

**RR-135**

**Program Summary:**

The classical portico/primary façade of the historic 1850 Gallier Hall building was stabilized and restored. The restoration included both structural repairs and masonry cleaning.

**Program Statement:**

Designed by James Gallier, Sr. and completed in 1850, Gallier Hall was originally known as the Municipal Hall and served as the seat of New Orleans' city government until the 1950s. Based on its architectural and historic significance, Gallier Hall was designated a National Historic Landmark in 1974. The building is currently used by the City of New Orleans as a public special events venue and municipal offices.

A catastrophic stone failure in 2014 made immediate the need for an intensive façade repair and restoration program to ensure the survival of the iconic building. A design team comprised of architects and building conservation specialists investigated the causes of the stone failure and developed documentation of the existing façade conditions and a package of repair documents and specifications for competitive bidding. In addition to addressing the matter of the stone failure, the project developed a cleaning program for the façade, repaired and refinished elaborate plaster soffits, reset stones that had shifted over time, and patched areas of lost material.

As Gallier Hall plays a prominent role in the city's Mardi Gras celebrations, the building team was tasked with completing the construction phase of the project on an accelerated four month schedule.

Building Area: (sf)  
**51,850**

Cost per Square Foot:  
**n/a**

Construction Cost  
**\$1,000,000.00 (approx.)**

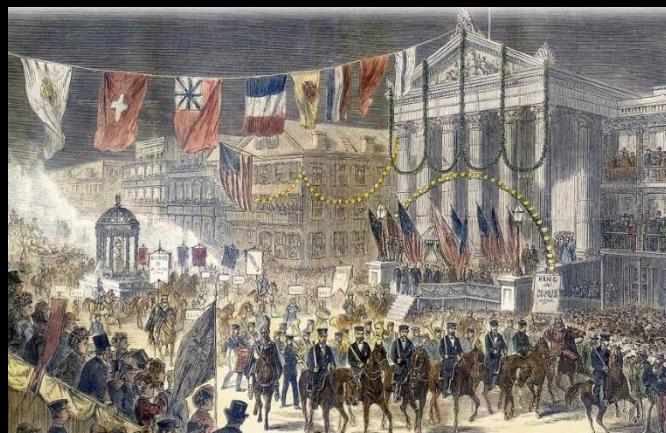
Date of Completion:  
**March, 2016**

# RR-135

## Gallier Hall

Originally known as Municipal Hall, Gallier Hall is named for its architect James Gallier, Sr. and served as the city of New Orleans' city government for over 100 years. It is recognized as one of the city's finest examples of Greek Revival architecture and is renowned for its scholarly detail and proportions. Since the relocation of City Hall in the 1950's, the building is used for public special events in its splendid main interior rooms and municipal offices in its upper stories. Prominently located on St. Charles Avenue facing Lafayette Square, Gallier Hall occupies an iconic place in both the city's history and its contemporary cityscape.

