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Lewis Towers is an 18-story high-rise built in 1926 and located on the prestigious north end of Chicago's Michigan Avenue. The facade of the Neo-Gothic style building is primarily composed of dark reddish-brown coarsely textured face brick. The trim on the lower stories and the highly decorative Gothic ornamentation on the three bays of the upper stories dividing the east elevation, is



**LOYOLA UNIVERSITY CHICAGO
LEWIS TOWERS
East Elevation - Chicago, IL**

PROJECT SUMMARY

OWNER: Loyola University Chicago

ARCHITECT: Schoengart Associates, Inc.

GENERAL/MASON CONTRACTOR:
Felsen Building Service Co.

SUPPLIERS: Beck-Ramm Brick Co. & Gladding
McBean Terra Cotta by Building
Blocks, Inc.

CRAFT WORKERS: Local 52 Illinois
Tuckpointers/Bricklayers

AREA: Exterior East Facade - 12,720 sq. ft.

COMPLETION TIME: 13 Months

EXISTING MASONRY/MATERIALS: (Entire East Elevation) 1,600 terra cotta pieces in 30 different profiles and approximately 70,000 face bricks.

MASONRY MANHOURS: 12 tuckpointers, bricklayers, laborers and mechanics worked approximately 8,000 manhours

PROJECT COST: Total - \$620,000
Masonry - \$304,000 (49%)

DESCRIPTION: Renovation of the exterior facade of a 1926 Neo-Gothic high-rise requiring extensive repair & replacement of glazed terra cotta, face brick, steel shelf angles and lintels.

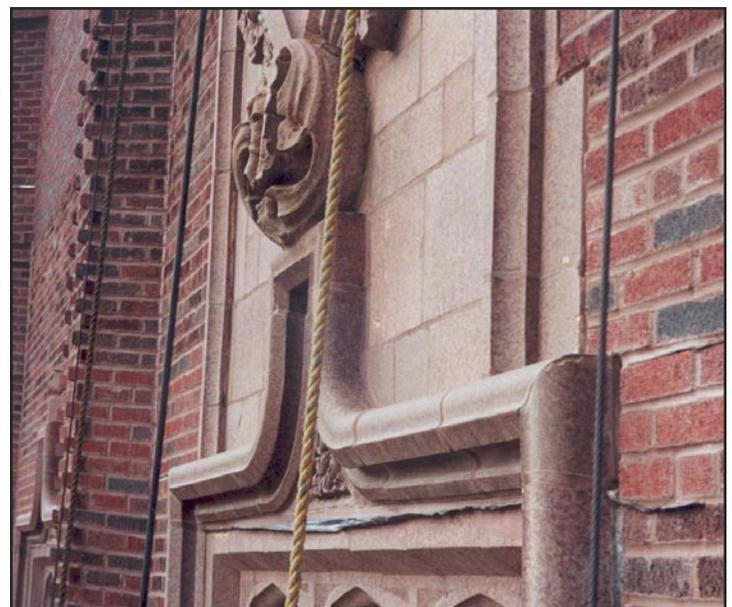
composed of a light beige glazed architectural terra cotta. Rectangular in shape, the building measures 224' x 60' with a height of 210'.

Glazed architectural terra cotta and masonry veneer systems can be highly susceptible to water-related deterioration problems like glaze crazing, spalling, cracking, material loss, and deteriorated metal anchoring. Failure to address the source of these problems on the Lewis Towers building, as is the case with other buildings of similar construction and age, resulted in the continued exposure of the exterior elements to the destructive effects of water entry, leading to an accelerated deterioration of the wall system. In the case of the Lewis Towers building, the process of deterioration was manifested in the buildup of rust on the supporting steel of the terra cotta units, including "J" hooks, steel rods and anchoring plates.

Because of these documented deficiencies in the exterior of the building, a plan was developed to renovate the east elevation. The work would include the repair or replacement of damaged terra cotta and face brick, masonry repointing, repair or replacement of steel shelf angles and loose lintels, replacement of all existing caulking, and cleaning of the entire elevation.



Approximately 200 separate terra cotta pieces in 19 different profiles, shapes and sizes were replaced. Approximately 10,000 individual face bricks were also removed and replaced.





The quantity of terra cotta to be replaced was determined by carefully performing a thorough survey of each individual piece. Ultimately, over 200 separate terra cotta pieces in 19 different profiles, shapes, and sizes were replaced, either because of severe damage, or because access was needed to the structural steel supporting them.

The new terra cotta had to be fabricated to accurately match existing profiles and glazed colors, but associated costs and the time required for fabrication were considered equally important factors. Contracting an experienced and dependable manufacturer that had the capabilities to maintain a tightly formulated project schedule and budget, as well as the ability to match the color of the existing terra cotta, was given the highest priority. Based on its record of reproducing high quality historical glazed terra cotta, Gladding McBean of Lincoln, California, was the supplier chosen for the project.

Restoration of steel shelf angles required the removal of a minimum of five brick courses both above and below the existing angles, which extended the entire width of the facade at each of the 18 floor lines. This portion of the work was particularly demanding because of the special attention required by the three-sided pilasters and two-sided piers extending the 18 stories at various locations throughout the

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facade. The process included the setting of new masonry at 45-degree angles to match existing coursing and design, and the application of water management details in the form of polyurethane membrane flashing and rope weeps.

Approximately 10,000 individual face bricks were removed and replaced with new ones supplied by Beck-Ramm Brick Co. In addition, a small percentage of existing bricks were meticulously restored to their original condition and reinstalled at key locations. As with the terra cotta, the face brick had to be carefully matched to the existing masonry, not only in size and texture, but also, and more importantly, to its original “clean” color. Areas where previous masonry work had been performed required staining to re-establish original color.

Finally, the entire masonry and terra cotta facade was repointed and chemically cleaned to restore the elevation to its historic 1926 “Magnificent Mile” appearance.



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