Old Senate Chamber

Gallery Evidence Investigation (Round One: November 2010)

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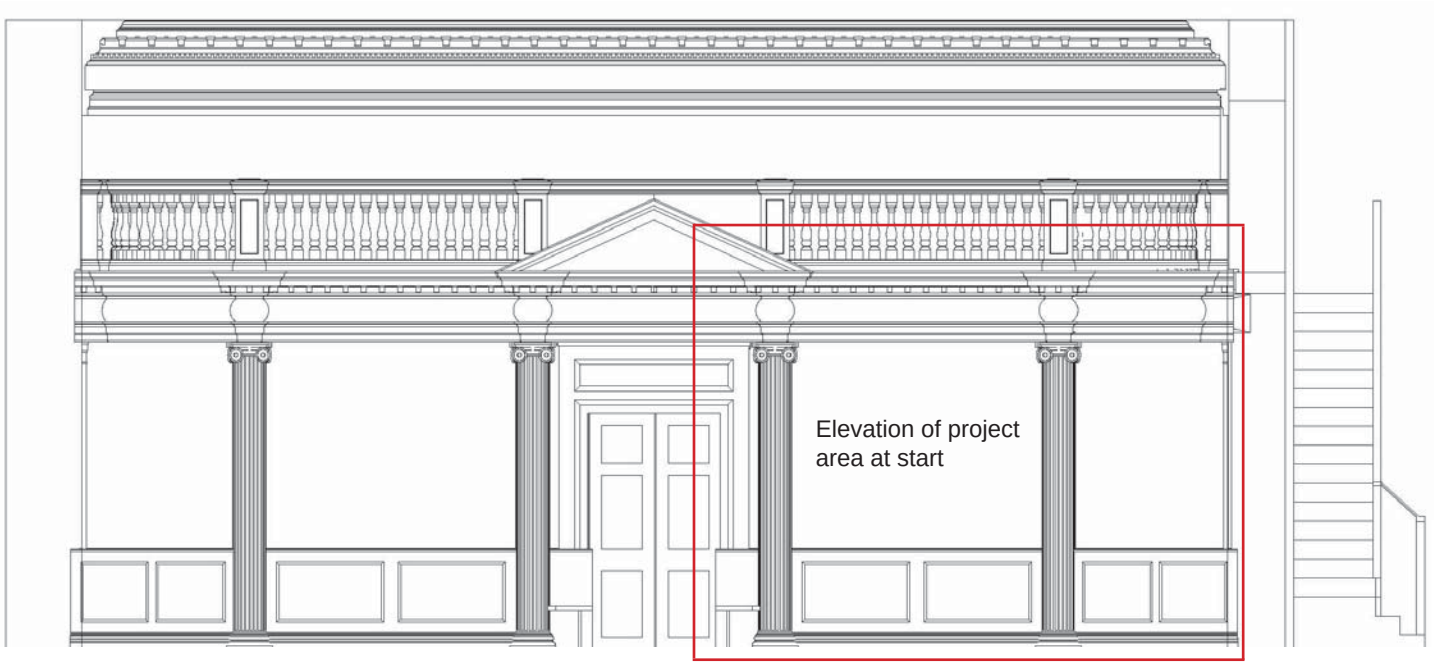
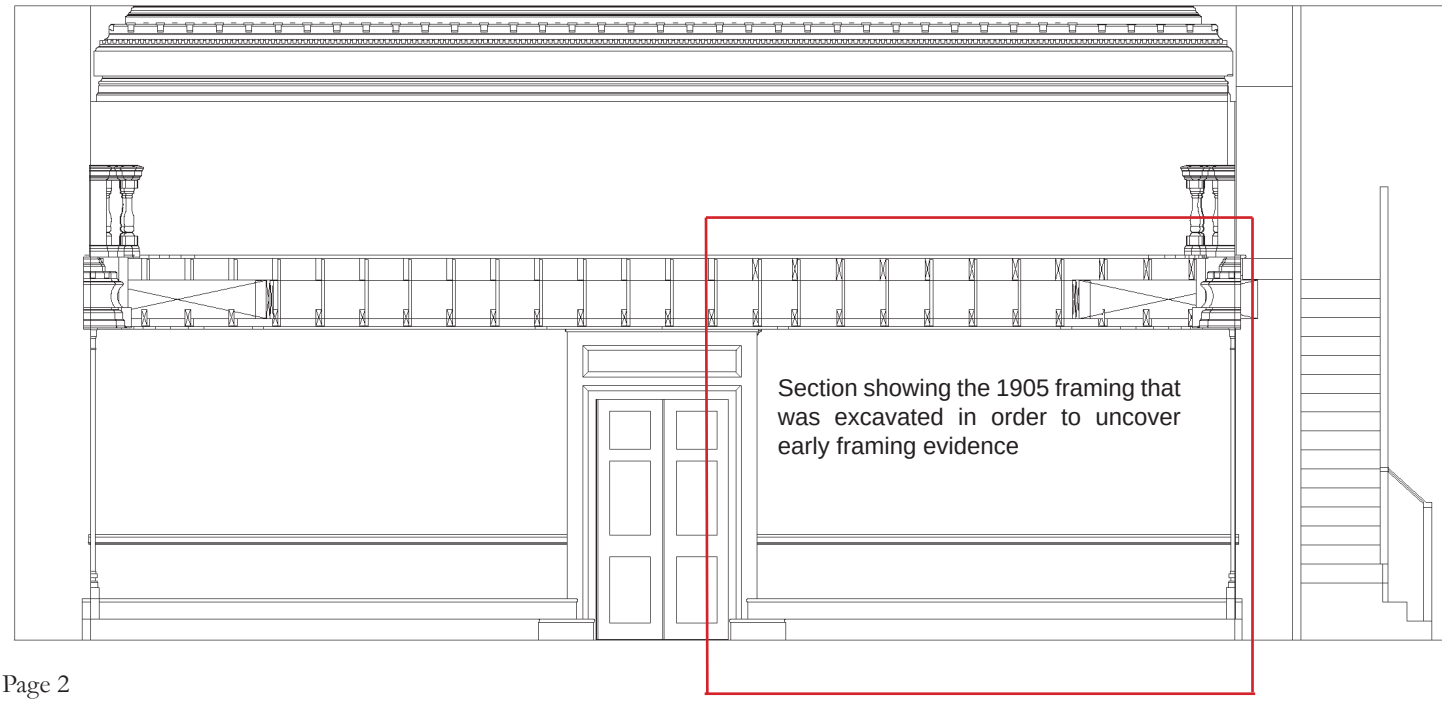
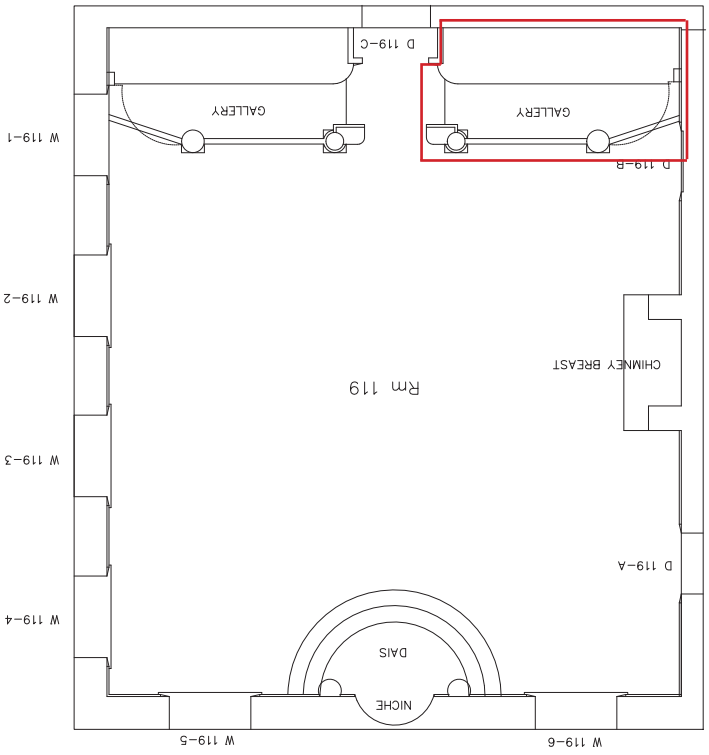


The goal of this round of the investigation was to gather the available physical evidence pertaining to the original gallery from a selective demolition of the half toward the gallery stair and chimney breast. This was a follow-on to our earlier investigation of the Old Senate Chamber in the Maryland State House funded by the Maryland Historical Trust and guided by the recommendations of the Old Senate Chamber Architectural Advisory Committee, dated 14 January 2010.

The red outlines approximate the boundaries of the work. The entablature of the 1905 gallery was excluded from the selective demolition. The wainscot between the columns, the seating risers, the ceiling of the lower level and enough of the floor of the balcony to easily expose the back wall for clear investigation was included. The connection with the side wall was opened to the extent possible, short of cutting back the entablature.