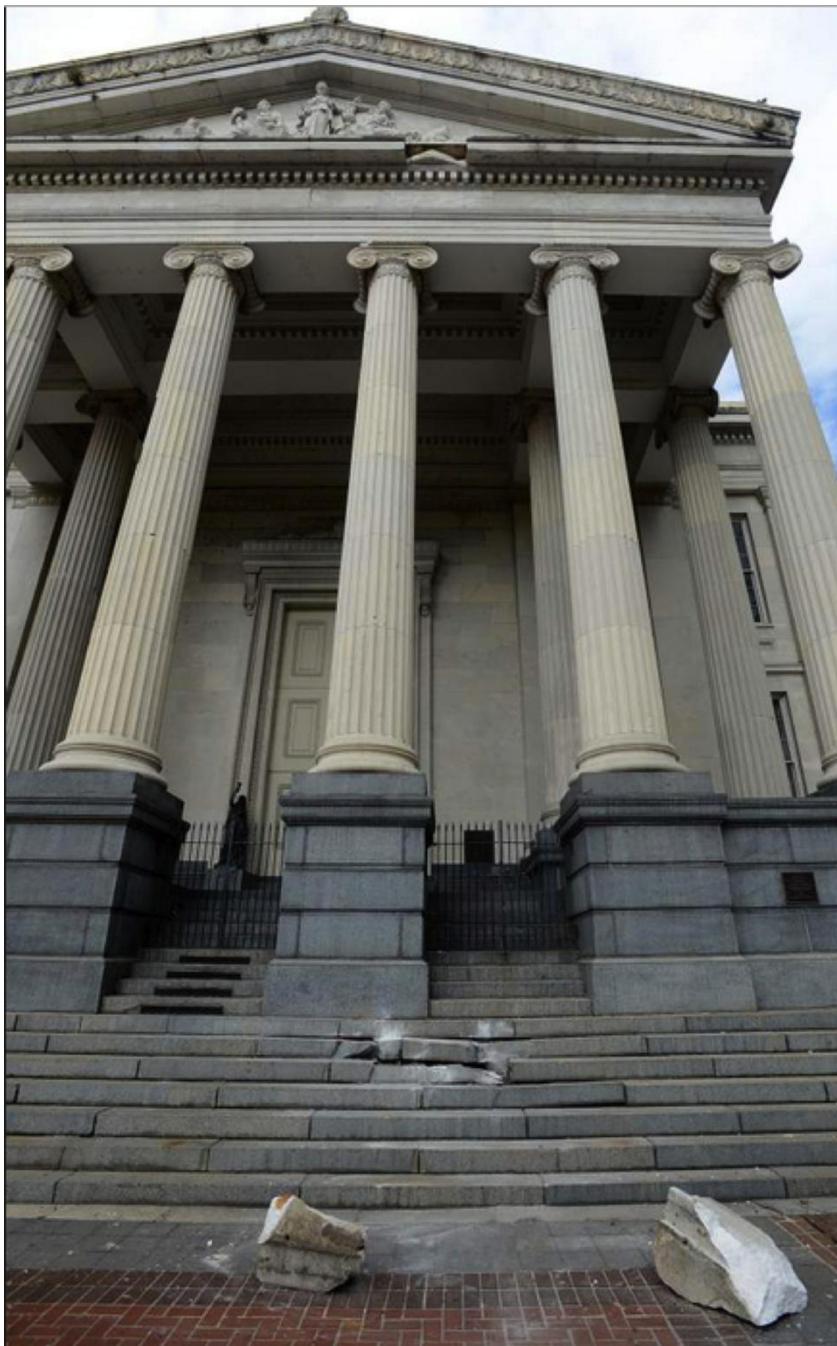
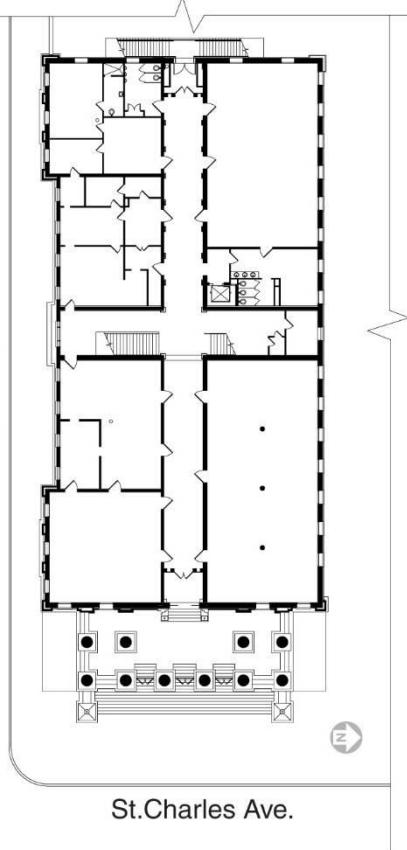
Gallier Hall has been the site of many historic events and each year its portico serves as the location for the traditional Mardi Gras toast between the Mayor and Carnival royalty passing by in Mardi Gras parades.



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An Emergency Situation

Lafayette St.



In the predawn hours of the morning of August 26<sup>th</sup>, 2014, a section of marble cornice approximately 5 feet long sheared off of the façade and fell onto the granite stairs below. The stone pieces from both the façade and the granite were broken beyond reasonable repair. Thankfully, no pedestrians were injured in the collapse.

Police barricades were quickly erected to close the surrounding sidewalks and building conservation experts were retained to investigate the cause of the stone failure. It was determined that mortar loss allowed water intrusion into the joints of the porous Tuckahoe marble and caused ferrous metal anchors within the façade to corrode and expand. This expansion exacerbated the natural shearing qualities of the stone to generate large cracks, and eventually failure.

