacts and masonry construction should have efforts made for conservation to halt (or at least slow) the deterioration process so these artifacts can be preserved for future generations.

It is very important to make sure that the proper consolidation treatments are used for the type of stone that is being worked on. It is generally recommended to send a small chip (if one is available) to the manufacturer to have them test their product on the stone to make sure the products are compatible with the marker being preserved. They will also provide application procedures and rates for a successful consolidation effort. Prosoco Conservare consolidation products would be a good candidate for use for the marbles, sandstone and limestone markers and retaining wall stone found in the Cemetery.

From what has been observed in the field during site studies, it is recommended that a vast majority of the native limestone monuments be conserved using a consolidation treatment. Marble markers, if they are exhibiting sugaring, spalling or particle erosion, should also be treated with a consolidation treatment. Many of the marbles are exhibiting the effects of acid rain and other environmental factors. This is especially evident on many of the more artistic marble monuments where fine details have long been lost due to deterioration.

As stated above, any materials being treated should be pre-tested by the manufacturer to confirm that consolidation treatments will work on the stone, help identify the cause of the deterioration, an determine the most appropriate product to be used.

The following procedures may be considered:

1. Verify stability of stone to be cleaned.
    a. Check stone for flaking of face and lettering, significant fractures, or a grain surface which readily falls away.
    b. If stability of stone is in question, do not proceed. Contact Landscape Architect for review.
2. Remove loose dry materials with a dry soft-bristled brush.
3. Test clean a small area in an inconspicuous spot by going through entire cleaning process in that area.
    a. Look for any adverse effects from the cleaning process.
    b. If no effects are noticed proceed with entire cleaning process.
    c. If adverse effects are observed, do not proceed. Notify Landscape Architect as to the location of the marker.
4. Thoroughly flush entire stone with clean, clear water (warm temperature).
5. Scrub with soft-bristled brush working from bottom to top to avoid streaking.
6. Thoroughly rinse entire stone with clean, clear water (warm temperature).
7. Mix cleaning solution of non-ionic detergent and water.
    a. Use one (1) ounce to five (5) gallons of water.

Consolidation can dramatically extend the stability of markers

8. Pre-wet stone surface to be cleaned.
9. Apply cleaning solution.
10. Scrub stone surface moving from bottom to top to avoid streaking.
    a. Use toothbrushes and Q-Tips to clean intricate areas such as carving and lettering.
11. After using cleaning agent, flood stone thoroughly with water and scrub.
12. Do not allow any cleaning solution to dry on the stone prior to removing it.
13. Review all cleaned stones with Landscape Architect.
14. Identify, with Landscape Architect, any stones that shall be cleaned with "additional cleaning methods" as listed below.

Cleaning Method 'B' –Sandstones

1. Verify stability of stone to be cleaned.
    a. Check stone for flaking, significant fractures, or other signs of instability.
    b. If the stability of the stone is in question, do not proceed. Contact Landscape Architect for review.
2. Carefully remove all dry materials with a dry, soft-bristled brush.
3. Test clean a small area in an inconspicuous spot by going through entire cleaning process in that area.
    a. Look for any adverse effects of cleaning process.
    b. If no adverse effects are noticed, proceed with entire cleaning process.
    c. If adverse affects to the stone are observed, do not proceed. Notify Landscape Architect with location of marker.
4. Thoroughly flush entire stone with clean, clear water (warm temperature).
5. Scrub with soft-bristled brush working form bottom to top to avoid streaking.
6. Thoroughly rinse with clean, clear water (warm temperature).
7. Review cleaned stone. If additional cleaning is needed, repeat steps 4-6 with progressively hotter water (three times maximum).
8. Review all cleaned sandstones with Landscape Architect. Identify stones that would be good candidates for next level of cleaning.

Cleaning Method 'C' – Removal of Biological Activity

1. Use this cleaning for limestone, marble, and granites.
2. Protect surrounding vegetation from contact with cleaning solution.
3. Prepare cleaning solution of ammonium hydroxide (household ammonia). Use one (1) part ammonia to four (4) parts water.
4. Thoroughly wet marker with clean, clear water.
5. Apply cleaning solution.
6. Scrub marker with soft-bristled brush working from bottom to top to avoid streaking.
7. Thoroughly rinse marker to remove cleaning solution.

Perform each cleaning method indicated in a manner that results in uniform coverage of all surfaces, including corners, moldings, and interstices, and that produces an even effect without streaking or damaging stone surfaces.

Removing Plant Growth: Completely remove plant, moss, and shrub growth from stone surfaces. Carefully remove plants, creepers, and vegetation by cutting at roots and allowing them to dry as long as possible before removal. Remove loose soil or debris from open joints to whatever depth they occur.

1. Apply ammonium sulfamate or another acceptable root-killing material to plant roots according to manufacturer's written instructions. Do not apply materials to plants that are to remain.

Water Application Methods: Where water application methods are indicated, comply with the following:

2. Prolonged Spraying: Soak stone surfaces by applying water continuously and uniformly to a limited area for the time indicated. Apply water at low pressures and low volumes in multiple fine sprays using perforated hoses or multiple spray nozzles. Erect a protective enclosure constructed of polyethylene sheeting to cover area being sprayed.
3. Spray Applications: Spray apply water to stone surfaces to comply with requirements indicated for location, purpose, water temperature, pressure, volume, and equipment. Unless otherwise indicated, hold spray nozzle at least 6 inches from surface of stone and apply water from side to side in overlapping bands to produce uniform coverage and an even effect.

Rinse off chemical residue and soil by working upward from bottom to top of each treated area at each stage within 15 minutes of application and before surface has begun to dry.

Many marble and Tennessee limestone markers are eroding

Structures & Types of Treatments/Repairs

Repair of Brick Bases

One benefit of loose brick footings is if the footing ever heaves or settles the bricks may be removed to re-level. If badly heaved or settles, a solid concrete footing would have to be jack-hammered down, or entirely removed to be lowered.

Ground Tablet Base Repair

Methods for repairing Table Bases follow the same procedures as repairing stone and concrete work. Each piece should be photographed and numbered prior to any restoration activity. Mortar, stone repair and patching may be necessary and should follow guidelines listed elsewhere in this report. The foundation bases should be evaluated for structural durability and repaired or replaced as necessary following appropriate standards.

Mausoleums are in need of stabilization, similar to small building restoration

Box Tomb (False Crypt) Repairs/Rebuilding

Numerous Box Tombs (False Crypts) are located in the Nashville City Cemetery. In general, these are considered to be constructed out of below grade concrete walls. All work should follow Department of Interior Standards in conjunction with local standards. Concrete patching or replacement should follow standard procedures.

Mausoleum Repairs

Mausoleum restoration will be similar to small building restoration activities. In particular, the boarded over doors may be replaced with heavy steel doors painted dark green. The stone, wood and roof repairs/replacements should follow Department of Interior guidelines.

Markers – Maintenance Procedures

Cleaning

The markers and structures within the Cemetery are in a very delicate state and cleaning is typically not recommended for a majority of the markers and structures. However, there are some stones that are stable enough and could benefit from a very mild cleaning. Other stones may be candidates for mild cleaning once they have been consolidated but this should be carefully reviewed on a case by case basis.

Where stains are deep, and cannot be cleaned effectively with water only or a mild cleaning solution, a marble poultice might prove effective. This should be reviewed on a case by case basis. The following is a general guideline for cleaning cemetery markers:

1. Determine whether the stone is stable. If the stone has flaking, significant fractures or a grainy surface that easily falls away, STOP and do not clean!
2. After an acceptable stable stone is found, begin by removing loose, dry materials from stone using a soft-bristled brush. Large paint brushes, shop dusting brushes, and soft whisk brooms work well for this.
3. Biological growth can be killed and the stone washed using an architectural antimicrobial such as D/2 as available from Prosoco or Cathedral Stone Products.
4. Test-clean a small inconspicuous area on the stone following the entire cleaning procedure listed below. This process will reveal any problems that may arise during cleaning and give an indication of the anticipated results after cleaning.
5. Thoroughly wet stone with plenty of clear water. Do not soak stone if there is a chance of freezing weather in the next 24-48 hours. A small pick-up mounted water tank with a gas powered pump works well to supply water for cleaning.
6. Using a soft-bristled brush (never wire), scrub from the bottom of the stone upward to prevent streaking.
7. After initial flooding and scrubbing, the stone can be cleaned with a very mild non-ionic detergent using a soft-bristle brush and again working from bottom to top.
8. Flush stone with clean water as you work up the monument. Making sure the monument is kept wet at all times.
9. Perform final flush of monument from bottom to top.
10. Monitor monument for next few seasons to review effects of cleaning process.
11. A monument that has been cleaned should not be cleaned again for several years to help protect it from possible deterioration from the cleaning process.

Ground vaults are a unique feature in the cemetery and are in need of structural evaluation

Demonstration Plots (Standards Plots)

Vegetation management benefits long-term appearance and stability of cemetery features

Due to the extensive work required in the Cemetery, preservation efforts will extend over a period of time dependent on available funding resources, and appropriate level of restoration activity appropriate for the cemetery setting. Not all activities can be grouped under one project; therefore, it is recommended that several demonstration projects be completed to guide future efforts. The completed demonstration plots will represent the standards that all subsequent work will be compared to. The plots should be restored under the supervision of the project landscape architect, project director, and other key team members.

There are a large variety of materials, grave treatments, and preservation problems within the Cemetery. As a result several demonstration plots will be required in order to get a fair representation of the typical problems and materials found on the site. A selection process for the demonstration projects should be developed in the Cemetery with a small group of project stakeholders. The following items should be considered when developing the list of demonstration plots:

1. Visibility and Accessibility to the plot
2. Prominence or importance of individual family to the history of Nashville, the state of Tennessee or the United States
3. Range of materials represented
4. Cause of damage and treatment approach
5. Uniqueness
6. Overall impact of restoration efforts on the entire Cemetery
7. Cost/Benefit Ratio
8. Potential interpretive value, either during restoration or when completed.

Preparatory Documentation

Preparation activities are required for each selected site. The following activities should be completed for each site:

1. Sketch of the Plot – Create a basic drawing of the plot using graph paper. The drawing should include the following elements: monument location/dimensions, full plot dimensions, inventory of major features/locations, plant material/location, and surround material with dimensions. Damage and missing pieces should be noted.

2. Photograph the Plot – Take black and white photographs of the plot. The pictures should be taken from opposing directions. In addition to B/W, digital photographs must also be taken of each plot.

3. Record immediate surroundings – On the Plot Sketch, note the surrounding area, record any artifacts and/or fragments of materials. Note the location of each element.

4. Stone Wall (Coping) Detail – Any time the treatment plan involves a stone wall additional documentation will be required. Stone walls can be very intricate and must be systematically approached. Documentation is an essential aspect of preparation. Stone walls should be photographed from each direction and carefully drawn, especially if dismantling is a potential activity. Each of the following elements should be drawn and/or photographed: placement of individual stones - size and connectivity, finish, color, mortar texture (if any), and the mortar joint profile.

5. Concrete Wall (Coping) Detail – Concrete walls require the same detailed documentation as stone walls. Concrete walls should be photographed from each direction and carefully drawn, especially if dismantling is a potential activity. Each of the following elements should be drawn and/or photographed: placement of individual stones - size and connectivity, finish, color, ironwork, hardware such as anchoring devices, concrete texture (if any), and decorative inscriptions and/or set elements (markers).

Above 2 photos: Robertson Family plot is a good example for a future demonstration restoration.

6. Ironwork – Careful documentation of ironwork is also needed to make sure that the iron fence gets re-installed correctly when the repairs to the walls, copings, or footings are made.

These demonstration plots can serve as educational opportunities to tell the preservation story, as well as, being used for fundraising activities to help fund future preservation efforts within the Cemetery. As these demonstration plots are developed, they will be a catalyst to increasing interest in the preservation effort within the Cemetery and help foster ownership in the Cemetery throughout the local community.

Possible Demonstration Plots

The combined attributes of the following plots meet the criteria listed above for considering demonstration plots:

W.A. Johnson Family Vault
Robert P. Currin Ground Vault
Smith C. Clark Mausoleum
Marker Conservation Projects
Box Tomb Restoration
Ground Tablet/Brick Base Restoration
Grave Table Restoration
Robertson Family Plot

Ironwork

Ironwork Types/Conditions

As with most cemeteries throughout the United States, two common metals exist within the Nashville City Cemetery: wrought iron and cast iron. Due to the era of this Cemetery, wrought iron dominates in quantity within the City Cemetery.

Pointed picket and vail is a common use of ironworks in the cemetery

A very common fence type within the Cemetery is a simple pointed picket and rail wrought iron fence. The pointed picket fence tops are a historic detail and are typically not pointed to the degree that causes a safety problem. Other types of detail include posts with chains and distinctive ornamental ironwork patterns. The ironwork features are found throughout the Cemetery and are in various conditions of decay. In most cases the pickets and rails are highly eroded and pitted due to the local climate and atmospheric conditions. Acid rain and/or the presence of an adjacent cotton mill has likely accelerated the deterioration of the ironwork within the City Cemetery. Lack of maintenance over the years has also contributed to the decay of the ironwork. One of the best protections for wrought and cast iron is regular priming and painting to prevent rust from decaying the ironwork. Routine maintenance inspections are helpful to identify stability, damage, loose decorative elements, and other items which need attention.

Theft/Vandalism Issues

The gravesite of the daughter of William Robertson has been impacted by vandalism and theft. The ornate iron fence's gate is missing and one of the ornate cast iron panels has been stolen.

With a growing illicit market for ornamental iron cemetery gates, fence sections, cast iron urns, and other items, the City Cemetery is a big target for souvenir hunters and profit seekers. The Cemetery has been the target of theft and vandalism activities directed at the numerous iron fence surrounds throughout the Cemetery (most recently occurring in 1996). Due to an ironwork inventory completed just prior to much of the ironwork damage and theft, a majority of the ironwork was recovered. The recovered ironwork remains in storage waiting to be reinstalled within the City Cemetery.

While the ironwork was recovered, some of it has been damaged beyond repair and most

likely never be able to be reset on the graves it once adorned. This is an extremely unfortunate circumstance but is reality within not only the City Cemetery but historic cemeteries across the nation. Extra measures need to be taken to help prevent future theft and damage to the remaining ornamental ironwork within the City Cemetery.

Reinstallation of Theft Recovered/Damaged Ironwork

Of primary importance is the reinstallation and repair of the stolen ironwork which was subsequently recovered. MHC has identified a project and attempted to obtain responsible bids to repair and reinstall this ironwork and is continuing to work on finding qualified craftsmen to do this work. This should continue to be a high priority since it will have a dramatic visual effect on the Cemetery.

Conservation of Remaining Ironwork

When working to preserve the remaining ironwork in the cemeteries, every effort must be made to retain as much of the original historic "fabric" of the ironwork regardless of the condition. If the original material is lost, much of the ironwork's integrity is lost with it. Replacement with new materials should be a last resort to repairing or stabilizing the existing, original materials. Because many replacements can be incompatible with the existing material often causing galvanic reactions between dissimilar materials, a reasonable solution for preservation would be to repair and maintain the remaining ironwork rather than add new material which could prove historically inappropriate or a poor substitute. If replacement is desired, strong efforts should be made to salvage matching elements rather than recasting. Replication using an existing piece to make a mold and then creating new pieces is typically cost prohibitive and should be done with extreme care by artisans with a record of producing good results. Due to the large amount of ironwork still in the Cemetery and contained in storage awaiting reinstallation, replication may not be an appropriate preservation choice.

Although this plot has much of its ironwork damaged or stolen, an effort should be made to stabilize the remaining iron work from further damage and deterioration to help preserve the historic fabric of this family plot and the cemetery as a whole.

Ironwork – Maintenance Procedures

One of the best ways to protect ironwork is by maintaining its protective finish. Almost all of the ironwork within the cemeteries visited had little or none of the original finish remaining. Without this protective finish, the deterioration of iron is hastened causing welds, fasteners, anchors, hinges, and other structural components to weaken and eventually fail. This makes the ironwork prone to theft and increased vandalism.

Many experts believe that ironwork should be repainted every five to ten years, or when rust appears. While rust cannot be prevented, efforts should be made to retard its onset and return. Vulnerable locations include joints, hinges, fasteners, post anchors, and contact with the ground. When the initial problem areas are identified and addressed, the task turns to restoring the finish of the ironwork. The first step is dealing with the existing corrosion and preparing the iron for painting. A successful paint job relies heavily on successful pre-painting preparation. There are two basic options in dealing with corrosion – remove the corrosion or convert the corrosion into a more stable material.

Removing rust from an iron plot enclosure can be an intimidating task, especially as detailed as some of the fences are in the Cemetery. Hand preparation with wire brushes is good to remove a bulk of the corrosion but will leave quite a bit of corrosion remaining.

Abrasive cleaners should be used with extreme caution or avoided altogether, if possible. Cast iron can withstand abrasive cleaning much more than wrought iron because cast iron is a harder material while wrought iron is softer and can be easily pitted. If for some reason abrasive cleaning is used, a soft abrasive shall be used such as ground shell, at a low psi (not to exceed 60-70 psi) and working distance of no less than 12 inches. With that being said, with the condition of most of the iron fences in the Cemetery, this would be the

Once cleaned of rust and corrosion it is critical that a rust inhibitive primer be applied as quickly as possible. There are a variety of good quality primers that can be used but more importantly two coats should be applied. Two coats of primer helps ensure that a continuous film is in place without pinholes or exposed metal.

The other option in dealing with rust is using a rust converter. This product is applied like paint directly to rusty metal after minimal surface preparation such as light scraping and degreasing the iron. A rust converter will stabilize the corrosion and convert the rust into a more stable material. Using a liquid rust converter helps ensure that there are no hidden rust pockets that may cause future problems. After using the rust converter an appropriate top coat is still essential.

Restoration activity should consider long-term viability of the work

The original design allows for water to set at the base of each picket, resulting in total deterioration of the picket bases. The addition of a bottom rail would be a consideration during restoration activities.

When applying the final topcoat to ironwork, alkyd paint should be used and should be compatible with the selected primer. The paint should be applied in a thin layer. Painting on a thick coat of paint not only obscures details in the ironwork but it is more apt to chipping than a thin coat of paint. Flat black is an appropriate historic color if no other historic evidence of original color is present. Gloss enamels should be avoided.

Recommendations

All of the following recommendations are guidelines for the preservation of the existing ironwork within the Cemetery.

1. Update the comprehensive ironwork inventory for the Cemetery. This inventory should thoroughly document the remaining ironwork including remaining gates, artistic details, manufacturer plates, connections, and location of each fence surround. Condition, vandalism, theft, and deterioration should also be noted. The inventory should also include the ironwork that was stolen and subsequently recovered to assess its condition and repair needs.

2. Retain and preserve existing ironwork regardless of condition.

3. Appropriately secure remaining ironwork against theft. Secure gates, fence sections, loose materials, etc. so that they are less easily removed and stolen.

4. Stabilize ironwork which is structurally unstable or unanchored. This may include stone repairs in association with the ironwork repairs since much of the ironwork is anchored into stone and the stone has failed. Careful coordination will be needed by a qualified stone restoration contractor and the ironwork contractor.

5. Restore finish of unprotected ironwork. Remove corrosion from existing ironwork using great care and diligence and use a rust converter to stabilize the corrosion and then restore finish to all unprotected ironwork using an appropriate paint finish.

6. Develop strategy for stabilization of ironwork. Possibilities include individual or corporate sponsorship of preservation activities, recruiting of volunteer workforce, or an “adopt a fence” program.

7. Develop ironwork priorities. This would include a rating system that would include factors such as condition, loss threat, uniqueness, cost of stabilization, visibility to visitors, and other factors.

8. Plan and implement a unique numbered identification system for the remaining ironwork on-site and in storage. Many times a unique number can be inscribed on a bottom rail using a weld bead.

Vegetation / Landscape

Vegetation/Landscape

Trees – Their Identification, Conditions & Needs

The site is rich with a variety of large tree specimens spread over all areas of the cemetery. Southern Magnolia (*Magnolia grandiflora*), Common Hackberry (*Celtis occidentalis*), Ginkgo (*Ginkgo biloba*), Black Walnut (*Juglans nigra*), Pin Cherry (*Prunus sp.*), Common Sassafras (*Sassafras albidum*), Bur Oak (*Quercus macrocarpa*), Laurel Oak (*Quercus hemisphaerica*), Weeping Willow (*Salix babylonica*), Eastern Red Cedar (*Juniperus virginiana*), Ash varieties (*Fraxinus*), Elm varieties (*Ulmus*), Pine varieties (*Pinus*), Bodock varieties (*Maclura pomifera*), Hickory varieties (*Carya*), Locust varieties (*Robinia*), Tulip Poplar (*Liriodendron tulipifera*) and Norway Maple (*Acer platanoides*) are all represented in the overstory tree canopy of the Cemetery. Smaller trees on the site include American Holly (*Ilex opaca*), Flowering Dogwood (*Cornus florida*), and Red Mulberry (*Morus rubra*). A vast majority of the trees are mature and provide a very nice canopy in many areas of the Cemetery.

Tree growth causing structural damage

It is difficult to decipher which trees have been intended and which are naturally occurring in many areas. This is especially true of the Hackberry trees. One would suspect that it is a mixture of planted and volunteer that has developed over the years. Several trees are growing very close, or have already impacted grave markers. There are also grave surrounds that have been impacted by root systems of nearby trees. Some grave markers have been completely enveloped by tree trunks and root systems. This is a result from the lack of a detailed maintenance plan for vegetation. In addition to crowding markers and plots, there is the issue of ongoing maintenance to other trees around the property. This includes crown thinning, crown raising, removing dead wood, removal of leaf litter, etc.

Recommendations

At the end of this document, a Tree Management map has been included with recommendations on which trees have been suggested for removal, which are in need of crown raising, and crown thinning (dead limb removal).

One consideration for interpretation would be for tree identification markers and designation of the Cemetery as an arboretum. This would require coordination within the recommended development of an Interpretive Plan for the Cemetery.

In almost every case, trees recommended for removal are trees that are impacting, or will impact in the near future, walls, grave surrounds, pathways, markers or monuments. Most recommended for removal are naturalized Common Hackberrry (*Celtis Occidentalis*). In addition to naturalizing themselves along walls or grave surrounds and impacting the historic graves, hackberry trees present possible damage to

markers due to their susceptibility to storm damage. These have in the past and may in the future cause significant damage to historic monuments within the Cemetery.

The following are additional recommendations regarding tree management within the City Cemetery:

1. Trees should be removed, crown-raised, or crown-thinned in accordance with the Tree Management map included with this master plan document.

2. Selective pine tree removals should be considered when their growth causes damage to gravestones. Although historic photos show some pine trees in the Cemetery, their ultimate size and destructive potential was not fully anticipated.

3. The combination of Ginkgo trees and Southern Magnolias along the stone perimeter wall should have some selective removal. The trees were planted very tightly to each other and close to the perimeter wall. The trees recommended for removal have been indicated on the Tree Management map.

4. The Ginkgo trees indicated to remain should be carefully monitored over the next several years for possible damage they may cause to the stone perimeter wall. Some trunks are very close to the wall as they exist today. Generally speaking, Ginkgo trees are relatively slow growing but when they begin to damage the stone wall, they should be removed. Replacement is an option but when replanted, they should be moved farther away from the wall. A minimum of 4 feet from the wall to the trunk is a good guideline.

5. Qualified arborists should be hired to perform pruning work on specimen trees within the Cemetery. Trained arborists will have the best knowledge about what the appropriate pruning periods are for each specimen of tree on the grounds. The Nashville Department of Parks or Department of Urban Forestry will most likely have people with this knowledge on staff.

6. At least once per year when trees are in full leaf, a walk-through of the entire site should be made with MHC staff and Parks Staff or a qualified private arborist to review the trees on the site and determine the tree maintenance needs. During this walk-through, trees needing pruning, removal, or disease or pest treatments can be identified and a plan of action drafted.

1959 photo of Nashville City Cemetery

7. Volunteer trees should be removed as soon as they are identified in order to prevent past problems with grave damage from occurring again.

Shrubs/Vines/Groundcovers

Generally speaking, this site does not have a large number of shrubs. This could be due to the period of significance of this Cemetery (early rural cemetery/early Victorian) or that shrubs have been removed from the Cemetery and never have been replaced. Some varieties include arborvitae (*Thuja occidentalis*), Forsythia (*Forsythia*

×*intermedia* Zabel) and Crapemyrtles (*Lagerstroemia indica*). A review of historic photographs indicates the Cemetery had a moderate amount of shrub plantings, mainly associated with individual or family plots. Whatever the case, the primary woody plants present are the trees.

The shrubs that do exist on the site do still have some maintenance needs associated with them. The boxwoods in particular need some attention because they are beginning to become overgrown and hinder the pathways or hide gravesites completely.

Recommendations

1. Boxwoods should be pruned back to prevent them from growing into pathways and overtaking plots and/or markers. The work of the Davidson County Master Gardeners, including trained experts in Boxwood pruning methods should be continued. This type of pruning requires three to five years to complete because of the small amount of foliage removed each year. Efforts to eradicate the boxwood leaf minor should continue.

2. Ivy growing on trees should be removed or at a minimum stripped around the trunk and allowed to fall off naturally over time. If left to grow into the trees, the ivy will girdle the branches and eventually kill the large trees. Other ivy growing on fences, box tombs, markers, etc. should be removed as soon as possible to prevent the ivy from taking hold onto the fragile stone. Care should be taken in removing the ivy from the stone since damage to the stone can result from removal. The Davidson County Master Gardeners are currently at work stripping sections of ivy from tree trunks in all areas of the Cemetery.

3. The use of alternate groundcovers to replace traditional turf grass should continue to be encouraged. The use of historically appropriate groundcovers such as periwinkle, low growing clovers, and others will help reduce the need for mowing in delicate areas of the Cemetery and reduce damage caused by mowing operations. Recent efforts to plany periwinkle have been unsuccessful, and some groundcover research plots would be an appropriate interim measure. The extensive use of groundcovers in tight areas is probably the single most important action that can be taken to reduce maintenance of the Cemetery grounds in highly populated areas of the site. In addition to reducing maintenance and hopefully damage, groundcovers can increase the visual interest and interpretive value of the Cemetery.

Over-grown shrubbery

4. Increase the use of shrubs along the southern and western edges of the Cemetery to help provide a buffer from the adjacent railroad and industrial land-uses. The combinations of plant materials already being used along some of the southern edge of the site provides a very nice palette of color and size and can be continued along the rest of the described area.

New and Replacement Planting Considerations

During the course of its life, the Cemetery would have had many types of plantings within it. There is documentation about flowering shrubs, trees, and other plants being installed during various preservation efforts. Families would have also used plants to memorialize the gravesites of loved ones. Some of the plantings show up in historic photos showing where and what type of plants existed in certain time periods of the Cemetery.

When considering replacement plantings, careful study shall be conducted using the historic photos and any historic documentation that mention planting efforts within the Cemetery. Only when significant evidence exists about a plants type and exact location, should replacement plants be considered within the Cemetery. The placement of perimeter tree plantings should consider mature growth sizes of trees relative to stone wall and grave marker locations. In some case the landscape buffering of perimeter industrial uses will enhance the visual quality within the historic cemetery setting.

Lawn/Groundcovers & Their Management

The management of turf grass is an ongoing battle in any historic cemetery and one that can become a major issue for those caring for the cemetery. The single most damaging maintenance activity (to stones) within a historic cemetery is lawn maintenance. With the adoption of large power driven lawnmowers, the opportunity for damage to markers is almost unavoidable. The markers within the City Cemetery haven't escaped damage from power mowers. Evidence of mower deck and weed whip damage was noted throughout the site.

It is understood that the resources of the Nashville Parks Department is stretched thin and that they have taken on the task of maintaining the City Cemetery and try to keep up with the Cemetery's turf management needs. Nashville's climate is very conducive to rapid grass growth due to its high rainfall amounts and high humidity. Keeping up with the lawn areas within the Cemetery is a job that is never ending during the growing season and the large site makes it that much more difficult.

With that being said, the lawn management of the site is lacking in both frequency of mowings throughout the growing season and care during mowing. On more than on occasion, the mowing process was observed and several issues were noticed during these observations. The issues noticed are as follows:

1. The period between mowing is too great and this allows the turf to become overgrown. This is an issue because the long growth of the grass overtakes small markers or hides marker fragments from view and puts them in threat of being damaged as mower decks hit them or pass over them.

2. The use of large deck mowers causes damage of cemetery markers. It is understood that the large decks are a common practice nationwide for parks and large open areas. However, this practice can be severely detrimental to a historic cemetery. It should be further noted that there are some areas of the Cemetery where the use of a large deck mower would be appropriate because of the large open areas devoid of markers. For the most part, these large mowers should be used sparingly and very carefully on this site.

3. The use of power weed whips have caused damage to many stones by chipping the edges of these stones because the weed whip has been used too close to the marker. The use of the weed whips should be monitored very carefully. The recommendations for the use of weed whips are recommended below.

4. Due to staff workloads and departmental budgets, it is understandable that the Cemetery's lawn maintenance is significant during the growing season. During this author's observation of lawn maintenance, several times it was observed and heard that items were hit by mower decks and blades, most likely causing damage to fragile stones. Extreme care still needs to be a priority when working within the Cemetery due to the fragile nature of the historic artifacts contained within.

Ground tablet appears to have been impacted by a mower deck and pushed off its base.

Recommendations

The following recommendations for lawn maintenance have been developed for the City Cemetery. The implementation of these recommendations will help protect the Cemetery's fragile resources and hopefully reduce the amount of damage that is done to markers and other historic artifacts within the Cemetery.

1. Mowing frequency should be increased to reduce the height of the grass between mowing. Longer grass tends to overtake low markers and hide them from view where they are susceptible to damage from mowers. Generally speaking, grass should be mowed every 5-7 days from the beginning of the growing season through mid-June; from mid-June to mid-August, mowing intervals may be able to be reduced to every 10 days depending on precipitation; then again every 5-7 days from mid-August to the end of the growing season.

2. Some of the more "populated" areas with tightly spaced box tombs, tablets and other monuments could be designated as "no mow" areas during the growing season or only mowed a few times during the season. When viewing historic photos, the Cemetery looked very "native" when it came to the maintenance of it. Allowing some of the areas to grow in a more natural state with ground covers and small "wild" flowers to be left un-maintained and create some visual interest within these areas. This would help reduce the chances that many markers would be impacted by continual maintenance practices throughout the growing season.

3. Mower decks should be set at the highest setting to help reduce the impact of fallen stones that might not be visible to the operator while mowing.

4. Power mowers of any kind shouldn't be used within 12-inches of any marker, coping, monument, box tomb, etc.

5. Weed whips with the lightest possible gauge nylon string attached (no greater than .09 inch) can be used with extreme care to finish up grass trimming around the markers.

6. All power mowers should be fitted with closed cell foam bumpers to add additional protection in the case a mower comes into contact with a marker or structure.

7. Only push behind mowers should be used within the Cemetery. Riding mowers offer too little control and operators tend to take more chances in an effort to get completed more quickly. Riding mowers might be able to be used in predefined zones where there are no markers in existence. These areas may include Section 21, the west portion of Section 28, Section 31 and Section 32 but would need to be carefully reviewed in the field.

