



# Monumental Issues

## Treatments Continue in Mobile's Magnolia Cemetery

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Chicora conservators are continuing with the treatment of high priority monuments in Mobile's beautiful Magnolia Cemetery.

Recently Nicole Southerland and Ashley Guba conducted treatments on an additional 13 monuments. Some involved very simple resetting, others included more complete repairs.

One interesting monument, of Maria Ashby, was a very large and heavy tab in socket stone. The tab and socket were both damaged and the socket had been filled with Portland cement. The die had fallen and

was sunk into the soft Mobile soil nearly a foot. To complicate matters, the stone had been placed on a brick foundation that raised the stone an additional foot and half. Much of this pier was deteriorating with mortar eroded from joints and bricks either loose or entirely missing.

Treatment required that the Portland cement be partially removed, so that it would not be visible after the repair. It also required



### After Treatment

support the massive stone.

Using a tripod rated at 1-ton, the die was lifted and reset on the base. The stainless steel pins were attached using what conservators call a hi-mod (i.e., high strength) moisture insensitive structural epoxy.

The result was not simply a repaired stone, but also one that looks dramatically different. The elevation of the monument today reflects the original three-dimensional intentions of the original craftsmen.

that the brick support be extensively repaired. It was re-pointed using a 1:2 mix of NHL 3.5 and sand.

The die was removed from the soil and drilled for the insertion of two 5/8-inch 316 stainless steel rods to connect the die to the socket and its base. The rods needed to go through both in order to adequately



Before Treatment

### Upcoming Talks & Workshops

- South Bend, IN, September 15-17, 2009, NPI Cemetery Preservation 3-day Workshop
- For more information, visit [http://www.chicora.org/preservation\\_workshops.htm](http://www.chicora.org/preservation_workshops.htm)
- To schedule a workshop in your community call us at 803-787-6910. We have 1-3 day programs.



**Before Treatment—**note the corrosion staining on the left side.

## Another Mobile Treatment

Another common monument problem was also treated at Mobile’s Magnolia Cemetery. This one involved the stone of Robert J. Porter.

The original stone mason had set the marble die on base using two ferrous pins to connect the die with base. Over time these pins had begun to corrode. This process is known as iron jacking and the iron begins to expand with the corrosion products taking up more and more room. Eventually the corroding pins will crack and split the stone. The before treatment photo clearly shows

the corrosion staining down the left side of the monument.

Treatment involved taking this monument apart, using a diamond core drill to remove the old, corroded pins, and replacing them with 316 stainless steel pins.

The monument could then be reset, using a 1:3 mix of NHL 3.5 and stone dust. The stone was cleaned using D/2 and the corrosion stains were removed using a poultice to draw the discoloration out of the marble.



**After Treatment**



**Stainless steel threaded rod using in many conservation treatments.**

## Why Stainless Steel?

We were recently asked why conservators use stainless steel when repairing stone?

As we explained in the article above, carbon steel rusts or corrodes when exposed to air and water. Stainless steel has a minimum of 10% chromium by mass and it does not stain or corrode as easily as carbon steel.

There are a number of different

types or grades of stainless steel. Two of the most common are 304 and 316, both of which have been used in conservation.

Type 304 stainless is very common and is also known as 18/8 (meaning it has 18% chromium and 8% nickel). This grade is certainly corrosion resistant, but less so than 316, which is sometimes called marine grade. The 316 grade also

contains a small amount of molybdenum that helps in corrosion prevention.

Stainless steel is also very strong — helping to ensure that the rods can support the weight and stress of large, heavy monuments.

Of course, there are times when other materials are appropriate, such as nylon, fiberglass, and even carbon fiber.



**Debi Hacker conducted extensive research using the records of the S.C. Department of Corrections to identify nearly 300 individuals buried in Penitentiary Cemetery.**

## Chicora Conducts Research on the Penitentiary Cemetery

Chicora Foundation recently conducted extensive research into the prisoners buried in the S.C. Penitentiary Cemetery in Columbia, SC.

Situated between Elmwood Cemetery to the east and the Columbia Canal to the west, the Penitentiary Cemetery was used by the state prison system between 1883 and 1987.

Our research included the laborious process of going through the prison record books looking for notations regarding death and burial. We also used death certificates and even old newspapers to help identify those buried in the cemetery.

Our research has compiled a comprehensive history of the cemetery, as well as lists of

those known or thought to be buried in the cemetery.

Our field investigations also identified over 333 burials situated outside the fenced cemetery — probably representing the earliest penitentiary burials.

The report is available online at <http://www.chicora.org/pdfs/RC509.pdf>.