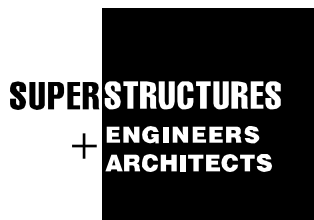


The New York Landmarks Conservancy
Lucy G. Moses Preservation Awards
Nomination



Low Memorial Library
Columbia University in the City of New York
535 West 116th Street
New York, New York

Interior Restoration -
Main Entrance and South Ambulatory (Foyer)



14 Wall Street, 25th Floor
New York, NY 10005
Tel 212 505 1133
www.superstructures.com



Photograph of the Ambulatory under construction, from the Historical Photograph Collection, Rare Book and Manuscript Library, Columbia University

Low Memorial Library – A Treasured Interior Landmark Shines Anew

The Low Memorial Library of Columbia University, a designated exterior and interior New York City Landmark, as well as a National Historic Landmark, was designed in 1894 by Charles McKim of McKim, Mead & White and constructed in 1895-1897. It was the first major building constructed for the new campus of what was then named Columbia College upon its move to Morningside Heights.

McKim, Mead & White was one of the most notable and productive firms in the history of American architecture, and played a leading role in promoting classically inspired styles during the late 19th and 20th centuries.

Modeled after the Parthenon in Rome, Low Library originally housed administrative offices and the college libraries. In 1934, the library was moved to the newly completed South Hall. Since 1934, Low's central reading room has been the scene of exhibitions and major convocations, hosting such luminaries as King

George VI of England and Winston Churchill. The remainder of the building today houses the University's administrative offices.

Funds for initial construction of the Low Library were donated by Seth Low, president of the University between 1890 and 1901 in honor of his father, Abiel Abbot Low. Both were notable New York figures, with Seth having served as Mayor of Brooklyn prior to his tenure as President of Columbia, and subsequently Mayor of New York beginning in 1902.

The Landmark Preservation Commission's 1981 interior landmark designation report noted: "An excellent expression of the neo-Classical style, the monumental domed building is the focal point of the campus, and its imposing interior, dominated by a vast central hall, with rich, classically inspired ornament, ranks as one of the finest monumental spaces in New York City." The Main Entrance and the South Ambulatory (Foyer), each restored in the nominated project, are among the specific areas of the Low Library building cited in the interior landmark designation.

The two-story lobby and ambulatory walls are plaster, framed by limestone pilasters and columns of green Connemara marble and green Vermont granite with bronze capitals. Superstructures Engineering and Architecture, PLLC was retained by Columbia to survey and document the conditions of the plaster ceilings and decorative finishes in these and other areas of the building

The Main Entrance ceiling is approximately 950 square feet; the height of the ceiling above the floor is about 35 feet. The entire ceiling is divided into nine coffered units on a three-by-three grid. A three-layer large rosette is placed in the center of each coffer. The ceiling in the foyer is approximately 550 square feet and is divided evenly into five coffered units, each of which is almost three feet deep.



Plaster ceiling, marble columns with bronze capitals, after restoration. Photo: Whitney Cox



Right: South Ambulatory: historic drawing from the Historical Photograph Collection, Rare Book and Manuscript Library, Columbia University. Left: Ambulatory pictured after current restoration (photo: Whitney Cox).

The Main Entrance decorative plaster ceiling had been subjected to water penetration in several locations and was in poor condition in these areas--exhibiting wide cracks, displacement, disaggregation, loss, and widespread staining. The ceiling had been largely untouched prior to the subject restoration, so exhibited 100 years of deterioration, dirt, and grime.

SUPERSTRUCTURES' resulting report included an assessment of these existing conditions, and a narrative of recommended treatments. After the investigation, restoration work was completed as detailed in the following pages. The building remained operational during the restoration until it was forced to close due to the pandemic. A large platform scaffold was built to provide access to the 35-foot-high ceilings. The platform was insulated to soften footfalls to minimize distraction for those below.

Now restored, the Main Entrance and Foyer can once again be appreciated by visitors as their first impression of the masterpiece of late-19th century interior design which is the Low Memorial Library. It is hoped that future restoration projects will similarly enhance additional areas of this beautiful and historically significant landmark building.

Sources:

Landmarks Preservation Commission, *Designation List 139, LP-1118*, February 3, 1981.
Plaster Condition and Paint Investigation Report, SUPERSTRUCTURES Engineering + Architecture, February 2019.