Large cracks were observed in many areas of the façade and without repair, the prospect of additional stone failures loomed.

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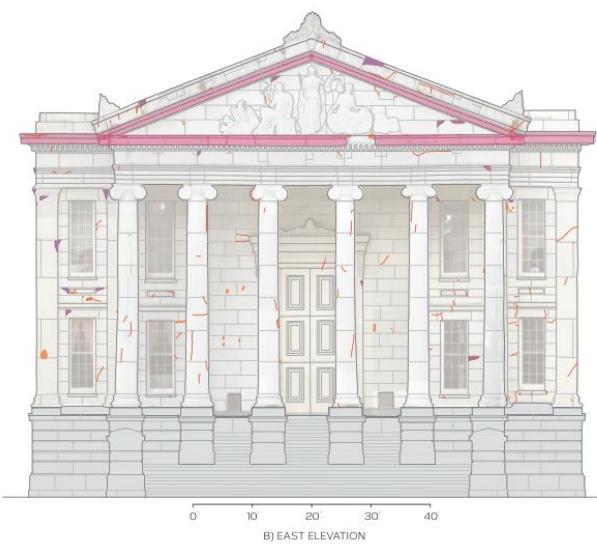
Before Restoration



In addition to the immediate safety issue of stone failure, the investigation of the existing façade conditions found and documented many types of soiling and deterioration present on the façade.

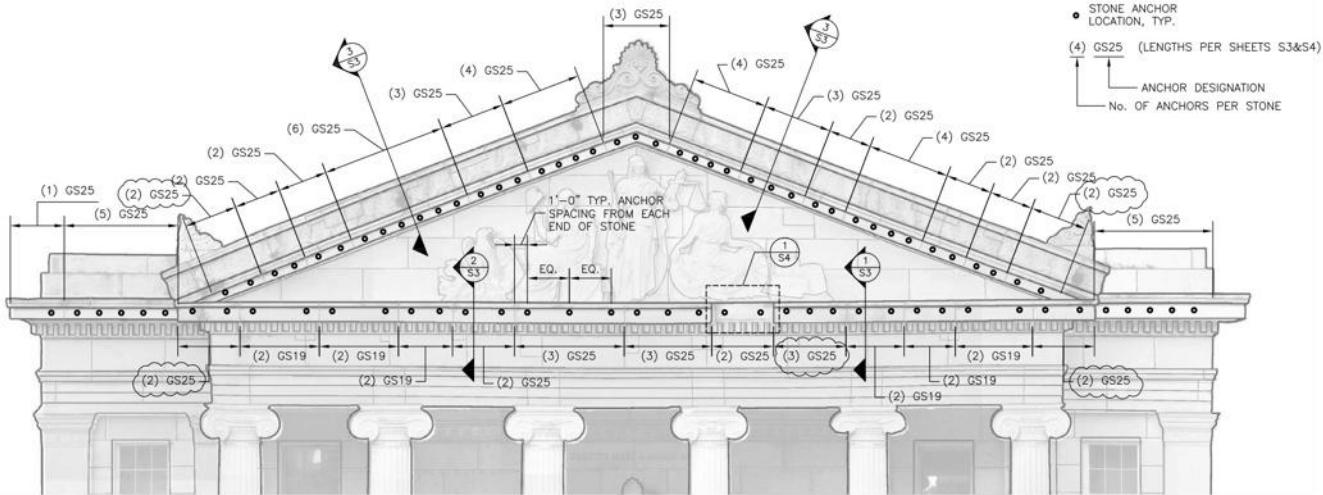
A detailed survey of the façade documented areas of deteriorated joint mortar, dimensional loss (stone areas over 2"), cracking, displacement/deformation, incipient spalling, differential erosion, mineral inclusions, previous repairs, previous stone replacements, metallic staining, mechanical intrusions, vegetation, and soiling. The findings of the survey work were documented in color-coded drawings that became the basis for formulating repair strategies and construction documentation.

The photo at top left shows the façade at the beginning of the project. Note the large amount of staining and vegetation, as well as the absent section of cornice.