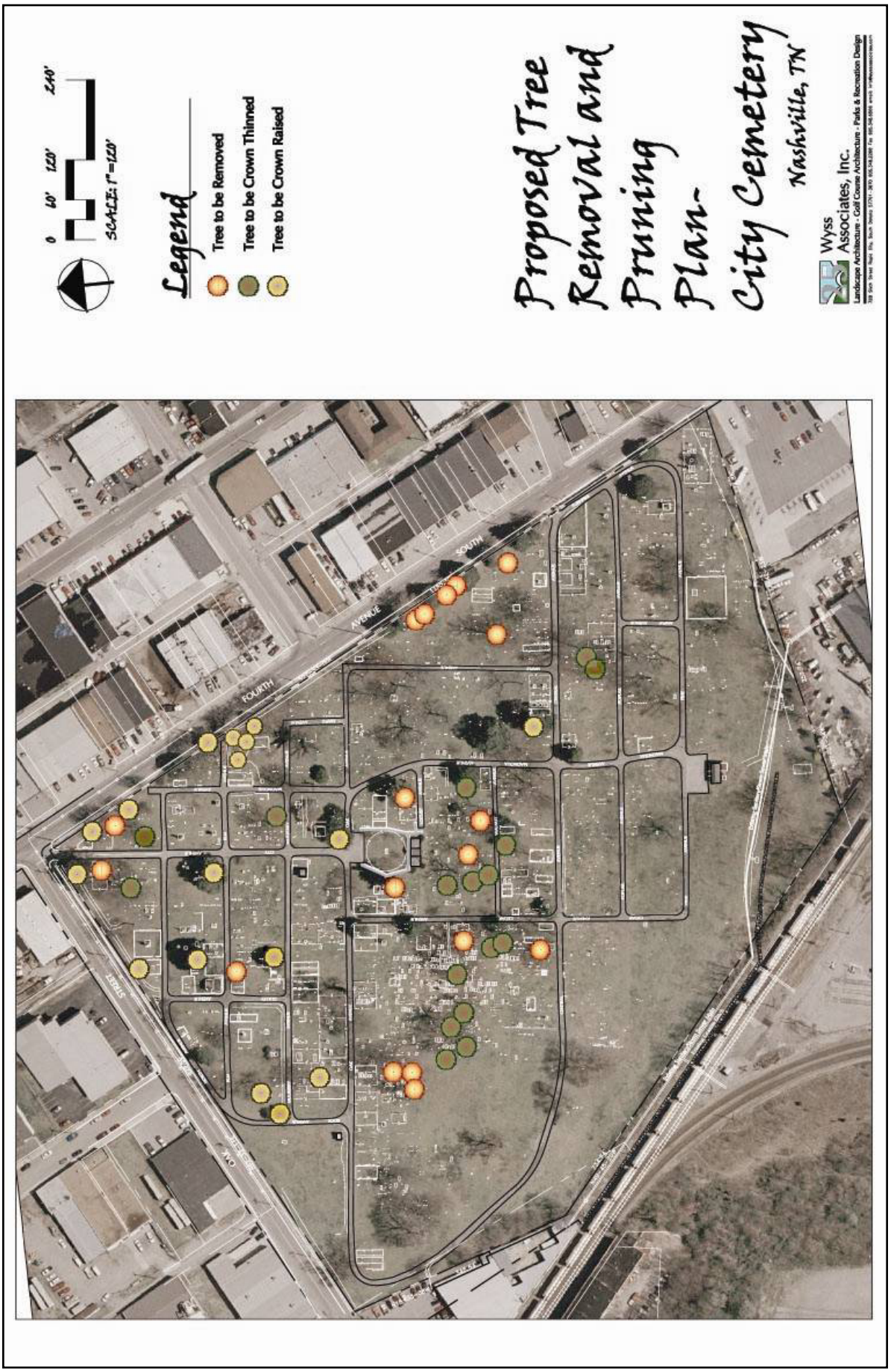
8. Develop a training course for mower operators to emphasize the proper lawn maintenance techniques and the importance of the historic markers and their fragile nature. Operators must understand that typical mowing practices used on residential, commercial properties, and parks are inappropriate for a historic cemetery. Everyone who works within the Cemetery performing maintenance must completely understand why the maintenance procedures are in place and the reasons for them. Careful supervision and training is essential in preventing accidents within the Cemetery.

Grounds maintenance practices have varied over the years.

9. Consider contracting lawn maintenance with a private maintenance firm. This will allow expectations to be set with damage consequences if procedures aren't followed. The contract with the firm should clearly specify that the landscape firm is responsible for all damage caused to stones and should ensure that adequate insurance is being provided to cover any accidents or claims. A city staff crew of 4 FTE's could be developed to take care of the Cemetery. This would result in a fairly significant yearly expense when time and benefits are figured.

10. Continue the development of alternatives to turf grass lawn such as *Vinca minor* in tightly spaced areas. Other groundcovers such as low growing perennials or short native grasses may also be tried to determine their success.

Probably the best protection from lawn maintenance operations is the active involvement of a superintendent in the oversight of lawn maintenance. Inspections should be made regularly during the lawn maintenance season to determine if damage has been caused and ensure that agreed upon procedures are being followed. Also regular inspections or maintenance procedure reviews allow for small modifications to practices if deemed necessary in the field


Proposed Tree Removal and Pruning Plan-
City Cemetery
Nashville, TN
Wyss Associates, Inc.
Landscape Architecture - Golf Course Architecture - Parks & Recreation Design
Legend
Tree to be Removed
Tree to be Crown Thinned
Tree to be Crown Raised
0 60' 120' 240'
SCALE: 1"=120'
FOURTH AVENUE SOUTH
STATE

Security Issues / Vandalism Issues

Security Issues / Vandalism Issues

Site Visibility

The Cemetery's vegetation has matured over its existence and now contains a mature stand of over story trees. While this over story canopy provides the Cemetery with a wonderful park-like setting, the mature trees do present some sightline problems into and within the Cemetery. The views into the Cemetery are hindered most along Fourth Avenue South. Along this edge, large gingko and magnolia trees were planted adjacent the stone perimeter wall. They now provide a screen and hinder views into the Cemetery. The limited view into this edge of the Cemetery hinders the effectiveness of drive-by patrols and others who may report questionable activity happening in the Cemetery.

Within the Cemetery, several areas exist where trees have low hanging branches which limit visibility from one area of the Cemetery to other areas. Good visibility throughout the interior of the Cemetery helps provide safety and security for visitors to the Cemetery. In addition to increased visitor safety, good visibility provides safety to the historic artifacts within the Cemetery.

Site Security

The site is somewhat secure being surrounded by a stone wall on 4th Street to the east and Oak Street to the North. The site has a chain link fence along a portion of the south edge of the property and along the west edge of the property. The fence that exists at a portion of the south side of the site is a color coated chain link fence with a black finish. The fence at the west is a relatively old galvanized chain link fabric. Currently, the portion of the site adjacent to the railroad is left open due to a vegetation and debris clean-up effort that has remained uncompleted for over a year at the time of this report.

The gates at the primary entrance and the entrance on 4th Street provide good security for the site during non-operating hours. The gate at 4th Street is locked at all times and it appears there is no need to change this practice. The entrance at the corner of Oak and 4th Street has served as the only way in and out for several years and will help to provide easy monitoring of the site. Both of the pedestrian gates adjacent to the vehicular gates are non functional. With some minor repairs, it appears both could be made operational again.

Future tuck-pointing could extend life of perimeter wall

The perimeter wall is constructed of coursed stone and varies in height from approximately 4-feet to approximately 15 feet in some areas (on the inside of the Cemetery). For the most part, the wall is around 4-feet along the street. The top cap of the wall has a regional detail of vertically bedded stones running along the top of the wall. This has caused some stability issues with the top course as those cap stones have deteriorated more rapidly due to being laid against their natural bed lines. The wall has been improperly tuck pointed with a rather hard Portland-based mortar and too wide of joints. While not an immediate concern, in time, properly re-tuck pointing this wall will prove very beneficial to the overall life and stability of this wall.

Due to the construction type of the wall, it makes it difficult, although not impossible, to attach a fence to the top of the wall for additional security. This decision will be left to the MHC staff as they will need to determine the visual impact of the historic wall as well as how much additional security is really needed for the site.

Recommendations

The following are recommendations that are associated with the Cemetery's security and site visibility.

1. Install security fence along the southern and western edges of the site. Ideally, this would be an 8-foot tall iron fence with rather tight pickets spaced 4-6 inches on center and a pressed spear top to hinder climbing over the fence. If budgets allow, the existing chain link fence could be removed and replaced with the more historically appropriate iron picket fence. If budgets do not allow the replacement of the chain link, a continuation of the black coated chain link fence along the railroad tracks would be acceptable.

2. The clean-up effort along the railroad tracks along the south edge of the property needs to be a high priority in order for a new security fence along that edge of the property to be installed. The installation of the new fence needs to happen quickly to prevent access into and from the Cemetery along this edge.

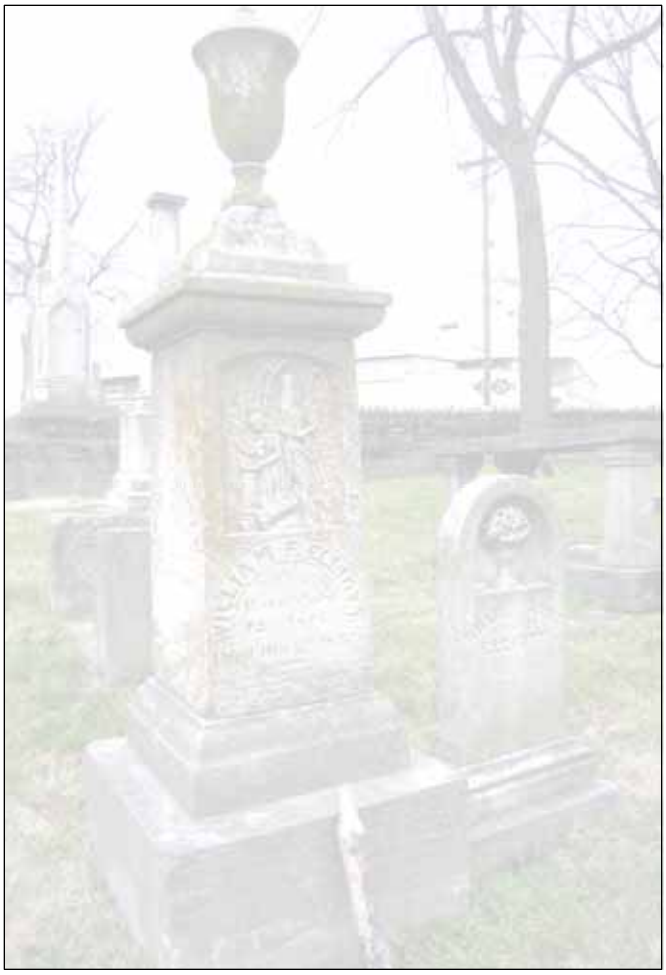
3. Consider placing closed circuit cameras in the Cemetery at strategic points to monitor activity. This has been done in other Nashville parks recently and could be a good deterrent on negative activities within the Cemetery.

4. Continue to work with local law enforcement for increased patrols through the Cemetery to create a law enforcement presence within the Cemetery and the surrounding area. While visiting the site on numerous occasions, there was a significant amount of patrol activity through the site and this should be encouraged to continue.

5. Encourage volunteer groups, tour groups, historical groups, school groups and other community groups to visit the site and use the site in programming activities. Any way the Cemetery can increase its visitation will help create activity on the site and help deter negative behavior within the site.

6. Security signage should be completed in coordination with cemetery-wide interpretive signage.

Replace chain link with new security fence



Infrastructure

Infrastructure

Roads / Pathways

The network of streets that winds through the Cemetery primarily follows the basic grid system of the Cemetery's plot sections. They are currently comprised of asphalt paving in various degrees of condition. Historically, these streets were surfaced with gravel or crushed stone material. All drives are narrow and allow for only one vehicle to pass comfortably.

There are a few streets which have been abandoned over the life of the Cemetery have been allowed to "grow over" with turf. This is most likely due to the lack of necessity especially in the less populated areas of the Cemetery. However when viewing an aerial map of the Cemetery and even while walking in these areas of the Cemetery, the historic roads are fairly easily deciphered in the landscape.

The Metro Historical Commission has recently planted Norway Maples along the edges of many of the streets in the Cemetery including those that have been abandoned, replicating historic tree lines that existed during the cemeteries height of activity. These lines of maple trees appear in several historic photos of the Cemetery. When mature, these young trees will enforce the original design intent and once again provide a historically appropriate "feel" to the Cemetery's landscape.

Consideration should be given in developing these abandoned streets into walking pathways with a more narrow section, 6 to 8 feet or so, with crushed stone surfacing. This would further enhance the original layout of the Cemetery and create new opportunities and experiences for interpretation of the City Cemetery.

Asphalt road nearing the end of its lifecycle

Numerous plots have sidewalks, such as the stone path leading to the Robertson Family Plot. That particular stone path has significant settling, and is in need of resetting. A select few plots have paved paths in various states of disrepair and are in need of replacement in sections on in their entirety. The perimeter sidewalk on the outside of the stone wall and adjacent to Fourth Avenue is lower than the adjacent street pavement in places. This is causing street water runoff to cover the perimeter walk in places and in the long-term could jeopardize the stone wall structural integrity. Future work on Fourth Avenue should accommodate stabilization of this concrete sidewalk.

Appropriate Paving Materials

As stated earlier, the original street surfacing was gravel or crushed stone. However it is very common to find asphalt streets within historic cemeteries. Asphalt was commonly installed to provide a more stable and durable driving surface, to help minimize dust, and to reduce yearly maintenance costs

associated with dirt or gravel roads. That being said, there are ways to reduce the overall visual impact of the stark black asphalt paving.

A paving system known as a "modern Macadam" pavement could be considered. The system uses an asphalt base and tops the asphalt with a low temp, high tack oil upon which crushed stone (color of aggregate can vary) is placed and packed into the tacky oil. The result is a road that has the structural benefits of asphalt but appears to be a gravel or crushed stone surfacing thus reducing the visual impact on the historic Cemetery. In the Cemetery, this would have a dramatic effect and help restore the Cemetery's roads to a more historically appropriate appearance.

Macadam Paving

The name comes from John Loudon McAdam (1756-1836), a Scot who came to New York City late in the 18th century and returned to Scotland, where he became interested in the improvement of road conditions to assist with travel. Later, he moved to Cornwall where he was able to put his theories into practice in the early 19th century.

The Macadam paving system as McAdam invented it was a bed of large stones, onto which were laid small stones, held together by fine sand or slag (cinders). McAdam's original design called for a compacted subgrade of crushed granite or greenstone designed to support the load, covered by a surface of light stone to absorb wear and tear and shed water to the drainage ditches. In modern macadam construction, crushed stone or gravel is placed on the compacted base course and bound together with asphalt cement or hot tar. Sometimes recycled asphalt can be used as the base course and offers a very cost effective base course if there is a road resurfacing project in the area that could provide a source of recycled asphalt. A third layer to fill the interstices is then added and rolled. A surface course of decorative stone can be added to provide a more natural appearance.

Macadam highways were common in America earlier in this century, and they're still used for secondary roads by some municipalities. Because of the history of use in the United States, this type of surfacing would be very appropriate for use within the Cemetery.

Current Condition

In many areas, the asphalt road is at the end of its lifecycle and is deteriorating badly. Other areas where maintenance has been regular, the road appears to be fairly stable. The primary loop for vehicles is in stable condition, whereas, the less traveled pathways are the ones that are showing the most deterioration. At the west edge of the site, the road has been recently patched to repair the broken up asphalt due to being undermined by drainage from adjacent lot.

Recommendations

The following recommendations have been developed for the street and pathway network within the Cemetery.

1. Develop a new street/pathway network comprised of more historically appropriate paving materials.

2. Determine the exact location of graves on the west end of the Cemetery where the loop road exists. Ground penetrating radar technology could be used to determine the layout of the

gravesites in relation to the roadway. Realignment or removal of the road should be considered if the roadway covers existing gravesites.

3. Create a primary automobile loop comprised of "Macadam" surfacing topped with a natural colored crushed stone to resemble a graveled pathway, similar to that which would have been in place during the period of significance for this Cemetery.

4. The existing parking spaces at the administration building appear to be sufficient. The surface should be finished to the same macadam type of surface.

5. Remove asphalt paving from less-traveled pathways and replace with a stabilized crushed stone or decomposed granite material at a more narrow width

Cemetery Buildings

The primary building in the Cemetery is referred to as the Keeble Building and is the administrative and Cemetery headquarters. A plaque the Keeble Building breezeway reads as follows: Erected 1947; Thomas L. Cummings, Mayor; City Cemetery Commission; J. W. Denis, Chairman; Stanley F. Horn; Mrs. Alex G. Hunter; W. H. Lambeth; Mrs. J. E. W. Moore; Edwin A. Keeble, Architect

1859 Bell next to Keeble Building

Edwin Keeble was a prominent Nashville architect who also designed the 1955 Life of Casualty Insurance building, which at 31 stories was the tallest building in the south at the time. He also designed homes for Nashville's wealthy and the Vanderbilt University Memorial Gymnasium, which is still used today. A bell next to the Keeble Building, which was manufactured by Nayler & Vickers of Sheffield, England, (appears cast on the bell) and is mounted on a post. A weathered date of 1859 is also cast on the bell.

The building was used as an office for the Cemetery sexton until the mid-1970s when the position was eliminated. Records were housed in the building.

The other building in the Cemetery is a storage building. The storage building is assumed to be constructed in the late 1950s or early 1960s as a maintenance building. It originally housed equipment for the mowing and maintenance of the site. Today it only serves to house gravestones that need repair. Currently, the windows and a portion of the entrance door are boarded up.

This report scope does not include a detailed conditions evaluation of the Cemetery buildings. From on-site observations the buildings appear to be structurally sound, although in need of routine maintenance repairs. They should be annually inspected for leakage, window and door trim condition, wall cracks and normal maintenance evaluation to prevent long-term deterioration of the structures.

Water Service

There is currently water service to the office building and storage building located within the Cemetery. An outdoor hydrant is also located in this location. There are two historic outdoor hydrants that date to the first half of the 20th century. One is adjacent to the Keeble Building and is in working order, and the other is on Poplar Avenue and is not currently working.

If the office building is converted to another use such as public restrooms, the size of the service line should be evaluated to determine if it is adequate to serve the new use. At this time, the water supply seems to be sufficient for the current use and there are no recommendations regarding the water service within the Cemetery.

Electric Service/Lighting

Currently, electrical service is provided to the site in a couple of locations. The first access point is along Fourth Avenue South at the Cemetery street "Oak Avenue." This overhead power line feeds the small administration building with electrical and telephone service. The second location of electrical service comes in along the south side of the Cemetery and provides power to the small maintenance and storage building.

Placing overhead power lines underground would reduce their visual impact on the historic site. All underground power could follow the roads and walkways in order to avoid impact on grave sites. Camouflage of surface electrical features with appropriate landscape materials would be required if the lines are placed underground.

Recommendations

The following recommendations for electrical service have been developed.

1. During reconstruction of streets, place electrical service to administration building and storage building underground.

2. Replace lighting with style that is more appropriate to the period of significance of the Cemetery and include an electrical outlet at the base of each new pole. One approach would be to match a light and post style that appeared early in Nashville. The standards that were installed recently in downtown Nashville would also seem appropriate for the Cemetery.

3. When replacing light standards, provisions for electrical outlets should be included on the standards for use during periodic events that happen within the Cemetery.

4. The electrical outlet at the Driver plot should be maintained for special programs occurring at that location.

Drainage

Drainage on the site is generally adequate and generally flows from the north toward the south of the site. Historically, a brick-lined drainage ditch traveled across the Cemetery from west to east. A portion of this has since been replaced with a clay pipe which in several areas appears to be collapsing. This

presents somewhat of a safety hazard although there probably isn't much foot travel in this area of the Cemetery.

Surface and roof drainage from the adjacent site to the west causes significant long-term problems within the Cemetery. Roof drainage is currently directed directly onto the site from the adjacent building and causes soil erosion and gravesites damage. The drainage from the adjacent site has undermined the asphalt road causing damage and additional maintenance needs.

An abandoned clay storm / sanitary sewer has been identified along the South and west portions of the Cemetery. The general location of this line appears on the Existing Layout Plan in this report. An abandoned granite lined open ditch runs between the Cemetery and the railroad. Quite possibly this is the remains of an open drainage and sanitary ditch. The ditch bottom is silted in and overgrown with dense vegetation.

Recommendations

The following recommendations have been proposed for drainage issues in the Cemetery:

Restoration of granite lined ditch offers unique interpretive opportunity for the Cemetery.

1. Approach property Owner to west of Cemetery to bear or at a minimum, share the cost of installing a French drain system along the west property line to help alleviate the erosion other impacts associated with surface drainage from their site into the Cemetery.

2. Repair clay tile drainpipe that transects the Cemetery at the southwest corner of the site. There are a few locations where the clay pipe has collapsed and poses a possible public safety hazard. An alternative to repairing the clay pipe is to insert a new sleeve in the existing pipe.

3. Repair eroded areas of the site impacted by surface erosion along the western edge of the site by importing soil and reseeding the affected areas.

4. Remove silt and vegetation from the granite lined ditch. Include historic interpretation of this unique landscape feature.

Cemetery Interpretation, Signage and Furnishings

Currently there few comfortable amenities for Cemetery visitors other than a wood picnic table. The street signs are in various states of condition from very readable to completely rusted and illegible. The street sign posts are generally leaning and in need of stabilization. Numerous birdbaths (3 or 4) from circa are dispersed throughout the Cemetery. No authenticated dates are known for the birdbaths, but they likely were placed in circa 1950 or earlier.

The interpretive signs were apparently installed in the 1950's and describe various stories of significant people and places represented by the burials. There are two other types of story boards that seem to be linked with other citywide interpretive programs. A comprehensive interpretive plan for the Cemetery would help modern visitors derive a greater understanding of the unique historical figures buried in the Cemetery.

Recommendations

The following recommendations for signage and furnishings have been developed.

1. Restore the street signs, repair where necessary and replace with matching details. Reinstall each sign post with a concrete base for long-term durability.

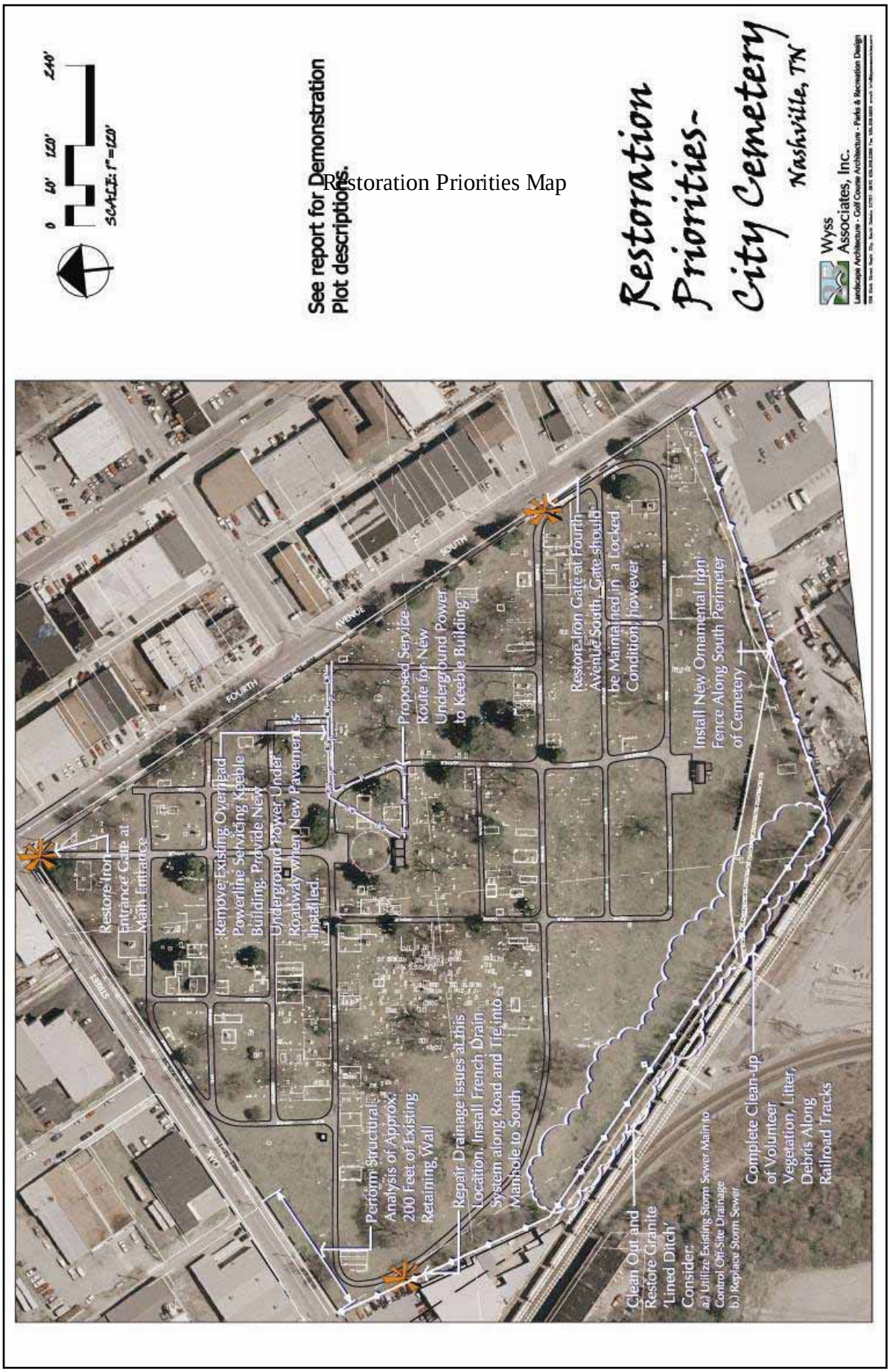
2. Install a series of historically appropriate and vandal resistant benches at appropriate locations within the Cemetery.

3. The attention to detail is particularly important on historic properties. The final design of such items as trash receptacles, dog excrement bag stations, benches, street signs, interpretive signs, light standards and other on-site features should have a coordinated historic theme.

4. Prepare a comprehensive interpretive plan for the Cemetery. The Interpretive Plan should include, but not be limited to significant events, notable persons buried in the Cemetery with their story, historically significant sections of the Cemetery and why, racial and religious diversity represented in the Cemetery, Jews, Catholic and Protestant denominations within the Cemetery, Fraternal Order of the Masons section, significant marker types such as box tombs and table stones. Additional research into interpretive opportunities within the Cemetery should be considered. The implementation of the interpretive plan may include restoration of the existing panels, a complete new design of historically appropriate interpretive displays or a combination of each.

The vicinity of the Keeble Building deserves special attention to interpretation


Proposed Pathways- City Cemetery
Nashville, TN
Wyss Associates, Inc.
Landscape Architecture - Golf Course Architecture - Parks & Recreation Design
Legend
New11' Wide Modern MacAdam Paving System
Note: Minor Adjustments to Paving Alignment may be Required on the West Loop to Avoid Currently Unmarked Gravesites.
New 8' Wide Stabilized Crushed Stone Paths
0 60' 120' 240'
SCALE: 1"=120'
Restore Original Pathway Locations
Replace Asphalt with Stabilized Decomposed Granite or Crushed Stone Path
New MacAdam Surfacing
Restore Original Pathway
Walk
FOURTH AVENUE SOUTH



Restoration Priorities Map

Comprehensive Needs Assessment

Comprehensive Needs Assessment

The following is an assessment of the conservation needs for each section of the Cemetery. The assessment is general in nature describing generally what work needs to be done within the section.

SECTION 1	
Reset Tablets	
Complex (monuments)	2
Marker Repairs	
Multiple fracture adhesive repair	1
Composite repair (replace missing material/build-up profile)	3
Injection repair	1
Repair base	1
Consolidation Treatments	
Small marker/tablet	6
Medium marker/tablet	9
Large tablet	2
Complex (monuments/structures)	3
Previous Repairs - failing or poor (remove and retreat when possible)	2
Monitor stability/previous repairs	1
Vegetation Management	
Remove tree & grind stump	1
Crown thinning	1
Crown raising	2
Monitor tree growth for future impact	2

SECTION 2	
Reset Tablets	
Small tablet	2
Medium tablet	1
Complex (monuments)	2
Marker Repairs	
Multiple fracture adhesive repair	1
Composite repair (replace missing material/build-up profile)	2
Injection repair	5
Consolidation Treatments	
Small marker/Tablet	9
Medium marker/tablet	4
Large marker/tablet	2
Complex (monuments/structures)	2
Previous Repairs - failing or poor (remove and retreat when possible)	6
Public Safety	
Emergency stabilization (retaining wall)	2
Monitor stability/previous repairs	1
Fill in existing hole where tree was removed	1
Coping Repair	
Stone coping - repair (LF)	135

Vegetation Management	
Remove tree & grind stump	1
Crown thinning	1
Crown raising	2

SECTION 3

Reset Tablets	
Small tablet	1
Medium tablet	3
Complex (monuments)	1
Marker Repairs	
Composite repair (replace missing material/build-up profile)	1
Consolidation Treatments	
Complex (monuments/structures)	3
Previous Repairs - failing or poor (remove and retreat when possible)	1
Vegetation Management	
Crown thinning	2
Crown raising	1
Coping Repair	
Stone coping - replace missing (LF)	24
Reset stone coping	24

SECTION 4

Reset Tablets	
Small tablet	1
Complex (monuments)	2
Reconstruction Activities	
Table tomb	1
Marker Repairs	
Simple adhesive repair	2
Multiple fracture adhesive repair	
Composite repair (replace missing material/build-up profile)	2
Injection repair	2
Consolidation Treatments	
Medium monument/tablet	1
Large monument/tablet	2
Complex (monuments/structures)	3
Public Safety (emergency stabilization)	
Emergency stabilization	2
Monitor stability/previous repairs	4
Vegetation Management	
Crown raising	2
Coping/Retaining Wall Repair	
Stone coping (LF)	180
Retaining wall repair (SFF)	80
Ironwork stabilization	1

Mausoleum Repairs/Preservation	
Composite repairs on columns	1
Consolidate wall panels	1
SECTION 5	
Reset Tablets	
Small tablet	2
Medium tablet	1
Complex (monuments)	2
Reconstruction Activities	
Stone box tomb (false crypt)	2
Marker Repairs	
Simple adhesive repair	2
Multiple fracture adhesive repair	1
Composite repair (replace missing material/build-up profile)	3
Injection repair	2
Repair base	1
Consolidation Treatments	
Small marker/tablet	14
Complex (monuments/structures)	7
Previous Repairs - failing or poor (remove and retreat when possible)	6
Public Safety (emergency stabilization)	
Emergency stabilization	2
Monitor stability/previous repairs	1
Vegetation Management	
Remove tree & grind stump	1
Crown thinning	1
Crown raising	2
SECTION 6	
Reset Tablets	
Small tablet	1
Marker Repairs	
Simple adhesive repair	1
Consolidation Treatments	
Medium marker/tablet	1
Complex (monuments/structures)	2
Previous Repairs - failing or poor (remove and retreat when possible)	1
Vegetation Management	
Crown thinning	1
Crown raising	2
SECTION 7	
Reset Tablets	
Small tablet	1
Medium tablet	1
Reconstruction Activities	
Stone box tomb (false crypt)	2

Marker Repairs	
Simple adhesive repair	2
Composite repair (replace missing material/build-up profile)	4
Injection repair	4
Consolidation Treatments	
Small marker/tablet	9
Medium marker/tablet	2
Complex (monuments/structures)	7
Previous Repairs - failing or poor (remove and retreat when possible)	1
Vegetation Management	
Crown raising	3

SECTION 8

Reset Tablets	
Small tablet	9
Medium tablet	6
Complex (monuments)	10
Reconstruction Activities	
Stone box tomb (false crypt)	1
Table tomb	1
Marker Repairs	
Simple adhesive repair	7
Composite repair (replace missing material/build-up profile)	4
Injection repair	10
Repair base	2
Consolidation Treatments	
Small marker/tablet	41
Medium marker/tablet	35
Large tablet	2
Complex (monuments/structures)	18
Vegetation Management	
Crown raising	1
Special Project	
Currin Ground Vault - rebuild stairway	1

SECTION 9

Reset Tablets	
Small tablet	1
Complex (monuments)	5
Reconstruction Activities	
Brick box tomb (false crypt)	2
Marker Repairs	
Simple adhesive repair	5
Multiple fracture adhesive repair	1
Composite repair (replace missing material/build-up profile)	2
Injection repair	2

Consolidation Treatments	
Small marker/tablet	23
Medium marker/tablet	15
Complex (monuments/structures)	4
Public Safety (emergency stabilization)	
Emergency stabilization	1
Vegetation Management	
Crown thinning	1
Crown raising	1

SECTION 10

Reset Tablets	
Small tablet	7
Medium tablet	3
Marker Repairs	
Composite repair (replace missing material/build-up profile)	3
Injection repair	2
Repair base	1
Consolidation Treatments	
Small marker/tablet	24
Medium marker/tablet	15
Vegetation Management	
Crown thinning	1
Crown raising	4
Coping Repair	
Stone coping - uncover/reset (LF)	18
Concrete coping (LF)	30

SECTION 11

Reset Tablets	
Small tablet	10
Medium tablet	11
Large tablet	3
Complex (monuments)	8
Reconstruction Activities	
Brick box tomb (false crypt)	2
Stone box tomb (false crypt)	5
Marker Repairs	
Simple adhesive repair	12
Multiple fracture adhesive repair	5
Composite repair (replace missing material/build-up profile)	23
Injection repair	32
Consolidation Treatments	
Small marker/tablet	40
Medium marker/tablet	55
Large tablet	14
Complex (monuments/structures)	49

Previous Repairs - failing or poor (remove and retreat when possible)	7
Public Safety (emergency stabilization)	
Emergency stabilization	2
Monitor stability/previous repairs	1
Vegetation Management	
Crown raising	1
Coping Repair	
Stone coping - uncover/reset (LF)	100
Stone coping (LF)	62