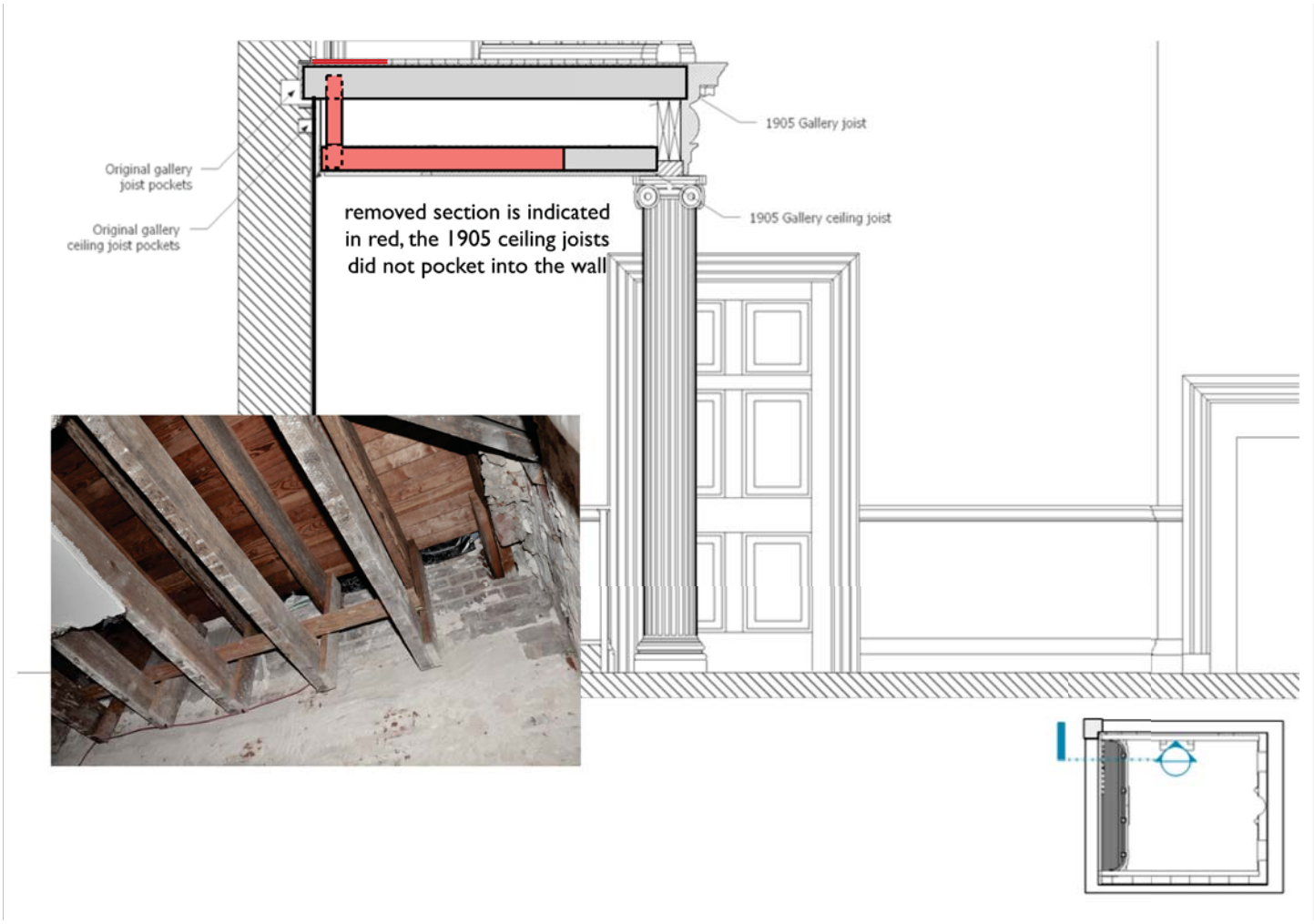


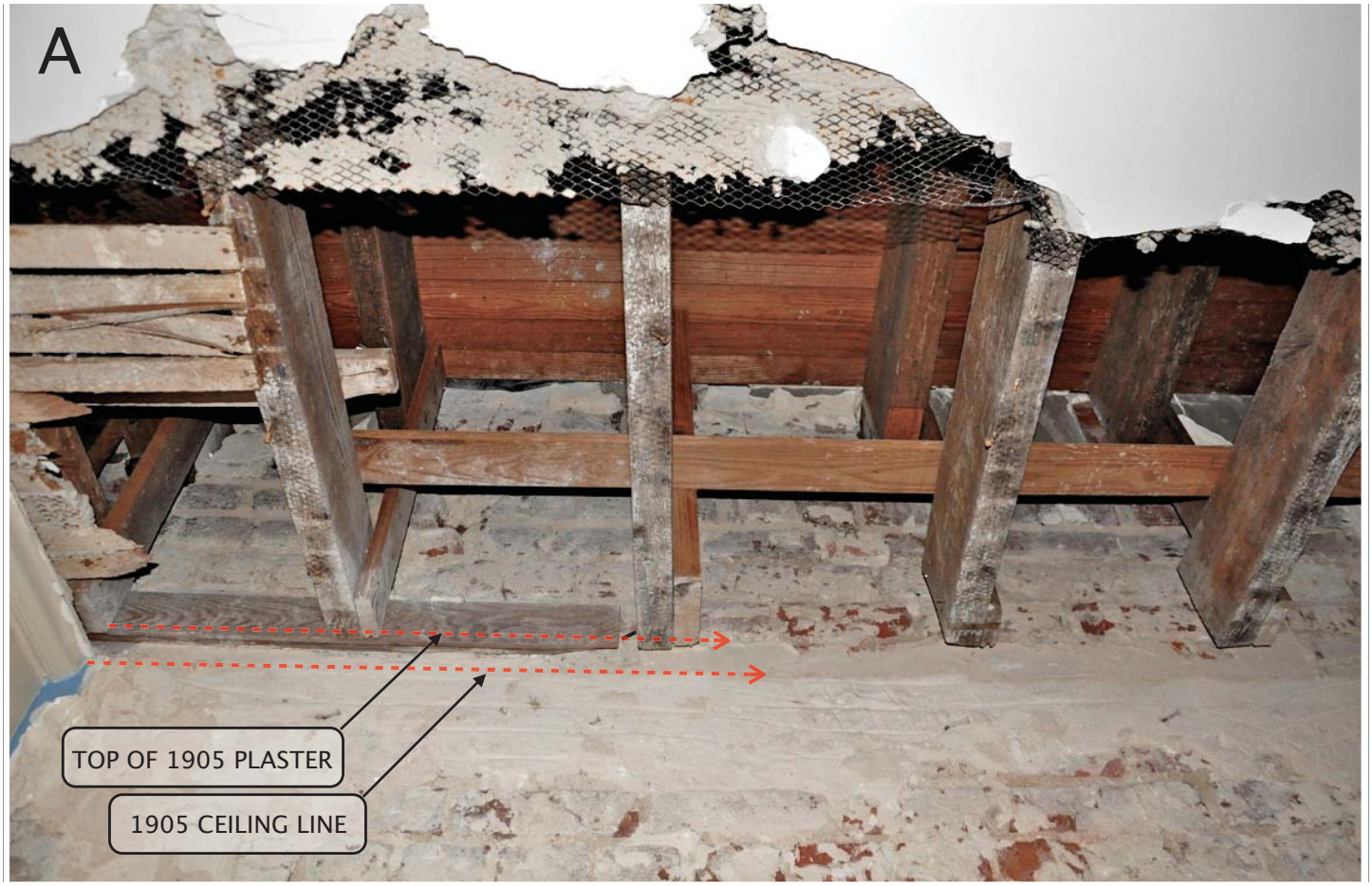


Two clarifications to start:

- The gallery was a late addition during the construction process, necessitating accommodations for features already installed, including the false door and windows which had an elaborate over-door and over-windows. Also the joist pockets and opening for the balcony door had to be chopped into the completed masonry walls.
- In this report the terms gallery and balcony will be used as follows: gallery will refer to the entire feature and balcony will refer to the upper level alone.

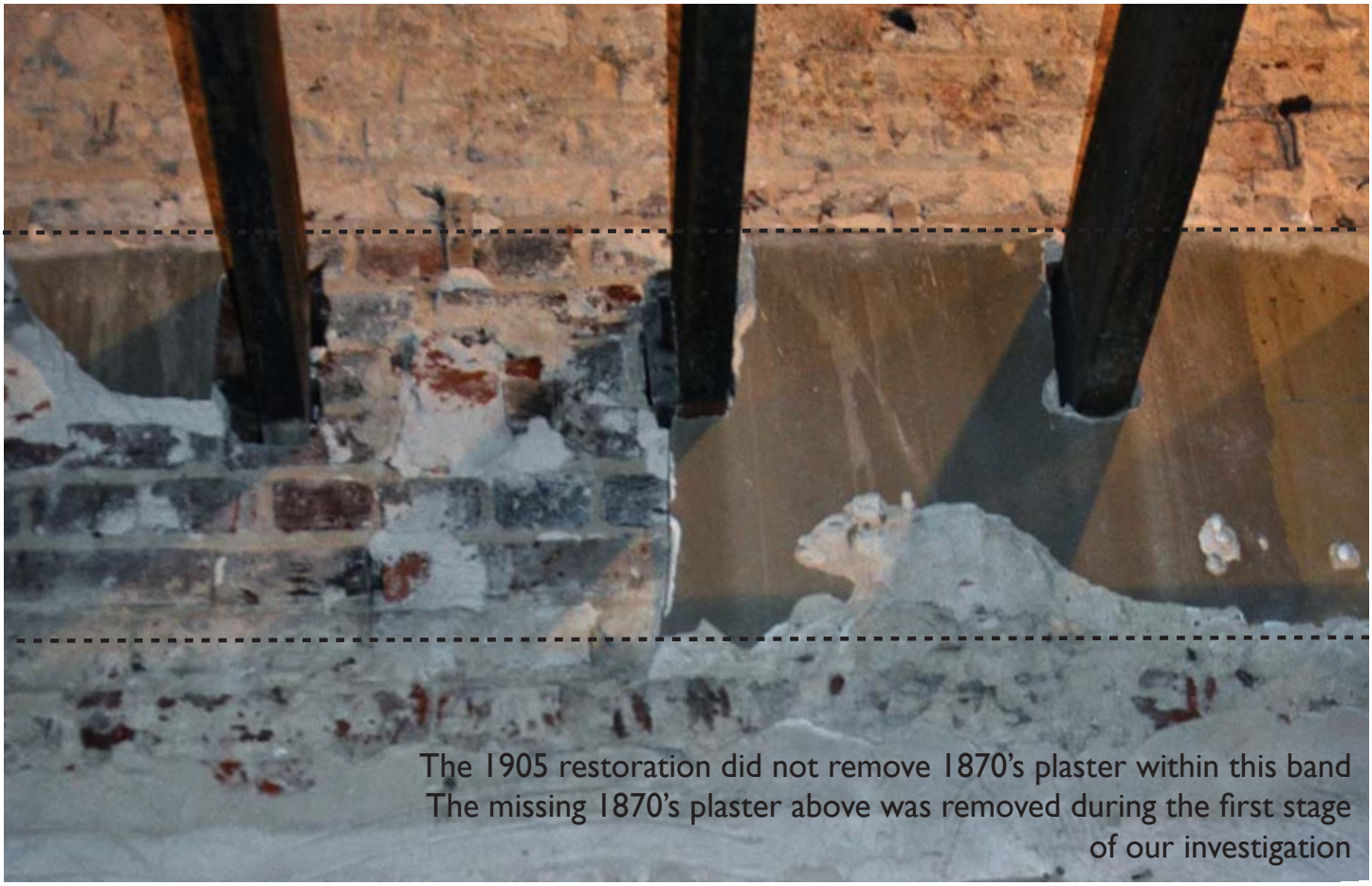
After removing a significant portion of the underside ceiling, the ceiling joists were also cut back to provide a better view of the back wall. These joists were hung from the floor joists on the wall end and thus, after removal, there were no scars on the back wall to confuse the pattern of the original framing. To that end, the 1905 floor joists were not removed, allowing them to clearly mark their own positions and again add clarity to the evidence. Work proceeded carefully and methodically attempting to insure that evidence was not damaged in the process of finding it.