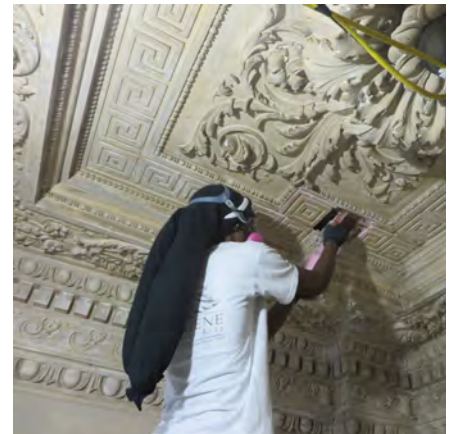
All photos by SUPERSTRUCTURES except where noted.

Plaster Ceilings

After completion of high-resolution photo documentation, a close-up inspection was performed across all historic ceiling surfaces in each space. Access to the plaster surfaces was achieved by scaffolding. Gentle sounding with a rubber mallet was performed where the ceiling was accessible to identify areas of plaster that may have become loose or delaminated.



Top, middle, and bottom left: Staining and efflorescence in plaster ceiling due to water penetration; Top right: Ceilings after restoration; Bottom middle: Primed ceiling before painting; Bottom right: ceiling restoration in progress.



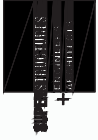
Plaster Ceilings (continued)

During restoration, friable fragments of plaster at the wide cracks in the Main Entrance were raked out and removed with hand tools leaving the surrounding plaster material intact. Wide cracks in the plaster ceiling that allowed movement upon sounding were treated to stabilize the area before plaster infill. New composite patches were installed using original materials such as hemp/burlap. Existing ceiling plaster was refinished, including cleaning, efflorescence removal, peeling paint removal, etc., prior to repainting. Existing ceiling plaster was primed and repainted to match the historic color palette.



Top left: Ceiling during restoration by EverGreene; Middle left: Soiling and dust accretions noted on top of each rosette; Upper right and bottom row: Ceilings after restoration. Upper right photo: Whitney Cox





32 AVENUE OF THE AMERICAS
NEW YORK, NY 10013
(212) 866-1133
SUPERSTUDIO@GMAIL.COM

OWNER INFORMATION

COLUMBIA UNIVERSITY
FACILITIES
COLUMBIA UNIVERSITY FACILITIES OPERATIONS
8-330 EAST CAMPUS MAIL CODE 3405
4th FLOOR
NEW YORK, NY 10027

RESTORATION SCHEDULE

ICP PLANS	CODE	DESCRIPTION	UNIT	KEY
COA-01	PLASTER CEILING REPAINTING	SF	EA	
COA-01	CHANDLER CLEANING	SF	EA	
PLA-01	CRACK REPAIR IN PLASTER CRACKS	LF	EA	
EFF-01	EFFLORESCENCE REMOVAL	SF	EA	
PA-01	HOLES PATCHING REPAIR	SF	EA	
STN-01	CRACK REPAIR AT Limestone	LI	EA	
STN-02	Limestone CLEANING	SF	EA	

LEGEND:

Native Crack
(0.5mm)

Narrow Crack
(1-1mm)

Wide Crack
(1-1mm)

Severely Discolored
Surface

NOTES:

1. Prior to proceeding with steps to repair, the surface must be inspected for potential sources of moisture and make repair as required.