SECTION 12

Reset Tablets	
Small tablet	7
Medium tablet	1
Marker Repairs	
Simple adhesive repair	3
Multiple fracture adhesive repair	1
Composite repair (replace missing material/build-up profile)	2
Injection repair	3
Consolidation Treatments	
Small marker/tablet	7
Medium marker/tablet	3
Large tablet	1
Complex (monuments/structures)	2
Previous Repairs - failing or poor (remove and retreat when possible)	1

SECTION 13

Reset Tablets	
Small tablet	3
Marker Repairs	
Simple adhesive repair	5
Multiple fracture adhesive repair	2
Composite repair (replace missing material/build-up profile)	6
Injection repair	4
Consolidation Treatments	
Small marker/tablet	15
Medium marker/tablet	16
Previous Repairs - failing or poor (remove and retreat when possible)	1

SECTION 14

Reset Tablets	
Small tablet	1
Medium tablet	1

Marker Repairs	
Multiple fracture adhesive repair	1
Composite repair (replace missing material/build-up profile)	3
Injection repair	7
Repair base	2
Consolidation Treatments	
Small marker/tablet	19
Medium marker/tablet	12
Complex (monuments/structures)	4

SECTION 15

Reset Tablets	
Small tablet	15
Medium tablet	7
Complex (monuments)	2
Reconstruction Activities	
Brick base for ground tablet	1
Marker Repairs	
Simple adhesive repair	9
Multiple fracture adhesive repair	1
Composite repair (replace missing material/build-up profile)	11
Injection repair	9
Repair base	2
Consolidation Treatments	
Small marker/tablet	75
Medium marker/tablet	47
Large tablet	6
Complex (monuments/structures)	6
Previous Repairs - failing or poor (remove and retreat when possible)	3
Coping Repair	
Stone coping - uncover/reset (LF)	40

SECTION 16

Reset Tablets	
Small tablet	20
Medium tablet	6
Large tablet	1
Complex (monuments)	4
Marker Repairs	
Simple adhesive repair	10
Multiple fracture adhesive repair	3
Composite repair (replace missing material/build-up profile)	9
Injection repair	21

Consolidation Treatments	
Small marker/tablet	55
Medium marker/tablet	49
Large tablet	5
Complex (monuments/structures)	10
Previous Repairs - failing or poor (remove and retreat when possible)	1
Public Safety (emergency stabilization)	
Emergency stabilization	1
Coping Repair	
Stone coping (LF)	30
Reset stone paving (SF)	100
Ironwork	
Stabilize ironwork	2

SECTION 17

Reset Tablets	
Small tablet	5
Medium tablet	3
Complex (monuments)	3
Marker Repairs	
Simple adhesive repair	1
Composite repair (replace missing material/build-up profile)	1
Injection repair	4
Consolidation Treatments	
Small marker/tablet	16
Medium marker/tablet	10
Large tablet	2
Complex (monuments/structures)	9
Previous Repairs - failing or poor (remove and retreat when possible)	1
Ironwork	
Stabilize ironwork	1

SECTION 18

Reset Tablets	
Small tablet	2
Medium tablet	3
Complex (monuments)	3
Reconstruction Activities	
Stone box tomb (false crypt)	1
Marker Repairs	
Simple adhesive repair	4
Multiple fracture adhesive repair	2
Composite repair (replace missing material/build-up profile)	9
Injection repair	8
Repair base	1

Consolidation Treatments	
Small marker/tablet	23
Medium marker/tablet	21
Large tablet	4
Complex (monuments/structures)	11
Previous Repairs - failing or poor (remove and retreat when possible)	1

SECTION 19

Reset Tablets	
Small tablet	11
Medium tablet	9
Large tablet	6
Complex (monuments)	3
Reconstruction Activities	
Brick base for ground tablet	1
Brick box tomb (false crypt)	2
Stone box tomb (false crypt)	10
Table tomb	1
Marker Repairs	
Multiple fracture adhesive repair	3
Composite repair (replace missing material/build-up profile)	29
Injection repair	21
Repair base	1
Consolidation Treatments	
Small marker/tablet	47
Medium marker/tablet	46
Large tablet	8
Complex (monuments/structures)	31
Previous Repairs - failing or poor (remove and retreat when possible)	
Coping Repair	
Stone coping (LF)	80
Ironwork	
Stabilize ironwork	1

SECTION 20

Reset Tablets	
Small tablet	22
Medium tablet	8
Large tablet	1
Complex (monuments)	3
Reconstruction Activities	
Stone box tomb (false crypt)	1

Marker Repairs	
Simple adhesive repair	6
Multiple fracture adhesive repair	4
Composite repair (replace missing material/build-up profile)	6
Injection repair	15
Repair base	
Construct new base	1
Consolidation Treatments	
Small marker/tablet	60
Medium marker/tablet	24
Large tablet	13
Complex (monuments/structures)	11
Previous Repairs - failing or poor (remove and retreat when possible)	1
Vegetation Management	
Remove tree & grind stump	1

SECTION 21

Reset Tablets	
Medium tablet	1
Marker Repairs	
Multiple fracture adhesive repair	1
Composite repair (replace missing material/build-up profile)	1
Injection repair	2
Repair base	1
Consolidation Treatments	
Small marker/tablet	1
Medium marker/tablet	1
Complex (monuments/structures)	1
Previous Repairs - failing or poor (remove and retreat when possible)	1
Special Project - Smith Mausoleum	
New roof	1
Tuck pointing	1
Rebuild missing brick elements	1

SECTION 23

Reset Tablets	
Small tablet	18
Medium tablet	10
Large tablet	2
Complex (monuments)	2

Marker Repairs	
Simple adhesive repair	1
Multiple fracture adhesive repair	3
Composite repair (replace missing material/build-up profile)	4
Injection repair	6
Repair base	1
Consolidation Treatments	
Small marker/tablet	30
Medium marker/tablet	20
Complex (monuments/structures)	2

SECTION 25

Reset Tablets	
Small tablet	9
Medium tablet	6
Large tablet	4
Complex (monuments)	1
Reconstruction Activities	
Stone box tomb (false crypt)	2
Marker Repairs	
Simple adhesive repair	3
Multiple fracture adhesive repair	7
Composite repair (replace missing material/build-up profile)	10
Injection repair	14
Repair base	2
Construct new base	1
Consolidation Treatments	
Small marker/tablet	39
Medium marker/tablet	29
Large tablet	18
Complex (monuments/structures)	19
Previous Repairs - failing or poor (remove and retreat when possible)	3
Ironwork	
Repair/stabilize ironwork at Dallas Plot	1
Repair iron bars	1

SECTION 26

Reset Tablets	
Small tablet	8
Medium tablet	1
Complex (monuments)	1

Marker Repairs	
Multiple fracture adhesive repair	1
Composite repair (replace missing material/build-up profile)	2
Injection repair	7
Repair base	1
Construct new base	1
Consolidation Treatments	
Small marker/tablet	24
Medium marker/tablet	8
Large tablet	4
Complex (monuments/structures)	1
Previous Repairs - failing or poor (remove and retreat when possible)	1
Public Safety (emergency stabilization)	
Monitor stability/previous repairs	1

SECTION 27

Reset Tablets	
Small tablet	10
Medium tablet	9
Large tablet	1
Complex (monuments)	4
Marker Repairs	
Multiple fracture adhesive repair	4
Composite repair (replace missing material/build-up profile)	5
Consolidation Treatments	
Small marker/tablet	25
Medium marker/tablet	15
Large tablet	6
Complex (monuments/structures)	4
Previous Repairs - failing or poor (remove and retreat when possible)	1

SECTION 28

Reset Tablets	
Small tablet	85
Medium tablet	82
Large tablet	37
Complex (monuments)	18
Reconstruction Activities	
Brick box tomb (false crypt)	20
Stone box tomb (false crypt)	21
Table tomb	2

Marker Repairs	
Simple adhesive repair	35
Multiple fracture adhesive repair	15
Composite repair (replace missing material/build-up profile)	352
Injection repair	150
Repair base	24
Construct new base	10
Consolidation Treatments	
Small marker/tablet	190
Medium marker/tablet	155
Large tablet	131
Complex (monuments/structures)	20
Previous Repairs - failing or poor (remove and retreat when possible)	34
Public Safety (emergency stabilization)	
Emergency stabilization	29
Monitor stability/previous repairs	12
Vegetation Management	
Remove tree & grind stump	5
Crown thinning	3
Crown raising	3
Coping Repair	
Stone coping - uncover/reset (LF)	150
Stone coping (LF)	100
Concrete coping (LF)	60

SECTION 29

Reset Tablets	
Small tablet	23
Medium tablet	10
Large tablet	1
Complex (monuments)	1
Marker Repairs	
Simple adhesive repair	7
Multiple fracture adhesive repair	5
Composite repair (replace missing material/build-up profile)	11
Injection repair	10
Repair base	4
Construct new base	4
Consolidation Treatments	
Small marker/tablet	58
Medium marker/tablet	23
Large tablet	24
Complex (monuments/structures)	3
Previous Repairs - failing or poor (remove and retreat when possible)	1

Public Safety (emergency stabilization)	
Monitor stability/previous repairs	1

SECTION 30	
Reset Tablets	
Small tablet	10
Medium tablet	5
Large tablet	1
Complex (monuments)	
Reconstruction Activities	
Brick Base	1
Marker Repairs	
Simple adhesive repair	4
Multiple fracture adhesive repair	
Composite repair (replace missing material/build-up profile)	2
Consolidation Treatments	
Small marker/tablet	11
Medium marker/tablet	10
Large tablet	2
Complex (monuments/structures)	3
Previous Repairs - failing or poor (remove and retreat when possible)	3
Public Safety (emergency stabilization)	
Monitor stability/previous repairs	2
Vegetation Management	
Crown raising	1

SECTION 31	
Reset Tablets	
Small tablet	2
Marker Repairs	
Injection repair	1
Consolidation Treatments	
Small marker/tablet	3
Medium marker/tablet	2

SECTION 32	
Reset Tablets	
Small tablet	3
Complex (monuments)	1
Marker Repairs	
Multiple fracture adhesive repair	2
Repair base	1
Consolidation Treatments	
Small marker/tablet	4
Complex (monuments/structures)	1

MARKERS / ARTIFACTS IN STORAGE	
Reset Tablets	
Reset fallen tablets & monuments	40
Marker Repairs	
Simple fracture repairs	20
Multiple fracture adhesive repair	38
Complex repairs	52

Treatment Costs

Treatment Costs

Section by Section Analysis

Description of Work	Quantity	Approx. Cost/Item	Extended Cost
SECTION 1			
Reset Tablets			
Complex (monuments)	2	$750.00	$1,500.00
Marker Repairs			
Multiple fracture adhesive repair	1	$1,000.00	$1,000.00
Composite repair (replace missing material/build-up profile)	3	$500.00	$1,500.00
Injection repair	1	$400.00	$400.00
Repair base	1	$300.00	$300.00
Consolidation Treatments			
Small marker/tablet	6	$200.00	$1,200.00
Medium marker/tablet	9	$300.00	$2,700.00
Large tablet	2	$450.00	$900.00
Complex (monuments/structures)	3	$600.00	$1,800.00
Previous Repairs - failing or poor (remove and retreat when possible)	2	$1,500.00	$3,000.00
Monitor stability/previous repairs	1	$150.00	$150.00
Vegetation Management			
Remove tree & grind stump	1	$1,250.00	$1,250.00
Crown thinning	1	$500.00	$500.00
Crown raising	2	$500.00	$1,000.00
Monitor tree growth for future impact	2	$100.00	$200.00
		Subtotal Section 1	**$17,400.00**
Project contingency (20%)			$3,480.00
		Total	**$20,880.00**
SECTION 2			
Reset Tablets			
Small tablet	2	$200.00	$400.00
Medium tablet	1	$350.00	$350.00
Complex (monuments)	2	$750.00	$1,500.00
Marker Repairs			
Multiple fracture adhesive repair	1	$1,000.00	$1,000.00
Composite repair (replace missing material/build-up profile)	2	$500.00	$1,000.00
Injection repair	5	$400.00	$2,000.00
Consolidation Treatments			
Small marker/Tablet	9	$200.00	$1,800.00
Medium marker/tablet	4	$300.00	$1,200.00
Large marker/tablet	2	$450.00	$900.00
Complex (monuments/structures)	2	$600.00	$1,200.00

Previous Repairs - failing or poor (remove and retreat when possible)	6	$1,500.00	$9,000.00
Public Safety			
Emergency stabilization (retaining wall)	2	$2,800.00	$5,600.00
Monitor stability/previous repairs	1	$150.00	$150.00
Fill in existing hole where tree was removed	1	$200.00	$200.00
Coping Repair			
Stone coping - repair (LF)	135	$40.00	$5,400.00
Vegetation Management			
Remove tree & grind stump	1	$1,250.00	$1,250.00
Crown thinning	1	$500.00	$500.00
Crown raising	2	$500.00	$1,000.00
		Subtotal Section 2	**$34,450.00**
Project contingency (20%)			$6,890.00
		Total	**$41,340.00**

SECTION 3			
Reset Tablets			
Small tablet	1	$200.00	$200.00
Medium tablet	3	$350.00	$1,050.00
Complex (monuments)	1	$750.00	$750.00
Marker Repairs			
Composite repair (replace missing material/build-up profile)	1	$500.00	$500.00
Consolidation Treatments			
Complex (monuments/structures)	3	$600.00	$1,800.00
Previous Repairs - failing or poor (remove and retreat when possible)	1	$1,500.00	$1,500.00
Vegetation Management			
Crown thinning	2	$500.00	$1,000.00
Crown raising	1	$500.00	$500.00
Coping Repair			
Stone coping - replace missing (LF)	24	$125.00	$3,000.00
Reset stone coping	24	$40.00	$960.00
		Subtotal Section 3	**$11,260.00**
Project contingency (20%)			$2,252.00
		Total	**$13,512.00**

SECTION 4			
Reset Tablets			
Small tablet	1	$200.00	$200.00
Complex (monuments)	2	$750.00	$1,500.00
Reconstruction Activities			
Table tomb	1	$2,750.00	$2,750.00
Marker Repairs			
Simple adhesive repair	2	$400.00	$800.00
Multiple fracture adhesive repair		$1,000.00	$0.00

Composite repair (replace missing material/build-up profile)	2	$500.00	$1,000.00
Injection repair	2	$400.00	$800.00
Consolidation Treatments			
Medium monument/tablet	1	$300.00	$300.00
Large monument/tablet	2	$450.00	$900.00
Complex (monuments/structures)	3	$600.00	$1,800.00
Public Safety (emergency stabilization)			
Emergency stabilization	2	$300.00	$600.00
Monitor stability/previous repairs	4	$150.00	$600.00
Vegetation Management			
Crown raising	2	$500.00	$1,000.00
Coping/Retaining Wall Repair			
Stone coping (LF)	180	$45.00	$8,100.00
Retaining wall repair (SFF)	80	$65.00	$5,200.00
Ironwork stabilization	1	$3,500.00	$3,500.00
Mausoleum Repairs/Preservation			
Composite repairs on columns	1	$4,500.00	$4,500.00
Consolidate wall panels	1	$2,500.00	$2,500.00
		Subtotal Section 4	**$36,050.00**
Project contingency (20%)			$7,210.00
		Total	**$43,260.00**

SECTION 5			
Reset Tablets			
Small tablet	2	$200.00	$400.00
Medium tablet	1	$350.00	$350.00
Complex (monuments)	2	$750.00	$1,500.00
Reconstruction Activities			
Stone box tomb (false crypt)	2	$2,500.00	$5,000.00
Marker Repairs			
Simple adhesive repair	2	$400.00	$800.00
Multiple fracture adhesive repair	1	$1,000.00	$1,000.00
Composite repair (replace missing material/build-up profile)	3	$500.00	$1,500.00
Injection repair	2	$400.00	$800.00
Repair base	1	$300.00	$300.00
Consolidation Treatments			
Small marker/tablet	14	$200.00	$2,800.00
Complex (monuments/structures)	7	$600.00	$4,200.00
Previous Repairs - failing or poor (remove and retreat when possible)	6	$1,500.00	$9,000.00
Public Safety (emergency stabilization)			
Emergency stabilization	2	$300.00	$600.00
Monitor stability/previous repairs	1	$150.00	$150.00
Vegetation Management			
Remove tree & grind stump	1	$1,250.00	$1,250.00
Crown thinning	1	$500.00	$500.00
Crown raising	2	$500.00	$1,000.00
		Subtotal Section 5	**$31,150.00**

Project contingency (20%)			$6,230.00
		Total	**$37,380.00**
SECTION 6			
Reset Tablets			
Small tablet	1	$200.00	$200.00
Marker Repairs			
Simple adhesive repair	1	$400.00	$400.00
Consolidation Treatments			
Medium marker/tablet	1	$300.00	$300.00
Complex (monuments/structures)	2	$600.00	$1,200.00
Previous Repairs - failing or poor (remove and retreat when possible)	1	$1,500.00	$1,500.00
Vegetation Management			
Crown thinning	1	$500.00	$500.00
Crown raising	2	$500.00	$1,000.00
		Subtotal Section 6	**$5,100.00**
Project contingency (20%)			$1,020.00
		Total	**$6,120.00**
SECTION 7			
Reset Tablets			
Small tablet	1	$200.00	$200.00
Medium tablet	1	$350.00	$350.00
Reconstruction Activities			
Stone box tomb (false crypt)	2	$2,500.00	$5,000.00
Marker Repairs			
Simple adhesive repair	2	$400.00	$800.00
Composite repair (replace missing material/build-up profile)	4	$500.00	$2,000.00
Injection repair	4	$400.00	$1,600.00
Consolidation Treatments			
Small marker/tablet	9	$200.00	$1,800.00
Medium marker/tablet	2	$300.00	$600.00
Complex (monuments/structures)	7	$600.00	$4,200.00
Previous Repairs - failing or poor (remove and retreat when possible)	1	$1,500.00	$1,500.00
Vegetation Management			
Crown raising	3	$500.00	$1,500.00
		Subtotal Section 7	**$19,550.00**
Project contingency (20%)			$3,910.00
		Total	**$23,460.00**
SECTION 8			
Reset Tablets			
Small tablet	9	$200.00	$1,800.00
Medium tablet	6	$350.00	$2,100.00
Complex (monuments)	10	$750.00	$7,500.00
Reconstruction Activities			
Stone box tomb (false crypt)	1	$2,500.00	$2,500.00

Table tomb	1	$2,750.00	$2,750.00
Marker Repairs			
Simple adhesive repair	7	$400.00	$2,800.00
Composite repair (replace missing material/build-up profile)	4	$500.00	$2,000.00
Injection repair	10	$400.00	$4,000.00
Repair base	2	$300.00	$600.00
Consolidation Treatments			
Small marker/tablet	41	$200.00	$8,200.00
Medium marker/tablet	35	$300.00	$10,500.00
Large tablet	2	$450.00	$900.00
Complex (monuments/structures)	18	$600.00	$10,800.00
Vegetation Management			
Crown raising	1	$500.00	$500.00
Special Project			
Currin Ground Vault - rebuild stairway	1	$4,500.00	$4,500.00
		Subtotal Section 8	**$61,450.00**
Project contingency (20%)			$12,290.00
		Total	**$73,740.00**

SECTION 9			
Reset Tablets			
Small tablet	1	$200.00	$200.00
Complex (monuments)	5	$750.00	$3,750.00
Reconstruction Activities			
Brick box tomb (false crypt)	2	$1,750.00	$3,500.00
Marker Repairs			
Simple adhesive repair	5	$400.00	$2,000.00
Multiple fracture adhesive repair	1	$1,000.00	$1,000.00
Composite repair (replace missing material/build-up profile)	2	$500.00	$1,000.00
Injection repair	2	$400.00	$800.00
Consolidation Treatments			
Small marker/tablet	23	$200.00	$4,600.00
Medium marker/tablet	15	$300.00	$4,500.00
Complex (monuments/structures)	4	$600.00	$2,400.00
Public Safety (emergency stabilization)			
Emergency stabilization	1	$300.00	$300.00
Vegetation Management			
Crown thinning	1	$500.00	$500.00
Crown raising	1	$500.00	$500.00
		Subtotal Section 9	**$25,050.00**
Project contingency (20%)			$5,010.00
		Total	**$30,060.00**

SECTION 10			
Reset Tablets			
Small tablet	7	$200.00	$1,400.00
Medium tablet	3	$350.00	$1,050.00
Marker Repairs			
Composite repair (replace missing material/build-up profile)	3	$500.00	$1,500.00
Injection repair	2	$400.00	$800.00
Repair base	1	$300.00	$300.00
Consolidation Treatments			
Small marker/tablet	24	$200.00	$4,800.00
Medium marker/tablet	15	$300.00	$4,500.00
Vegetation Management			
Crown thinning	1	$500.00	$500.00
Crown raising	4	$500.00	$2,000.00
Coping Repair			
Stone coping - uncover/reset (LF)	18	$40.00	$720.00
Concrete coping (LF)	30	$60.00	$1,800.00
		Subtotal Section 10	**$19,370.00**
Project contingency (20%)			$3,874.00
		Total	**$23,244.00**

SECTION 11			
Reset Tablets			
Small tablet	10	$200.00	$2,000.00
Medium tablet	11	$350.00	$3,850.00
Large tablet	3	$450.00	$1,350.00
Complex (monuments)	8	$750.00	$6,000.00
Reconstruction Activities			
Brick box tomb (false crypt)	2	$1,750.00	$3,500.00
Stone box tomb (false crypt)	5	$2,500.00	$12,500.00
Marker Repairs			
Simple adhesive repair	12	$400.00	$4,800.00
Multiple fracture adhesive repair	5	$1,000.00	$5,000.00
Composite repair (replace missing material/build-up profile)	23	$500.00	$11,500.00
Injection repair	32	$400.00	$12,800.00
Consolidation Treatments			
Small marker/tablet	40	$200.00	$8,000.00
Medium marker/tablet	55	$300.00	$16,500.00
Large tablet	14	$450.00	$6,300.00
Complex (monuments/structures)	49	$600.00	$29,400.00
Previous Repairs - failing or poor (remove and retreat when possible)	7	$1,500.00	$10,500.00
Public Safety (emergency stabilization)			
Emergency stabilization	2	$300.00	$600.00
Monitor stability/previous repairs	1	$150.00	$150.00
Vegetation Management			
Crown raising	1	$500.00	$500.00

Coping Repair			
Stone coping - uncover/reset (LF)	100	$40.00	$4,000.00
Stone coping (LF)	62	$125.00	$7,750.00
		Subtotal Section 11	**$147,000.00**
Project contingency (20%)			$29,400.00
		Total	**$176,400.00**

SECTION 12			
Reset Tablets			
Small tablet	7	$200.00	$1,400.00
Medium tablet	1	$350.00	$350.00
Marker Repairs			
Simple adhesive repair	3	$400.00	$1,200.00
Multiple fracture adhesive repair	1	$1,000.00	$1,000.00
Composite repair (replace missing material/build-up profile)	2	$500.00	$1,000.00
Injection repair	3	$400.00	$1,200.00
Consolidation Treatments			
Small marker/tablet	7	$200.00	$1,400.00
Medium marker/tablet	3	$300.00	$900.00
Large tablet	1	$450.00	$450.00
Complex (monuments/structures)	2	$600.00	$1,200.00
Previous Repairs - failing or poor (remove and retreat when possible)	1	$1,500.00	$1,500.00
		Subtotal Section 12	**$11,600.00**
Project contingency (20%)			$2,320.00
		Total	**$13,920.00**

SECTION 13			
Reset Tablets			
Small tablet	3	$200.00	$600.00
Marker Repairs			
Simple adhesive repair	5	$400.00	$2,000.00
Multiple fracture adhesive repair	2	$1,000.00	$2,000.00
Composite repair (replace missing material/build-up profile)	6	$500.00	$3,000.00
Injection repair	4	$400.00	$1,600.00
Consolidation Treatments			
Small marker/tablet	15	$200.00	$3,000.00
Medium marker/tablet	16	$300.00	$4,800.00
Previous Repairs - failing or poor (remove and retreat when possible)	1	$1,500.00	$1,500.00
		Subtotal Section 13	**$18,500.00**
Project contingency (20%)			$3,700.00
		Total	**$22,200.00**

SECTION 14			
Reset Tablets			
Small tablet	1	$200.00	$200.00
Medium tablet	1	$350.00	$350.00
Marker Repairs			
Multiple fracture adhesive repair	1	$1,000.00	$1,000.00
Composite repair (replace missing material/build-up profile)	3	$500.00	$1,500.00
Injection repair	7	$400.00	$2,800.00
Repair base	2	$300.00	$600.00
Consolidation Treatments			
Small marker/tablet	19	$200.00	$3,800.00
Medium marker/tablet	12	$300.00	$3,600.00
Complex (monuments/structures)	4	$600.00	$2,400.00
		Subtotal Section 14	**$16,250.00**
Project contingency (20%)			$3,250.00
		Total	**$19,500.00**

SECTION 15			
Reset Tablets			
Small tablet	15	$200.00	$3,000.00
Medium tablet	7	$350.00	$2,450.00
Complex (monuments)	2	$750.00	$1,500.00
Reconstruction Activities			
Brick base for ground tablet	1	$500.00	$500.00
Marker Repairs			
Simple adhesive repair	9	$400.00	$3,600.00
Multiple fracture adhesive repair	1	$1,000.00	$1,000.00
Composite repair (replace missing material/build-up profile)	11	$500.00	$5,500.00
Injection repair	9	$400.00	$3,600.00
Repair base	2	$300.00	$600.00
Consolidation Treatments			
Small marker/tablet	75	$200.00	$15,000.00
Medium marker/tablet	47	$300.00	$14,100.00
Large tablet	6	$450.00	$2,700.00
Complex (monuments/structures)	6	$600.00	$3,600.00
Previous Repairs - failing or poor (remove and retreat when possible)	3	$1,500.00	$4,500.00
Coping Repair			
Stone coping - uncover/reset (LF)	40	$40.00	$1,600.00
		Subtotal Section 15	**$63,250.00**
Project contingency (20%)			$12,650.00
		Total	**$75,900.00**

SECTION 16			
Reset Tablets			
Small tablet	20	$200.00	$4,000.00
Medium tablet	6	$350.00	$2,100.00
Large tablet	1	$450.00	$450.00
Complex (monuments)	4	$750.00	$3,000.00
Marker Repairs			
Simple adhesive repair	10	$400.00	$4,000.00
Multiple fracture adhesive repair	3	$1,000.00	$3,000.00
Composite repair (replace missing material/build-up profile)	9	$500.00	$4,500.00
Injection repair	21	$400.00	$8,400.00
Consolidation Treatments			
Small marker/tablet	55	$200.00	$11,000.00
Medium marker/tablet	49	$300.00	$14,700.00
Large tablet	5	$450.00	$2,250.00
Complex (monuments/structures)	10	$600.00	$6,000.00
Previous Repairs - failing or poor (remove and retreat when possible)	1	$1,500.00	$1,500.00
Public Safety (emergency stabilization)			
Emergency stabilization	1	$300.00	$300.00
Coping Repair			
Stone coping (LF)	30	$125.00	$3,750.00
Reset stone paving (SF)	100	$15.00	$1,500.00
Ironwork			
Stabilize ironwork	2	$2,500.00	$5,000.00
		Subtotal Section 16	**$75,450.00**
Project contingency (20%)			$15,090.00
		Total	**$90,540.00**

SECTION 17			
Reset Tablets			
Small tablet	5	$200.00	$1,000.00
Medium tablet	3	$350.00	$1,050.00
Complex (monuments)	3	$750.00	$2,250.00
Marker Repairs			
Simple adhesive repair	1	$400.00	$400.00
Composite repair (replace missing material/build-up profile)	1	$500.00	$500.00
Injection repair	4	$400.00	$1,600.00
Consolidation Treatments			
Small marker/tablet	16	$200.00	$3,200.00
Medium marker/tablet	10	$300.00	$3,000.00
Large tablet	2	$450.00	$900.00
Complex (monuments/structures)	9	$600.00	$5,400.00
Previous Repairs - failing or poor (remove and retreat when possible)	1	$1,500.00	$1,500.00

Ironwork			
Stabilize ironwork	1	$700.00	$700.00
		Subtotal Section 17	**$21,500.00**
Project contingency (20%)			$4,300.00
		Total	**$25,800.00**
SECTION 18			
Reset Tablets			
Small tablet	2	$200.00	$400.00
Medium tablet	3	$350.00	$1,050.00
Complex (monuments)	3	$750.00	$2,250.00
Reconstruction Activities			
Stone box tomb (false crypt)	1	$2,500.00	$2,500.00
Marker Repairs			
Simple adhesive repair	4	$400.00	$1,600.00
Multiple fracture adhesive repair	2	$1,000.00	$2,000.00
Composite repair (replace missing material/build-up profile)	9	$500.00	$4,500.00
Injection repair	8	$400.00	$3,200.00
Repair base	1	$300.00	$300.00
Consolidation Treatments			
Small marker/tablet	23	$200.00	$4,600.00
Medium marker/tablet	21	$300.00	$6,300.00
Large tablet	4	$450.00	$1,800.00
Complex (monuments/structures)	11	$600.00	$6,600.00
Previous Repairs - failing or poor (remove and retreat when possible)	1	$1,500.00	$1,500.00
		Subtotal Section 18	**$38,600.00**
Project contingency (20%)			$7,720.00
		Total	**$46,320.00**
SECTION 19			
Reset Tablets			
Small tablet	11	$200.00	$2,200.00
Medium tablet	9	$350.00	$3,150.00
Large tablet	6	$450.00	$2,700.00
Complex (monuments)	3	$750.00	$2,250.00
Reconstruction Activities			
Brick base for ground tablet	1	$500.00	$500.00
Brick box tomb (false crypt)	2	$1,750.00	$3,500.00
Stone box tomb (false crypt)	10	$2,500.00	$25,000.00
Table tomb	1	$2,750.00	$2,750.00
Marker Repairs			
Multiple fracture adhesive repair	3	$1,000.00	$3,000.00
Composite repair (replace missing material/build-up profile)	29	$500.00	$14,500.00
Injection repair	21	$400.00	$8,400.00
Repair base	1	$300.00	$300.00

Consolidation Treatments			
Small marker/tablet	47	$200.00	$9,400.00
Medium marker/tablet	46	$300.00	$13,800.00
Large tablet	8	$450.00	$3,600.00
Complex (monuments/structures)	31	$600.00	$18,600.00
Previous Repairs - failing or poor (remove and retreat when possible)		$1,500.00	$0.00
Coping Repair			
Stone coping (LF)	80	$125.00	$10,000.00
Ironwork			
Stabilize ironwork	1	$2,500.00	$2,500.00
		Subtotal Section 19	**$126,150.00**
Project contingency (20%)			$25,230.00
		Total	**$151,380.00**

SECTION 20			
Reset Tablets			
Small tablet	22	$200.00	$4,400.00
Medium tablet	8	$350.00	$2,800.00
Large tablet	1	$450.00	$450.00
Complex (monuments)	3	$750.00	$2,250.00
Reconstruction Activities			
Stone box tomb (false crypt)	1	$2,500.00	$2,500.00
Marker Repairs			
Simple adhesive repair	6	$400.00	$2,400.00
Multiple fracture adhesive repair	4	$1,000.00	$4,000.00
Composite repair (replace missing material/build-up profile)	6	$500.00	$3,000.00
Injection repair	15	$400.00	$6,000.00
Repair base		$300.00	$0.00
Construct new base	1	$125.00	$125.00
Consolidation Treatments			
Small marker/tablet	60	$200.00	$12,000.00
Medium marker/tablet	24	$300.00	$7,200.00
Large tablet	13	$450.00	$5,850.00
Complex (monuments/structures)	11	$600.00	$6,600.00
Previous Repairs - failing or poor (remove and retreat when possible)	1	$1,500.00	$1,500.00
Vegetation Management			
Remove tree & grind stump	1	$1,250.00	$1,250.00
		Subtotal Section	**$62,325.00**
Project contingency (20%)			$12,465.00
		Total	**$74,790.00**

SECTION 21			
Reset Tablets			
Medium tablet	1	$350.00	$350.00
Marker Repairs			
Multiple fracture adhesive repair	1	$1,000.00	$1,000.00
Composite repair (replace missing material/build-up profile)	1	$500.00	$500.00
Injection repair	2	$400.00	$800.00
Repair base	1	$300.00	$300.00
Consolidation Treatments			
Small marker/tablet	1	$200.00	$200.00
Medium marker/tablet	1	$300.00	$300.00
Complex (monuments/structures)	1	$600.00	$600.00
Previous Repairs - failing or poor (remove and retreat when possible)	1	$1,500.00	$1,500.00
Special Project - Smith Mausoleum			
New roof	1	$2,000.00	$2,000.00
Tuckpointing	1	$1,500.00	$1,500.00
Rebuild missing brick elements	1	$1,200.00	$1,200.00
		Subtotal Section	**$10,250.00**
Project contingency (20%)			$2,050.00
		Total	**$12,300.00**