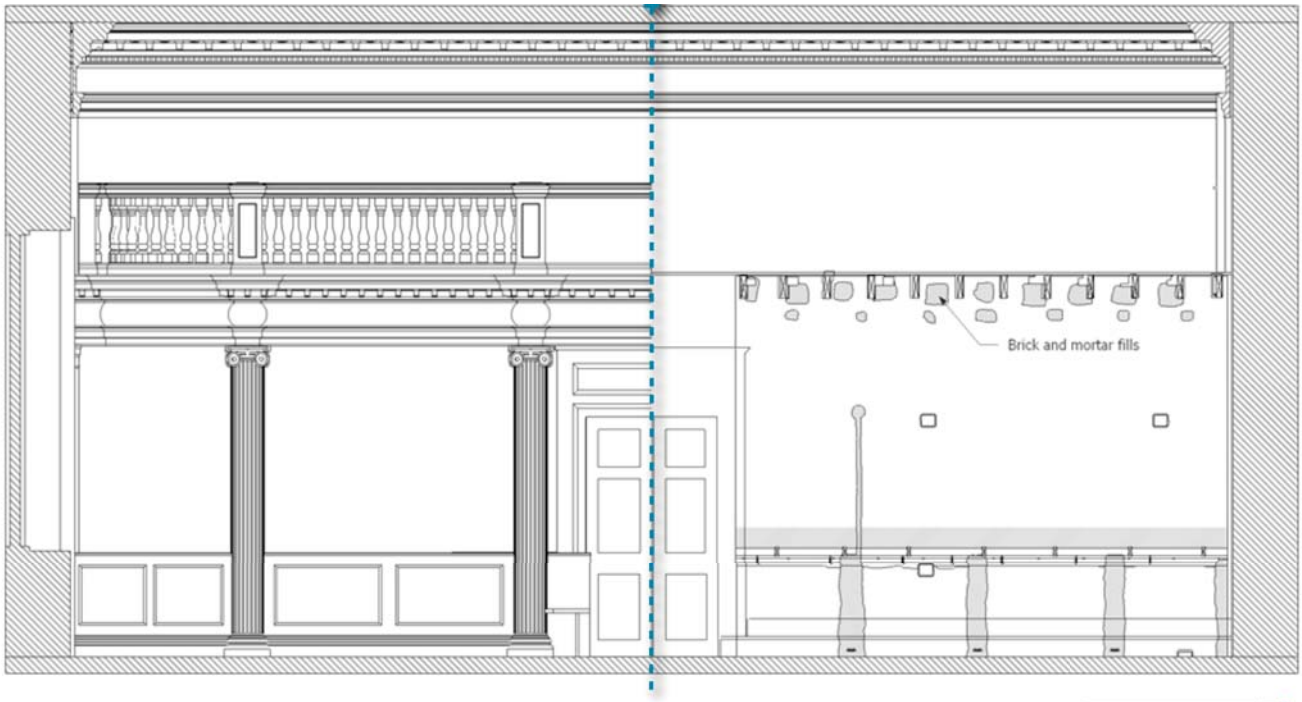


The ceiling line and top of 1905 plaster was established as the ceiling was being removed and while the joists were still in place to clearly define the location (A). With the 1905 ceiling joists out of the way and the remains of 1870s plaster removed, establishing the 18th c. ceiling and top of plaster was straightforward (B).

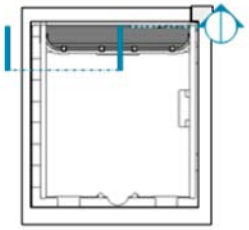
The original ceiling location does not raise the architrave, thus the beam of the architrave is exposed as an architectural element, visible and decorated on both sides and paneled below. This creates a coffered effect, a typical classical detail. In contrast, finishing the ceiling flush to the top of the column capitals, as was done in 1905, would have been unusual in the 18th c.

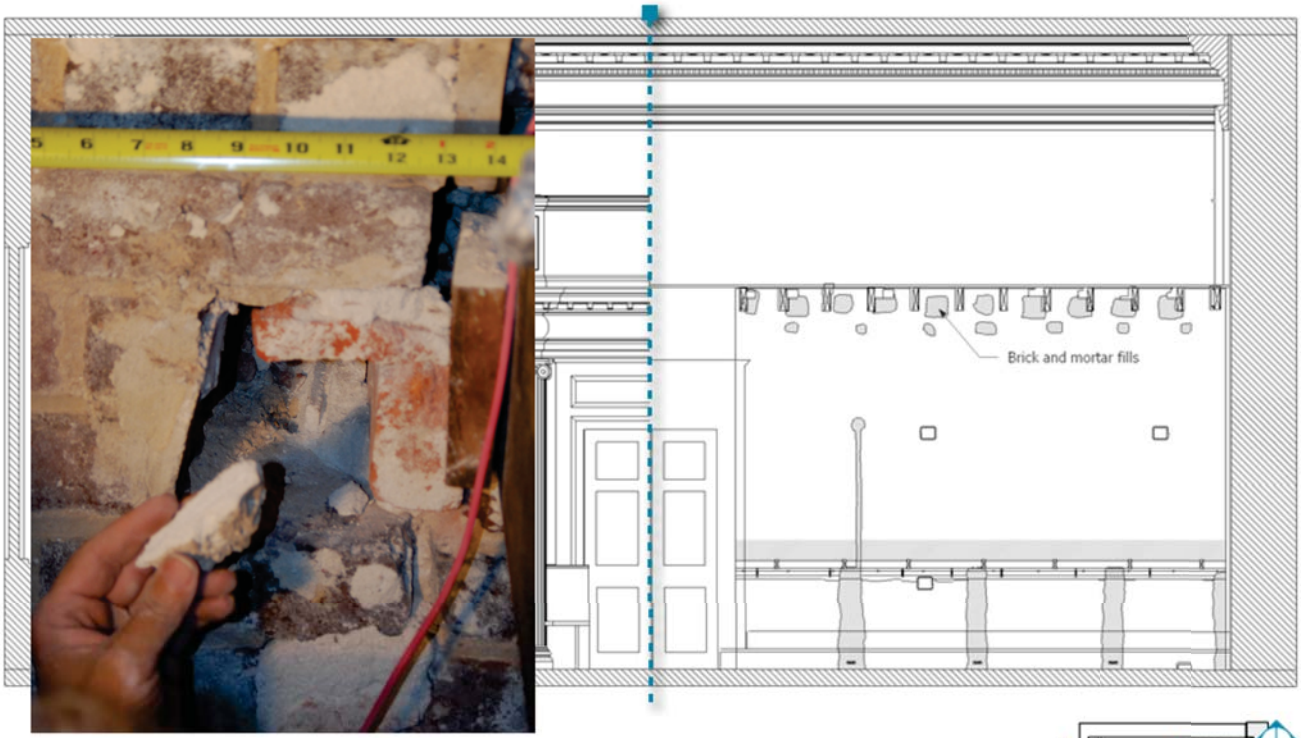


The 1905 reworking of the room punched holes through remnants of 1870s plaster directly into the masonry wall to hang the gallery joists. (In other words, the 1905 gallery was constructed without consideration for the earlier evidence and they just happened to hit the edges of some of the original joist pockets, which had been filled with plaster and brick bats in the 1870s). The entire space between the bottom of the 1905 gallery ceiling and the 1905 gallery floor above still had 1870s plaster when we began our initial investigation.