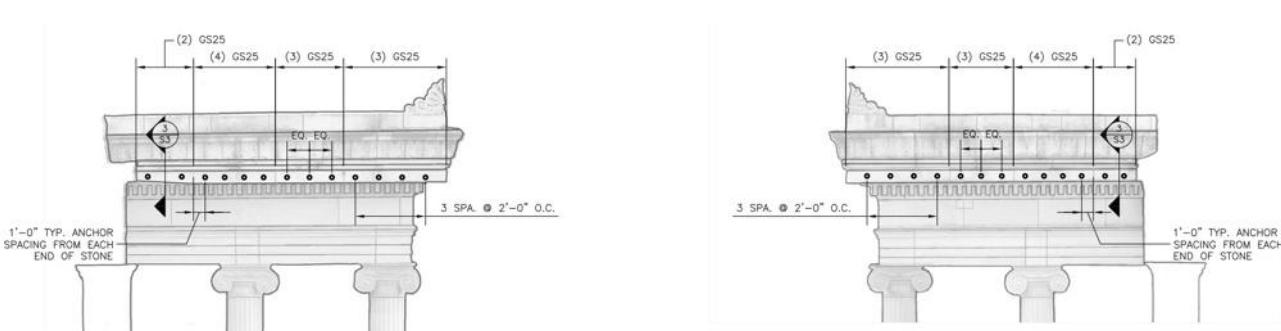


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## Structural Repairs



It was determined that without corrective action, the corrosion and expansion of the original 1850 ferrous metal stone anchoring hardware would lead to further failures of the stone facade.



To permanently stabilize the façade stone, an engineered pinning solution using the Gruenstark anchoring system was designed. Hollow stainless steel threaded rods and fabric bladders were placed into core holes drilled into the existing stone. The hollow center of the rod and bladder were then injected with high strength grout.



The resulting core holes were carefully capped with a disk-shaped plug of matching marble and hand finished to match the color and texture of the adjacent historic material.

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## Masonry Cleaning

In the drawing at left from the bid set, a variety of cleaning techniques were planned for the façade. After on-site testing and evaluation, the building team determined that micro-abrasive cleaning was the most effective method of cleaning the façade, and this method was used over the entire façade, with selected small areas of marble receiving a poultice treatment to remove mineral staining.

The cleaning treatment resulted in a notable restoration of the bright white coloring of the Tuckahoe marble, and improvement to the appearance of the Quincy granite monumental steps and porch.



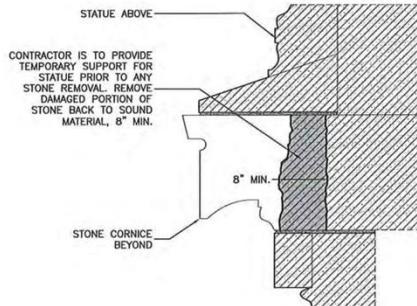
# RR-135

## Stone Replacement

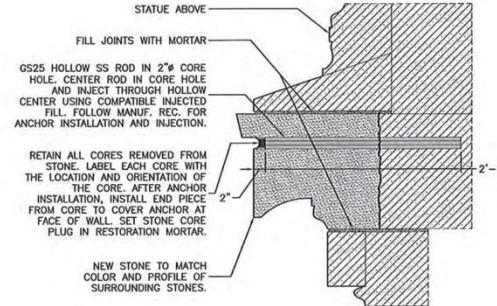
The fallen segment of the broken cornice shattered on impact with the steps below and was broken beyond repair.



EXISTING CONDITION



STEP 1 – STONE REMOVAL



STEP 2 – NEW STONE  
INSTALLATION

1  
S4      FALLEN STONE REPAIR  
AT LOWER CORNICE      N.T.S



A full-size wood template of the cornice profile was made from the adjacent stones and used to carve a new piece of marble.