SECTION 23			
Reset Tablets			
Small tablet	18	$200.00	$3,600.00
Medium tablet	10	$350.00	$3,500.00
Large tablet	2	$450.00	$900.00
Complex (monuments)	2	$750.00	$1,500.00
Marker Repairs			
Simple adhesive repair	1	$400.00	$400.00
Multiple fracture adhesive repair	3	$1,000.00	$3,000.00
Composite repair (replace missing material/build-up profile)	4	$500.00	$2,000.00
Injection repair	6	$400.00	$2,400.00
Repair base	1	$300.00	$300.00
Consolidation Treatments			
Small marker/tablet	30	$200.00	$6,000.00
Medium marker/tablet	20	$300.00	$6,000.00
Complex (monuments/structures)	2	$600.00	$1,200.00
		Subtotal Section 23	**$30,800.00**
Project contingency (20%)			$6,160.00
		Total	**$36,960.00**

SECTION 25			
Reset Tablets			
Small tablet	9	$200.00	$1,800.00
Medium tablet	6	$350.00	$2,100.00
Large tablet	4	$450.00	$1,800.00
Complex (monuments)	1	$750.00	$750.00
Reconstruction Activities			
Stone box tomb (false crypt)	2	$2,500.00	$5,000.00
Marker Repairs			
Simple adhesive repair	3	$400.00	
Multiple fracture adhesive repair	7	$1,000.00	$7,000.00
Composite repair (replace missing material/build-up profile)	10	$500.00	$5,000.00
Injection repair	14	$400.00	$5,600.00
Repair base	2	$300.00	$600.00
Construct new base	1	$125.00	$125.00
Consolidation Treatments			
Small marker/tablet	39	$200.00	$7,800.00
Medium marker/tablet	29	$300.00	$8,700.00
Large tablet	18	$450.00	$8,100.00
Complex (monuments/structures)	19	$600.00	$11,400.00
Previous Repairs - failing or poor (remove and retreat when possible)	3	$1,500.00	$4,500.00
Ironwork			
Repair/stabilize ironwork at Dallas Plot	1	$3,500.00	$3,500.00
Repair iron bars	1	$1,200.00	$1,200.00
		Subtotal Section 25	**$74,975.00**
Project contingency (20%)			$14,995.00
		Total	**$89,970.00**
SECTION 26			
Reset Tablets			
Small tablet	8	$200.00	$1,600.00
Medium tablet	1	$350.00	$350.00
Complex (monuments)	1	$750.00	$750.00
Marker Repairs			
Multiple fracture adhesive repair	1	$1,000.00	$1,000.00
Composite repair (replace missing material/build-up profile)	2	$500.00	$1,000.00
Injection repair	7	$400.00	$2,800.00
Repair base	1	$300.00	$300.00
Construct new base	1	$125.00	$125.00
Consolidation Treatments			
Small marker/tablet	24	$200.00	$4,800.00
Medium marker/tablet	8	$300.00	$2,400.00
Large tablet	4	$450.00	$1,800.00
Complex (monuments/structures)	1	$600.00	$600.00
Previous Repairs - failing or poor (remove and retreat when possible)	1	$1,500.00	$1,500.00

Public Safety (emergency stabilization)			
Monitor stability/previous repairs	1	$150.00	$150.00
		Subtotal Section 26	$19,175.00
Project contingency (20%)			$3,835.00
		Total	**$23,010.00**
SECTION 27			
Reset Tablets			
Small tablet	10	$200.00	$2,000.00
Medium tablet	9	$350.00	$3,150.00
Large tablet	1	$450.00	$450.00
Complex (monuments)	4	$750.00	$3,000.00
Marker Repairs			
Multiple fracture adhesive repair	4	$1,000.00	$4,000.00
Composite repair (replace missing material/build-up profile)	5	$500.00	$2,500.00
Consolidation Treatments			
Small marker/tablet	25	$200.00	$5,000.00
Medium marker/tablet	15	$300.00	$4,500.00
Large tablet	6	$450.00	$2,700.00
Complex (monuments/structures)	4	$600.00	$2,400.00
Previous Repairs - failing or poor (remove and retreat when possible)	1	$1,500.00	$1,500.00
		Subtotal Section	**$31,200.00**
Project contingency (20%)			$6,240.00
		Total	**$37,440.00**
SECTION 28			
Reset Tablets			
Small tablet	85	$200.00	$17,000.00
Medium tablet	82	$350.00	$28,700.00
Large tablet	37	$450.00	$16,650.00
Complex (monuments)	18	$1,250.00	$22,500.00
Reconstruction Activities			
Brick box tomb (false crypt)	20	$1,750.00	$35,000.00
Stone box tomb (false crypt)	21	$2,500.00	$52,500.00
Table tomb	2	$2,750.00	$5,500.00
Marker Repairs			
Simple adhesive repair	35	$400.00	$14,000.00
Multiple fracture adhesive repair	15	$1,000.00	$15,000.00
Composite repair (replace missing material/build-up profile)	352	$500.00	$176,000.00
Injection repair	150	$400.00	$60,000.00
Repair base	24	$300.00	$7,200.00
Construct new base	10	$125.00	$1,250.00
Consolidation Treatments			
Small marker/tablet	190	$200.00	$38,000.00
Medium marker/tablet	155	$300.00	$46,500.00
Large tablet	131	$450.00	$58,950.00
Complex (monuments/structures)	20	$600.00	$12,000.00

Previous Repairs - failing or poor (remove and retreat when possible)	34	$1,500.00	$51,000.00
Public Safety (emergency stabilization)			
Emergency stabilization	29	$300.00	$8,700.00
Monitor stability/previous repairs	12	$150.00	$1,800.00
Vegetation Management			
Remove tree & grind stump	5	$1,250.00	$6,250.00
Crown thinning	3	$500.00	$1,500.00
Crown raising	3	$500.00	$1,500.00
Coping Repair			
Stone coping - uncover/reset (LF)	150	$40.00	$6,000.00
Stone coping (LF)	100	$125.00	$12,500.00
Concrete coping (LF)	60	$60.00	$3,600.00
		Subtotal Section 28	**$699,600.00**
Project contingency (20%)			$139,920.00
		Total	**$839,520.00**

SECTION 29

Reset Tablets			
Small tablet	23	$200.00	$4,600.00
Medium tablet	10	$350.00	$3,500.00
Large tablet	1	$450.00	$450.00
Complex (monuments)	1	$750.00	$750.00
Marker Repairs			
Simple adhesive repair	7	$400.00	$2,800.00
Multiple fracture adhesive repair	5	$1,000.00	$5,000.00
Composite repair (replace missing material/build-up profile)	11	$500.00	$5,500.00
Injection repair	10	$400.00	$4,000.00
Repair base	4	$300.00	$1,200.00
Construct new base	4	$125.00	$500.00
Consolidation Treatments			
Small marker/tablet	58	$200.00	$11,600.00
Medium marker/tablet	23	$300.00	$6,900.00
Large tablet	24	$450.00	$10,800.00
Complex (monuments/structures)	3	$600.00	$1,800.00
Previous Repairs - failing or poor (remove and retreat when possible)	1	$1,500.00	$1,500.00
Public Safety (emergency stabilization)			
Monitor stability/previous repairs	1	$150.00	$150.00
		Subtotal Section	**$61,050.00**
Project contingency (20%)			$12,210.00
		Total	**$73,260.00**

SECTION 30			
Reset Tablets			
Small tablet	10	$200.00	$2,000.00
Medium tablet	5	$350.00	$1,750.00
Large tablet	1	$450.00	$450.00
Complex (monuments)		$750.00	$0.00
Reconstruction Activities			
Brick Base	1	$800.00	$800.00
Marker Repairs			
Simple adhesive repair	4	$400.00	$1,600.00
Multiple fracture adhesive repair		$1,000.00	$0.00
Composite repair (replace missing material/build-up profile)	2	$500.00	$1,000.00
Consolidation Treatments			
Small marker/tablet	11	$200.00	$2,200.00
Medium marker/tablet	10	$300.00	$3,000.00
Large tablet	2	$450.00	$900.00
Complex (monuments/structures)	3	$600.00	$1,800.00
Previous Repairs - failing or poor (remove and retreat when possible)	3	$1,500.00	$4,500.00
Public Safety (emergency stabilization)			
Monitor stability/previous repairs	2	$150.00	$300.00
Vegetation Management			
Crown raising	1	$500.00	$500.00
		Subtotal Section	**$20,800.00**
Project contingency (20%)			$4,160.00
		Total	**$24,960.00**
SECTION 31			
Reset Tablets			
Small tablet	2	$200.00	$400.00
Marker Repairs			
Injection repair	1	$400.00	$400.00
Consolidation Treatments			
Small marker/tablet	3	$200.00	$600.00
Medium marker/tablet	2	$300.00	$600.00
		Subtotal Section	**$2,000.00**
Project contingency (20%)			$400.00
		Total	**$2,400.00**

SECTION 32			
Reset Tablets			
Small tablet	3	$200.00	$600.00
Complex (monuments)	1	$750.00	$750.00
Marker Repairs			
Multiple fracture adhesive repair	2	$1,000.00	$2,000.00
Repair base	1	$300.00	$300.00
Consolidation Treatments			
Small marker/tablet	4	$200.00	$800.00
Complex (monuments/structures)	1	$600.00	$600.00
		Subtotal Section	**$5,050.00**
Project contingency (20%)			$1,010.00
		Total	**$6,060.00**

MARKERS/ARTIFACTS IN STORAGE			
Reset Tablets			
Reset fallen tablets & monuments	40	$350.00	$14,000.00
Marker Repairs			
Simple fracture repairs	20	$400.00	$8,000.00
Multiple fracture adhesive repair	38	$1,000.00	$38,000.00
Complex repairs	52	$1,500.00	$78,000.00
		Subtotal Section	**$138,000.00**
Project contingency (20%)			$13,800.00
		Total	**$151,800.00**

Other Improvements Not Listed in Section Costs			
Historical Macadam Paving - drives (SF)	46000	$2.90	$133,400.00
Stabilized Crushed Stone - walkways (SF)	35000	$1.75	$61,250.00
Repair/Restoration of Entrance Gates	2	$9,500.00	$19,000.00
Perimeter Fencing - iron picket (LF)	1071	$42.00	$44,982.00
Brick Walkway Paving Near Keeble Building (SF)	780	$8.50	$6,630.00
Drainage Improvements (west side of site) (LS)	1	$3,200.00	$3,200.00
Historically Appropriate Lighting Fixtures	45	$1,750.00	$78,750.00
Bury Overhead Power Within Cemetery	1	$15,000.00	$15,000.00
Interpretive Graphics/Signage	1	$25,000.00	$25,000.00
Keeble Building Renovation to ADA Restroom	1	$20,000.00	$20,000.00
Ironwork Repair/Stabilization Allowance	1	$100,000.00	$100,000.00
		Subtotal Other Improvements	**$507,212.00**

Anticipated Total for Preservation Efforts	**$2,814,638.00**

Implementation

Phasing and Implementation

Phasing Discussion

A project of this scope and complexity will take numerous years to implement and is very dependent about funding. Even if the project were fully funded, it would most likely take about four to five years to complete at a minimum. Knowing this, the project can be broken down into more manageable portions of work. Below is a list of needs based upon their priority. The priorities are influenced by type of work, public safety considerations, observed material conditions, public input, site impact, and overall value to the entire Cemetery.

Phase 1

These items should be undertaken as soon as funding becomes available.

- Completing clean-up work and install a fence along the south edge of the property.
- Marker Consolidation on tablets with genealogical data still present.
- Marker resetting and fracture repairs on markers that have genealogical data still present.
- Reconstruction of deteriorating or damaged box tombs that pose a public safety hazard.
- Resetting of loose or tilted markers that could pose a public safety hazard.
- Implementation of new vegetation management policies and procedures.
- Tree trimming and removal work.
- Stabilization work of ironwork still remaining in place within Cemetery.
- Repair and reinstallation of recently theft-recovered ironwork.
- Administration Building renovation for educational purposes and volunteer space.

Phase 2:

Items listed in this area are items that are not an immediate concern but should continue be at the forefront of discussions as high priority items are completed and additional funding is available for preservation work.

- Repair and re-tuck pointing of perimeter stone wall.
- Structural analysis and architectural survey of ground vaults and mausoleums.
- Development of interpretive displays.
- Development of new pathways and paving.
- Placement of overhead power lines underground.
- Cleaning of granite ditch.
- Installation of amenities.

Future Phases

These items are not as critical to the preservation of the Cemetery resources but if funding is available, they should be implemented once all of the high and moderate priority items are completed.

- Replacement of existing lighting with more appropriate light fixtures.

Appendix A – Public Input

Appendix A – Public Input

Public Input Process

A public input meeting was held on March 15, 2006 to present the preliminary work on the Preservation Master Plan and gather public input on the process. A project questionnaire was developed to solicit public comment on the cemetery and the preliminary work on the Master Plan. Wyss Associates, Inc. presented a PowerPoint presentation to overview the project's status and preliminary recommendations. Attendees were asked to fill out the project questionnaire. The questionnaire is included here as well as the public comments.

Nashville City Cemetery - Preservation Master Plan

Project Update and Public Input Meeting

March 15, 2006

Project Questionaire

Name (Optional) _____

Contact Info: _____

_____

_____

I wish to remain anonomous [ ]

This survey will be used to assist in the development of the final draft of the Preservation Master Plan. Wyss Associates, Inc. and the Metropolitan Historical Society of Nashville and Davidson County (MHC) would appreciate your valuable input on this important project for the City Cemetery and the City of Nashville and its citizens.

Please answer the following questions (front and back):

1. **What do you feel is the most positive feature of the City Cemetery?**

2. **What aspect of City Cemetery's current condition concerns you the most?**

3. **What interests you most about the City Cemetery and the Preservation Master Plan?**

4. **What do you hope the Preservation Master Plan will accomplish for the City Cemetery?**

5. Would you be interested in participating in volunteer efforts within the City Cemetery? (circle response) Yes No

6. How important are the following issues to you?

	Very important	*Somewhat important*	*Not important*
Genealogical data/inscriptions	☐	☐	☐
Graves of important/well-known people	☐	☐	☐
Artistic elements/examples of craftsmanship	☐	☐	☐
Existing ironwork	☐	☐	☐
Ground vaults and mausoleums	☐	☐	☐
Marker conditions/repairs	☐	☐	☐
Existing vegetation management	☐	☐	☐
Entrance gate and stone perimeter wall	☐	☐	☐
Site Security	☐	☐	☐
All electrical lines underground	☐	☐	☐
Historically appropriate path lighting	☐	☐	☐
Historically appropriate paving	☐	☐	☐
Self-guided interpretation within the cemetery	☐	☐	☐

7. Please rank order these five items from most important (1) to you within the preservation effort to least important (6):

_____ Preservation of genealogical data
_____ Preservation of artistic elements/craftsmanship
_____ Preservation/restoration of graves of well-known individuals
_____ Vegetation management
_____ Site Security
_____ Costs of work & funding

8. Are you a member of the Nashville City Cemetery Association? Yes No
If No, would you be interested in joining? Yes No

9. **Other Comments:**

Wyss Associates, Inc. and the Metropolitan Historical Commission thank you for participating in this survey and public presentation and welcome you to be involved in future efforts associated with the Preservation Master Plan and the Nashville City Cemetery.

Nashville City Cemetery - Preservation Master Plan

Project Update and Public Input Meeting
March 15, 2006

Project Questionnaire

Name (Optional) _____

Contact Info: _____

I wish to remain anonymous [ ]

This survey will be used to assist in the development of the final draft of the Preservation Master Plan. Wyss Associates, Inc. and the Metropolitan Historical Society of Nashville and Davidson County (MHC) would appreciate your valuable input on this important project for the City Cemetery and the City of Nashville and its citizens.

Please answer the following questions (front and back):

1. **What do you feel is the most positive feature of the City Cemetery?**
   The historical significance of the "residents", the park like setting, the beauty & uniqueness of the monuments
2. **What aspect of City Cemetery's current condition concerns you the most?**
   Security to prevent further vandalism, deterioration & damage of the monuments, ivy beginning to run rampant on trees & monuments
3. **What interests you most about the City Cemetery and the Preservation Master Plan?**
   I like the proposed road/path plan that limits auto traffic and re-establishes "lost" paths, beefing up fencing & video monitoring for security
4. **What do you hope the Preservation Master Plan will accomplish for the City Cemetery?**
   To serve as the basis for total restoration of all monuments, ironwork, curbing & buildings in the cemetery
5. **Would you be interested in participating in volunteer efforts within the City Cemetery? (circle response)** (Yes) No I currently work with the Master Gardeners to plant & maintain flower beds, boxwoods, & more —

6. **How important are the following issues to you?**

	Very important	*Somewhat important*	*Not important*
Genealogical data/inscriptions	☐	☑	☐
Graves of important/well-known people + others	☑	☐	☐
Artistic elements/examples of craftsmanship	☑	☐	☐
Existing ironwork	☑	☐	☐
Ground vaults and mausoleums	☑	☐	☐
Marker conditions/repairs	☑	☐	☐
Existing vegetation management	☑	☐	☐
Entrance gate and stone perimeter wall	☐	☑	☐
Site Security	☑	☐	☐
All electrical lines underground	☐	☑	☐
Historically appropriate path lighting	☐	☑* see comment	☑
Historically appropriate paving	☑	☐	☐
Self-guided interpretation within the cemetery	☑	☐	☐

7. **Please rank order these five items from most important (1) to you within the preservation effort to least important (6):**

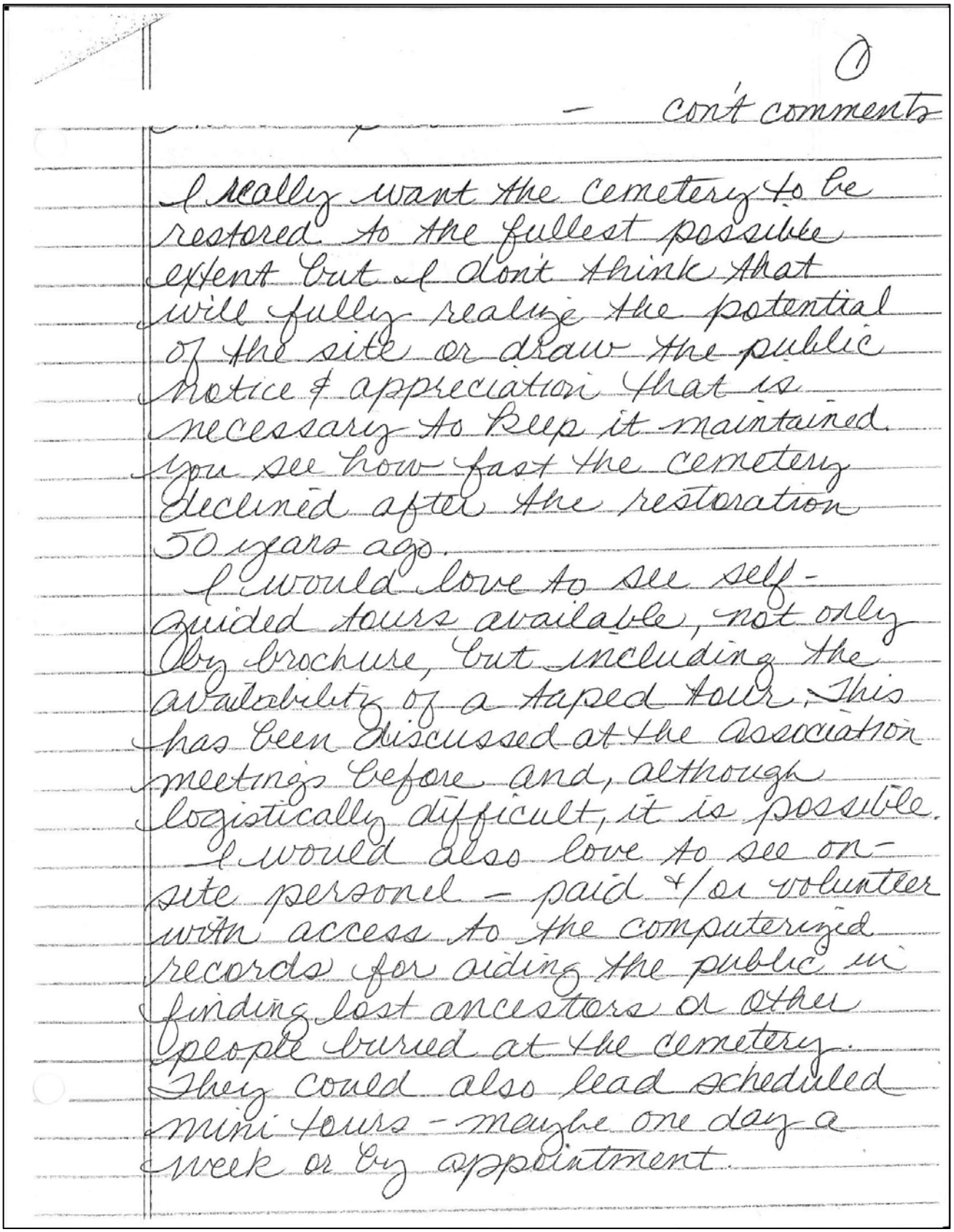
6 Preservation of genealogical data
4 Preservation of artistic elements/craftsmanship
2 Preservation/restoration of graves of well-known individuals + others
3 Vegetation management
1 Site Security
5 Costs of work & funding

8. **Are you a member of the Nashville City Cemetery Association?** (Yes) No
If No, would you be interested in joining? Yes No

9. Other Comments:
* I don't want to light up the cemetery like Greer Stadium. It would be nice to have some lighting I guess but it might only draw undesirables into the grounds. I'm not sure about removing or trimming trees on 4th ave. to improve visibility. I don't think it would significantly increase security but it definitely would let in the "less than historically accurate" neighboring buildings & more traffic noise thereby reducing the beauty & peace of the cemetery.

Wyss Associates, Inc. and the Metropolitan Historical Commission thank you for participating in this survey and public presentation and welcome you to be involved in future efforts associated with the Preservation Master Plan and the Nashville City Cemetery.

Good luck in dealing with NES if necessary on the underground lines. I've been unsuccessful due to outrageous requirements in them. (See attached)



(1)

– cont comments

I really want the cemetery to be restored to the fullest possible extent but I don't think that will fully realize the potential of the site or draw the public notice & appreciation that is necessary to keep it maintained. You see how fast the cemetery declined after the restoration 50 years ago.

I would love to see self-guided tours available, not only by brochure, but including the availability of a taped tour. This has been discussed at the association meetings before and, although logistically difficult, it is possible.

I would also love to see on-site personel – paid &/or volunteer with access to the computerized records for aiding the public in finding lost ancestors & other people buried at the cemetery. They could also lead scheduled mini tours – maybe one day a week or by appointment.

(2)

Education & public awareness are keys to keeping the cemetery in better shape. I don't want all our efforts to deteriorate in 50 years.

I would also like to explore the possibility of selling unused plots in the cemetery for burials by non-descendants. It would certainly generate public interest & bring new families into the mix to support the upkeep of the grounds.

As a Master Gardener I think one major problem that has come about in the past few years is the growth of exotic invasive plant species - especially ivy & the honeysuckle shrub.

The ivy is not part of the original planting since I have seen it become a problem only in the last 10 years. It's sucker feet stick to the monuments & pull away part of stones when removed. I shutter to think what the cemetery would look like in the course of 10-20 years if the ivy was let grow at

(3)

will. It needs to be eradicated now before the birds & underground growth continue to spread it.

The honeysuckle shrub is a problem everywhere in Middle Tennessee & although poses no immediate threat to the monuments (as long as it is kept cut down) it will negatively impact any new desired growth of trees or shrubs by outgrowing them & then shading them to death. This pest shrub needs to be kept out of the cemetery. The place we see it growing most often now is along the railroad tracks. But it is spread by the birds & we routinely pull seedlings out of flower beds, vinca areas, & next to free-standing monuments & ironwork.

Thank you for all your hard work & knowledge. I promise that when I hit the lottery (HA!) I'll fund the cemetery forever!

03/28/06 TUE 09:49 FAX 00 TENN. STATE MUSEUM 001

Nashville City Cemetery - Preservation Master Plan

Project Update and Public Input Meeting
March 15, 2006

Project Questionnaire

Name (Optional) _____

Contact Info: _____

_____

_____

I wish to remain anonymous [ ]

This survey will be used to assist in the development of the final draft of the Preservation Master Plan. Wyss Associates, Inc. and the Metropolitan Historical Society of Nashville and Davidson County (MHC) would appreciate your valuable input on this important project for the City Cemetery and the City of Nashville and its citizens.

Please answer the following questions (front and back):

1. **What do you feel is the most positive feature of the City Cemetery?**

   Its history

2. **What aspect of City Cemetery's current condition concerns you the most?**

   Security.

3. What interests you most about the City Cemetery and the Preservation Master Plan?

   Preservation of the site.

4. What do you hope the Preservation Master Plan will accomplish for the City Cemetery?

   Stabilize & restore the site.

5. Would you be interested in participating in volunteer efforts within the City Cemetery? (circle response) (Yes) No

03/28/06 TUE 09:51 FAX 00 TENN. STATE MUSEUM 001

6. **How important are the following issues to you?**

	Very important	*Somewhat important*	*Not important*
Genealogical data/inscriptions	☒	☐	☐
Graves of important/well-known people	☒	☐	☐
Artistic elements/examples of craftsmanship	☒	☐	☐
Existing ironwork	☒	☐	☐
Ground vaults and mausoleums	☒	☐	☐
Marker conditions/repairs	☒	☐	☐
Existing vegetation management	☒	☐	☐
Entrance gate and stone perimeter wall	☒	☐	☐
Site Security	☒	☐	☐
All electrical lines underground	☐	☒	☐
Historically appropriate path lighting	☐	☐	☒
Historically appropriate paving	☐	☒	☐
Self-guided interpretation within the cemetery	☒	☐	☐

7. **Please rank order these ~~five~~ six items from most important (1) to you within the preservation effort to least important (6):**

5 Preservation of genealogical data
3 Preservation of artistic elements/craftsmanship
2 Preservation/restoration of graves of well-known individuals
4 Vegetation management
1 Site Security
6 Costs of work & funding

8. **Are you a member of the Nashville City Cemetery Association?** (Yes) No
If No, would you be interested in joining? Yes No

9. **Other Comments:**

Wyss Associates, Inc. and the Metropolitan Historical Commission thank you for participating in this survey and public presentation and welcome you to be involved in future efforts associated with the Preservation Master Plan and the Nashville City Cemetery.

Nashville City Cemetery - Preservation Master Plan

Project Update and Public Input Meeting
March 15, 2006

Project Questionnaire

Name (Optional) _____

Contact Info: _____

_____

_____

I wish to remain anonymous [ ]

This survey will be used to assist in the development of the final draft of the Preservation Master Plan. Wyss Associates, Inc. and the Metropolitan Historical Society of Nashville and Davidson County (MHC) would appreciate your valuable input on this important project for the City Cemetery and the City of Nashville and its citizens.

Please answer the following questions (front and back):

1. **What do you feel is the most positive feature of the City Cemetery?**
   Ithistory, the respected home of Nashville's founders

2. **What aspect of City Cemetery's current condition concerns you the most?**
   Safety - protecting the graves from the public
   - protecting the public from (falling) stones

3. **What interests you most about the City Cemetery and the Preservation Master Plan?**
   There is a dire need for preservation, oh for a plan.

4. **What do you hope the Preservation Master Plan will accomplish for the City Cemetery?**
   Security and safety for the graves and for visitors

5. **Would you be interested in participating in volunteer efforts within the City Cemetery? (circle response)** (Yes) No
   I have been helping the Master Gardener effort

6. How important are the following issues to you?

	Very important	*Somewhat important*	*Not important*
Genealogical data/inscriptions	☑	☐	☐
Graves of important/well-known people	☑	☐	☐
Artistic elements/examples of craftsmanship	☑	☐	☐
Existing ironwork	☐	☑	☐
Ground vaults and mausoleums	☑	☐	☐
Marker conditions/repairs	☑	☐	☐
Existing vegetation management	☑	☐	☐
Entrance gate and stone perimeter wall	☐	☑	☐
Site Security	☑	☐	☐
All electrical lines underground	☐	☐	☑
Historically appropriate path lighting	☐	☐	☑
Historically appropriate paving	☐	☐	☑
Self-guided interpretation within the cemetery	☐	☑	☐

7. Please rank order these five items from most important (1) to you within the preservation effort to least important (6):

2 Preservation of genealogical data
4 Preservation of artistic elements/craftsmanship
6 Preservation/restoration of graves of well-known individuals
5 Vegetation management
1 Site Security
3 Costs of work & funding

8. Are you a member of the Nashville City Cemetery Association? Yes (No)
If No, would you be interested in joining? (Yes) No

9. Other Comments:

Vegetation management is very important, I ranked it lower down, maybe the Master Gardener participation can be ramped up & include others.

Wyss Associates, Inc. and the Metropolitan Historical Commission thank you for participating in this survey and public presentation and welcome you to be involved in future efforts associated with the Preservation Master Plan and the Nashville City Cemetery.

Nashville City Cemetery - Preservation Master Plan

Project Update and Public Input Meeting
March 15, 2006

Project Questionnaire

Name (Optional) _____

Contact Info: _____

_____

_____

I wish to remain anonymous [ ]

This survey will be used to assist in the development of the final draft of the Preservation Master Plan. Wyss Associates, Inc. and the Metropolitan Historical Society of Nashville and Davidson County (MHC) would appreciate your valuable input on this important project for the City Cemetery and the City of Nashville and its citizens.

Please answer the following questions (front and back):

1. What do you feel is the most positive feature of the City Cemetery?
   historic resource/ architectural significant
2. What aspect of City Cemetery's current condition concerns you the most?
   stone & fence deterioration
3. What interests you most about the City Cemetery and the Preservation Master Plan?
   " " restoration
4. What do you hope the Preservation Master Plan will accomplish for the City Cemetery?
   preserve structures & promote public interest
5. Would you be interested in participating in volunteer efforts within the City Cemetery? (circle response) (Yes) No

6. How important are the following issues to you?

	Very important	*Somewhat important*	*Not important*
Genealogical data/inscriptions	☑	☐	☐
Graves of important/well-known people	☐	☑	☐
Artistic elements/examples of craftsmanship	☑	☐	☐
Existing ironwork	☑	☐	☐
Ground vaults and mausoleums	☑	☐	☐
Marker conditions/repairs	☑	☐	☐
Existing vegetation management	☐	☑	☐
Entrance gate and stone perimeter wall	☑	☐	☐
Site Security	☐	☑	☐
All electrical lines underground	☐	☑	☐
Historically appropriate path lighting	☐	☑	☐
Historically appropriate paving	☐	☑	☐
Self-guided interpretation within the cemetery	☐	☑	☐

7. Please rank order these five items from most important (1) to you within the preservation effort to least important (6):

2 Preservation of genealogical data
1 Preservation of artistic elements/craftsmanship
3 Preservation/restoration of graves of well-known individuals
6 Vegetation management
4 Site Security
5 Costs of work & funding

8. Are you a member of the Nashville City Cemetery Association? (Yes) No
If No, would you be interested in joining? Yes No

9. Other Comments:

Wyss Associates, Inc. and the Metropolitan Historical Commission thank you for participating in this survey and public presentation and welcome you to be involved in future efforts associated with the Preservation Master Plan and the Nashville City Cemetery.

Nashville City Cemetery - Preservation Master Plan

Project Update and Public Input Meeting
March 15, 2006

Project Questionaire

Name (Optional) _____

Contact Info: _____

_____

_____

I wish to remain anonomous [ ]

This survey will be used to assist in the development of the final draft of the Preservation Master Plan. Wyss Associates, Inc. and the Metropolitan Historical Society of Nashville and Davidson County (MHC) would appreciate your valuable input on this important project for the City Cemetery and the City of Nashville and its citizens.

Please answer the following questions (front and back):

1. **What do you feel is the most positive feature of the City Cemetery?**
   Its history/importance to city of Nashville.

2. **What aspect of City Cemetery's current condition concerns you the most?**
   Broken stones

3. **What interests you most about the City Cemetery and the Preservation Master Plan?**
   Stone restoration sounds doable.

4. **What do you hope the Preservation Master Plan will accomplish for the City Cemetery?**
   I would like it to be do-able, and it seems to be.