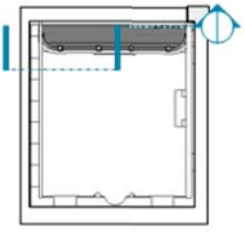


THIS DRAWING SHOWS THE 1905 FLOOR JOISTS AND THE ORIGINAL POCKETS AS FILLED CIRCA 1877





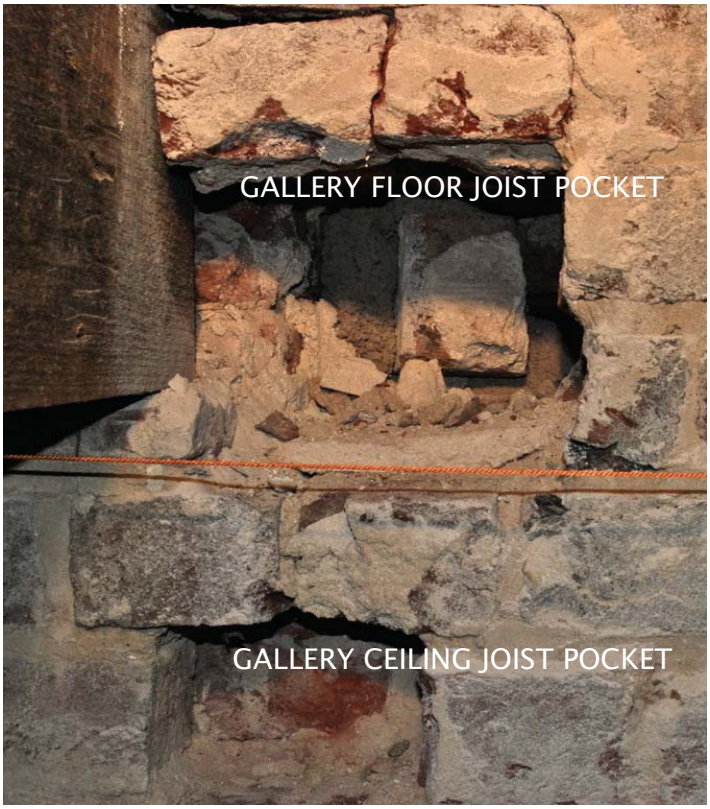
THE CIRCA 1877 INFILL WAS REMOVED FROM THE POCKETS, LOOKING FOR IMPRINTS OF THE ORIGINAL GALLERY TIMBERS AND CAPTURED FRAGMENTS OF ORIGINAL PLASTER



Examination of the 18th century joist pockets and associated ghosts shows the original floor line for the balcony was several inches lower than the 1905 and the original ceiling was significantly higher, creating a coffered ceiling. The distance between the original balcony floor and the ceiling beneath was about 14 inches, whereas the 1905 arrangement fills the entire 27" space behind the entablature.

The 18th c. gallery ceiling was not just attached to the bottom of the floor joists, but rather hung on their own separate lighter weight joists set below the floor joists. This type of construction protects the plaster from joist flexing and vibration from the floor above and in typical floor situtations dampens sound transfer.

All of the filled pockets were investigated and the fill removed to determine the actual size of the pocket and to see if anything interesting was captured while it was open. Frequently the pocket still retains at least a partial imprint of the timber that occupied it. It is amazing how often artifacts, such as fragments of plaster or other decoration have fallen into the pockets before they were filled.



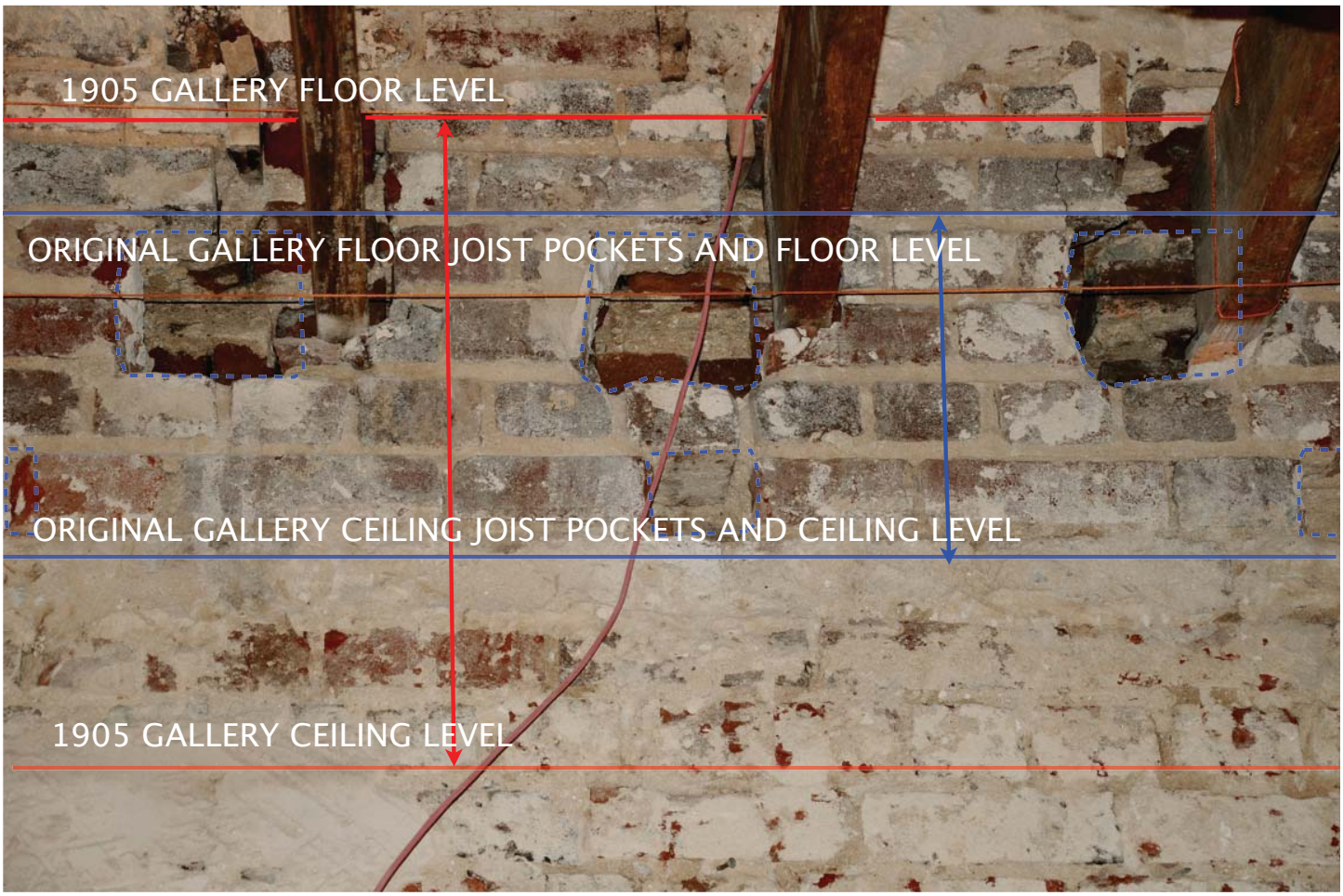
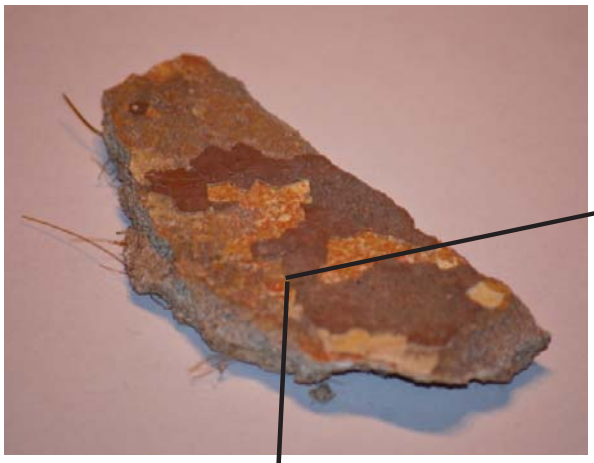
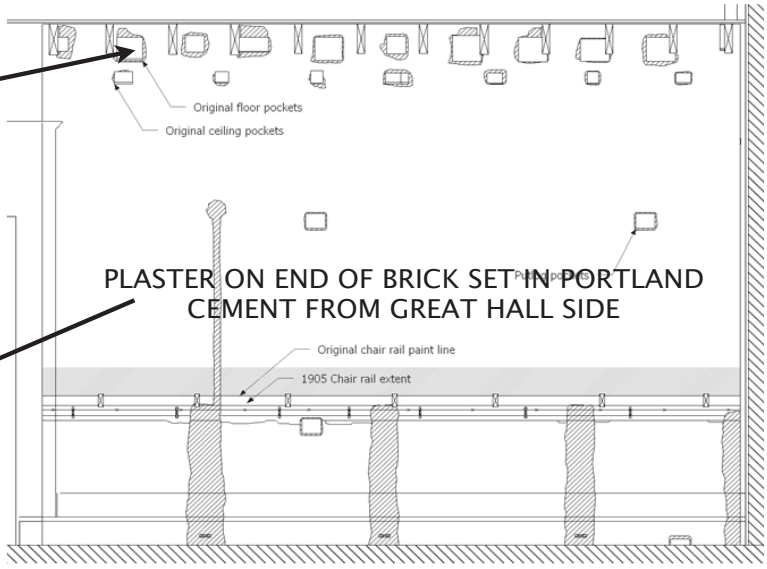