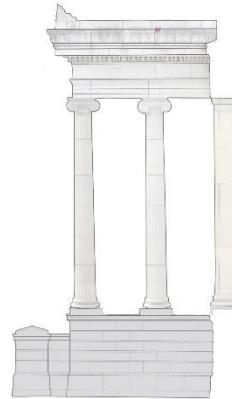
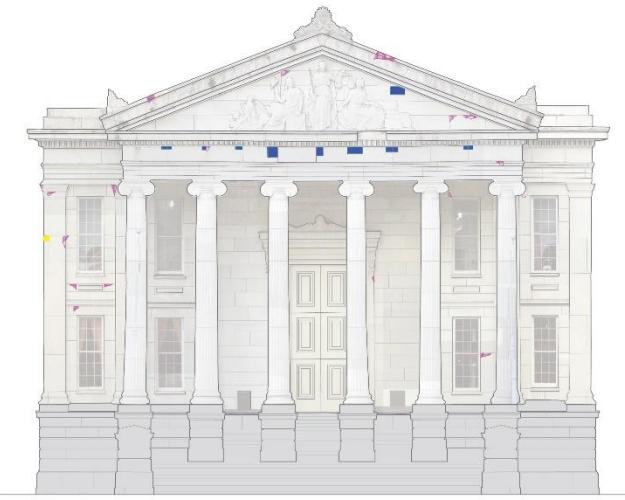
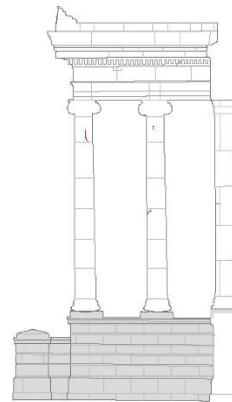
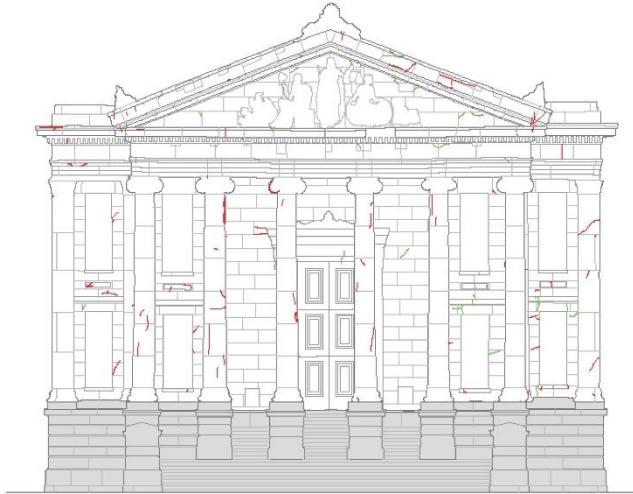
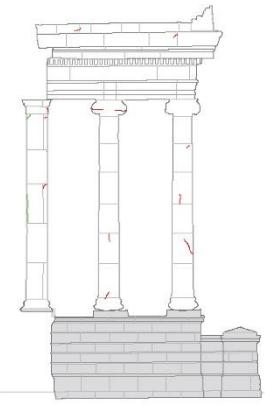
The new marble piece was placed and anchored with stainless steel rods. The photo at left shows the new stone immediately after it was placed. Subsequently, the stone was hand finished to distress the surface to match the adjacent 165 year old stones.

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## Crack and Dutchman Repairs

Cracks to be repaired were identified in the drawings at upper left.

The various types of Dutchmen repairs employed in the project are identified in the lower drawings.



1  
DP  
A) SOUTH PORTICO RETURN

### TREATMENT KEY & QUANTITIES

RS-1 REINFORCED FACE MASONRY (DIV 04080)



SP-1 CRACK & APPL (DIV 04080) Spec'd as bonding  
Spec'd as engineered prephenomena

QUANTITY 1 UNIT (60 SQ FT)

QUANTITY 1 UNIT (60 SQ FT)



RS-2 REINFORCED FACE MASONRY (DIV 04080)

Spec'd in indicated areas

QUANTITY 25.00 FT<sup>2</sup>



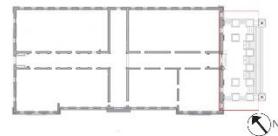
SP-3 DOUBLE FACE DUTCHMEN (DIV 04061/04081/04090)

Spec'd in indicated area

QUANTITY 1 UNIT > RET REPAIRING PLAN

\*\*\* NO ESTIMATED QUANTITIES PROVIDED FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY IN FIELD.