5. **Would you be interested in participating in volunteer efforts within the City Cemetery? (circle response)** Yes No

6. **How important are the following issues to you?**

	Very important	*Somewhat important*	*Not important*
Genealogical data/inscriptions	☑	☐	☐
Graves of important/well-known people	☑	☐	☐
Artistic elements/examples of craftsmanship	☑	☐	☐
Existing ironwork	☑	☐	☐
Ground vaults and mausoleums	☑	☐	☐
Marker conditions/repairs	☑	☐	☐
Existing vegetation management	☑	☐	☐
Entrance gate and stone perimeter wall	☐	☑	☐
Site Security	☑	☐	☐
All electrical lines underground	☐	☑	☐
Historically appropriate path lighting	☐	☑	☐
Historically appropriate paving	☐	☑	☐
Self-guided interpretation within the cemetery	☐	☑	☐

7. **Please rank order these five items from most important (1) to you within the preservation effort to least important (6):**

5 Preservation of genealogical data
1 Preservation of artistic elements/craftsmanship
2 Preservation/restoration of graves of well-known individuals
4 Vegetation management
3 Site Security
6 Costs of work & funding

8. **Are you a member of the Nashville City Cemetery Association?** Yes (No)
If No, would you be interested in joining? Yes (No)

9. **Other Comments:**

Wyss Associates, Inc. and the Metropolitan Historical Commission thank you for participating in this survey and public presentation and welcome you to be involved in future efforts associated with the Preservation Master Plan and the Nashville City Cemetery.

Nashville City Cemetery - Preservation Master Plan

Project Update and Public Input Meeting
March 15, 2006

Project Questionnaire

Name (Optional) _____

Contact Info: _____

_____

_____

I wish to remain anonymous [ ]

This survey will be used to assist in the development of the final draft of the Preservation Master Plan. Wyss Associates, Inc. and the Metropolitan Historical Society of Nashville and Davidson County (MHC) would appreciate your valuable input on this important project for the City Cemetery and the City of Nashville and its citizens.

Please answer the following questions (front and back):

1. What do you feel is the most positive feature of the City Cemetery?
   how it reflects the history of the city and people who are here

2. What aspect of City Cemetery's current condition concerns you the most?
   the lack of security and general disrepair of markers

3. What interests you most about the City Cemetery and the Preservation Master Plan?
   long range planning to preserve the cemetery that isn't a piecemeal approach.

4. What do you hope the Preservation Master Plan will accomplish for the City Cemetery?
   to save the markers, preserve the history and do a better job of telling its story/history.

5. Would you be interested in participating in volunteer efforts within the City Cemetery? (circle response) (Yes) No

6. **How important are the following issues to you?**

	Very important	*Somewhat important*	*Not important*
Genealogical data/inscriptions	☑	☐	☐
Graves of important/well-known people	☑	☐	☐
Artistic elements/examples of craftsmanship	☐	☑	☐
Existing ironwork	☑	☐	☐
Ground vaults and mausoleums	☑	☐	☐
Marker conditions/repairs	☑	☐	☐
Existing vegetation management	☐	☑	☐
Entrance gate and stone perimeter wall	☑	☐	☐
Site Security	☑	☐	☐
All electrical lines underground	☐	☑	☐
Historically appropriate path lighting	☐	☑	☐
Historically appropriate paving	☐	☑	☐
Self-guided interpretation within the cemetery	☑	☐	☐

7. **Please rank order these five items from most important (1) to you within the preservation effort to least important (6):**

4 Preservation of genealogical data
5 Preservation of artistic elements/craftsmanship
2 Preservation/restoration of graves of well-known individuals
6 Vegetation management
1 Site Security
3 Costs of work & funding

8. **Are you a member of the Nashville City Cemetery Association?** (Yes) No
If No, would you be interested in joining? Yes No

9. Other Comments:

Wyss Associates, Inc. and the Metropolitan Historical Commission thank you for participating in this survey and public presentation and welcome you to be involved in future efforts associated with the Preservation Master Plan and the Nashville City Cemetery.

Nashville City Cemetery - Preservation Master Plan

Project Update and Public Input Meeting
March 15, 2006

Project Questionnaire

Name (Optional) _____

Contact Info: _____

_____

_____

I wish to remain anonymous [ ]

This survey will be used to assist in the development of the final draft of the Preservation Master Plan. Wyss Associates, Inc. and the Metropolitan Historical Society of Nashville and Davidson County (MHC) would appreciate your valuable input on this important project for the City Cemetery and the City of Nashville and its citizens.

Please answer the following questions (front and back):

1. What do you feel is the most positive feature of the City Cemetery?

   Record of City's history, proximity to downtown

2. What aspect of City Cemetery's current condition concerns you the most?

   Mowing, Vandalism

3. What interests you most about the City Cemetery and the Preservation Master Plan?

   looking for some insightful suggestions regarding our problems

4. What do you hope the Preservation Master Plan will accomplish for the City Cemetery?

   Same as #3

5. Would you be interested in participating in volunteer efforts within the City Cemetery? (circle response) Yes No

6. How important are the following issues to you?

	Very important	*Somewhat important*	*Not important*
Genealogical data/inscriptions	☐	☒	☐
Graves of important/well-known people	☐	☒	☐
Artistic elements/examples of craftsmanship	☒	☐	☐
Existing ironwork	☒	☐	☐
Ground vaults and mausoleums	☒	☐	☐
Marker conditions/repairs	☒	☐	☐
Existing vegetation management	☒	☐	☐
Entrance gate and stone perimeter wall	☐	☒	☐
Site Security	☒	☐	☐
All electrical lines underground	☐	☐	☒
Historically appropriate path lighting	☐	☐	☒
Historically appropriate paving	☐	☐	☒
Self-guided interpretation within the cemetery	☒	☐	☐

there exist a large number of historic plaques

7. Please rank order these five items from most important (1) to you within the preservation effort to least important (6):

5 ___ Preservation of genealogical data
1 ___ Preservation of artistic elements/craftsmanship
4 ___ Preservation/restoration of graves of well-known individuals
3 ___ Vegetation management
2 ___ Site Security
6 ___ Costs of work & funding

8. Are you a member of the Nashville City Cemetery Association? Yes No
If No, would you be interested in joining? Yes No

city staff

9. Other Comments:

World like to see the language/content of the Masterplan "formalized" up a bit. The preliminary version seemed a bit superficial in it's treatment of important details.

Wyss Associates, Inc. and the Metropolitan Historical Commission thank you for participating in this survey and public presentation and welcome you to be involved in future efforts associated with the Preservation Master Plan and the Nashville City Cemetery.

Nashville City Cemetery - Preservation Master Plan

Project Update and Public Input Meeting
March 15, 2006

Project Questionnaire

Name (Optional) _____

Contact Info: _____

_____

_____

I wish to remain anonymous [ ]

This survey will be used to assist in the development of the final draft of the Preservation Master Plan. Wyss Associates, Inc. and the Metropolitan Historical Society of Nashville and Davidson County (MHC) would appreciate your valuable input on this important project for the City Cemetery and the City of Nashville and its citizens.

Please answer the following questions (front and back):

1. What do you feel is the most positive feature of the City Cemetery?

   The historical information & rich diversity of information to be found.

2. What aspect of City Cemetery's current condition concerns you the most?

   Condition of tombstones & perimeter fencing - Some dates & inscriptions are fading.

3. What interests you most about the City Cemetery and the Preservation Master Plan?

   Need more info - Didn't know the plan

4. What do you hope the Preservation Master Plan will accomplish for the City Cemetery?

   Preserve the integrity of the stones & general atmosphere

5. Would you be interested in participating in volunteer efforts within the City Cemetery? (circle response) Yes No

6. How important are the following issues to you?

	Very important	*Somewhat important*	*Not important*
Genealogical data/inscriptions	☒	☐	☐
Graves of important/well-known people	☒	☐	☐
Artistic elements/examples of craftsmanship	☒	☐	☐
Existing ironwork	☒	☐	☐
Ground vaults and mausoleums	☒	☐	☐
Marker conditions/repairs	☒	☐	☐
Existing vegetation management	☐	☒	☐
Entrance gate and stone perimeter wall	☒	☐	☐
Site Security	☐	☒	☐
All electrical lines underground	☐	☒	☐
Historically appropriate path lighting	☐	☒	☐
Historically appropriate paving	☐	☒	☐
Self-guided interpretation within the cemetery	☐	☒	☐

7. Please rank order these five items from most important (1) to you within the preservation effort to least important (6):

2 Preservation of genealogical data
1 Preservation of artistic elements/craftsmanship
4 Preservation/restoration of graves of well-known individuals
3 Vegetation management
5 Site Security
6 Costs of work & funding

8. Are you a member of the Nashville City Cemetery Association? (Yes) No
If No, would you be interested in joining? (Yes) No

9. Other Comments:

Wyss Associates, Inc. and the Metropolitan Historical Commission thank you for participating in this survey and public presentation and welcome you to be involved in future efforts associated with the Preservation Master Plan and the Nashville City Cemetery.

Appendix B – Field Notes

Appendix B – Field Input

Section 1

2. James A. Chilton Jr. & Jeanetta S. Chilton – no work
3. Berta A. Chilton – no work
4. Emily C. Chilton – no work
5. James A. Chilton – no work
6. Chilton (family monument) – mild cleaning to remove biological growth
7. Illegible – remove and treat previous repair, single fracture repair, consolidation (lower priority due to being illegible)
8. Illegible – no treatment recommended (due to being illegible)
9. Illegible – previous treatment (deteriorating), no treatment recommended (due to being illegible)
10. Thomas M. Egan – tilted marker/base, stabilize foundation, consolidation treatment, injection mortars
11. Illegible – tree damage, fractured, spalling, no treatment recommended
12. Bedstead – Injection mortars, crack fillers, consolidation treatment, remove and treat previous repairs, artistic significance
13. 2 ginkgo trees along stone wall will eventually need removal when the trunks are impacting the wall – tree to north just beginning to touch wall
14. Remove storm damaged hackberry including stump grinding
15. Crown thin dead wood from cherry tree in center of section
16. Crown raise ginkgo trees along wall to improve visibility into cemetery from 4th Avenue South (previously known as Cherry Street)
17. Opportunity to reestablish path toward gate from Willow and Magnolia Street

Section 2

1. Limb up magnolia near gate to improve visibility into cemetery
2. Limb up hackberry along north wall
3. Crown thin large hackberry toward east of section
4. Consider removing hackberry impacting fence/wall at plot

Section 3

5. Reset Malone headstone and footstone
6. Reset headstone and grave cap immediately north of Malone plot
7. Joshua Smith plot – reset "foot" of bedstead – reset footstone inside of bedstead
8. Solomon H. Loomis plot
    a. Replace south coping stone with new stone pieces
    b. Repair/stabilize remaining ironwork
    c. Reset east and west coping stone sections
    d. Replace north coping stone
    e. Consider installing replica section across north side of plot
9. Reset J.S. Holloway column and base. Consolidate sugaring marble.
10. Reset Stewart monument. Consolidate sugaring marbles.
11. Reset small tablet/base at south edge of section adjoining Elm Street
12. Reset Sarah Fluker monument

13. Monitor previous repair to Burnett tablet – consolidate

Section 4
1. Stabilize/repair retaining walls at west end of section
2. Repair only remaining iron plot enclosure
3. Duncan plot
   a. Reset stone border
   b. Repair footstone
4. Limb up magnolia tree – clean up leaf litter
5. Septima Fogg column – consolidate
6. Alice ? – consolidate – artistic
7. Rutledge monument – crack repair/injection on stepped base stone. Consolidate marble and limestone bases.
8. Francis Briney Fogg – same as Rutledge
9. Reset Todd Obelisk – leaning
10. Stabilize Obelisk adjacent Todd to north (Robert F. Morgan)
11. Reset footstone and preserve head and footstones of Mary Josephine Todd
12. Limb up magnolia and clean up large amount of leaf litter
13. Consolidate and reattach urn to large tablet at NE corner of section

Section 5
14. Sarah Ann Gray Walker – consolidation treatment and biological cleaning
15. Two box tombs at SW corner of section need restoration
    a. Large needs table top consolidated, micro injection, crack mortars, and a fracture repair; columns and panels need consolidation and injection mortars. (flowable fill needs to be placed under box tomb)
    b. Small box tomb needs to be consolidated then unassembled and rebuilt. All elements need consolidation treatment.
16. Robert Whyte – consolidation treatments, repair of deteriorating decorative elements.
17. Mary Elizabeth Sheppard – consolidation, injection mortars and stone patches
18. James Campbell – consolidate marble
19. (photo 17) Stabilize remaining tablets 14 tablets
20. Repair iron gate at W.S. Whiteman plot – repair fractured stone coping section
21. Consolidate W.S. Whiteman plot

Section 6
1. Repair fractured tablet at north corner (failed previous repairs)
2. (Photo 18) Consolidate Susannah Dorris tablet/base
3. (Photo 19) Consolidate Harsh tablet
4. Consolidate Dr. Philip Harsh tablet/base
5. Raise Henry Rix tablet (appears to be sunken)
6. Consolidate John W. Bi__s tablet/base at southeast corner of section
7. Crown thin hackberrry in center of section
8. Crown raise magnolia tree in SE corner of section - magnolia north of hackberry a great example
9. (Photo 20) magnolias planted closely block views into cemetery

Section 7

22. Crown raise hackberry tree
23. Crown raise (slightly) magnolia tree
24. Martha Goodwin plot - consolidate and biological cleaning with D/2 - monitor previous repairs
25. Susan H. Ewin - consolidate
26. Wm. Goodwin - consolidate
27. Wm. Ewin - consolidate
28. -etty C. Smith - consolidate
29. Smith obelisk - consolidate
30. Tablet next to Smith - consolidate and injection mortars
31. Thomas Claiborne plot - prune shrubs to improve sight lines, rebuild bases for ground tablets and repair simple fractures on ground tablets, crown raise dogwood tree
32. (Photo 22) Caroline Correy box tomb - consolidate tabletop, repair south stone panel (will need compensation for losses) rebuild
33. Consolidate 2 tablets and 1 footstone east of Correy box tombs
34. Consolidate column north of Correy box tombs. Injection mortars and crack fillers
35. Robert Baxter sculpture
    a. Consolidate
    b. Compensate for losses
    c. Injection mortars
    d. Research corner H. Henderson, Nashville, TN
    e. Crack fillers
    f. Top section out of alignment - loose?
36. Michael M. Monohan - consolidate marble dye and bases
    a. Reset 2 4' pieces of coping
    b. Replace 1 4' piece of coping
37. Reset small tablet/base at Bates plot - consolidate headstone and footstone
38. Consolidate 5 footstones at Bates plot

<u>Section 8</u>

14. Armistead plot - reset footstones (3) – 3 small markers
15. Consolidate marble sculpture (children laying together) – medium artistic
    a. Realign to original location
    b. Stabilize ground slabs
    c. Fill cracks using injection mortars
    d. Crack fillers
    e. Biological cleaning (?)
16. Reattach kneeling angel to monument
    a. Consolidate column and base and sculpture – large composite
    b. Use injection mortars on base
17. Mary Gale Washington - reset footstone - small
18. Hough family plot - consolidate 7 flat marble markers, 1 small tablet, 1 family stone (marble) - small
19. JPM cornerstone - reattach small urn base to corner marker - small
20. Robert P. Currin - ground vault
    a. Rebuild stairs and retaining walls
    b. Stabilize front facade (consolidation and micro - injection)

    c. Great interpretive value
21. Crown raise magnolia tree
22. Secure remaining portion of tablet in slotted base - adjacent Currin plot - consolidate
23. Reset Ruby Mitchell marker (small flat) consolidate
24. Reset James Pettit headstone (beveled tablet) consolidate
25. Consolidate Margaret Kelley marker
26. Consolidate small headstone immediately south of Ellen Coleman tablet
27. Ellen Coleman tablet - consolidate and biological cleaning
28. Nannid (?) Tablet - consolidate
29. Reset Hough column onto base consolidate
30. (Photo 24) Reset granite beveled headstone next to Louisa Minor "Hough" Smith marker
31. (Photo 24) Reset small obelisk next to Louisa Smith - consolidate
32. (Photo 24) Reset small tablet north of Ellen Anderson
33. (Photo 24) Rebuild table at south of Anderson plot
    a. Consolidate tablet and use crack fillers
    b. Repair/stabilize pillars
    c. Use stone patches to fill losses
34. Thomas Coleman - consolidate tablet - biological cleaning
35. Hern marker - consolidate - injection mortars - reattach to base
36. Marker (___) south of Hern - consolidate - reattach to base
37. WB Winston - repair base and reattach stone to base consolidate
38. Consolidate total of 7 Winston markers
39. Elizabeth Warder - consolidate
40. (photo 2) Consolidate 8 tablets north of Warder stone
41. Reset tablet and base 8th stone north of Warder
42. Consolidate EW and NM Smith tablets
43. Consolidate John W Pickett monument - reset tablet to base/reset base - consolidate footstone
44. (Photo 3) Consolidate Calvin Pickett column/base with footstone
45. (Photo 3) Consolidate footstone north of C. Pickett
46. (Photo 3) Reset fallen column south of Andrew W. Wood plot - consolidate footstone
47. (Photo 3) Reset Andrew Wood column/base and consolidate
48. Consolidate small footstone south of Wood plot
49. (Photo 4, 5)Consolidate Alexander Porter headstone/base
50. (Photo 4, 5) Consolidate TCP footstone
51. (Photo 4, 5) Consolidate small "cathedral" sculpture and footstone
52. Consolidate Thomas Callender - micro injection on face
53. Consolidate tablet south of Callender
54. Consolidate large tablet and 3 footstones east of Callender
55. John McIntosh - consolidate and repair base - base consolidate/injection mortars
56. Reattach large marble dye and - consolidate crack fillers
57. John M. _____ Tablet - consolidate, injection mortars and crack fillers and footstone
58. Marshall tablets consolidate - and footstone
59. Reset large marble dye north of Lucy Marshall Wilson
60. James Langley – consolidate – recarved
61. Dr. John Luther Marshall – consolidate footstone and headstone
62. WHC Toney out of place – find location and reset/repair

63. (photo 11) Henry Neal Myers – reset leaning column and consolidate – consolidate corner pillars
64. Repair footstone NE of Myers
65. Consolidate 2 tablets – 1 foot tablet north of AN Myers plot – micro-injection mortars
66. Reset small footstone
67. (photo 12) Consolidate table tablet and pillars – injection mortars and crack fillers
68. Consolidate small markers south of table tablet and large obelisk
69. Consolidate Ewing column/base
70. Consolidate Milbrey Ewing tablet/base – nice repair
71. Consolidate small obelisk south of Milbrey Ewing
72. Andrew Ewing rebuild box tomb consolidate and repair simple fracture of top
73. Repair multiple fracture of ground tablet – Nathan Ewing
74. Consolidate 2 tablets north of Kezer monument
75. Fracture repair on ground tablet – Ewing
76. Consolidate marker and bases on Ewing child
77. Consolidate/clean Tabitha Douglass – investigate bedstead remnants
78. Stabilize north side of table tablet – consolidate all pieces and injection mortars
79. Consolidate Seay column and base and footstone

<u>Section 9</u>

1. Consolidate Elizabeth Carroll tablet and Hugh Carroll tablet – consider biological cleaning
2. Consolidate remaining portion of the tablet north of Carroll tablets
3. Consolidate WT Perry marker
4. Consolidate Bowker tablet
5. Consolidate Sarah C Johnson – reattach sections of column to base
6. Consolidate Perry children double tablet
7. Consolidate Willie Perry tablet/base
8. (Photo 25) Rebuild 2 brick boxes and repair tablets
9. Repair small fractured footstone
10. (Photo 26) Repair multiple fractured tablet with base – attempt to uncover remaining pieces
11. (Photo 27) Consolidate 12 tablets/footstones in SW ¼ of Section 9
12. Compensate for losses on medium tablet/base along Mulberry Street
13. Micro-injection on John J Carroll
14. Repair fractured table top in center of Section 9 – consolidate top and side panels/pillars
15. Lucy "Crosthwait" Baker – tablet/base
    a. very unstable
    b. reattach to base - very loose (pinned)
    c. consolidate
16. Thomas Crosthwait – consolidate, reattach
17. John H Crosthwait – consolidate – reset footstone flush with grade
18. AL and Helen Crosthwait – consolidate – consolidate footstone
19. (Photo 28) Rosetta Argo, Hiram Argo, Percy Argo – all consolidate
20. (photos 29-30) Smith plot
21. (photos 31-32) ____ C. wife of Joseph Bland – very good repair – consolidate headstone and footstone
22. Joseph Bland – consolidate headstone and footstone
23. John H Smith – consolidate – micro injection/crack filler

a. Repair base
b. Rebuild with stone patch
c. Very light bio cleaner

24. Repair/consolidate Reuben ____ tablet and footstone
25. Crown thin cherry tree (?) raise crown slightly

Section 10

26. Open up views along wall (remove every other)
27. (photo 14) Consolidate 9 tablets, 9 footstones, reset – reset 4 footstones, uncover approximately 18 LF of buried stone coping
28. (photo 15) Crack filler repair on Peacock tablet, reset
29. Consolidate 3 small headstone south of James A Smith plot
30. Consolidate ADA Blanch tablet/footstone
31. Consolidate/reattach to base – Thomas H. Savage
32. Consolidate corner markers
33. Consolidate Mc_reco tablet, micro injection face/back, crack filler top
34. Consolidate double tablet/footstone north of previous crack filler, inject mortars on headstone
35. Consolidate corner markers east of Blanch plot
36. Reset fallen marker
37. Repair base/losses for small tablet/footstone west of Knapp plot – consolidate all
38. Consolidate footstone and partial tablet
39. Consolidate Henry Bruce tablet
40. Repair/replace approximately 30 LF concrete coping at Knapp plot
41. Consolidate tablet/footstone SE of Knapp plot
42. Footpath from mulberry to elm?
43. Crown raise 2 magnolia and 1 ginko and 1 black walnut

Section 11

44. (photo 10) Charles B Hall/Matilda Ann – consolidate granite marker

2, 3. (photo 11) ___ and Wm. Hall markers – not action on Wm. Hall – reset lamb on top of markers, consolidate tablet and base, use crack fillers and stone patches to restore profiles

4, 5. (photo 12) Amanda N. Waldron – consolidate tablet and footstone

6, 7. Consolidate

8, 9. Consolidate

10, 11. Consolidate

12. Consolidate - tablet is sunken or has been reset too low – possibly broken

13, 14. Consolidate

15, 16. Consolidate tablet and footstone, reset footstone, remove biological growth on headstone and footstone using light D/2 treatment

a. repair small cracks in headstone with crack mortars
b. consolidate stone coping around plot
c. stabilize remaining ironwork

17. (photo 14) Fannie Cauvin – Consolidate
18. Missing – since survey – indentation in ground – light biological cleaning
19. Louis Cauvin – consolidate marker
20. Multiple fracture repair – consolidation – footstone fragment near to headstone

21. Re-patch previous repair with crack fillers – probe for missing fragment
22. Consolidate – injection grouts top and sides
23. Consolidate footstone – injection grouts
24. Table tablet structure – Priscilla Jan Wharton
    a. consolidate tabletop and columns
    b. repair small cracks at SW corner of tabletop
25. Consolidate – footstone almost buried – reset
26. Consolidate obelisk and subbase – monitor stability, large hole behind monument
27. Wm Edwd West Artist – consolidate top of box tomb – consolidate sides and pillars
28. (photo 15) Agness C. Trabue – some separation at SW corner – monitor
    a. spalls on top
    b. crack at bottom right of case panel
    c. consolidate, micro injection mortars
29. (photo 16) Charles Clay Trabue – box tomb
    a. erosion at corners of top
    b. Consolidate top sides and pillars
    c. previous repairs failing – injection mortars south and east side.
30. (photo 17-18) Joseph Woods – box tomb – rebuild north/west sides – repair NW corner plot
31. Poor previous repairs – monitor – crack fillers, consolidate tablet/subbase
32. Consolidate tablet
33, 34. Manie Allen – consolidate column/subbase and footstone
35. Joseph Woods Dr. – consolidate large dye and bases – compensate losses
36. (photo 19) rebuild box tomb – repair fractured top – compensate for losses
37. Consolidate
38. No work or possible repair of one corner, low priority
39. (photo 20) Elizabeth wife of Samuel ____
    a. consolidate all pieces
    b. reset obelisk to base
40. (photo 21) Annie W. Woods – consolidate – crack fillers – compensate for losses
41. no work
42. Robert Castleman – consolidate
43. (photo 22-25) Garrett plot – disassemble and repair box tomb
    a. consolidate all elements
    b. compensate for losses on columns
    c. remove concrete from around base?
    d. injection mortars on cracks on tablet stone (crack fillers)
    e. fracture repairs on columns and crack fillers

    <u>other items</u>

    reset east gate pillar
    consider making new gate for plot
    stabilize ironwork with rust converter
    new connection as needed
    reset 14 LF coping along ease side
    reset south coping
45. Consolidate Thomas White marker and base
46. (photo 26) ground tablet encased in concrete

a. Consolidate tablet, remove loose concrete around base
b. Consider disassembly and rebuild – low priority

47. Martha Porter and children
    a. Consolidate marble segments – repair cracks with crack fillers
    b. Consolidate base
    c. Injection markers on large horizontal crack
48. Alexander Allison
a. Consolidate all pieces of monument
b. Micro injection mortars in fine cracks
c. Light biological cleaning
49. (photo 29) Susan Jane Payne
a. Consolidate entire monument
b. Grout between subbase and base to stabilize
c. Injection mortars on subbase
d. Make sure vase is secured
50. (photo 30) Consolidate all segments of monument
    a. Light biological cleaning
    b. Injection mortars in crack at back of obelisk
    c. Injection mortars in two cracks in mid section and subbase
51. (photo 30) Consolidate treatment on obelisk subbase – injection mortars in crack at back of obelisk
52. (photo 31) box tomb
    a. Consolidate – compensate losses on pillars
    b. Consolidate top, crack fillers, micro inject mortars
    c. Biological cleaning on north side of box tomb

    <u>Overall plot work</u>

    Stabilize ironwork with rust converter
    Consolidate stone coping
    Reset coping at SW corner on west side
    Rebuild approximately 28 LF of south wall at SW corner
    Repair step at entry – stone mortar
    Consolidate pillars
    Crack injection mortars on pillars
52. (photo 32) Yeatman bedstead #1
    a. consolidate all segments
    b. consider plantings between bedsteads to eliminate mowing
53. Eliza Yeatman bedstead
    a. realign “foot” marker and base
    b. compensate for losses on foot tablet
54. (photo 33-35) Louisa Yeatman
    a. consolidate all portions of obelisk
    b. areas of injection mortar along “crown” piece and at top of obelisk
55. Consolidate footstone
56. Consolidate small column, reattach cap, column to base
57. Augusta Yeatman – high priority – artistic
    a. consolidate

b. reattach vase and vase base to monument
c. light cleaning north and east sides

58. (photo 37) Samuel Otis – consolidate tablet and subbase
59, 60. Reset tablet "headstone" and reset tablet/base consolidate
61, 62. (photo 38) Reset tablet – repair "tab" – consolidate headstone and footstone
63. Consolidate panels and pillars of box tomb
    a. consolidate tablet
    b. micro injections on cracks in tablet
    c. regrout between tablet and pillars/panels
64. Catherine C. _____ Consolidate
65. (photo 39) Rebuild box tomb – high priority
66. Rest pieces of ground tablet
67. Consolidate box tomb – crack mortars on cracks at SE corner
68. (photo 41) remove top – repair NE column
    a. consolidate all
    b. compensate for losses on top and NE column

69, 70. Consolidate tablet and remaining portion of footstone, headstone needs injection mortars behind spalling face
53. Consolidate and injection mortars on face and small area on back
54. Consolidate marker/base
55. (photo 42, 43) Consolidate headstone/subbase and base – clean moss off of base, reattach remaining portion of urn base, nice artistic value
56. footstone – beyond repair
57. Consolidate small column
58. (photo 44, 45) John Farrell, MD – Consolidate, micro injection mortars on cracks on back of monument and small crack at bottom front of middle section
59. no work
    iron fence surrounding Ferrell plot – stable – treat with rust converter, NW corner post broken but not really affecting stability, cap stones on wall fractured at anchor points but again not affecting stability
    Clay family plot – uncover east stone coping, repair two urns at entrance to plot (artistic)
    a. consolidate
    b. repair fractures
60. no work
61. Reset toppled tablet, repaid tab (still in slot) consolidate
62. Reset footstone
63. Repair multi fracture (2) tablet, consolidate
64. Consolidate
65. Reset fallen marker, consider pin
66. Consolidate
67. Consolidate
86, 87. no work
88. Reset to base
89. Consolidate – monitor previous repair. Use crack fillers to fill gaps in previous repair
90-92 No work
93-96 Consolidate

97. No work – consolidate coping (8ft) at south of Everett monument
98a-98b. Consolidate
99. Consolidate
100. No work
101-103. Consolidate
104. Consolidate
105. Reset footstone
106. Missing
107. Consolidate
107a. Consolidate
108. Reset
108a. Consolidate
68. Consolidate
69. Consolidate footstone
70. Consolidate/reset
71. Consolidate
72. Consolidate
73. Consolidate
74. Reset footstone – Consolidate – reset corner post
75. (photo 47) rebuild box tomb
    a. Consolidate all pieces
    b. Compensate for losses on tablet
    c. Needs micro injection on some pillars
76. Consolidate
77. Consolidate and reset
78. Reset
79. Consolidate
80. (photo 48) reset Shapard monument – Consolidate
81. Sharpard – Consolidate – light clean for biological
82. Consolidate
83. Consolidate
84. Consolidate
85. Consolidate
86. Consolidate
87. Consolidate
88. Consolidate
89. Consolidate – monitor previous repair
90. Consolidate
91. Fracture repair – compensate for losses, Consolidate
92. Reset, Consolidate
133a. Rebuild bedstead, Consolidate, injection mortar
93. Fill in hole in front of monument
94. Consolidate
95. Consolidate
96. Consolidate – light bio
97. Consolidate

98. Consolidate
99. Consolidate
100. Consolidate (possible no work – beyond repair)
101. Consolidate – micro injection
102. Consolidate – micro injection
103. Consolidate – injection mortars – priority
104. Consolidate – light bio clean
105. Consolidate footstone
106. Consolidate footstone
107. Consolidate tablet footstone
108. Consolidate
109. Consolidate/crack filler at top
110. Reset/ Consolidate
111. Consolidate
112. Consolidate/injection mortars
113. Consolidate
114. No work
115. Consolidate – reset column to base
116. Consolidate
117. Consolidate

Other work

Reset stone border along east side 40 ft

118. No work
119. Consolidate, crack fillers on previous repairs
120. Consolidate – micro injection along top edge (Graft)
121. (photo 51-52) Consolidate, micro injections on small cracks throughout George A Wilson
122. Col. George A Wilson – Consolidate, micro injection
123. (photo 53) John Edmundson – injection mortars, Consolidate, high priority
124. No work
125. No work
126. Consolidate – no infor. rem.
127. No work
128. Missing
129. Consolidate
130. No work
131. No work
132. Consolidate, reattach
133. Reset (sunken?) Consolidate
134. Consolidate
135. No work
136. Consolidate
137. Consolidate
138. Consolidate, light bio cleaning
139. Consolidate – nice repair
140. Consolidate top
141. Fracture repair on top – Consolidate

142. Loss compensation on corner
143. Consolidate
144. Consolidate
145. No work
146. No work
147. No work
148. Fill under slab
149. No work
150. (photo 57) Guilford W Akin
    a. Reset capstone
    b. Consolidate
151. Failed previous repair – repair fracture
152. (photo 58) Repair/rebuild brick footstone – repair multiple fractured slab, Consolidate
153. Elizabeth Lincoln – Consolidate
154. Consolidate
155. Reset to base, consolidate

197-204 Consolidate

205. No work
206. Consolidate, crack fillers, injection mortars

207, 208. No work

209. Reset
210. Reset fallen obelisk/base, Consolidate
211. Consolidate
212. Consolidate, micro injections
213. Consolidate
214. Consolidate
215. Consolidate
216. Consolidate

217, 218. No work

219. Reset, Consolidate
220. (photo 59-63) mausoleum

<u>Section 12</u>

156. (photo 65) No work – beyond repair
157. Reset - multi fracture repair, Consolidate, compensate for losses
158. Consolidate footstone
159. Mary E Johnson – Consolidate, reattach vase, light bio cleaning
160. (photo 66) Gen. Bushrod R Johnson CSA – appears recarved
    a. Reattach (repair) urn
    b. 3 markers? All saying same thing – distraction to visual integrity
    c. Consolidate marker/bases
161. (photo 67, 68) No action – good example of replacement marker set behind original
162. John C Shivers – consolidate, injection mortars, crack fillers – high priority because still good information on front