2. Clean up and remove any surface deposits and loose paint using a stiff brush.

3. Fill cracks and holes as required.

4. No work should be done until the surface is clean, dry and cool.

COA-01 SF 990
PLASTER CEILING
TYPICAL

CR-01 SF 2
CRACK REPAIR

EFF-01 SF 1
EFFLORESCENCE REMOVAL

PA-01 SF 1
PATCH REPAIR

STN-01 SF 1
CRACK REPAIR AT Limestone

STN-02 SF 1
Limestone CLEANING

COA-01 SF 100
PLASTER CEILING
TYPICAL

CR-01 SF 100
CRACK REPAIR
AT ALL Limestone
TYPICAL

EFF-01 SF 100
EFFLORESCENCE REMOVAL
AT ENTIRE CEILING. TYPICAL

PA-01 SF 100
PATCH REPAIR
AT ENTIRE CEILING. TYPICAL

STN-01 SF 100
CRACK REPAIR AT Limestone
TYPICAL

STN-02 SF 100
Limestone CLEANING
AT ENTIRE CEILING. TYPICAL

COA-01 SF 100
PLASTER CEILING
TYPICAL

CR-01 SF 100
CRACK REPAIR
AT ENTIRE CEILING. TYPICAL

EFF-01 SF 100
EFFLORESCENCE REMOVAL
AT ENTIRE CEILING. TYPICAL

PA-01 SF 100
PATCH REPAIR
AT ENTIRE CEILING. TYPICAL

STN-01 SF 100
CRACK REPAIR AT Limestone
TYPICAL

STN-02 SF 100
Limestone CLEANING
AT ENTIRE CEILING. TYPICAL

COA-01 SF 100
PLASTER CEILING
TYPICAL

CR-01 SF 100
CRACK REPAIR
AT ENTIRE CEILING. TYPICAL

EFF-01 SF 100
EFFLORESCENCE REMOVAL
AT ENTIRE CEILING. TYPICAL

PA-01 SF 100
PATCH REPAIR
AT ENTIRE CEILING. TYPICAL

STN-01 SF 100
CRACK REPAIR AT Limestone
TYPICAL

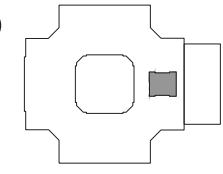
STN-02 SF 100
Limestone CLEANING
AT ENTIRE CEILING. TYPICAL

COA-01 SF 100
PLASTER CEILING
TYPICAL

CR-01 SF 100
CRACK REPAIR
AT ENTIRE CEILING. TYPICAL

KEY PLAN

1



PROJECT NUMBER

00012002

PROJECT NAME

Columbia University

Low Library Ceiling Restoration

and Wall Finishes Restoration

PROJECT ADDRESS

350 WEST 119TH STREET

NEW YORK

10027

DRAWN BY

Y. WANG

CHECKED BY

B. BELAND

DATE

07/06/2019

DRAWING TITLE

MAIN ENTRANCE

CEILING

RESTORATION PLAN

DRAWING NO.

A-101.00

03 OF 06

01 REFLECTED CEILING PLAN - MAIN ENTRANCE



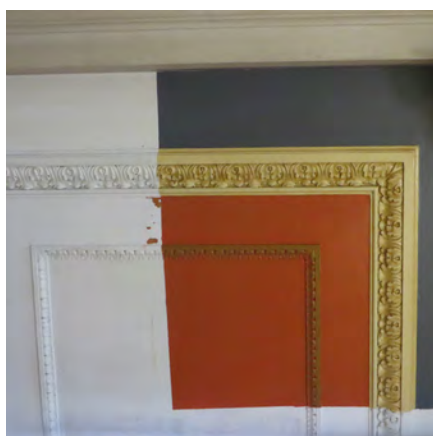
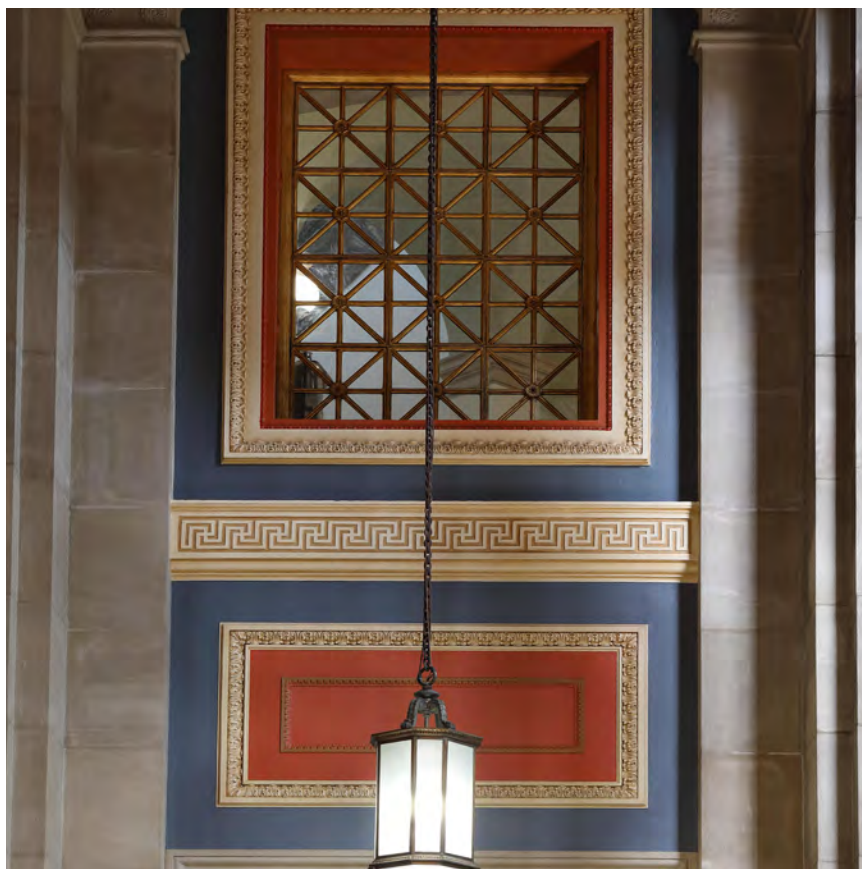
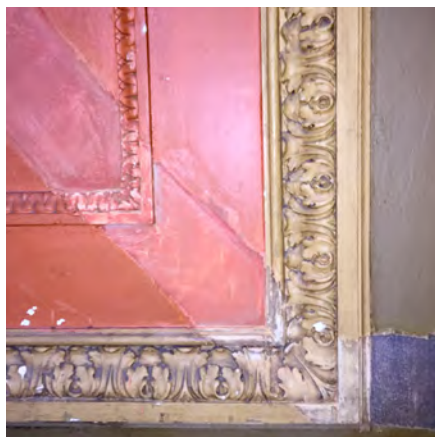
N