PHOTO OF ORIGINAL PLASTER FRAGMENT RECOVERED FROM AN OPENED JOIST POCKET





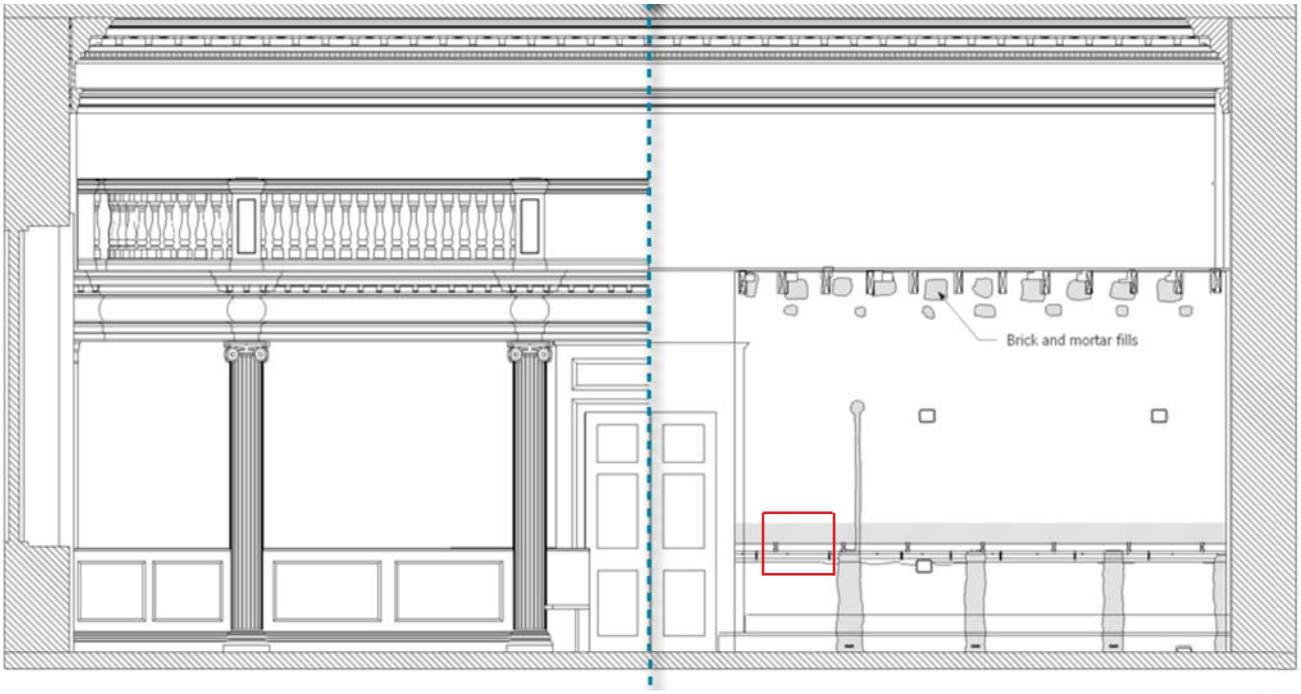
THE FINISHES ON THE LOOSE 18TH C PLASTER FRAGMENT DO NOT VISUALLY RELATE TO THE CURRENTLY KNOWN FINISHES FOR THE OSC, AND THEREFORE MAY BE FROM THE GREAT HALL (IT APPEARS TO START WITH A SANDED FINISH)

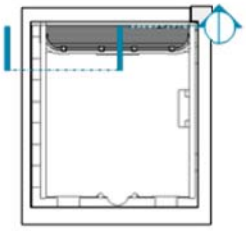
One cannot imagine the range of strange things that manage to get into wall pockets and on top of ledges in buildings. One house in Charleston, SC provided three examples of different 3-dimensional wallpaper borders, effectively doubling the number of physical examples known in the US. We have even found a prehistoric stone ceremonial axe head in a vacant joist pocket in a major 18th c. house in Annapolis. Regardless, expecting to find fragments of plaster and trim splinters is not unrealistic.

In the Old Senate Chamber the 1870s plaster and brick bat infill was removed revealing only one fragment currently identified as significant: plaster with a nice series of paint finishes. It has not yet been microscopically analyzed. A visual inspection shows it to have many of the colors found in the early Senate fragments but it has a sand texture for the first finish. None of the other early fragments have a sand finish. The pocket in which it was found appears to have also been open to the Great Hall/ Rotunda of the State House and may indicate the early finishes there. Sanded finishes were not unusual in fine 18th c. houses, especially in entry halls. The Brice House has a yellow sand finish entry while the other formal spaces had smooth finishes.

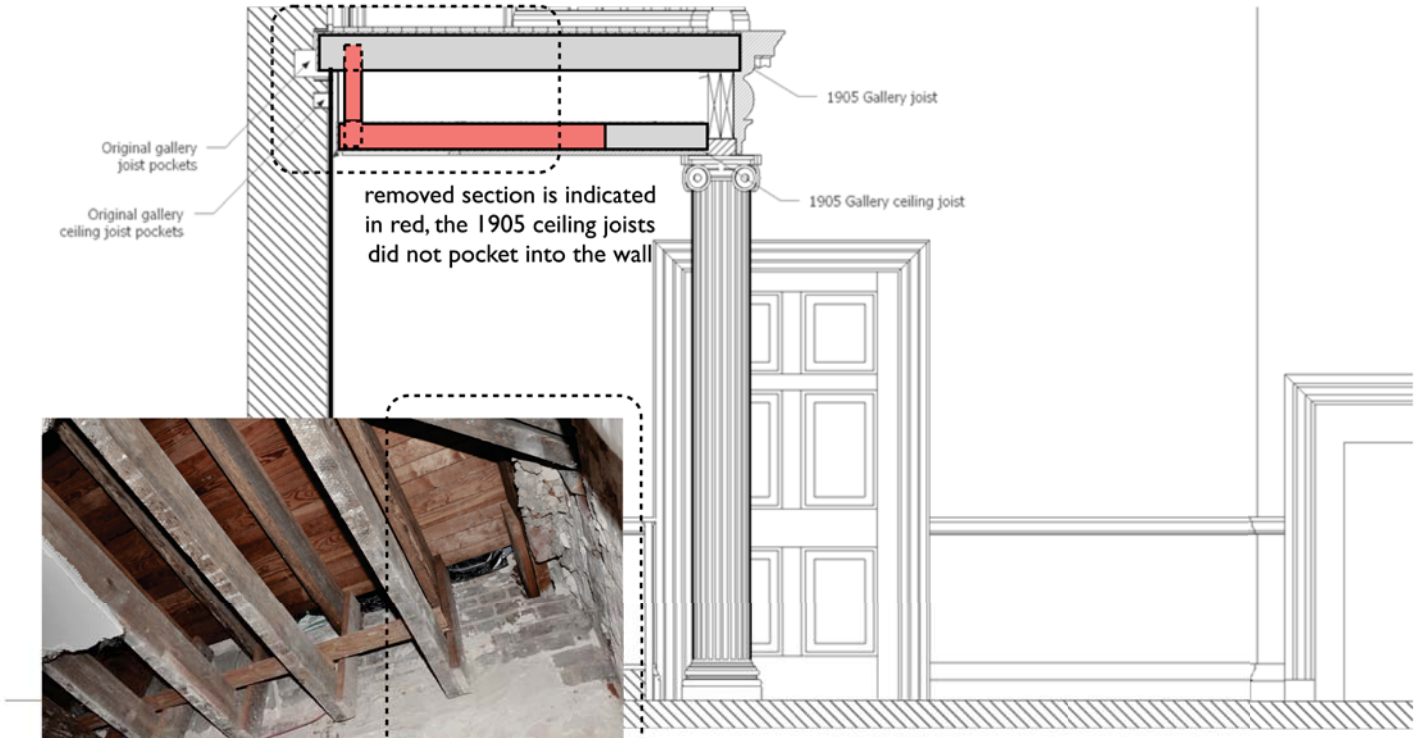
The chair rail/wainscot cap was higher in the original Georgian than the 1905 version. The field of the wainscot and the base surrounding trim at doors and windows are often connected and are in the same plane with the plaster. The woodwork is typically installed before the plaster and, in the finer installations, it is at least primed. In many cases it also gets a finish coat before the plaster is installed. This appears to be the case in the Old Senate Chamber. We are seeing a consistent amber colored paint over-run in many places around the room. Obviously they were not intentionally painting the wall and therefore it is not continuous, and depending on how tight the element fit to the wall, the brush may have painted somewhat behind the intended element. With that caveat, these over-run lines will help delineate the design and placement of the initial base trim installation.

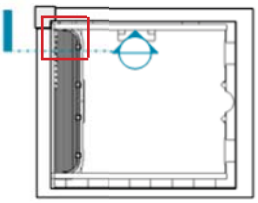
As an interesting aside, since the function of a chair rail is to protect the wall from being scraped by chairbacks, with the drop in height between Queen Anne/ Chippendale chairbacks vs. Hepplewhite and Sheridan, there was a corresponding drop in height between Georgian and Federal chair rails.