163. (photo 69) Consolidate, micro injections – general ground vault at NE corner of section – good interpretive opportunity – no marker
164. Repair single fracture of small obelisk – may need compensation for losses, Consolidate
165. Reset footstone, Consolidate
11, 12. Consolidate, reset 4 corner pillars and consolidate
13. Reset/fracture repair (failed treatment)
14. (photo 70) Consolidate large tablet – face spalling – micro injection
15. Reset footstone/consolidate
16. Consolidate

Section 13
(photo 71) John Roser – Consolidate
Reset footstone – Consolidate
(photo 72) Consolidate, crack fillers, fracture repair, compensate for losses
Consolidate
Reset footstone – moved since survey
No work
Consolidate
Consolidate
Consolidate
No work
Consolidate
12-14. Consolidate
15. Consolidate, crack fillers, injection mortars
16a. Same as 15
16b. Consolidate
80. Consolidate
81. Consolidate, reattach marker and subbase
82. Consolidate
83. Consolidate
84. Slotted base – probe for marker
85. Multiple fracture repair, compensate for losses
86. Failed repair, Consolidate and repair fracture
87. Consolidate footstone
88. Reset/repair fracture – Consolidate
89. Consolidate
90. Reset/repair fractures – Consolidate
91. Multi fracture repair
92. Consolidate
93. (photo 73) Consolidate, compensate for losses, crack filler/injection mortars

Section 14
1. Nancy E Work – Consolidate/reset footstone – D/2 cleaning
2. Elizabeth Ann Kimbo – repair bottom of tablet – reset to base
3. WC Turner – Consolidate – repair cracks with crack mortars – clean?
4. Tablet south of Turner, Consolidate/footstone

5. Consolidate footstone
6. Consolidate column, micro injection mortars
7. Annie Tur___ repair cracks, Consolidate
8. Obelisk Turner – Consolidate, injection mortars, crack fillers
9. Repair/multi fractured tablet, consolidate headstone and footstone
10. Repair slotted base at Hailey family plot, Consolidate 10 markers – consolidate large center column, repair base of large center marker
11. Thomas Fleming – Consolidate and micro injection/ Consolidate footstone
12. Consolidate 2 tablets/1 footstone north of Flemming
13. (photo 70) Consolidate remaining portion of tablet and base
14. Emerson double tablet – Consolidate/micro injections/compensate losses
15. Betty Ford Peach – Consolidate tablet/footstone – micro injections
16. Peach infants – Consolidate tablet/footstone

Section 15

166. Consolidate, injection mortars
167. Consolidate footstone, injection mortars
168. Consolidate – crack fillers along top, injection mortars on face and back
169. Consolidate, crack fillers
170. Probe for missing tablet
171. Consolidate
172. Consolidate
173. Consolidate
174. Consolidate/reset footstone
175. Consolidate footstone, headstone base preset, probe for tablet
176. Consolidate, compensate for losses
177. (photo 74) reset – tree impact, consolidate
178. Consolidate
179. Robert H Simpson – Consolidate, injection mortars, high priority
180. Consolidate
181. Consolidate, no work (no information left)
182. (photo 75) Mary Depp – Consolidate
    a. Bio clean
    b. Reset to base – loose
    c. Repair base with stone patch
183. No work
184. No work
185. No work
186. No work
187. White, Wm. C. and Cora B. – Consolidate
188. No work
189. No work
190. Reset
191. Consolidate
192. No work
193. No work

194. Raise sunken military tablet – Consolidate
195. No work
196. No work
197. Consolidate
198. Consolidate
199. Consolidate, reset all pieces (loose)
200. (photo 76, 77) Inscribed on front and back (back is upside down – reused marker) Consolidate

35a. (photo 78) tablet, Consolidate
201. Morris – No work
202. Consolidate
203. Consolidate
204. (photo 79) No work – bad repair
205. Consolidate
206. Headstone and footstone – Consolidate
207. Consolidate

43, 44. Consolidate/loss compensation on headstone
- a. Reset SW corner plot marker
- b. Consolidate all plot corner markers

45. Consolidate
208. Consolidate
209. (photo 80) Consolidate
210. Consolidate
211. Consolidate
212. Consolidate
213. Consolidate
214. Consolidate, reset footstone
215. Consolidate, reset footstone
216. Consolidate
217. Consolidate

56, 57. Consolidate plot – reset SW corner coping
- a. reset 15 ft of coping west side north end
- b. reset corner coping NW corner
- c. uncover 18 ft of coping on east side

58. No work
59. (photo 81) Reset tree stump marker/repair fracture at base
60. Consolidate
61. Consolidate
62, 63. Consolidate
64, 65. Consolidate
66. Reset, consolidate
67. Consolidate/poor repair
94. Consolidate
95. Consolidate
70, 71. Consolidate
72. Consolidate

73, 73a. Consolidate headstone and footstone, reset footstone
74-79. Consolidate footstone at 75 needs to be reset and consolidate
80. Consolidate – raise? Bio clean
218. Consolidate – bio clean
219. Consolidate – light bio clean
220. Reset footstone, repair base
221. No work
222. Consolidate
223. No work
224. Consolidate
225. No work – marker broken at base and missing
226. Consolidate
227. Consolidate
228. Fracture repair – consolidate, injection mortars
229. Consolidate
230. Consolidate
231. Consolidate, injection mortars on face and back
232. Consolidate, injection mortars on face and back
233. Consolidate
234. Consolidate, crack filler on top
235. Reset footstone, consolidate
236. Consolidate
237. Consolidate
238. Reset footstone and consolidate
239. Consolidate
240. Consolidate
241. Consolidate
242. Fracture repair and consolidate
243. Consolidate
244. Consolidate
245. Consolidate – reattach tablet to subbase/base
108a. Consolidate
246. Consolidate, previous repair failing
109a. Consolidate
247. Consolidate
248. No work
249. Fracture repair, consolidate
250. Consolidate – reset tablet and subbase to base
251. Consolidate
252. (photo 84) Consolidate all pieces, reattach statue, light bio clean
253. Bio clean
254. Consolidate, crack fillers
255. Fracture repair, compensate for losses, consolidate
256. Reset, consolidate
257. Consolidate
258. Consolidate, reset to base (loose)

259. Consolidate, tablet/subbase
260. Consolidate
124, 125. Reset/ Consolidate
126. Reset loose tablet, Consolidate
127. (photo 85) Consolidate, check attachments
128. (photo 86) Consolidate marble segments (6 pieces)
129. Consolidate
130, 131. Consolidate
132, 133. Consolidate
134, 135. Consolidate
136. Consolidate, fill deep depression in front of monument
137. Consolidate
138, 140. Consolidate headstone, fracture repair on footstone/consolidate
139, 141. Consolidate
142. Consolidate
143. (photo 87) Cahal monument – consolidate, light cleaning
144. Consolidate
145. Consolidate, crack fillers on deep cracks in native limestone
146. (photo 88) rebuild base for ground tablet, repair tablet – 4 pieces – consolidate
147. (photo 89) Repair limestone base using patching mortars
    a. clean bio growth off base
    b. consolidate marker and base
148. Fracture repair, consolidate, reset to base
261. Consolidate
262. (photo 90, 91) Consolidate Melinda J Grubbs - artistic
263. Consolidate
264. Consolidate, crack fillers along top edges
265. Consolidate (all info gone)
266. No work

<u>Section 16</u>

267. Consolidate
268. Consolidate
269. Consolidate, missing top half
270. Consolidate – reset (loose), failing repair, injection mortars
271. Consolidate – injection mortars
272. Consolidate – injection mortars
273. Consolidate – injection mortars
274. Reset to base, consolidate
275. Consolidate
276. Consolidate
277. Consolidate
278. Consolidate
279. Consolidate
280. Consolidate
281. Consolidate

282. Consolidate
283. Consolidate
284. Consolidate
285. Consolidate
286. Fracture repair/consolidate
287. Consolidate/raise
288. Consolidate – raise footstone
289. Consolidate – raise footstone
290. Consolidate
291. Consolidate
292. Consolidate
293. Consolidate marble obelisk
294. Consolidate marble marker
295. Consolidate marker/bases
296. Consolidate, injection mortars
297. Reset footstone/consolidate
298. Consolidate
299. Reset/consolidate
300. Consolidate, micro inject mortar
301. Fracture repair/ consolidate
302. Consolidate, injection mortars
303. Consolidate, raise
304. Consolidate
305. Multiple fracture repair, consolidate, compensate for losses
306. Consolidate
307. Consolidate, crack fillers along top edge
308. Consolidate
309. Consolidate, injection mortars
310. Consolidate
311. Reset/consolidate
312. Consolidate
313. Consolidate
314. Repair fracture, reset, consolidate
315. Consolidate, reset
316. Reset footstone, consolidate
317. Consolidate
318. Consolidate

52a. Reset to base, consolidate

319. Consolidate
320. Consolidate
321. Reset to base, consolidate

56, 57. Consolidate both – 56 injection mortars on back

58. Consolidate, injection mortars

58a. Consolidate

59. Consolidate, reset to base
60. Reset footstone

61. Consolidate, injection mortars
62. Reset footstone/repair
63. Consolidate
64, 65. Consolidate
66. Consolidate, injection mortars
67. Consolidate
68. Consolidate
69. (photo 92) Multiple fracture repair, reset to base, consolidate
70. No work
71. Consolidate box tomb sides, pillars, top, compensate for losses in center of tablet
72. Consolidate
73. Consolidate
74. Consolidate
75. Consolidate, repair fracture
76. No work – too far gone
77. Consolidate all parts of grave table
78. Consolidate all parts of grave table
79. (photo 93) Repair multiple fracture – ground tablet mower damage
80. Consolidate, fracture repair, loss compensation
81. Consolidate
82. No work
83. Consolidate
84. (photo 94) Consolidate, injection mortars, raise/fill in hole
85. Fracture repair, consolidate injection mortars
86. (photo 95) Consolidate, alfresco treatment on face, crack fillers – injection mortars
87. Consolidate, injection mortars/crack fillers along top and sides
88, 89. (photo 96) George Harris - Consolidate markers – consolidate corner pillars, repair SW pillar with injection mortars and crack fillers
90. (photo 97) Reset in slot, slate marker, clean
91. Consolidate, injection mortars along top
92. Consolidate footstone
93. Consolidate, top missing
94. (photo 98) Anna and J Albert Lehmann – consolidate – injection mortars, stone patch, reset to base, repair top
95. Reset sunken marker
96. Consolidate, reset in slot
97. Consolidate, reset to base
98. Rest fallen marker and base (tilted)
99. No work
100. No work
101. Reset, sunken
102. No work
103. No work
104a. Consolidate
104b. (photo 99) Consolidate box tomb, light bio clean
105. Consolidate – tablet, pieces missing

106. Consolidate
107. Consolidate, reset footstone
108. Consolidate
108a. Consolidate
108b. Reset footstone

Lawrence plot – reset 3 corner posts – consolidate all

109. Clean
110. Clean
111. Clean
112. Reset at same grade as 111 (Emma Lawrence) clean
113. Reset at same grade as 114 (PF Lawrence) clean
114. Clean
115. No work – too far gone
116. Consolidate footstone
117. Consolidate – investigate raising
118. Consolidate
119. No work – too far gone
120. (photo 100, 101) Jones - Consolidate, injection mortars, crack fillers, loss compensation, high priority
121. Gower – Consolidate
122. Consolidate
123. No work
124. Consolidate
125. Consolidate
126, 127. Consolidate, reset tablet/subbase to base, general reset – 2 corner markers around Reeves plot
128. Consolidate
129. No work
130. Consolidate
322. Consolidate
323. Consolidate
324. Consolidate
325. Consolidate
135, 136. Consolidate
137. Consolidate
326. Consolidate
327. Consolidate
328. Fracture repair, Consolidate
329. Rogers bedstead
    - Repair both rails
    - Reset rails and footstone to align with headstone
    - Consolidate all
    - Reset headstone and subbase to base
330. (photo 104) Martha Douglas – rest to base (loose) consolidate
331. Consolidate
332. Consolidate

333. (photo 105) Martha Cockrill – Consolidate
Plot general – stabilize fence impacted by tree
Rust converter
Reset paving stones
334. No work
335. Consolidate, bio clean
336. No work
148a. No work (footstone)
148b. No work (footstone)
337. (photo 106) Mary E. Brown – consolidate, light bio clean
338. (photo 107) Ann Brown – consolidate, injection mortars on cracks on center section and subbase – light bio clean
Brown plot – repair east coping and iron work – repair east ½ of south fence and coping, rust converter

<u>Section 17</u>

339. Consolidate
340. Consolidate
341. Consolidate, reset to base, crack fillers, injection mortars
342. Consolidate, reset to base, injection mortars
343. Consolidate
344. Consolidate
6a. Reset/consolidate
345. Consolidate and crack fillers on top edge
346. Consolidate
347. Consolidate
348. Consolidate
6-10 – Stabilize remaining ironwork
Repair broken panels
Rust converter
11, 12. Consolidate, log footstone
13-15. No work
16. No work
17. Consolidate all pieces, light bio clean
18. Consolidate
19-21. No work
22, 23. Consolidate
24. Consolidate
25. Consolidate
26. Reset/consolidate
27. Consolidate
28. Reset, consolidate
29. Consolidate – previous repair failing
30. Consolidate and reset all pieces
96. Consolidate – possible reset
97. Consolidate
98. Missing

99. Missing
100. Missing
101. Fracture repairs, consolidate
102. Reset, consolidate
103. Consolidate
104. Consolidate
105. Reset/consolidate
106. Consolidate/reset
107. Consolidate/reset
108. Consolidate
109. Consolidate, injection mortars on top edge
110. Consolidate/reset
111. Consolidate – injection mortars

Section 18
112. (photo 116) Consolidate, injection mortars, rebuilding of profiles with stone patch
113. Consolidate
114. Consolidate
115. Consolidate
4a. Consolidate
116. (photo 117) Consolidate, light clean
117. Reset, consolidate, repair mower damage
118. Consolidate, light clean
119. Reset/ Consolidate
120. Consolidate
9a. Consolidate and fracture
121. Reset
122. Consolidate
123. Consolidate
124. See photos 109-115, consolidate
125. Consolidate
126. Consolidate
Plot – rebuild entrance north column with stone patch
Rebuild capstone with stone patch
Consolidate columns/caps
Consider urns to match plot to south or top of columns
Ironwork replica
127. Consolidate
128. Consolidate
129. Consolidate
130. Fracture repair, consolidate
131. Consolidate
132. (photo 18-28) Consolidate
133. Consolidate
134. Reset, consolidate

135. Rebuild south panel with stone patches or replace with cast stone product – consolidate, crack mortars, injection mortars
136. No work
137. Consolidate
138. Consolidate
139. Consolidate
140. Consolidate
141. Consolidate
142. Consolidate
143. (photo 29) Consolidate, repair 2 fractures on north rail, repair headstone base with stone patch
144. Anderson – consolidate – injection/patching mortars
145. Consolidate box tomb
146. Consolidate, reset multi segment column
147. No work
148. Consolidate box tomb, reset top
149. Reset to subbase, consolidate
150. Consolidate, crack fillers
151. Consolidate, injection mortars
152. Consolidate
153. Consolidate
154. Consolidate
155. Consolidate
156. Consolidate, compensate for losses, injection
157. Consolidate, compensate for losses, injection
158. Consolidate
159. Reset, consolidate
160. Consolidate, light cleaning
161. Reset, fracture repair, consolidate
162. Consolidate
163. Consolidate
164. Injection mortars, consolidate
165. Injection mortars, consolidate
166. Consolidate
167. Consolidate, raise
168. Fracture repair, remove failed repair, consolidate
169. Consolidate
170. Consolidate
171. Consolidate corner marker

<u>Section 19</u>

172. (photo 132) Rebuild brick/stone base, repair table tablet – fracture – loss compensation
173. Consolidate
174. Consolidate table tablet, repair fracture
175. Consolidate
176. Consolidate
177. Consolidate

178. Consolidate
179. Consolidate, reset footstone
180. Consolidate, reset footstone
181. Consolidate – attach top piece to middle
182. Consolidate, injection mortars on top edge
183. Consolidate
184. Consolidate
185. Consolidate box tomb, repair south panel, repair SW corner post
186. Consolidate panels, top and posts, rebuild SW corner of top
187. (photo 133) Being reset, consolidate
188. (photo 134) Rebuild/repair box tomb
189. Consolidate, injection mortars on top edge
190. Consolidate
191. Consolidate
192. Consolidate
193. Repair fracture, consolidate
194. (photo 135)Consolidate box tomb/rebuild, mower damage
195. Consolidate
196. Consolidate all parts
197. Fracture repair/consolidate
198. Reset, consolidate – clean
199. Consolidate

28a. Raise – architectural investigation to find missing bottom

200. Reset, consolidate
201. Consolidate, injection mortars on face
202. Reset footstone, repair fracture
203. Consolidate
204. Consolidate
205. Consolidate
206. Consolidate
207. Consolidate
208. Consolidate
209. Multiple fracture repair/consolidate
210. Consolidate
211. Consolidate
212. Reset/consolidate
213. No work
214. No work
215. No work – most is missing
216. Consolidate
217. Consolidate
218. Consolidate
219. (photo 135-141) Consolidate, repair north panel with injection mortars
220. (photo 142-147) Rebuild box tomb
221. Consolidate

50a. Repair fractures

50b. Consolidate
222. Consolidate
223. Consolidate
224. Consolidate
225. Consolidate
226. Repair fracture
227. Consolidate
228. Consolidate
229. Consolidate
230. Consolidate
231. Consolidate, injection mortars
232. Fracture repair, consolidate
233. (photo 148) Reconstruct box tomb
234. Consolidate
235. Consolidate
236. Consolidate
237. Consolidate, crack fillers
238. Consolidate
239. (Photo 01) Consolidate - assoc. work - Consolidate, repair 8 grave plot corner markers, injection mortars
240. (Photo 04) Consolidate reset slightly from tree (black walnut) - repair fractured base
241. (Photo 02) rebuild box tomb - raise slightly to reduce impact from tree, consolidate all pieces
242. Consolidate
243. Consolidate
244. Consolidate
245. Consolidate - Photo 03 - reset plot corner posts (2 west posts), consolidate all
246. Consolidate, crack fillers along top edges
247. Consolidate
248. Consolidate
249. Consolidate
250. No work - maybe a cleaning - granite
251. Reset, consolidate
252. Reset, consolidate
253. Consolidate, injection mortars
254. (Photo 09) Consolidate, injection mortars, crack fillers
255. Consolidate box tomb, stone patch repair on SE corner
256. Reset to of box tomb, consolidate
257. (Photo 10) Consolidate, light cleaning
258. (Photo 11) crack filler bottom corner/back, consolidate, bio clean
259. Consolidate, bio cleaning, consolidate bird bath
260. (Photo 12) Consolidate, reset to base (loose)
261. Reset, consolidate
262. Reset top of box tomb, repair fracture, consolidate all
263. Repair/replace north panel box tomb, reset top consolidate all
264. Consolidate, injection mortars on back
265. Consolidate

266. Reset to base, consolidate (loose)
267. (Photo 13) Reset to base (loose), consolidate
268. No work
97a. No work
97b. Reset lower?
269. Consolidate, fracture repair on north panel
270. No work
271. (Photo 14) Consolidate, tablet, repaint brick base
272. (Photo 15) Rebuild box tomb, repair multi fractures, loss compensation
273. (Photo 16) Rebuild grave table, move 6-12" forward to reduce tree impact, consolidate all, injection mortars on top
274. (Photo 17) Rebuild box tomb, consolidate, compensate for losses on top SE corner
275. No work
276. No work
277. No work
278. (Photo 18, 19) Consolidate box tomb, micro injection on top, cut back shrub
279. No work
280. Reset tablet/slotted base, consolidate
281. Consolidate, injection mortars
282. Reset footstone, consolidate, crack fillers o top edge
283. Consolidate, injection mortars
284. Consolidate
285. Reset footstone, consolidate
286. (Photo 20) Consolidate, fracture repair on cap, loss compensation
287. (Photo 21) Consolidate
288. Consolidate, crack fillers on top edge
289. (Photo 22, 23) Consolidate, injection mortars on face
290. (Photo 24) Consolidate
291. No work
292. (Photo 25) Consolidate, injection mortars
293. Consolidate, footstone
294. Consolidate, crack fillers along top
295. Consolidate, crack fillers on top edge
296. Consolidate
297. Consolidate
298. Consolidate
299. (Photo 26) Reset to base - mower damage suspected
300. (Photo 27) Reset top to box tomb, consolidated
301. (Photo 28-31) Reset top to box tomb, consolidate, repair stone coping and iron fence, consolidate coping, gate posts
302. (Photo 32) Consolidate, bio cleaning
303. (Photo 33) Consolidate top of box tomb, crack fillers in middle edges of top
304. Fracture repair - top may be lying to north of remaining tablet, consolidate
305. Missing tablet, probe ground
306. Consolidate
307. (Photo 34-36) Consolidate, bio cleaning

Section 20

1. (Photo 37, 38) Consolidate, ironwork - rust converter - medium tablet
2. Consolidate - large tablet
3. Consolidate, injection mortars - small tablet
4. Consolidate, reset - medium tablet and small tablet
5. Consolidate, reset - medium tablet and small tablet
6. (Photo 39) Consolidate, small tablet
7. (Photo 39) Consolidate, small tablet
8. (Photo 39) Consolidate, large tablet
9. (Photo 39) Consolidate, injection mortars - large tablet
10. (Photo 39) Consolidate, small tablet
11. Consolidate, large tablet
12. Consolidate, injection mortars on back, repair fractured footstone, medium tablet
13. Consolidate, small tablet
14. Consolidate, small tablet x2
15. Consolidate, small tablet x2
16. Reset, consolidate, crack fillers along top - medium tablet
17. Consolidate, crack fillers along top - small tablet
18. Consolidate, medium tablet
19. Failed repair - missing top part of tablet - medium tablet
20. (Photo 40) Consolidate, large complex obelisk
21. Consolidate, medium tablet

22-28 No work

25a. Reset - small tablet

29. Raise tablet, consolidate - small tablet
30. Fracture repair, consolidate - small tablet

31-36. No work

37. No work
38. Consolidate, small tablet
39. Recent reset, compensate for losses, crack fillers - complex monument
40. (Photo 41) Consolidate, light bio clean, large complex (driver)
41. Consolidate - small monument
42. (Photo 42) Consolidate, bio clean
43. Consolidate
44. Consolidate, injection mortars
45. Reset, consolidate
46. Fracture repair, consolidate
47. Consolidate
48. (Photo 43, 44) Consolidate box tomb
49. (Photo 45) Rebuild multi fractured top tablet, replace staples
50. No work

51, 52. Consolidate

53. No work
54. Consolidate
55. Consolidate

56. No work
57. Consolidate
58. Reset, consolidate
59. (Photo 46) Fracture repair - top piece found near marker 25
60. Consolidate
61. Reset footstone, consolidate
62. Reset
62a. Fracture repair, consolidate
63. Consolidate
64. Consolidate, injection mortars
65. Consolidate, injection mortars
66. Reset, consolidate
67. Reset, Consolidate
68. Consolidate
69. Consolidate
70. Reset to base, consolidate
71. Reset, consolidate
72. Missing top
73. Consolidate footstone, reset
74. Reset die, subbase to base
75. Consolidate
76. Reset to new base
77. Fractured, missing
78. Reset, consolidate
79, 80. No work
81. Consolidate
82. (Photo 47) Consolidate
83. Consolidate
84. Consolidate
85. Consolidate, reset over grave to line up with headstone
86. Consolidate
87. No work
88. No work
89. Consolidate
90. (Photo 48) Reset, Consolidate
91. Reset, consolidate
92. Consolidate
93. Consolidate
94. Consolidate - repair remaining posts, uncover buried coping
95, 96. Consolidate
97. (Photo 49) Consolidate, reset bed rails, repair fractures
98. Consolidate
99. Reset to base, consolidate
100. Consolidate, injection mortars
101. Reset, consolidate
102. Fracture repair, consolidate, reset

103a. Fracture repair, consolidate
103. Consolidate, crack mortars on top
104. Consolidate
105. Consolidate
106. Consolidate
107. Reset footstone, consolidate
108. (Photo 50) Consolidate
109. Consolidate
110. Consolidate
111. (Photo 51) Consolidate, injection mortars
112. Consolidate, injection mortars
113. Consolidate
114. (photo 52) Consolidate, crack mortars at breaks, bio cleaning, reset footstone
115. Consolidate, micro injection mortars
116. Reset footstone, consolidate
117. Consolidate
118. Fracture repair, consolidate
119. No work
120. Reset
121. Reset
122. No work
123. No work
124. Consolidate
125. Consolidate, injection mortars
126. Consolidate, injection mortars
127. Consolidate
128. Consolidate
129. Consolidate
130. Consolidate
130a. Fracture repair, consolidate footstone
131. Consolidate
132. Consolidate, crack mortars on base
133. Multiple fracture repair
134. Consolidate
135. Consolidate, injection mortars
136. Remove from tree before lost, reset, consolidate
137. Tree overtaken
138. Consolidate
139. Consolidate
140. (Photo 54) Consolidate, - nice repair
141. Consolidate, compensate losses
142. Consolidate, crack mortars on top edge
143. Reset, consolidate
144. Consolidate, reset

Section 21

1. (Photo 1-2) Repair base with consolidation treatment and crack injection mortars, consolidate tablet and monitor previous repair
2. (Photo 3) ___ Drake – consolidation treatment
3. (Photo 4) Consolidate obelisk, subbase and base, injection mortars on face cracks and crack fillers, Stone patches on base to restore profile
4. Reset fallen tablet, investigate area for fragments
5. (Photo 5) Ground slab with obelisk base – obelisk is missing, may have been moved to other cemetery, no work recommended
6. (Photo 6-9) Smith C. Clark mausoleum – consolidate marble stone over entrance, tuck point brick , repair missing brick "column" on north side, repair roof with appropriate materials, repair all of north column details, consolidate/repair caps, consider cleaning of brick.

Section 23

308. Consolidate
309. Consolidate
310. Consolidate, reset (loose)
311. Consolidate, reset (loose)
312. Repair slotted base, repair tab, consolidate, reset
313. Consolidate, bio clean
314. Consolidate
315. Consolidate
316. Consolidate
317. Reset, Consolidate
318. No work
319. Consolidate
320. Reset, consolidate
321. No work
322. Repair multi fracture ground tablet - consolidate
323. Repair multi fracture ground tablet - consolidate
324. Reset corner
325. Reset footstone - consolidate
326. (Photo) Consolidate, reset
327. Consolidate
328. Consolidate, reset
329. Consolidate, reset
330. Consolidate, injection mortars
331. Reset fallen marker
332. Reset fallen marker
333. Reset corner marker
334. Reset, consolidate
335. (Photo) mass grave - 211 graves moved from airport 1957
336. Reset footstone consolidate, reset corners
337. Reset, consolidate footstone
338. ? missing
339. ? missing
340. No work

341. Consolidate
342. Consolidate, injection mortars
343. Reset footstone, consolidate
344. Reset to base, consolidate
345. Consolidate
346. Consolidate, injection mortars
347. Consolidate
348. Consolidate
349. Consolidate, injection mortars behind bible
350. Consolidate
351. (Photo 59) Fracture 2x repair, consolidate
352. Reset, consolidate
353. Reset, consolidate
354. (Photo 60) Consolidate
355. Consolidate, crack fillers
356. Consolidate
357. Reset, consolidate
358. Reset, Consolidate
359. Reset, repair base with stone patch, consolidate
360. Consolidate
361. Fallen obelisk? - investigate possible reset
362. Reset, fracture repair, consolidate
363. No work
364. Fractured, missing top
365. No work
366. Reset corner marker
367. Reset to base, consolidate, crack mortars
368. (Photo 61) Consolidate, marble elements
369. Consolidate, reset
370. Consolidate
371. Reset, consolidate
372. Consolidate
373. Consolidate
374. (Photo 62, 63) Consolidate
375. Consolidate, raise, injection mortars on face
376. Consolidate
377. Consolidate, reset
378. Reset, Consolidate
379. Consolidate
380. Reset footstone
381. Consolidate
382. Consolidate

<u>Section 24</u>

383. Consolidate, reset to base
384. Reset, consolidate

385. Consolidate, uncover buried coping, injection mortars crack
386. Reset, consolidate, bio clean
387. Consolidate, injection mortars, crack fillers
388. Missing top portion of tablet (failed repair)
389. Consolidate, injection mortars
390. Reset, consolidate
391. Consolidate
392. Consolidate
393. Reset consolidate
394. Reset, consolidate, injection mortars
395. Consolidate
396. Reset, Consolidate
397. Consolidate
398. Fracture repair, footstone reset
399. Consolidate
400. Consolidate
401. Raise, consolidate
402. Consolidate, injection mortars
403. Broken tablet missing
404. Fracture repair, consolidate
405. Consolidate
406. Reset, consolidate
407. Reset, consolidate
408. Consolidate
409. Consolidate, injection mortars
410. Consolidate, injection mortars
411. Fracture repair, consolidate
412. Slotted base
413. Consolidate
414. Failed repair
415. Consolidate, crack mortars along top
416. Consolidate
417. Consolidate
418. Consolidate
419. Raise, consolidate
420. Reset, consolidate
421. Reset, consolidate
422. Reset to base, consolidate
423. Consolidate, clean with bio wash
424. Consolidate, clean
425. Consolidate, clean
426. Consolidate, injection mortars
427. Consolidate, injection mortars
428. Reset, consolidate
429. Repair, consolidate, loss compensation
430. Consolidate

431. Consolidate
432. Reset, Consolidate
433. Fracture repair, reset, consolidate
434. Consolidate
435. Consolidate
436. Slate - no work
437. Slate - no work
438. Consolidate
439. Consolidate, injection mortars, crack mortars, reset to base
440. No work
441. No work
442. Reset
443. Consolidate
444. Slotted base
445. Consolidate
446. Consolidate, injection mortars
447. Tab and slotted base
448. Consolidate
449. Consolidate, injection mortars
450. Consolidate
451. Fracture repair, stone patch, consolidate
452. Consolidate, injection mortar
453. Reset, consolidate, injection mortar
454. Consolidate
455. Consolidate, injection mortar
456. Consolidate, injection mortar
457. Consolidate, injection mortar
458. Crack fillers on top
459. Slotted base
460. Consolidate
461. Slotted base
462. Missing
463. Consolidate, injection mortars on top
464. Consolidate, injection mortars on top
465. Consolidate
466. Reset - consolidate

Section 25

467. (Photo 81) Samuel Wolfe - Consolidate, bio clean, iron work in good condition - rust converter
468. Nellie Williams - Consolidate - small tablet
469. Reset to base - Consolidate - footstone small tablet
470. Consolidate, small marker
471. (Photo 82) Consolidate, small marker
472. Consolidate footstone - small marker
473. Fractured, missing - multiple fracture adhesive repair

474. Consolidate, large marker
475. (Photo 83) Consolidate, small marker
476. Consolidate
477. Fractured missing portion wit info, multiple fracture adhesive repair/composite repair
478. Reset/shifted - reset medium
479. Consolidate, small tablet
480. Consolidate, small tablet
481. Consolidate, crack fillers on previous repairs, medium - previous repair
482. Consolidate, small
483. Consolidate, small
484. Repair slotted base or case new one, reset (loose) repair base, reset medium
485. Slotted base for footstone - footstone missing, construct new base
486. Reset, bio clean, consolidate, reset medium, consolidate medium
487. Slotted base, repair base
488. Consolidate, small
489. Consolidate, fracture repair, injection mortars, medium, multiple injection
490. Reset footstone, Consolidate
491. (Photo 84) Consolidate, large
492. (Photo 84) Consolidate, medium
493. Consolidate, crack fillers, losses - large, composite repair
494. Consolidate, injection mortars, medium injection repairs
495. Consolidate, large
496. Reset footstone, consolidate, small reset, small consolidate
497. (Photo 85) Consolidate, complex consolidate.
498. Consolidate, reset to base, medium consolidate, medium reset
499. Consolidate, large consolidate
500. Reset to base, large reset
501. Consolidate, medium consolidate
502. Consolidate, small consolidate
503. Reset footstone, consolidate
504. Consolidate, small consolidate, small rest
505. (Photo 86) Consolidate - artistic - bio wash? Complex consolidate
506. Consolidate, large consolidate
507. Broken tablet - missing top - composite repair
508. Crack fillers at previous repair, consolidate, reset to base (check stability), bio wash - Previous repair, large consolidate, large reset
509. Consolidate, medium consolidate
510. Consolidate, medium consolidate
511. Consolidate, small consolidate
512. Consolidate, medium consolidate
513. Consolidate, medium consolidate
514. Consolidate, medium consolidate
515. Consolidate, small consolidate
516. Base - no work
517. Reset tablet and base - large reset
518. Consolidate, reset tablet and base, medium consolidate, medium reset