KEY

Paint and Finishes

The on-site finishes investigation consisted of visual inspection of painted surfaces, extraction of over 200 samples from selected areas, and chemical and mechanical exposure to remove layers of non-historic or post-historic finishes and reveal historic paint schemes. The paint finishes were failing in several wall and ceiling areas throughout the Main Entrance and Ambulatory due to water damage. Exposures of the 1890s target-era decorative campaign were created. Various chemical products and mechanical techniques were tested for overpaint removal.

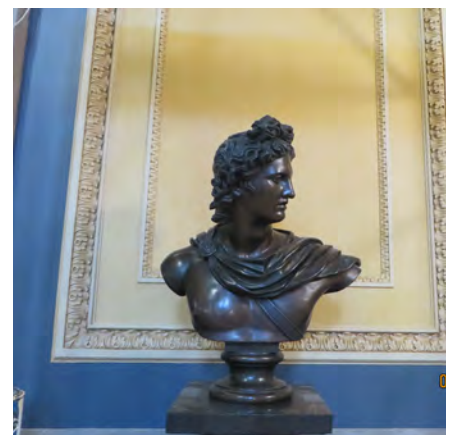
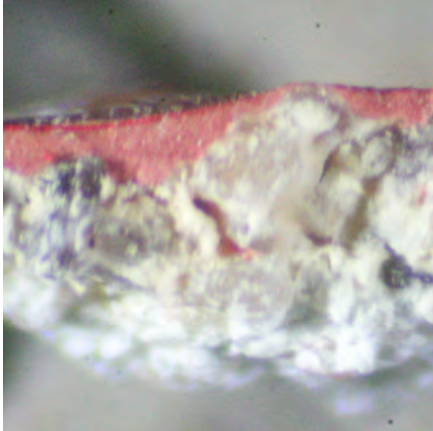
Top and bottom left: Exposures by SUPERSTRUCTURES revealing a glazed deep-red panel set in a dark-blue wall field; Bottom center and right: Paint finishes during application by EverGreene; Upper right: After restoration (photo: Whitney Cox)



Paint and Finishes (continued)

Paint microscopy and analysis was also performed to document historic paint colors. Samples were examined in the SUPERSTRUCTURES laboratory under a Meiji EMZ-5TR large-field stereo zoom microscope. The layering sequences of various areas were compared and analyzed in order to relate various historic paint campaigns and overall decorative schemes back to the earliest existing campaign. The original finishes included decorative finishes in several locations—particularly the application of metallics and decorative glazes in the Ambulatory. Existing interior plaster walls in Main Entrance and South Ambulatory were painted to match historic color palette.

Top left: Photomicrograph of paint samples removed from the panel field; Bottom left: photomicrograph of sample removed from outer molding of a wall-panel frame; Top right, bottom center and bottom right: paint finishes in Main Entrance after restoration. Top right photo: Whitney Cox



Limestone / Pilasters / Columns / Bronze

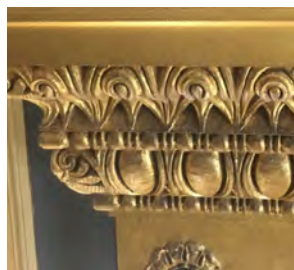
Cracks in all surrounding limestone below the ceiling were repaired. Deteriorated and loose material was removed. Infill mortar was carefully matched to the existing stone in color and texture. All limestone was cleaned, as were gold-plated bronze column capitals, gilded limestone column capitals, chandeliers in the Main Entrance and South Ambulatory, and the bronze window frame and glass over the entrance.

*Top left: Cleaning mock-up at plated bronze;
Bottom left: Plated bronze capital before
cleaning; Bottom middle: limestone before
repair; Top left; base of limestone pilaster af-
ter restoration; Bottom right: Gilded limestone
column capital after cleaning*





Low Memorial Library



Top left and lower right photos: Whitney Cox