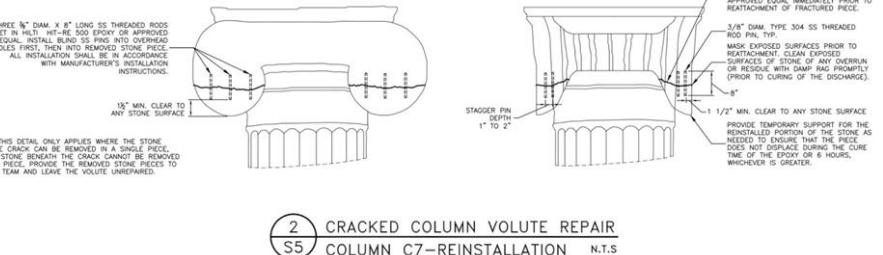
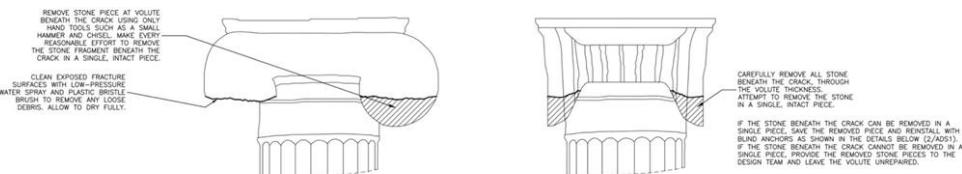
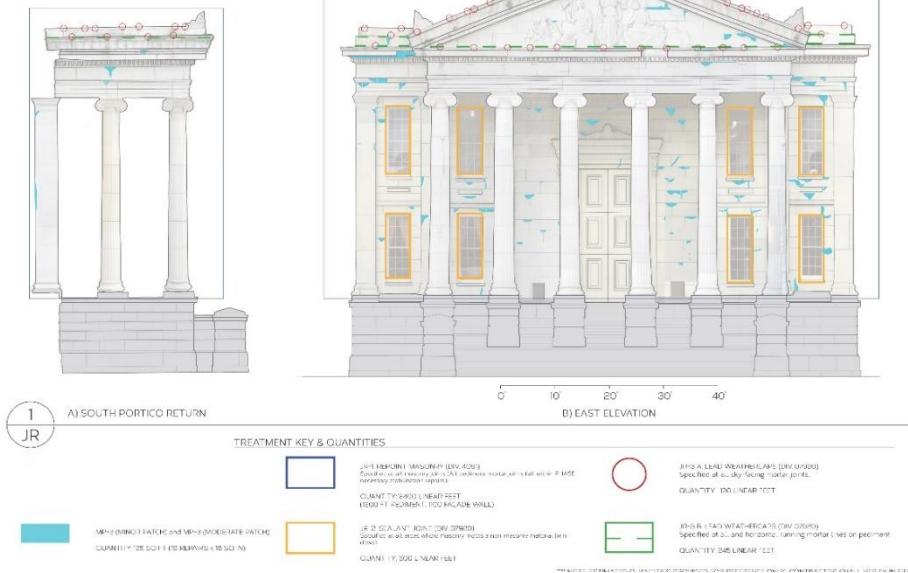
### LOCATION KEY



# RR-135

## Joint Repairs

As the loss of mortar joint material was the underlying cause of the stone failure, the project undertook the complete repointing of all stone joints and the addition of discrete metal weathercaps to improve the sealing of mortar joints exposed to weather in the horizontal plane.



## Volute Repairs

Cracks observed in the finely carved volutes at the column capitals were individually reviewed by the design team and repair contractors. Thin masonry anchors were carefully placed at various angles depending on the pattern of the cracks.

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## Portico Soffit Repairs

The investigation phase of the project observed failures and cracking in the plastered dentils in the soffits of the Gallier Hall portico.

The cause of failure was identified as the corrosion of ferrous metal anchors caused by the 20<sup>th</sup> century application of non-breathable coatings.

A pinning repair using thin anchors in both horizontal and vertical axis applications was developed to stabilize the underlying brick structure of the dentils. The offending coatings were removed and replaced with a lime wash coating that will allow proper breathing of the historic soffit materials.

A historic surface analysis was performed to match the color of the lime wash to the original historic colors used on the soffit.



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## Construction Coordination

Scaffolding of the entire façade was required to adequately reach all areas of the facade requiring work.

In order to meet the expedited schedule, lighting was installed on the scaffolding to facilitate work beyond daylight hours. As areas of the facade were completed, the design team accepted the work and scaffolding could be removed from these upper areas while work continued below.