519. Consolidate, reset to base, medium consolidate, medium reset
520. Missing
521. Consolidate 4 plot corner markers
522. Consolidate 4 plot corner markers – 4 medium consolidate
523. Consolidate 4 plot corner markers
524. Reset leaning tablet - consolidate - small reset, small consolidate
525. Repair multiple fractured tablet, failed previous repair, consolidate, injections mortar – multi fracture/previous repair/consolidate medium/injection repair
526. Repair fractured footstone, consolidate – simple adhesive repair – small consolidate
527. Consolidate – small consolidate
528. Consolidate, reset footstone – small consolidate, small reset
529. Consolidate, crack fillers – medium consolidate, simple adhesive repair
530. Consolidate – small consolidate
531. Consolidate – small consolidate
532. Consolidate – small consolidate
533. Consolidate – small consolidate
534. (Photo 87, 88) Dallas marker, artistic value, consolidate (replicate ironwork, good demo plot) – complex consolidate
535. (Photo 89) repair top of box tomb, fractured, losses, consolidate all – complex consolidate, reconstruct stone, multi fracture repair, composite repair
536. Consolidate all elements of box tomb – complex consolidate
537. (Photo 90-95) Consolidate, injection mortars, bio wash, repair/consolidate pillars, repair iron bars/rails – complex consolidate, injection repair, replace material
538. (Photo 96) Consolidate, injection mortars on back, repair/consolidate pillars, repair iron bars/rails – Complex consolidate, injection repair
539. (Photo 97) Consolidate, injection mortars on top, bio wash, repair iron bars/rails – complex consolidate, injection repair
540. (Photo 98) Consolidate, bio wash, repair/consolidate pillars, repair iron bars/rails – complex consolidate
541. (Photo 99) Injection mortars on fracture on north corner, reset top of box tomb, consolidate top injection mortars on edge of top – injection repair – reset complex, comp consolidate
542. No work - info gone
543. (Photo 100) Consolidate, injection repair con cracks, unique box tomb – comp consolidate, injection repair
544. Base, missing headstone – composite repair
545. (Photo 101) Consolidate – consolidate medium
546. Consolidate – consolidate small

80a. Consolidate – consolidate small

547. Fractured - missing tablet – simple adhesive repair, composite repair
548. Consolidate, injection mortars on face – small consolidate, injection repair
549. Consolidate – large consolidate
550. Reset, consolidate – small reset, small consolidate
551. Consolidate - small
552. (Photo 102) Consolidate - medium
553. Reset, consolidate - small
554. Consolidate, injection mortars on face – small consolidate, injection

555. Consolidate, missing info (top) – large consolidate, comp repair
556. Consolidate - small
557. Consolidate, injection mortars - small
558. Reset footstone, consolidate - small
559. Box tomb, caved, to is lost/destroyed
560. (Photo 103-104) loss compensation corner of north panel, cleaned harshly, consolidate – comp repair, comp consolidate
561. Box tomb, no work
562. Consolidate large obelisk, injection mortars on small cracks on obelisk – comp, injection
563. Slotted base
564. (Photo 105) Consolidate all
565. Consolidate all – 4 large consolidate
566. Consolidate clean bottom with bio wash - large
567. Consolidate - complex
568. Consolidate - small
569. Consolidate - small
570. Consolidate - injection mortars on cracks – small, injection
571. Consolidate, fracture repairs (2) - medium
572. Consolidate - complex
573. Consolidate - medium
574. (Photo 106) Consolidate - large
575. (Photo 107) Consolidate, bio wash - large
576. Reset to base (slotted), consolidate - large
577. Consolidate - small
578. No work
579. No work
580. Consolidate - medium
581. (Photo 108) Consolidate, artistic - complex
582. Consolidate - large
583. Consolidate - medium
584. (Photo 109) Consolidate, injection mortars on subbase – complex, injection
585. (Photo 110) Consolidate, consider getting pillars that are missing replicated to make the monument whole again – complex, replace missing
586. Fractured missing to tablet – multi fracture
587. Consolidate footstone - small

<u>Section 26</u>

588. (Photo 70) Consolidate, injection mortars - large
589. (Photo 71) Consolidate, reset cap (loose) - medium
590. (Photo 72) reset top two pieces (loose), consolidate, crack mortars - large
591. Consolidate - medium
592. Consolidate - small
593. Consolidate - medium
594. Broken footstone, missing - small
595. Reset tablet in slotted base, consolidate - small
596. Consolidate - small

597. Broken tablet (missing) small
598. Consolidate - small
599. Consolidate, mower deck damage - small
600. (Photo 73) Consolidate, injection mortars on face - small
601. No work - medium
602. No work - medium
603. Consolidate - medium
604. No work – medium
605. No work - medium
606. (Photo 74) crack fillers on previous repairs - medium
607. Consolidate footstone - small
608. (Photo 75) reset loose elements - large
609. Consolidate injection mortars - small
610. Consolidate footstone, injection mortars - small
611. Consolidate, monitor previous repairs - small
612. Consolidate - small
613. Consolidate footstone – small
614. (Photo 76) Consolidate bedstead, bio clean headstone, repair fractured bed rails, reset loose
Headstone – large complex
615. Consolidate - small
616. Consolidate - small
617. (Photo 77) Consolidate headstone and footstone - medium
618. Consolidate - medium
619. No work - small
620. No work - small
621. No work
622. No work
623. No work
624. No work - medium
625. Consolidate, injection mortars - small
626. Consolidate - small
627. Consolidate - medium
628. Consolidate - small
629. Consolidate, injection mortars - small
630. Consolidate - large
631. (Photo 78) Consolidate large* consolidate 12 plot (6 small) posts, injection mortars
632. Consolidate small - new chains?
633. (Photo 80) Consolidate, bio clean - small
634. No work - medium
635. No work - medium
636. Consolidate - large
637. No work - medium
638. Reset, consolidate - medium

Section 27

639. Consolidate - medium
640. Consolidate - small
641. Leaning slightly, monitor, consolidate medium (reset corner post)
642. (Photo 111) Consolidate large, bio wash
643. Consolidate medium, reset to base (loose)
644. Consolidate medium, bio wash
645. (Photo 112) reset headstone, reset bedstead rails and foot bed, consolidate all – small reset, comp
646. Reset corner post, reset tablet and subbase, repair fracture, medium
647. Consolidate small
648. Consolidate large, reset to base - loose
649. Reset corner post, reset tablet in slotted base, consolidate, bio wash, small
650. (Photo 113) Consolidate, repair fractures, crack filler - medium
651. Consolidate small
652. Reset remaining tablet in slotted base, medium
653. Consolidate, crack fillers on top, small
654. Consolidate small
655. Fracture repair, consolidate
656. Reset to base, consolidate medium
657. Reset footstone, consolidate small
658. Consolidate, bio wash (light) small
659. Consolidate small
660. (Photo 114) Consolidate, reset top piece to bases (box panel in plot) complex
661. No work
662. Consolidate small
663. Consolidate small
664. Fracture repair, reset in slot, medium
665. Failed repair, fracture repair, consolidate medium
666. Reset (fallen) to base, consolidate medium
667. (Photo 115) Consolidate footstone, small
668. Reset (fallen) obelisk to base, complex
669. Consolidate large
670. Reset top piece, consolidate all, complex
671. Stoop - no work
672. Corner post - no work
673. Consolidate, reset top to columns, check all sets, complex
674. Consolidate small
675. Missing
676. Consolidate small
677. Consolidate small
678. Base - tablet missing, replace missing material
679. No work
680. Consolidate large
681. Consolidate, reset cap, medium
682. Consolidate, info lost, small
683. Reset, Consolidate small

684. Consolidate medium
685. Consolidate small
686. Consolidate box tomb panels and top, large
687. Consolidate, reset, small
688. Consolidate, reset, small
689. Reset, Consolidate medium
690. Consolidate medium
691. Consolidate medium
692. Base, missing tablet – replace missing
693. Consolidate footstone, small
694. Consolidate large
695. No work
696. Consolidate medium
697. Consolidate medium
698. Shelby mausoleum

Section 28F

699. (Photo 56) slotted base, no monument
700. (Photo 56) reset to base, Consolidate
701. (Photo 56) repair multiple fracture, Consolidate
702. (Photo 56) repair failed previous treatment, Consolidate, reset, repair corner markers
703. Consolidate

Section 28(I)

704. No work
705. No work
706. No work
707. Consolidate, bio wash
708. Consolidate
709. Consolidate
710. Consolidate
711. Consolidate
712. Consolidate
713. Reset, consolidate
714. Consolidate
715. Multiple fracture repair
716. Consolidate, reset (loose)
717. (Photo 55) Consolidate
718. Consolidate
719. Consolidate
720. Consolidate
721. Consolidate
722. Consolidate, injection mortars
723. Consolidate, injection mortars
724. Consolidate
725. Consolidate

726. Consolidate
727. Consolidate
728. Consolidate, injection mortars along top edge
729. Consolidate
730. Reset, consolidate
731. Consolidate
732. (Photo 57, 58) reset (tilted) consolidate, fracture repair (mower)
733. Consolidate
734. Rebuild brick base, consolidate tablet stone
735. Reset loose tablet to slotted base, consolidate
736. Consolidate
737. (photo 59) Consolidate, injection mortars
738. Consolidate, injection mortars
739. Tilted columns, stable, monitor
740. Consolidate, reset
741. Consolidate
742. Consolidate
743. No work
744. (Photo 60) rebuild brick base, reset tablet stone, consolidate
745. Reset, consolidate
746. Consolidate
747. (Photo 61-63) rebuild brick base, consolidate, reset to base
748. Rebuild brick base, consolidate, reset to base
749. (Photo 64) rebuild brick base, multiple fracture repair, consolidate reset to base
750. Consolidate
751. Consolidate, injection mortars along top, mower damage (patch)
752. Consolidate, injection mortars on top
753. Consolidate (raise)
754. Multiple fracture repair, losses, consolidate
755. Consolidate, injection mortars on top
756. Consolidate
757. Consolidate, injection mortars on top
758. Consolidate, injection mortars
759. Consolidate
760. Consolidate
761. Consolidate
762. Consolidate, reset?

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763. (Photo 3) Consolidate, monitor previous repair
764. Consolidate, injection mortars along top
765. Consolidate
766. Consolidate
767. (Photo 4) Fracture repair (2), consolidate, repair
768. Probe for missing tablet, consolidate reset
769. (Photo 5) Consolidate reset small obelisk

770. Consolidate
771. Consolidate
772. Consolidate
773. Consolidate, reset
774. Consolidate

Photo 6-8 – tree number 16 research

775. (Photo 9) Reset monument, repair concrete coping behind the monument (10 LF)
776. Consolidate
777. Consolidate
778. No work
779. Reset, consolidate
780. Consolidate
781. Consolidate
782. Consolidate
783. Consolidate
784. Consolidate
785. Consolidate
786. Consolidate
787. Consolidate, injection mortars
788. Reset, consolidate
789. Consolidate
790. Consolidate
791. Consolidate, previous repair (remove drips)
792. Consolidate

91a. Consolidate

793. Consolidate
794. Reset, consolidate
795. Rebuild stone base, consolidate top, compensate losses on SE corner
796. Consolidate
797. Consolidate, fracture repair, injection
798. Consolidate, injection mortars
799. Reset, consolidate
800. Consolidate
801. Consolidate
802. Broken tablet (base remaining)
803. Broken footstone (base remaining)
804. Consolidate
805. Consolidate
806. Corner marker
807. Consolidate, top missing
808. Consolidate, missing top
809. Consolidate
810. Consolidate, missing top
811. Consolidate
812. No work
813. Consolidate, missing top

814. (Photo 13) Consolidate, column
815. (Photo 14) Consolidate double tablet, bio wash
816. Consolidate, bio wash
817. Consolidate
818. Consolidate, reset
819. Base, missing tablet
820. Consolidate
821. Consolidate
822. Consolidate
823. Consolidate
824. Consolidate, injection mortars
825. Fracture repair, consolidate
826. Consolidate
827. Consolidate, injection mortars
828. Consolidate
829. Consolidate
830. Consolidate
831. Consolidate
832. Consolidate
833. Consolidate, micro injection mortars
834. Consolidate, missing top
835. Reset, consolidate
836. No work
837. Consolidate, micro injection repair
838. No work
839. Consolidate, injection repairs, near shield on top
840. Consolidate
841. Consolidate
842. Reset, consolidate
843. Consolidate
844. Consolidate
845. Consolidate
846. Consolidate
847. Reset, consolidate
848. Consolidate, injection repairs
849. Consolidate
850. Raise, consolidate
851. Consolidate
852. Consolidate, injection mortars
853. Consolidate, raise
854. Reset, consolidate
855. Reset, consolidate
856. Consolidate, injection mortars
857. Consolidate
858. Consolidate
859. Consolidate, injection mortars

860. Fracture repair, losses
861. Consolidate
862. Fracture repair, consolidate
863. Consolidate
864. Consolidate, injection mortars on face
865. Consolidate
866. Consolidate, injection mortars on top edge
867. Consolidate
868. Consolidate
869. Consolidate
870. Consolidate, injection mortars on face
871. Consolidate
872. Consolidate, missing top
873. Consolidate
874. Consolidate, missing top
875. Reset, consolidate, missing top
173a. Consolidate, ground tablet
876. Repair fracture, consolidate, injection mortars
877. Consolidate, injection mortars
878. Consolidate, injection mortars on sides, face
879. Consolidate
880. Consolidate, column and urn, consolidate base with inscription – repair – corner losses
881. Consolidate
882. Reset, consolidate
883. Consolidate
884. Consolidate
885. Reset, consolidate
886. Consolidate, box tomb, injection repairs
887. Consolidate, tablet (ground)
888. Consolidate
889. (Photo 19) Consolidate, bio wash
890. (Photo 20-22) Consolidate all
891. Consolidate all
189a. Consolidate
892. Consolidate
Bedford plot – iron work, pillars - consolidate
893. Consolidate, crack fillers on previous repairs
894. Consolidate, reset to base
895. (Photo 23-25) Consolidate
896. Consolidate box tomb
897. Consolidate
898. Consolidate
899. Consolidate
900. Consolidate
901. Consolidate
902. (Photo 26) Consolidate

903. Consolidate
904. Consolidate
(Photo 27) Tree impacting coping
905. Rebuild brick base, reset tablet top, consolidate
906. Reset tablet in slotted base, consolidate
907. Consolidate
908. (Photo 28-30) Consolidate
909. Consolidate
910. Reset, consolidate
911. Reset base, fracture repair on obelisk, consolidate
912. Reset ground tablet flush with grade
913. Consolidate, injection mortars along top edge
914. Fracture repair, consolidate
915. Consolidate
916. Reset, consolidate
917. (Photo 31-32) Reset multi piece column, consolidate
918. Consolidate, bio wash (box tomb)
919. Consolidate top/sides of box tomb, fracture repair/losses on NE corner, reset top to box, injection mortars on top
920. Consolidate, bio wash
921. Consolidate, injection mortars on top and back
922. Rebuild SW corner of brick bed, reset top to box and consolidate
923. Consolidate top and sides of box tomb
924. Consolidate top and sides of box tomb, fracture repair, compensate losses
925. Fracture repair on top of box tomb, reset to box, consolidate all
926. Consolidate
927. Consolidate, reset in slot
928. Consolidate
929. Consolidate
930. Consolidate
931. Consolidate
932. (Photo 33, 34) Consolidate, injection mortars, stone patches
933. Consolidate, reset foot of bedstead, repair north rail at footboard pin
934. Reset (leaning), injection mortars on crack on face
935. (Photo 35-36) Rebuild box tomb, compensate losses on top, consolidate all
936. Reset ground tablet to base, fracture repair, consolidate top
937. Rebuild brick box, reset top to base, consolidate top, bio wash
938. Rebuild brick box, fracture repair (2), consolidate top, bio wash
939. Rebuild base, multi fracture repair on top, bio wash, reset to base, tree impact
940. Consolidate tablet, micro injection on top face
941. Rebuild base, fracture repair, compensate losses on corners, consolidate top

<u>Section 28 NE</u>

1. Consolidate, injection mortars on top (minor)
2. Consolidate, injection mortars on top edge
3. Reset, consolidate

4. Consolidate, injection mortars on top edge
5. Consolidate, injection mortars on top
6. Consolidate, bio wash
7. (Photo 38) Fracture repair on NW box tom corner, consolidate fracture repair on NE corner of top, consolidate all, injection mortars on top (west), fracture repair on top, compensate losses
8. Consolidate
9. Consolidate, panels, poses and top, reset top
10. Consolidate, bio wash
11. Consolidate, bio wash
12. Consolidate, bio wash
13. Fracture repair, consolidate, injection mortar
14. Consolidate
15. Consolidate, injection mortars
16. Consolidate, injection mortars
17. Consolidate
18. Fracture repair, consolidate
19. Consolidate, reset
20. Consolidate, injection mortars
21. Consolidate, injection mortars
22. Consolidate, injection mortars
23. Consolidate, injection mortars
24. Fracture repair on top, consolidate, bio wash
25. (Photo 040) Reset obelisk, consolidate, bio wash
26. Rebuild brick box, consolidate top, reset top to box
27. Consolidate
28. Fracture repair, consolidate, injection mortars
29. Reset, consolidate, injection mortars
30. Consolidate
31. Fracture repair, consolidate, rebuild box
32. Consolidate
33. Consolidate, tree impacting – more to west slightly
34. Consolidate, injection mortar
35. Consolidate
36. Consolidate, missing top
37. Consolidate, injection mortar on top edge
38. Rebuild brick box, consolidate top, reset to base
39. Consolidate
40. Consolidate
41. Reset fallen multi piece column
42. Fracture repair, consolidate, injection mortars
43. Consolidate, raise
44. Consolidate, marker in front to another plot
45. Consolidate
46. No work
47. (Photo 01) Consolidate, supports and tablet, clean
48. Consolidate ground tablet

49. Consolidate, injection mortars on top edge
50. Reset plot corner
51. Consolidate, fracture repair, injection mortars
52. No work
53. No work
54. (Photo 02) Multi fracture repair, losses
55. Consolidate, injection mortars on face and back, large tablet

01-11-06

56. (Photo 01) Rebuild basal – new brick base – reset remaining top – compound fracture (storage? May have been missing pieces) – consolidate marker – medium tablet, ground
57. Rebuild brick base, basal adhesive repair, composite repair
58. Composite repair, good previous repair, consolidate medium tablet
59. Injection mortars, consolidate medium tablet
60. Injection mortars, consolidate small tablet
61. Consolidate medium tablet
62. Consolidate small tablet (footstone)
63. Consolidate medium tablet
64. Reset small tablet, consolidate
65. Injection mortars, consolidate small tablet
66. Consolidate small tablet
67. Reset small base
68. (Photo 2-3) Consolidate, composite repairs, new pins? Reset to subbase, medium tablet
69. No work
70. Consolidate medium tablet
71. Consolidate small tablet
72. Monitor – 5 years
73. No work
74. Monitor – 5 years
75. (Photo 4-7) Stone box tomb – composite repair on two corner pillars, consolidate all, composite repair on corner of top, injection mortars on top
76. Consolidate small tablet
77. Consolidate small tablet (footstone)
78. Consolidate small tablet
79. Consolidate medium tablet, injection mortars

79a. Consolidate, injection mortars, previous repair, small tablet

80. (Photo 8-9) Rebuild box tomb, remove previous repairs at corners
81. Consolidate medium tablet
82. (Photo 11) Consolidate small tablet
83. Consolidate medium tablet
84. Consolidate small tablet
85. Consolidate medium tablet
86. Consolidate small tablet
87. Consolidate small tablet
88. (Photo 12) Consolidate small tablet, unique profile
89. Injection mortars, consolidate small tablet

90. Consolidate medium tablet
91. Missing fragment, fracture repair
92. (Photo 13) Rebuild brick base, reset tablet, consolidate
93. (Photo 14) Rebuild brick base, previous repair, consolidate
94. (Photo 15-16) Rebuild stone box tomb, composite repairs, adhesive repairs, consolidate top and north panel
95. (Photo 17) Reset compound monument, consolidate – medium structure
96. (Photo 18) Rebuild brick base, remove and reset tablet
97. Same as 96, consolidate top
98. Same as 96, consolidate top, injection mortars on top
99. Top missing, part setting on 98
100. (Photo 19) Rebuild brick base, reset top, adhesive repair, consolidate
101. Consolidate remaining, injection mortars, small tablet
102. Consolidate small tablet (footstone)
103. Consolidate medium tablet
104. Consolidate small tablet, adhesive repair
105. Consolidate medium tablet
106. Rebuild brick base, reset tablet
107. No work
108. No work
109. Consolidate small tablet, injection mortars
110. (Photo 20) Injection mortars on south panel, top and SE pillar, consolidate all panels and top
111. Consolidate small tablet
112. Consolidate medium tablet
113. No work
114. (Photo 21) Consolidate medium tablet
115. Consolidate medium tablet
116. Consolidate small tablet
117. Consolidate medium tablet
118. Consolidate small tablet
119. Reset and consolidate small tablet
120. Reset medium fallen tablet and base, sunken
121. Consolidate medium tablet, injection mortars
122. Consolidate large tablet, composite repairs
123. Consolidate small tablet
124. Consolidate medium tablet, previous repairs, adhesive repair and composite
125. Compound fracture repair (fallen tablet), consolidate medium tablet
126. (Photo 22) Consolidate medium tablet
127. (Photo 23) Consolidate large compound monument/obelisk
128. Consolidate medium tablet, injection mortars
129. Reset small tablet, consolidate, injection mortars
130. Consolidate small tablet
131. Consolidate medium tablet, injection mortars

131a. Reset sunken? Consolidate small tablet

132. Consolidate medium tablet, injection mortars

132a. Now work – revisit in 5 years

133. (Photo 24) Consolidate very large compound monument, composite repairs, adhesive repairs
134. No work
135. (Photo 25-26) Previous repairs – remove and redo, fracture repair on top
136. (Photo 27) Adhesive repair, reset small tablet, consolidate
137. Reset small tablet, consolidate
138. Consolidate top of box tomb, injection mortars
139. No work
140. (Photo 28-29) Rebuild stone box tomb, consolidate all compound adhesive repair, composite repairs, injection mortars
141. Consolidate top of box tomb
142. (Photo 30-32) Rebuild box tomb, new corner pillar for NW adhesive repairs, consolidate all composite repairs
143. (Photo 33) Consolidate all portions of box tomb
144. (Photo 34) Consolidate large – compound structure, injection mortars
145. (Photo 35) Consolidate large compound structure, injection mortars
146. Rebuild brick base, reset large grave tablet
147. Reset loose column – small
148. Consolidate top and sides of large box tomb
149. (Photo 36) Rebuild south side of brick base
150. Consolidate top and sides, injection mortars on north side
151. Consolidate all – bio wash
152. (Photo 37) Injection mortars on several cracks, consolidate
153. Bio wash
154. No action
155. (Photo 38) Reset top section of "coffin" monument
156. (Photo 39) Clean bio growth on bases
157. Consolidate all – small box tomb, adhesive repair on top, reset

Ewell Plot – coping repair, consolidate pillars at entrance, reset caps, composite repair on coping, injection repair on coping

Simms plot – see photos 40-42

158. Reset small tablet
159. No work
160. Reset small tablet (footstone)
161. Reset small beveled marker
162. Reset small tablet (footstone)
163. Reset small beveled marker
164. No work
165. No work
166. Consolidate Simms monument large obelisk
167. Reset small tablet
168. Consolidate small tablet
169. Reset into base

169a. Reset into base

170. Consolidate, high priority
171. Consolidate, fracture repair, composite repair, small tablet
172. Consolidate small tablet

173. Same as 171
174. Consolidate small tablet
175. Consolidate
175a. Consolidate medium tablet, injection mortars
176. (Photo 44-45) Rebuild stone box – multi fracture repair on top
177. Consolidate – previous repair
178. No work
179. (Photo 64) Consolidate medium tablet, injection mortars
180. Consolidate medium tablet, injection mortars
181. Consolidate small tablet
182. (Photo 65) Consolidate table
183. Consolidate large tablet
184. (Photo 66) Reset sunken footstone, consolidate
185. (Photo 67) Consolidate compound obelisk, large
186. Consolidate large tablet
187. Consolidate footstone (small tablet)
194. Photo 72

Section 29

39. (Photo 5,6) John Henry Ritter, reset, consolidate, losses - reset 8 stone columns, consolidate, injection mortars on cracks, medium

photo 7 - exposed clay pipe (broken) loose cover over brick box

40. (Photo 8) fracture repairs, resettling – consolidate small
41. (Photo 8) fracture repairs, resettling – consolidate small
42. (Photo 9) reset to new base, search for fragments in area, small
43. Missing
44. Consolidate, crack filler (mower deck damage) small
45. Reset, consolidate small
46. Consolidate small
47. (Photo 11) reset, raise?, medium
48. No work, medium
49. (Photo 12) reset, consolidate small
50. Consolidate, injection mortars small
51. Consolidate medium
52. No work
53. Missing
54. Bio clean, no work on stability
55. Missing, medium
56. Consolidate small
57. No work
58. Missing
59. Consolidate
60. (Photo 13) multi fracture repair, reset, medium
61. Rebuild brick base, tablet stone, compensate losses on corner, large
62. Consolidate tablet, small
63. Consolidate remaining ground tablet, large

64. Consolidate remaining marker, medium
65. Consolidate ground tablet, large
66. Reset obelisk, consolidate, reset urn and cap, complex
67. Rebuild brick base, consolidate ground tablet, large
68. Consolidate ground tablet, large
69. No work
70. Rebuild brick base, fracture repair on ground tablet, consolidate large

* consolidate 9 plot pillars, small

71. (Photo 15) Consolidate, bio wash
72. Consolidate
73. Repair base, fill in hole in front of marker
74. Consolidate tablet, reset to base (loose)
75. (Photo 16) Consolidate
76. (Photo 17) repaint brick box, consolidate top, reset SE plot corner stone
77. (Photo 18) Consolidate, injection mortars along top edge
78. Consolidate
79. Consolidate
80. Consolidate
81. Consolidate
82. Consolidate, reset to base (loose)
83. (Photo 19) Repair or create new base for small stones
84. Consolidate, injection mortars
85. No work
86. Consolidate
87. Consolidate
88. Reset column on base, reset cap, consolidate, light bio clean

52-58. no work

reset NE plot corner post

reset (raise) - SE and SW plot corner posts

59. Rebuild SE corner of ground vault entrance, consolidate stone cap, injection mortars on cracks in cap stones
60. Consolidate
61. Consolidate
62. Consolidate
63. Failed repair - fracture repair, consolidate
64. Slotted base
65. Fracture repair, consolidate
66. Fracture repair, consolidate
67. Consolidate footstone
68. Multi fracture repair, consolidate
69. Consolidate
70. Consolidate
71. Brick base for footstone (missing)
72. Consolidate

73, 74 Consolidate

75. Reset, consolidate

76. (Photo 24) consolidate, reset to base (loose)
77. Reset, consolidate
78. Fracture repair, consolidate
79. Consolidate
80, 81. Consolidate
82. Consolidate
83. Consolidate
84. Consolidate faces
85. Consolidate face
86. No work
87. No work
88. No work
89. Consolidate, reset, repair plot pillars
90. No work
91. Repair fractured pieces, consolidate, compensate losses
92. Reset, consolidate
93. Reset, consolidate
94. Reset, consolidate
95. Consolidate
96. Consolidate, small fracture repair
97. Repaint cap, consolidate all parts
98. Fracture repairs, consolidate
99. Consolidate
100. Missing top half of tablet
101. Missing top half of tablet
102. Consolidate
103. Consolidate
104. (Photo 28) Consolidate, crack fillers near top, reset top piece to column
105-110. Consolidate
111, 112. Consolidate, reset 112 (footstone)
113. No work
114. (Photo 29) Consolidate, cleaning, injection mortars on subbase cracks
115. (Photo 30) Consolidate, monitor past repairs
116. Consolidate
117. (Photo 31, 32) Consolidate, crack fillers, cleaning
118. No work
119. Consolidate, reset column to base
120. Consolidate
121. Consolidate
122. Consolidate
123. Consolidate box tomb
124. Consolidate, crack fillers on urn
125. No work
126. (Photo 33) Bedstead, consolidate
127. No work
128. (Photo 34) rebuild multi fractured marker

129. (Photo 35, 36) V ground tablet
130. Consolidate ground tablet
131. (Photo 37) Consolidate grave tablet
132. Base, missing tablet
133. (Photo 38) repair multi fractured marker
134. Repair cracked base

Section 30

1. Consolidate
2. Reset, consolidate
3. (Photo 64) Compensate losses on ground tablet, reset to base
4. Consolidate
5. Fracture repair, compensate losses, consolidate
6. (Photo 65-66) Fracture repair at base and failed repair at top, consolidate
7. Consolidate
8. Fracture repair, consolidate
9. Consolidate
10. Failed repair, missing top half
11. Slotted base, no tablet
12. Reset footstone, consolidate
13. Consolidate
14. Rebuild brick base, consolidate ground tablet, limb up black locust
15. No work, cradle or base to large monument missing
16. Consolidate
17. Consolidate, reset
18. Consolidate
19. Consolidate, raise and reset
20. Reset corner marker, consolidate
21. Reset corner marker, consolidate
22. Reset to base, loose
23. Reset corner marker, consolidate
24. Reset corner marker, consolidate
25. Reset corner marker
26. Consolidate
27. Reset corner marker, consolidate
28. Reset corner marker, consolidate
29. (Photo 68) Consolidate tablet, mower damage
30. Consolidate, reset
31. (Photo 69) Consolidate, monitor previous repairs
32. Consolidate
33. Reset, consolidate
34. Base remaining
35. Monitor previous repairs, consolidate, reset
36. Reset, consolidate

Section 31
1. Consolidate
2. Consolidate, injection mortars on back, reset
3. Consolidate
4. Reset, consolidate
5. Reset, consolidate
6. Freedom tree marker

Section 32
1. (Photo 1) Consolidate, fracture repair, reset, small
2. Consolidate, broken footstone behind, small
3. Reset (raise) consolidate, small
4. (Photo 2) Fracture repair, reset, consolidate, small
5. (Photo 3) Consolidate obelisk, reset, complex
6. (Photo 4) Sanitary sewer line, clay pipe running though site, areas of settling and areas of loose, unstable covers

Appendix C – Terms Glossary

Appendix C – Term Glossary

Abrasive- Media used to inscribe modern monumental works. May be composed of aluminum oxide, silicon carbine, steel shot, etc; Sand or powdered pumice stone, which is rubbed against a sculpture's surface to create a smooth or polished effect.

Acanthus- A plant whose leaf is used to decorate the capital of the Corinthian order, or is found in moldings.

Acid Rain- Rainfall with a lower then normal ph.

Acidic Deposition- Acid rain fallen on an absorbent stone. The leading cause of damage and decay to calcium carbonate based rock, including most marble and some limestone.

Adhesion- The sticking together of substances that are contact with one another.

Aggregate- Inert granular material, such as sand, gravel, crushed stone, slag, pumice, and scoria which are mixed with water and cement being bound together in a mass, to make mortar or concrete.

Arch- A curved construction which spans an opening.

Architrave- Member of an entablature that rests on the capitols of the columns or piers, and supports the frieze.

Argillaceous- Consisting of, or containing clay.

Armature- Internal frame or hidden support.

Artificial Stone- Simulated stone composite material.

Ashlar- Angled patterns in a straight line of stonework.

Ashlar Block- A squared or rectangular block of building stone. Large finished stone block, which is set face bedded; often incorporated into facades of mausoleums, crypts, and historic masonry structures.

Assemblage- Sculptural form made by assembling various shapes and materials.

Assessment- To determine the condition of an object, as in a condition assessment.

Atmospheric Staining- Deposition of particulate matter such as soot.

Atmospheric Incrustation- A surface crust, formed by a reaction between calcium and acidic water to form calcium sulfate.

Backfill- The operation of replacing dirt removed in excavation.

Baluster- A miniature column or other form of upright which, in a series, supports a railing or handrail.

Barrow- Mound of stones or dirt on top of a grave.

Basalt- A dark, dense volcanic rock difficult to shape.

Base Coat- Scratch coat. First layer of infill.

Bead- A jutting horizontal protrusion nears the top of a decorative pillar.

Bed- In rock, the flat surface of a stone parallel to its stratification.

Bed Joint -The horizontal layer of mortar on which a masonry unit is laid.

Biological Activity- Algae or Lichen growth visible on the stones surface.

Blind Pinning- To place hidden support in a structure or monument to join sections together. May be employed during construction or as a repair technique. Pinning should be of a non-ferrous metal or fiberglass material.

Blistering- Spalling of the second degree.

Block- A concrete masonry unit made with fine aggregate and cement that is shaped in a mold.

Bluestone- A hard fine-grained stone often used for mainly for walkways or patios.