Brick and mortar fills

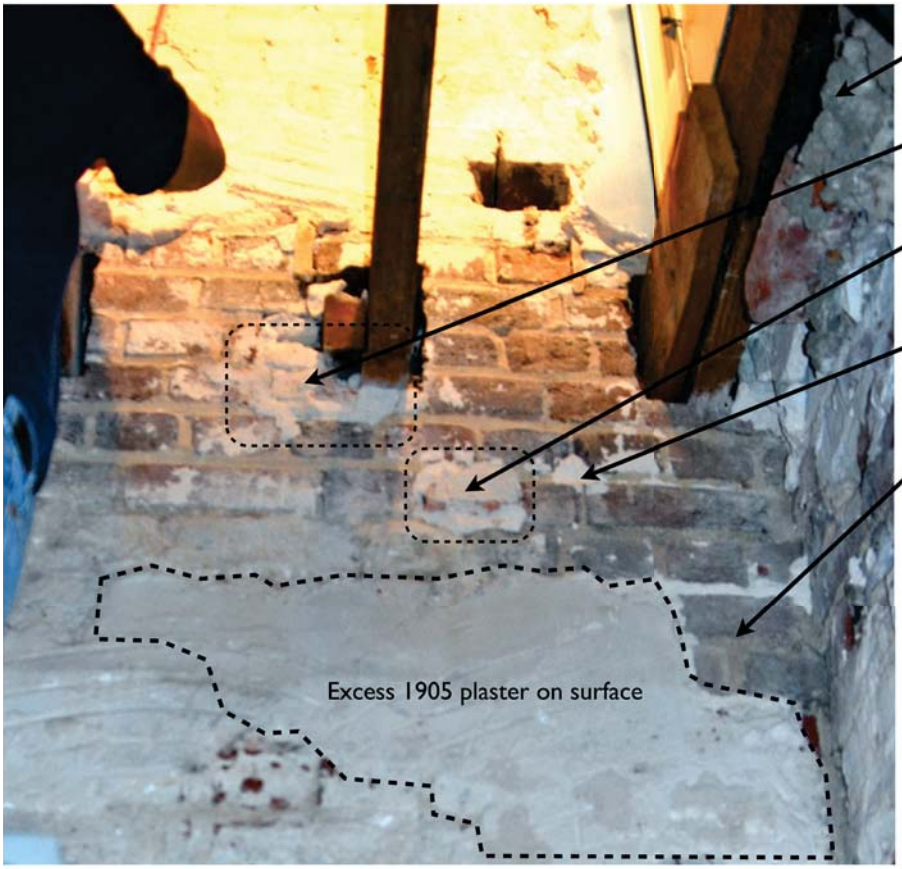



The waincot was painted during construction, before the wall was plastered and before the mahogany/walnut cap was installed.
The original paint extent line therefore indicates the unfinished top of the wainscot.
Original paint extent line
1905 Pencil line for chair rail





Focusing on evidence coming around the corner



Note protrusion of 1905 brick and cement fill under gallery door

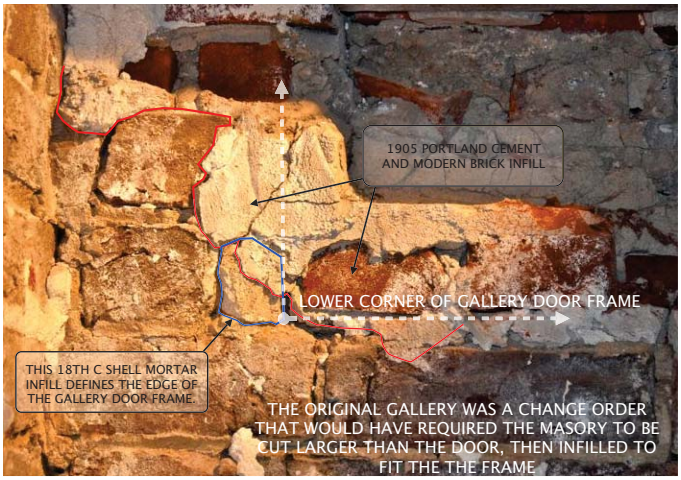
Position of filled original floor joist pocket closest to corner

Position of filled original ceiling joist pocket closest to corner

Additional hole with c1877 fill

Note this area has no evidence of original plaster

Note that the existing 1905 floor joist closest to the corner is not in an original pocket



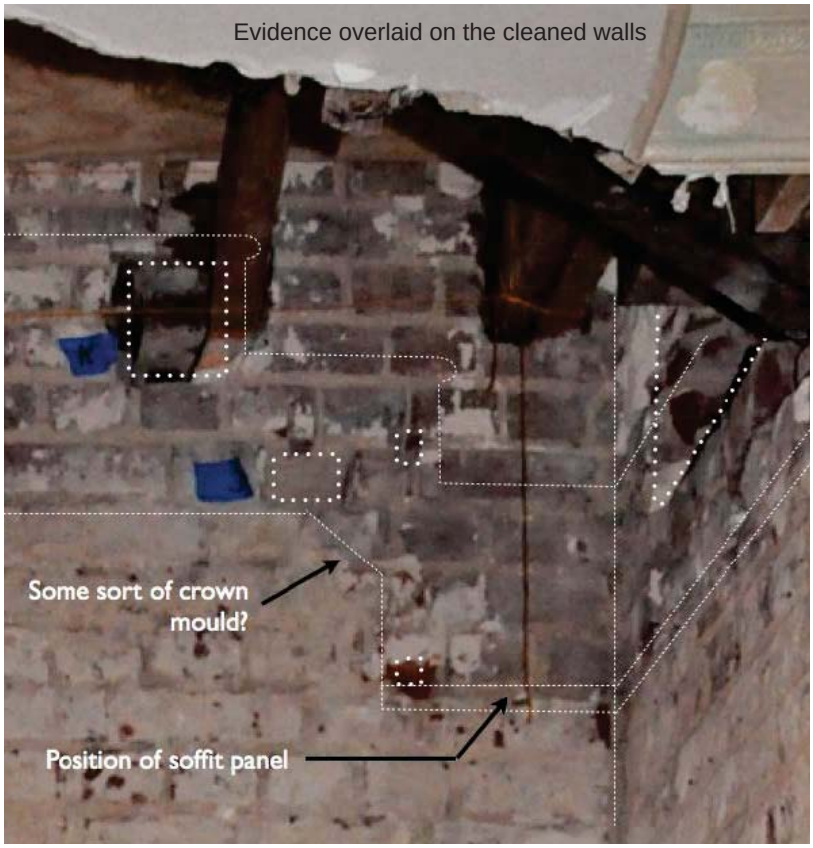
These 4 photographs show the evidence as revealed at the bottom of the masonry opening of the doorway to the balcony

With the later fill removed the masonry opening becomes clearer

The opening in context with the pilaster ghost which has entasis

Two Steps Down to a Taller Door

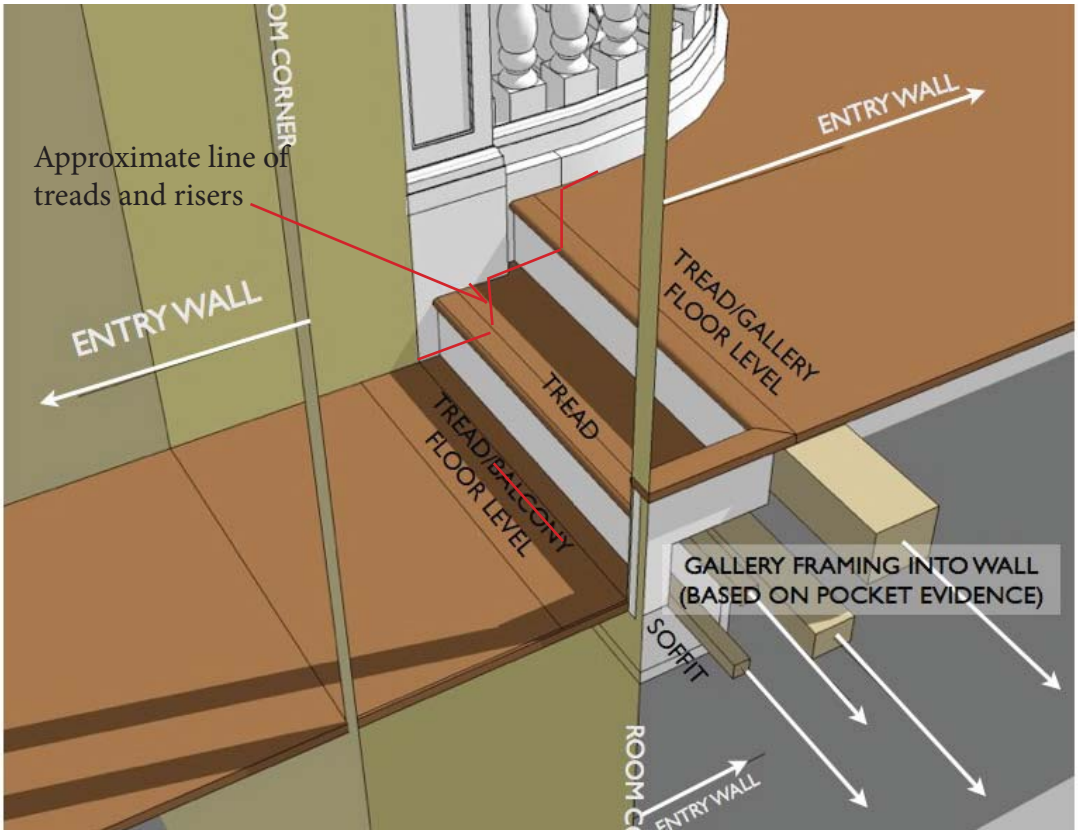
Probably the most unexpected finding was that the false entablature beam returning to the back wall masked two steps down from the balcony floor to the doorway in the masonry wall. As we slowly unpacked the 20th c. brick fill below the current door, it became clear that the historic masonry opening was noticeably lower than the current balcony floor and over a foot lower than the original floor. Then we noticed that there were no 18th c. floor joist pockets in the back wall within two feet of the door. This, coupled with the way the ghost of the floor section drops as it approaches the door, helped the evidence fall into place. The entablature beam ran to the back wall as a hollow plaster and wood armature, providing plenty of space into which to fit the descending stair. The panelled soffit is carried on the pilaster. Classical grammar requires that the edge of the soffit align with the neck of the pilaster making the pilaster almost square.