The project location along active streetcar lines in New Orleans' Central Business District necessitated numerous after hours operations, including the 3:00 am placement by crane of the replacement marble cornice stone.



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## Completion

Upon substantial completion in late December 2015, the project restored the striking whiteness of the marble façade and repaired all damage from the stone failure.

The jobsite was immediately turned over to the City's work crews to begin preparation for the Carnival festivities which were due to begin in January 2016.

In this image, the installation of the reviewing stands for the upcoming Mardi Gras parades is visible.

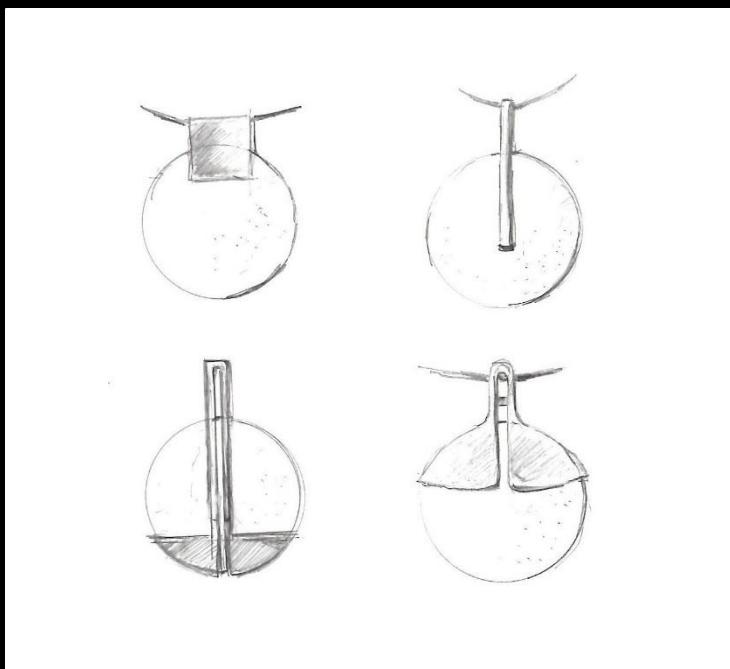


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## Completion

Thanks to the efforts of the owner, contractor, and design team, the project was delivered on time and the Carnival celebrations were returned to their traditional location at the Gallier Hall portico.

In this image, the mayor of New Orleans and Rex, the king of Carnival share a toast on Mardi Gras day, Tuesday, February 9, 2016.



## Material Reuse

The process of installing the masonry anchor system generated a large quantity of removed material in the form of cylindrical marble cores.

Measuring 1-3/4" in diameter, these objects presented an opportunity to create new objects from the historic material fragments of this iconic building.

Upon removal from the façade, the marble cores were salvaged and will be sawn into thin wafer shaped pieces. The cut pieces will then be polished and used to create a line of jewelry, shown in sketches at left, that will be sold to the public to assist in funding future phases of interior restoration work at Gallier Hall.

**RR-135**

Project Name:  
**Gallier Hall: St. Charles Façade Restoration**

Project Location:  
**New Orleans, Louisiana**

Owner/Client:  
**The City of New Orleans  
Capital Projects Administration**

Architect of Record:  
**Markdesign, LLC  
3138 Desoto Street  
New Orleans, LA 70119**

Project Team:  
**Mark Reynolds, AIA, IIDA, LEED AP BD+C  
David L. Glasgow, R.A.  
Carl Lowder III  
Charlotte Throop, AIA, LEED AP BD+C**

Landscape Architect:  
**n/a**

Consultants:  
**Cypress Building Conservation, LLC  
Atkinson-Noland and Associates, Inc.  
Gray Studio, LLC**

General Contractor:  
**Battco Construction and Maintenance, Inc.  
Kenner, LA**

Photographer(s):  
**All images by Markdesign, LLC or its  
subconsultants unless noted below:**  
Slide 2: Comus Parade print from the Arthur  
Hardy Collection  
Slide 2: Lithograph by Thomas Wharton  
from the Historic New Orleans Collection  
Slide 3: photo by Eliot Kamenitz for the New  
Orleans Advocate  
Slide 3: photo courtesy of City of New  
Orleans  
Slide 13: photo by Natalie Shepherd via  
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