Bond- The property of a hardened mortar that knits the masonry units together; The overlapping of masonry units to make them stronger or more pleasing in appearance.

Border Design- The carving which often ornamented the side panels of historic tablet stones.

Boxed Column- A supporting column that is square shaped as opposed to circular. It is most often found on a Doric capital.

Box Tomb- A crypt style monument with no body interred inside. The interior is a hallow cavity.

Brass- An alloy of copper and zinc that is malleable and stronger then copper.

Brick Masonry- A type of construction that has units of baked clay or shale of uniform size, small enough to be placed with one hand, laid in courses with mortar joints to form walls, pillars, and various structures.

Brick Set- A wide-blade chisel used for cutting bricks and blocks.

Bronze- An alloy of approximately 90 percent copper and 10 percent tin, which contains small amounts of other metals such as lead and zinc. Hard and durable, it is one of the most commonly used materials for sculptural works.

Brown Coat- The second coat of stucco in a three-coat work.

Brownstone- Sandstone. Can be reddish, light brown- blond, and dark brown. Found throughout New England, East Middletown Connecticut, which is now Portland, contained the largest number of brownstone quarries in the world, during the 1800s.

Burial- To place in the ground, tomb, or sea; to hide.

Burial Mound- A mound resulting from dirt piled upon a corpse.

Burial Vault- A concrete or other material used as a grave liner; to keep a grave from subsiding.

Butter- To apply a quantity of mortar onto a brick, block or stone, often on the small end, prior to it being laid.

Buttress- Often associated with Gothic architecture. The out-jutting, or thickening of a wall to support an overhead beam or roof arch. Added support to oppose horizontal forces on tall walls.

Cairn- A mound of stones serving as memorial or marker.

Calcareous- Consisting of, or containing, calcium carbonate or carbonate of lime.

Calcining- Burning: Enough heat to cause disintegration, or total fusion.

Calcite- A rock forming mineral, calcite is found in limestone and seashells. It is very common on the earth's surface, as it dissolves in water and grows anywhere that water can reach.

Calcium- A soft, silver- white chemical element found in limestone, marble and chalks.

Caliper- A measuring instrument that has two parallel jaws, which move and then hold in place, in order to transfer a specific size.

Cap- The top cement surface on a masonry structure.

Capital- The upper-most member of a column or pilaster. It often supports an architrave or entablature, and is often decorated.

Capstone- Stone on top of a monument or wall.

Casket- A rectangular coffin.

Carving- A traditional subtractive method of producing a sculpture in which the material is cut away or chipped away; also a tern used to describe letting an inscription or decoration in a gravestone or monument.

Cast- The form produced by filling a mould. The positive form.

Cast Iron- Iron made in a mold.

Catacomb- An underground cemetery, with tunnels and chambers having places for graves.

Caulk- To seal up crevices with some flexible material.

Cavity Wall- A wall with an air space behind it, such as in a box tomb.

Cement- The binding material which holds the aggregates together, in concrete and mortar, binding them into a solid mass. Derived from the Latin "caedere" (to cut), and signifies any substance used to adhere objects together.

Cemetery- A final resting place for human remains. Larger, planned, and more organized in structure, then the earlier graveyards and burying grounds.

Cenotaph- Greek for empty tomb. A monument to honor a deceased who is buried elsewhere, or who's body was never found, as in "drowned at sea".

Chasing- The final process of finishing a bronze cast once it has cooled from the furnace. Chisels and punches are used to remove imperfections, and the surface is polished or smoothed down.

Charnel House- A place for storing bones or corpses.

Chatoyancy- Silky appearance on the surface of a mineral, known as "cat's eye" effect.

Chamfer- The beveled surface formed by cutting off the edge or corner, from a squared surface, at a 45% angle.

Chisel- A steel tool used for shaping stone, wood or metal. It is often held at an angle and struck with a mallet to force the sharp cutting edge along the surface being carved.

Clasts- Fragments in sedimentary rocks that originally formed part of other rocks.

Claw Chisel- A chisel with its cutting edge divided into two or more prongs.

Clay- A malleable, moist earth mixed with water that becomes hard when baked.

Cleavage- The way a mineral breaks along a plane according to its atomic structure. In rocks, the way it splits along the bedding planes or striations.

Closure Brick- A partial brick that is cut to fit into a place to complete a course.

Coffin- The boxes in which bodies are laid to rest.

Colonnade- A row of columns.

Coloring Agents- Colored aggregates or iron oxides ground finer then the cement.

Columbarium- A vault with niches for urns which contain human ashes.

Column- A tall, vertical, cylindrical member, most often associated, with a classical capitol.

Come-Along- A ratchet hand winch.

Composite Stone- Artificial stone formulated to match existing substrate in stone conservation.

Compressive Strength- The power to resist crushing under pressure. Contrasted by tensile strength, the power to resist the action of forces pulling apart.

Concrete- A artificial stone made by mixing cement and sand with gravel, broken stone, or other aggregate. These materials must be mixed with sufficient water to cause the cement to set and bind the entire mass. The preferred material for all modern monuments foundations.

Conservation- To conserve; to save and protect what is left as it is found. To stabilize what is left of an artifact. The proper term to describe a huge scope of procedures and treatments performed to save and protect art and historic gravestones, monuments, sculptures, structures, etc.

Consolidation- The process whereby a weakened stone is treated to strengthen it, and prolong its life span.

Coping- Large stone blocks set at the perimeter of a grave site. Most often found on large Victorian family plots;
The top course of a masonry wall.

Corbel- A horizontal course of masonry projecting past the last course, and supporting the course above; A self supporting projection.

Corinthian- The most ornate of the three Greek orders, (Corinthian, Ionic, Doric). It is formed with a bell shaped capital, two rows of Acanthus leaves, and a detailed cornice.

Cornice- A decorative molding such as at the top of a window, a ceiling or exterior wall; The upper-most section of the entablature.

Course- One of the continuous horizontal layers (rows) of masonry that forms a structure.

Crazing- The checking or cracking of the surface of artificial stone, concrete, etc.

Creekstone- Smooth rounded quartzite stone worn by water.

Crypt- A subterranean vault used as a burial chamber; may be located beneath a church floor.

Curing- The hardening of epoxy or resin; The process of protecting masonry against loses of moisture during the early stages of setting.

Darby- A large float of metal or wood, used to smooth freshly poured concrete.

Death's Head- The most common symbol on early American gravestones, warning those above ground that they may be next to die. Very common from the earliest American stones or the late 17th century, until the soul effigy became more popular in the mid 18th century.

Death Mask- Cast made of the deceased face just after death.

Delimitation- Separation of stone layers along its bedding planes.

Dentils- A series of Small Square toothed or block like projections, which are usually found below a piece of molding. Most commonly associated with Greek revival and Colonial Revival structures.

Descanos- Roadside crosses; often found on alongside sharp bends in roadways.

Dissolution of Marble- Very advanced stage of deterioration; a combination of multiple decay mechanisms including, erosion, sugaring, and spalling.

Dolomite- Geologically it is a name for a carbonate rock that consists dominantly of this compound. As a mineral component, it is found it certain crystalline schist's, and in beds of gypsum.

Dolomitic Limestone- Limestone containing 10% - 80%, mineral dolomite.

Doric- The simplest, and most basic of the three Greek orders, (Doric, Ionic, Corinthian). It is associated with thick columns, and a capital with a flat bowl below a block. The column does not stand on a base.

Dress- To shape a stone finely to fit in place.

Dressed Stone- The stone in masonry, after it has been squared with a hammer and chisel.

Dry-Stack- Stonework with mortar recessed so that it is invisible.

Dry Stone Wall- A stone wall built without mortar.

Efflorescence- The white or grayish crust sometimes formed on the surface of masonry or stone, often as calcium sulfate. It is caused by the leeching-out of soluble chemical salts, from the stone, brick or mortar joints through the forces of capillary action and evaporation.

Embalm- To preserve to prevent decay. Until modern embalming began after the American Civil War, it was almost impossible to transport the deceased any great distance. Thus most people were buried in or near the town where they expired.

Embellish- To add ornament so as to adorn. To add decorative elements.

Emery- A grayish black mineral used as an abrasive; example, emery cloth which is a type of fine sand paper.

Empirical- Based on practical experience.

Engraving- Inscription formed by carving or sandblasting into stone.

Entablature- the Greek revival style, the horizontal group composed of three members, held up by the columns. From the lowest to highest in a structure the three members include; architrave, frieze, and the cornice.

Entomb- To place in a tomb or grave.

Epitaph- An inscription on a gravestone or monument. Often a short poem, literary piece, or description of the deceased virtues. Very common on historic gravestones, but seldom used in modern monuments.

Erosion- When pertaining to stone; gradually wearing away of surface; associated with sugaring in marble. Regarding landscape, the slow tendency of earth to move down hill, through the forces of wind water, and ice.

Evaporate- To change into or pass off in vapor; Important part of the rising damp cycle in gravestones; the force which pulls salts and minerals towards the surface of stone and masonry structures combined with capillary action.

Excavate- The process of digging out or around something.

Exfoliation- Peeing or scaling of stones surface.

Exhume- To remove from a grave or dissenter.

Face- The front or inscribed surface of a gravestone or monument.

Failure- Collapse, rupture, or fracture. In gravestones, usually refers to a break down of a previous repair procedure.

Fallen- A memorial or sculpture which has been toppled over onto the ground.

Fat- Cement brought to the surface by floating the slab.

Fat Mortar- A very sticky mortar due to lack of sand.

Feather- Metal spacer used with wedges in drilled holes to crack apart stone.

Feldspar- One of the crystalline minerals in granite.

Ferrous Pinning- Metal that rusts and expands was use extensively in historic monumental installations. It has contributed to a host of problems, including, cracking, staining, stone degradation, and complete collapse in some instances.

Fieldstone- Rough uncut stones as they are picked from a field.

Figurative- Sculpture or art form in which figures or object are displayed; most sculptural works found in cemeteries are figurative.

Finial- An image which is inscribed at the shoulder area, or top upper sides, most common on a historic tablet stone.

Flaking- Minor delimitation of surface, a form of spalling; Followed by blistering, and scaling, in a successive order of severity.

Float- A wooded tool used to finish a concrete or masonry surface.

Fluorescence- Optical effect whereby a mineral appears a different color in ultraviolet light then in ordinary daylight.

Flute- A groove or channel cut or carved in as an architectural decoration. Most commonly placed as parallel grooves, as found on an Ionic column.

Foliations- Patterns caused by aligned crystals in metamorphic rocks.

Footing- Foundation; A base for a wall or other structure that provides stability; may be concrete, or built masonry.

Footstone- Smaller gravestone set at the foot of a grave, most often in conjunction with a headstone. May be inscribed with only initials, or name, and is smaller then headstone.

Form- Used to shape concrete, as in the construction of a replacement base, to reset a broken tablet stone.

Foundation- The part of construction that supports the structure. In monuments, poor quality foundations or no at all account for a large percentage of structural failures.

Fragment- A piece of a broken gravestone, monument, or sculpture.

Frieze- The middle horizontal member, as found in classical entablature. The architrave is located below, with the cornice being above the frieze.

Frost Line- The maximum depth to which frost normally penetrates the soil during the winter. The depth varies from area to area depending on the climate. In Connecticut it is 42” below grade.

Furrowing- Striking a V-shaped trough in a bed of mortar.

Fusion- Melting: The melting of minerals at extremely high temperatures.

Gable- The upper vertical triangular section, of the end of a building having a double sloped roof.

Gneiss- Hard course grained metamorphic rock, not easily worked. It is also known as a type of granite, composed of mica, quartz, and schist, with additional iron, magnesium and silicates.

Gradation- The distribution of particle sizes, from course to fine, in a given sample of aggregate.

Grade- The slope of the ground around a gravestone, monument or structure.

Grade Line- The point at which a stone enters the ground. The most common site of tablet stone breakage.

Granite- Geologically an igneous rock made up of mica, quartz, and feldspar. The predominant stone which was used in American monuments during the twentieth century. Most modern monuments and footstones are composed of granite, which is now imported in a wide range of colors from around the entire world.

Granular Disintegration- The final and most advanced stage of marble or limestone decomposition exhibiting, extensive sugaring and erosion with lost inscription. A highly weakened and deteriorated stone.

Grave- A place of burial, especially the excavation itself.

Grave Marker- Something placed in remembrance of the dead; a universal name to describe many types of memorials.

Gravestone-A stone placed on a grave to mark it, commonly inscribed with name, birth and death dates; most often describes a historic memorial. Tends to mean a monolithic, or a one piece stone such as a tablet stone.

Gauging- Stirring or mixing.

Granolithic- Consisting of artificial stone of a fine granular structure.

Grout- Thin mortar used in almost liquid consistency, to fill joints or cavities solidly.

Gypsum- A mineral consisting of the hydrous sulphate of calcium. Used to make Plaster of Paris.

Gypsum Crust- Calcareous stone sometimes degrades to form a highly decomposed incrustation, on its outer surface in areas protected from rainfall. If removed a crumbling stone is likely to be underneath.

Hardening- Setting of concrete or mortar. May continue for months or years.

Hawk- A fairly small board with a handle beneath it that is used for holding mortar.

Header- A masonry unit laid flat with its longest dimensions perpendicular to the face of the wall. Its is generally used to tie two widths of masonry together,

Headstone- A stone set at the head of a grave.

Hipped Roof- A roof which slopes upward from all four sides of a building.

Historic Pointing Mortar- A softer mortar designed for historic preservation. Contains a low percentage of Portland cement, such as a 1-4-8; meaning 1 part Portland, 4 parts hydrated lime, 8 parts sand, by volume. It may contain natural cement, or can be a pure lime mortar, with no cement present.

Hydration- The chemical reaction that occurs when water is added to cement, causing it to harden.

Hydraulic- Active in the presence of, or under the influence of, water. Example; hydraulic cement hardens under water. Derived from the Greek "hudor" (water).

Igneous Rock- Rock formed as molten magma cools and hardens under ground. Granite is the most common example, today being almost exclusively employed for monumental works. Course grained igneous rock are called granite and are preferred for monuments and building facades.

Immurement- To entomb in walls.

Incised Carving- Decorative image or inscription cut into stone.

Incipient- Beginning to take place.

In-fill- Replacement compound used patch or repair areas of lost or decayed stone, concrete, or masonry.

Injection Grout- A very thin grout which is injected or gravity fed into cracks or voids.

Interment- Burial

Inscription- Lettering carved or sandblasted into a gravestone or monument.

In-Situ- On site, constructed or conserved in position.

Ionic- The second of the three classical Greek orders, (Doric, Ionic, Corinthian). It was founded by the Ionic Greeks characterized by a spiral scroll, a volute.

Iridescence- A play of colors on the surface of a mineral, like a film of oil on water.

Joint- Any place where two or more edges or surfaces come to a union.

Keystone- The top stone in an arch or the center stone in a flat span.

Lamination- A thickness built up in layers.

Laminated Stone- Built up in layers when formed, such as sandstone.

Lancet Windows- Tall narrow Gothic windows, characterized by sharply pointed tops.

Lava- Magma on the Earths surface.

Leaded Glass Windows- A window having small panes of glass held in place by lead. Assorted decorative shapes were often combined with clear, etched, stained, and beveled glass. Commonly associated with church buildings, they were often incorporated into mausoleums of the very wealthy.

Ledgestone- Pattern of stonework utilizing horizontal joints.

Lime- Produced by burning limestone in a kiln. The base for mortar.

Limestone- A sedimentary rock formed from shells and organic sea matter. If metamorphisized becomes marble. Limestone was often used in nineteenth century monuments as a base. May be difficult to distinguish from marble, but tends to be grayer in color then the originally white marble.

Lintel- A horizontal support for masonry or a stone spanning an opening; A horizontal beam, over a door or window which carries the weight of the wall above.

Lunette- Tympanum, upper center area on a gravestone, which often contained an image such as a cherub, urn & willow, or a deaths head.

Luster- The way a mineral shines. It is affected by light reflecting off the surface of the mineral.

Magma- Molten rock beneath the Earths surface.

Mantle- A shelf built into masonry for ornamental reasons.

Marble- Metamorphisized Limestone. The most common stone type used from the late 1700s in some areas through present day. Predominantly used during the Victorian era for gravestones, monuments, and sculpture. Most sought after in its purest white form of calcium carbonate. Unfortunately the stone most adversely effected be acid rain.

Masonry- Anything constructed of the materials stone, brick, block, concrete, tile, and mortar.

Mausoleum- Large, elaborate tomb or building to hold human remains.

Medallion- A decorative plaque with slightly projecting carvings.

Metamorphic Rock- Rock formed or changed by heat and compression. Formed under high pressure and heat over a long period of time. Examples include: Limestone becomes marble, shale becomes slate, and some sandstones become quartzite.

Metamorphism- The action of heat and pressure.

Memento Mori- Latin for “remember thy death”.

Memorial- Stone commemorating a person, May or may not be marking a grave site. Example, sea captain lost at sea; a gravestone would have been placed at the site without a body. Gravestones moved away from remains become memorials.

Mend- To join broken fragments together again.

Mica- Mineral that occurs in thin sheets and tends to sparkle. A major part of granite.

Mineral- A solid mixture of chemicals that has certain regular characteristics, such as atomic structure and chemical composition.

Mineral Vein- Cracks in rocks that become filled with hot, mineral-rich liquids during their formation.

Missing Gravestone- Buried or disintegrated stone, unable to be found in a previously documented location.

MOH's Hardness Scale- A scale devised by the Austrian mineralogist Friedrich Mohs that measures the hardness of mineral by scratching. It is based on a scale which ranges form one to ten. Talc represents the number one, with diamond being at the top of the scale, as a ten in hardness.

Monolith- A term applied to a single piece work. A one piece gravestone or monument. Derived from a word of Greek origin: its literal meaning is "one stone".

Monument- From the root word meaning," to think". A building, structure or memorial; a headstone constructed of two or more sections. Can include a wide range of types and styles.

Mortar- A plastic mixture of lime and sand, with possible other possible ingredients, such as horse hair; it is used chiefly for bonding masonry units together. Modern mortars include Portland cement.

Mould- The negative form, from which a cast is made.

Mud- Mortar

Natural Bed- The surface of a stone, parallel to its stratification.

National Historic Landmark- America's highest designation for historic structures. It was instituted by the Roosevelt Administration in 1935.

National Register of Historic Places- America's official list of buildings, sites and districts which includes some cemeteries. It was founded by Congress in 1966, but is administered by the states.

Necropolis- A city of the dead; a cemetery, especially a large extensive one in an ancient city.

Oolith- Small, rounded grains that make up some sedimentary rocks.

Order- The three Greek orders included, Doric, Ionic, and Corinthian. They were each symbolized by a specific style of column, capital, and entablature. Sometimes the orders were interchanged or combined in the same structure.

Ore- Rock or other material from which a metal is extracted.

Parapet- In an exterior wall, the part entirely above the roof.

Patching Compound- Composite mixture to infill lost stone.

Patina- The final surface texture or color. The protective crust which forms over time, on the surface of some types of stone outdoors.

Pavers- Bricks in numerous sizes and shapes that are used for constructing sidewalks, patios, and driveways.

Pediment- Triangular gable end of the roof, which is above the horizontal cornice.

Perfect Cleavage- Property of mineral that breaks only in certain directions.

Perpetual Care- Guarantee of eternal cemetery upkeep; funds were collected and set aside and sometimes markers were placed beside monuments, or inscriptions added to stones, to denote a payment had been collected.

Pier- A very wide pillar; a free-standing column; a vertical stone column that supports structures; a section of masonry used to carry weight from above, as in a arch, beams or girders.

Pigment- Substances used as a coloring agent; originally made from natural products, but today include synthetic materials; coloring pigments are often used in paints, dyes, and in stone conservation to shade or color composite infill materials.

Pilaster- An attached pier or pillar, often with a capital and base; a pier built in a wall to strengthen against horizontal forces or for appearance.

Pillar- A column-like support, without a classical capital.

Pitch- To use a chisel to square a stone. A stone chisel.

Pitting- Distinct depressions on a stones surface.

Plastic- Capable of being molded, formed, modeled, or spread, like a mortar or paste.

Plasticity Consistency- A sluggish flow without segregation.

Plinth- A block that raises a monument or sculpture.

Plinth Course- The projecting course of masonry often called the water table.

Plumb- Straight up and down; vertically perpendicular as measured with a spirit level, or plumb bob.

Plumb Bob- A weight, attached to a line used to establish a plumb point on a surface.

Plumb Line- To extend a line forms the top to the bottom of a structure.

Pointing- The process of filling in joints; by inserting mortar, after masonry has set.

Pointing Trowel- A small towel used for filling in small holes and for pointing up work.

Porcelain- The finest of all ceramics, it retains its strength even when very thin. Photographs of deceased were affixed onto monuments in porcelain frames or lockets.

Portico- A monumental projecting porch with a roof supported by columns. They were most commonly found at the front entrance of an important building or structure.

Portland Cement- Cement most often used in modern construction to formulate concrete, mortar, and pre-cast products. Creates a very hard solid, not recommended for most aspects of historic preservation.

Precast Concrete- Any concrete member that is cast in forms at a place other then its final position in use.

Preservation- To keep safe from harm or injury; Historic preservation attempts to preserve our histories artifacts and objects from previous generations.

Proportion- The correct or desirable relationship between parts.

Punch- A pointed steel tool used like a chisel to remove chips or stone. Historically the work-horse of stone cutting.

Pry Bar- Any tool used to lever or pry stone or heavy objects.

Pumice Stone- A volcanic stone, finely ground and used for polishing.

Quartz- A common crystalline stone. A major part of granite.

Quartzite- Metamorphic sandstone. A harder denser sandstone.

Quarry- A rock bed. A place where rock is cut from.

Rafter- A diagonal member which forms the shape and structure of a sloping roof, and supports the roofing material above.

Rake Joint- To remove some of the mortar from a joint to a uniform depth, before it hardens.

Reguage- Retemper, remix mortar as it begins to harden to extend pot life.

Reinforcing Rod- Rebar; A steel rod that is used for reinforcing concrete or masonry.

Relief- A design made to relieve the flat surface. It can project or be incised.

Reset- The reinstallation of a leaning, fallen, or damaged gravestone or monument.

Reset Lowered- A gravestone which has been reset in a lowered position due to being fractured, most often near the ground level.

Restoration- To restore or make new again. More aggressive then conservation, restoration implies recreating what has been lost.

Retaining Wall- A wall of masonry used to keep soil or other material from in place, and from falling.

Retemper- To stir thoroughly again, so as to give a workable consistency.

Revival Styles- To employ classical styles in new architectural works. Greek, Egyptian, Romanesque, etc, became very popular in America throughout the mid 19th and early 20th centuries.

Riprap- Irregular stone used for fill or to hold against erosion.

Rising Damp- Moisture brought upwards through the forces of capillary action and evaporation.

Rock- Solid mixtures, or aggregates, of minerals.

Roof Ridge- The top horizontal member of a sloping roof.

Romanesque Revival- The Roman and Byzantine styles which were characterized by their massive size and often included the round arch. They were popular during the second half of the 19th century.

Rowlock- A brick laid on its edge (face).

Rubble- Rough fragments, either natural or broken stone used in course masonry, or as fill in concrete or walls.

Running Bond- This is the same as common bond, with continuous horizontal joints, but the vertical joints are offset or inline.

Sandstone- A sedimentary rock made up of compressed sand. Formed from fresh water sediment. Extensively used in the form of brownstone throughout the Connecticut River valley from the late 1600s to about 1900.

Sarcophagus- A stone coffin.

Scaling- The most advanced form of spalling.

Scarify- To make scratches in mortar or cement, so the next coat has a stronger bond.

Schist- A metamorphic crystalline rock which easily splits along its bedding planes. Used to create gravestones in some geographic locations.

Scratch Coat- The first coat in infill, stucco, or plaster.

Screed- A long, very straight board used for striking off concrete.

Screeding- The process of leveling the surface of a concrete slab by striking off the excess concrete.

Sedimentary Rock - Rock that forms at the Earths surface. It consists of layers or rock fragments or other substances that have been deposited on top of each other. Examples include; lake and river beds become sandstone, sea beds become limestone.

Segregation- The tendency of particles of the same size in a given mass of aggregate to gather together whenever the material is being loaded, transported, or otherwise distributed.

Sepulcher- A burial vault, a place to store relics in a alter.

Setting- The installation of a new monument;
The process during which mortar or concrete hardens. Initial set occurs when the concrete or mortar has to be broken to change its shape. Rate varies greatly depending on the temperature, amount of sunlight, and specific masonry mix.

Setting Bar- Steel bar formed round, square, or the strongest, octagonal in shape. Constructed from two to six or more feet long. Used to lift, maneuver and handle heavy weights with a mechanical advantage through leverage; A monument is "set", by being dropped down off a setting bar.

Setting Clamps- Firmly attached onto a die stone, the stone is then lowered without risk of chipping.

Setting Compound- Also known as monument setting compound. Available in gray, dark gray, brown, and white. The preferred material used to install new monumental works.

Setting Cushions- A spacer placed between stone sections. It may be composed of lead, plastic, or other hard materials.

Shale- Thinly layered soft stone of clay origin. Becomes slate if metamorphisized

Shim- Cushion. Spacer placed between stone segments. May be lead, copper, plastic and
Can vary in thickness.

Siliceous- Containing silica (quartz or sand). Written also as silicious.

"Shot" Stone- Stone quarried with explosives.

Shoulder- Top Upper outside corners on a gravestone.

Slate- A hard durable rock which comes from metamorphic shale composed mainly of clay. Formed in layers it sometimes delaminates along its bedding planes. Many of the oldest and best preserved examples of colonial gravestones were carved from slate. They can be found in the throughout the New England stones, and especially in Boston, MA.

Slings- Constructed from polyester, nylon, or other very strong materials. Stone is hung from, in order to be raised, moved, or set.

Sling Bar- Spreads slings apart, from which monuments are lifted with.

Soap Stone- A soft stone composed largely of talc. It carves easily and resists heat well. It tends to work more like a wood then a common stone. Occasionally gravestones were carved from soap stone.

Soldier Course- A course of brick laid with the brick standing on edge with the thin side on the face.

Soul Effigy- The most common symbol found on American gravestones from the mid 18th century, through the mid to late 19th century. It was replaced largely by the Greek revival image of the urn & willow.

Soundness- Absence of the tendency to crack, swells, shrink, distort or disintegrate, under Varying conditions.

Spall- To flake or split away, indicates the lose of stone.

Specific Gravity- The comparison of a minerals weight with the weight of an equal volume of water.

Stabilize- To make safe or secure. To prevent from falling or being damaged.

Star Drill- Chisel like drill, struck with a hammer and turned, then struck again, to slowly create holes in stone.

Stele- A commemorative stone inscribed or sculpture, as a monument or set into the facade of a building.

Stone Point- Sharp, pointed chisel for finishing stone faces.

Streak- The color of a minerals powder. It is often a more useful identification tool then color because it gives less variable results.

Stretcher- A brick or block laid lengthwise in a wall.

Striations- One of a series of parallel stripes or lines; with rock, formed by veins of minerals joining, may be considered blemishes or defects to be avoided.

Striking- Taking down or removing, as in the removal of forms.

Struck Joint- A joint that has been made by pressing the mortar with a trowel.

Stucco- Cement mortar or gypsum plaster of two or more layers; used to surface coat exterior or interior masonry walls or structures.

Sub Foundation- The first layer of material placed in excavated ground prior to the foundation. May be composed of crushed stone, cinders.

Survey- To overview a graveyard or cemetery in planning for preservation.

Symmetrical- Having the exact same forms or masses on either side of a center line or plane.

Tablet stone. A single piece vertical gravestone

Table Stone- A memorial composed of legs or a built masonry base, supporting a large horizontal stone, usually containing inscription.

Table Tomb- Box tomb, a crypt style monument without a body inside.

Tamping- The act of pounding, packing or consolidating as in concrete;
The compaction of dirt during backfill.

Tempering- Adding water to mortar to bring back to a workable texture.

Tensile Strength- The holding power or measure of adhesiveness of concrete, masonry or stone; power to resist the action of forces tending to pull apart. Contrasted with compressive strength, the power to resist crushing under direct pressure.

Texture- The tactile and visual quality of a surface, regardless of its color.

Texturing- Creating a particular finish, such as brushed, smoothed, etched or pockmarked.

Tie-Stone- A long stone which extends across a wall.

Tomb- A grave, burial vault or a monument.

Tombstone- Gravestone; denotes historical type, often within the western United States

Tower- A tall structure most often round or square, rises from the ground to a height above its entire surroundings.

Tracery- Curving bars which form a decorative shape, within a Gothic window.

Transom- An opening over a door or window, most often for ventilation. It contains a glazed or solid sash which is often hinged or pivoted.

Trap Rock- A dark-colored igneous rock of great weight and strength, including basalt, feldspar, etc.

Treatment- The proper term to describe performing a conservation procedure.

Trowel- A steel tool with a flat surface for buttering spreading, and smoothing mortar or concrete; comes in various shapes and sizes with specific names.

True Up- To make level or plumb.

Tuck Pointer- A long flat tool made in varying widths from ¼- ½ inch.

Tuck Pointing- Filling the joints in masonry with mortar by using a tuck pointer.

Tumulus- Burial mound or barrow.

Turret- A corner tower which rises from the second floor or roof line.

Tympanum- The semi circular top upper section on a tablet stone.

Unstable- A hazardous or dangerous gravestone, monument, or structure. May be in danger of toppling or falling apart.

Urn- Container for ashes of a person who has been cremated.

Urn & Willow- The most common of all Victorian symbols, found on a large potion of gravestones throughout the 19th century. Also associated with Greek revival, meaning mourning of the deceased.

Vaulted Ceiling- A ceiling formed from a continuous arch, found in Roman, Classical and Gothic architecture and revival styles. A common technique employed in the 19th and 20th century for the construction crypts and vaults in cemeteries.

Veneer- A layer or bricks or stones that serve as a facing.

Vitrify- To make glass-like, as vitrified clay, glazed surfaces, etc. Usually done by heating to fusion.

Voids- The air space created from the movement or decomposition of stone. , or
The air space between particles or aggregates. In a concrete or mortar.

Volute- A spiral scroll forming the major element of an Ionic capital.

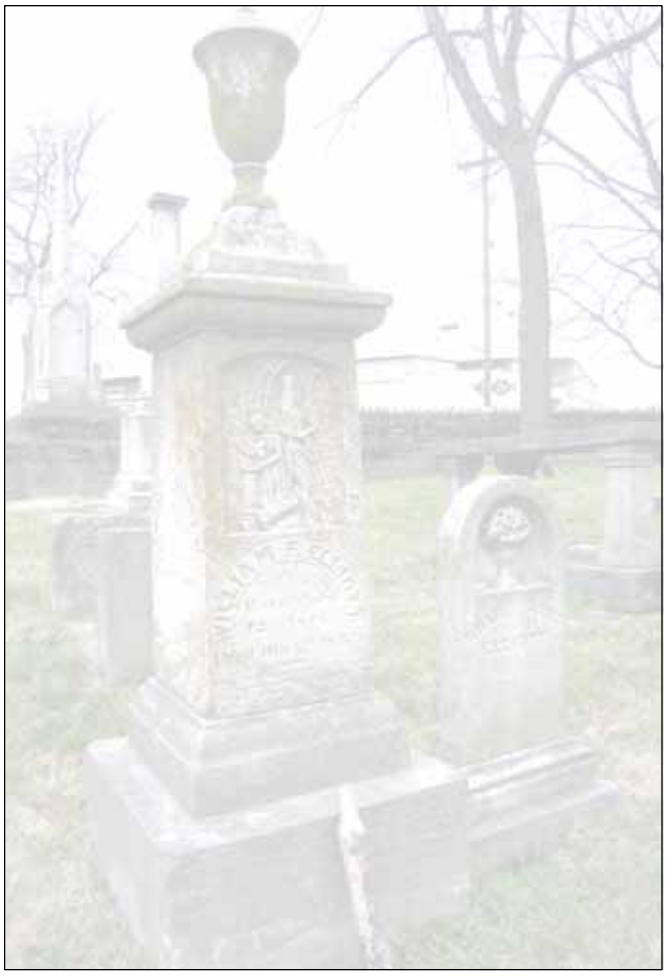
Weathering- The breaking down of rocks or masonry, by the action of various processes such as freezing and thawing and dissolving in water.

Wedges- Stone chips used for leveling.
Metal tools used in conjunction with feathers to split stone by hammering on, when used in groups along a row.

Weep Holes- The openings made in mortar joints that facilitate drainage of built-up moisture.

Wrought Iron- Decorative iron that is hammered or forged into shape by hand. Very popular during the 19th and early 20th century for fences and ornament. Almost a lost art, as very few artisans continue to practice this trade.

Wythe- A vertical stack of bricks one thickness wide; a veneer course.



Appendix D – Bibliography

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