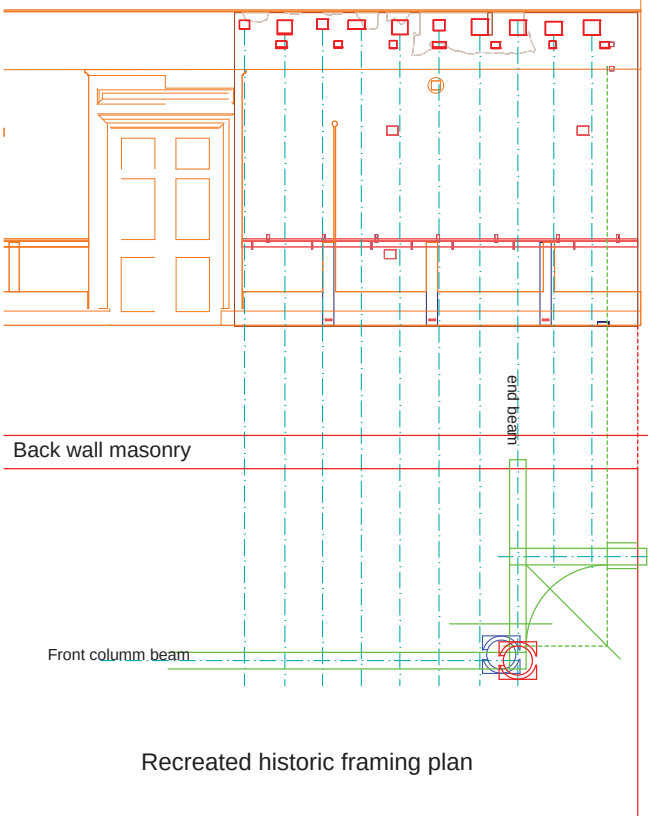
These three views visualize how the two steps integrate into the upper level of the gallery. The two steps within the Old Senate Chamber side of the wall fit nicely within the exposed decorative surfaces. Viewed from below they are completely invisible. The figure below right shows the timbers based on the pockets in the backwall, extending out to support the feature. The other interesting point is that this arrangement makes it necessary to locate the door on the stair landing in the stair hall, as the swing of the door would be stopped by the steps if placed within the Senate Chamber.

Note: There is one minor glitch in these views. The landing of the stair that passes through the wall does not extend far enough into the Old Senate Chamber. The first riser within the Chamber would be approximately 6" back from the trim of the doorway. See the red line in the view to the right, labled "Approximate line of treads and risers."

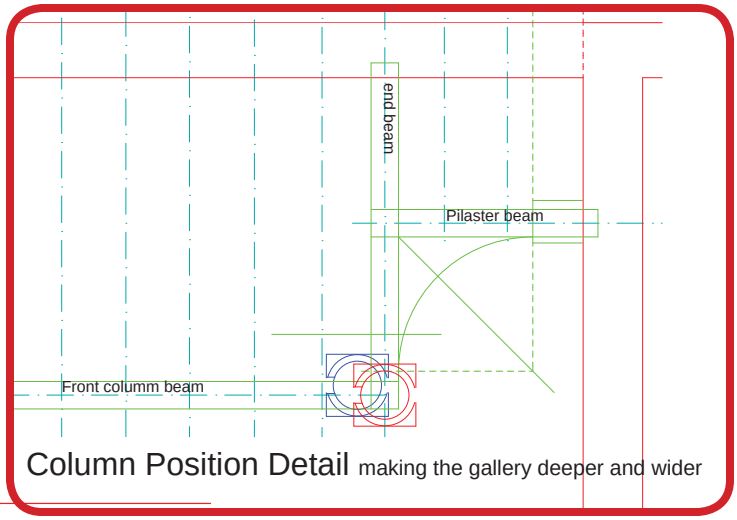
Please Note: the top of the existing stair in the stair hall will need to be lowered to meet the original upper level of the gallery.



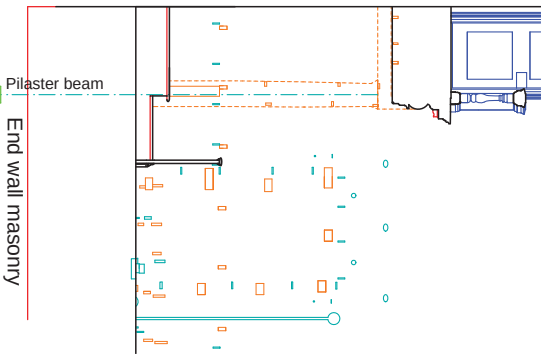
Back wall elevation showing centerlines extending from the gallery joist pockets out to their location at the entablature



Recreated historic framing plan

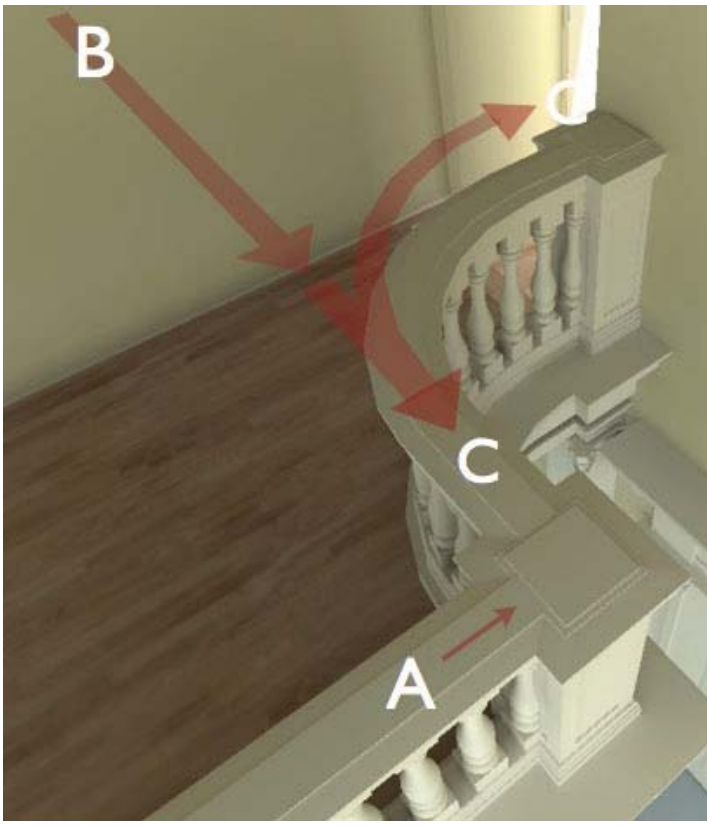


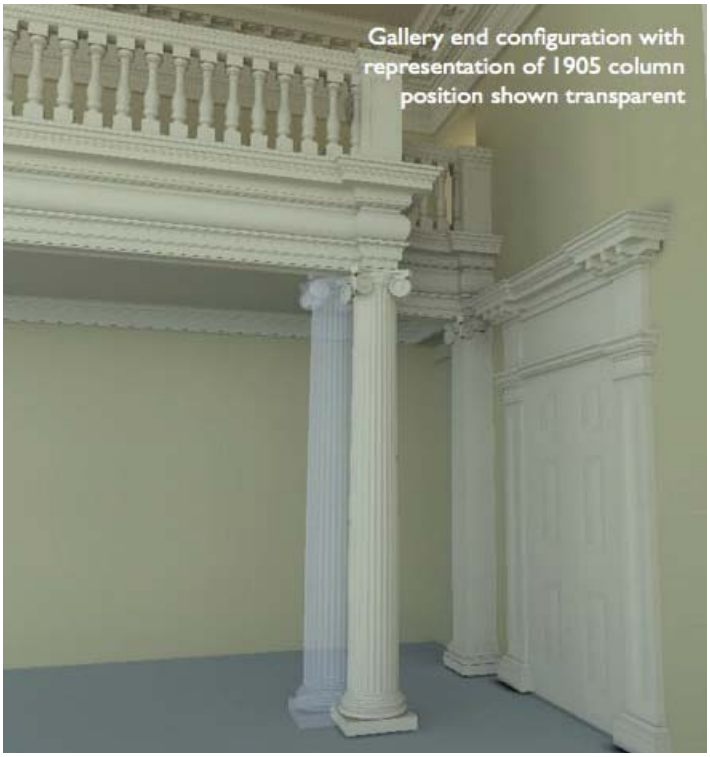
Column Position Detail making the gallery deeper and wider



The elevation of the end wall showing the blocking and ghost of pilaster

Historic column location [red] based on the framing members that define the position versus the 1905 column position [blue]





Positioning the Columns

Based on the original location of framing members indicated by the joist and girder pockets, we reconstructed the layout that would define the position of the end column. It is typical to have a timber/joist occur at the end of the beam that sits atop the row of columns. Knowing from the 1868 photograph that the 1905 column should be closer to the end wall, we located the joist pocket just to the right (toward the end wall) of that column position and placed a computer joist in the pocket. Then by placing another joist centered above the pilaster on the end wall, the primary framing at the end was established.

A concave curve is the most likely ending for the gallery. (See following pages to understand the awkwardness that would be caused by applying any of the convex options). Allowing for the necessary pedestal above the almost square pilaster, an arc was struck that defined the face of the entablature and the position of the pedestal above the end column. In the far upper left drawing, the blue column base is the 1905 column location and the red base is the reconstructed location.

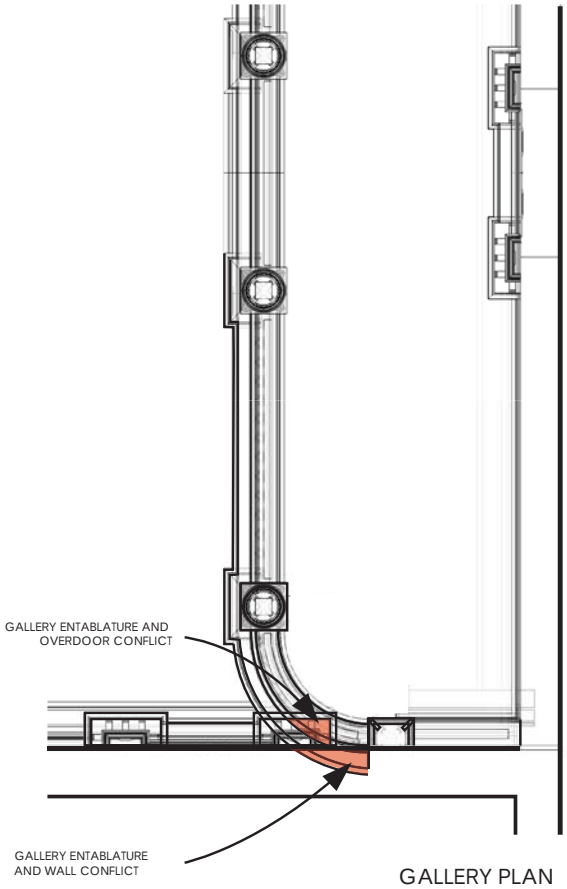
This position and the concave ending elegantly accommodate the false door and overdoor without creating any conflicts or areas that would be impossible to paint or clean. Likewise on the opposing wall, the concave entablature would swing past the window. The proper column position also creates a more commodious balcony footprint.

Convex conflicts

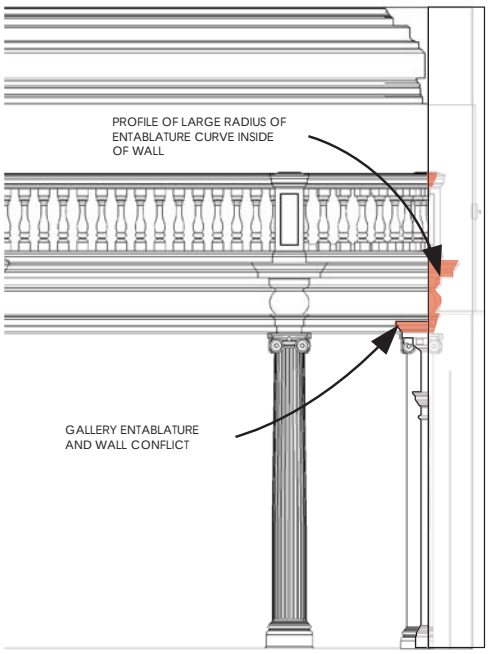
The following pages graphically describe the "train wreck" that occurs when the gallery terminates with convex ends. If the entablature arcs directly into the pilaster, all of the projecting cornice buries itself into the wall, creating a very awkward overlap intersection with the overdoor.

If the entablature arcs in a tight curve that misses the wall, it must then turn 90 degrees to enter the wall directly above the pilaster. This still conflicts with the overdoor although in a much less drastic manner. The result is an unsupported corner for the entablature beam. Since most classical architecture is based on stone construction, this unsupported corner would create a dilemma. While this feature can physically be constructed in wood and plaster, construction in stone would require a support. Therefore most 18th c. designers would place a column there abutting the pilaster. A lot of extra work for a solution that still does not solve the conflict.

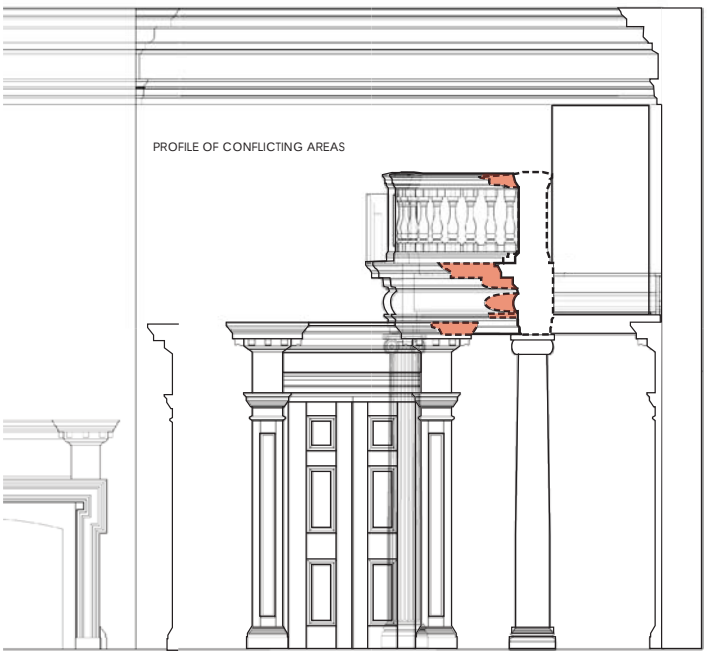
LARGE RADIUS CONVEX CURVE



GALLERY PLAN



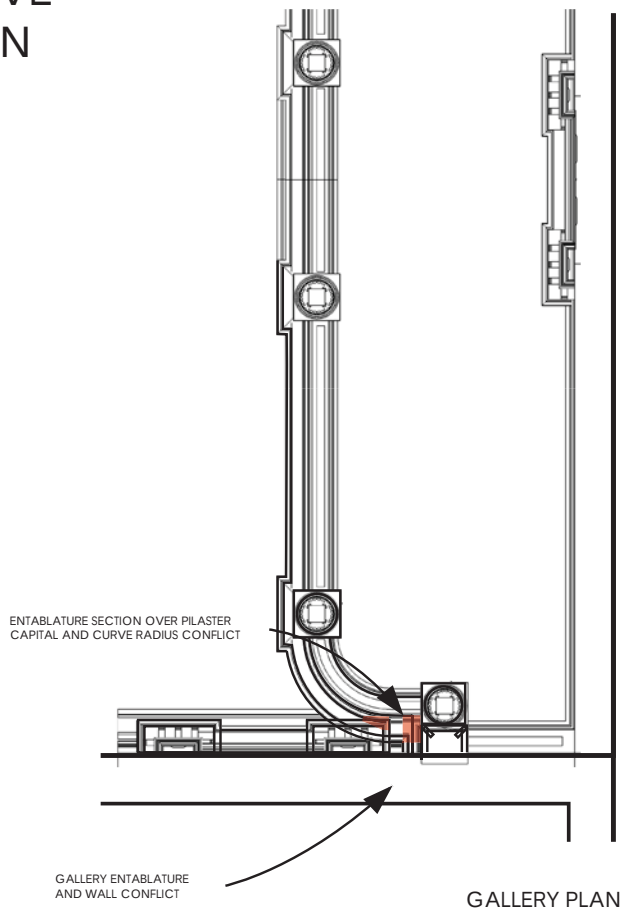
GALLERY ELEVATION



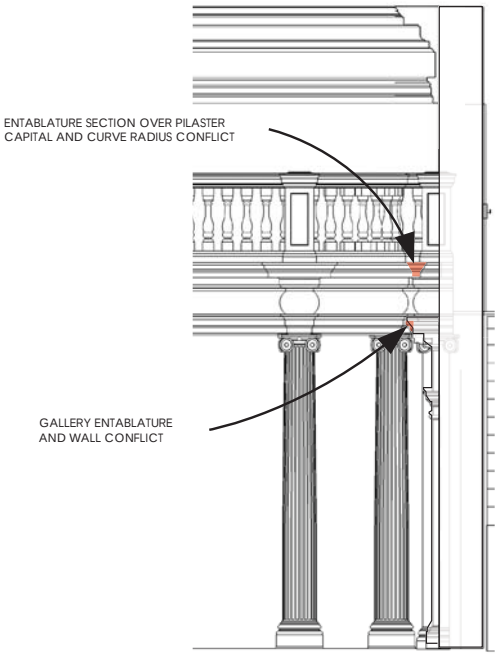
REFLECTED SECTION OF FALSE DOOR WALL

This view is as if you had x-ray vision looking at the drawing above, through the wall.

SMALL RADIUS CONVEX CURVE WITH DOG-LEG AND COLUMN



GALLERY PLAN



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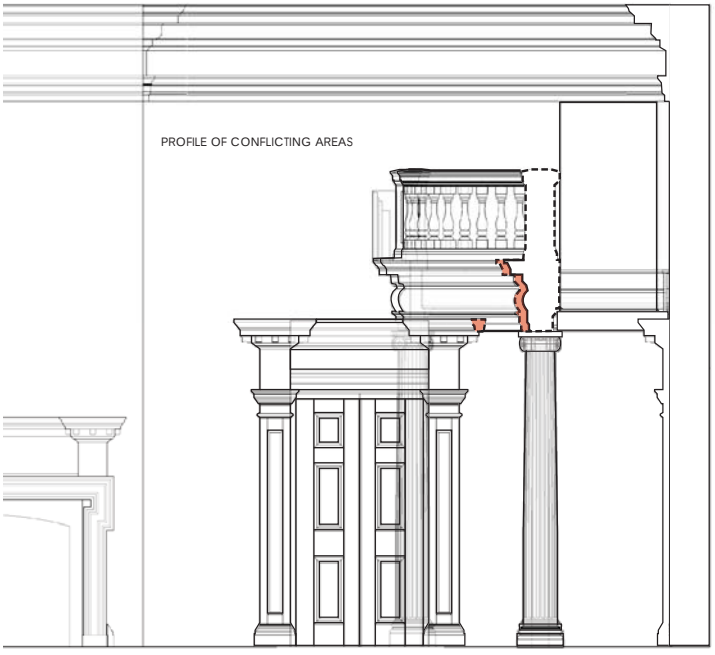

REFLECTED SECTION OF FALSE DOOR WALL

This view is as if you had x-ray vision looking at the drawing above through the wall.

Computer approximation of the gallery in 1783
The pilasters are not quite wide enough, the intersection with the window needs refinement, and only the chair rail cap is mahogany.

The work area at the end of this round of investigations with the 1905 gallery wainscot and risers deleted moves it in the direction of the 1783 appearance. Getting the proportions and column locations correct will futher improve the appearance while significantly adding to the historical accuracy.