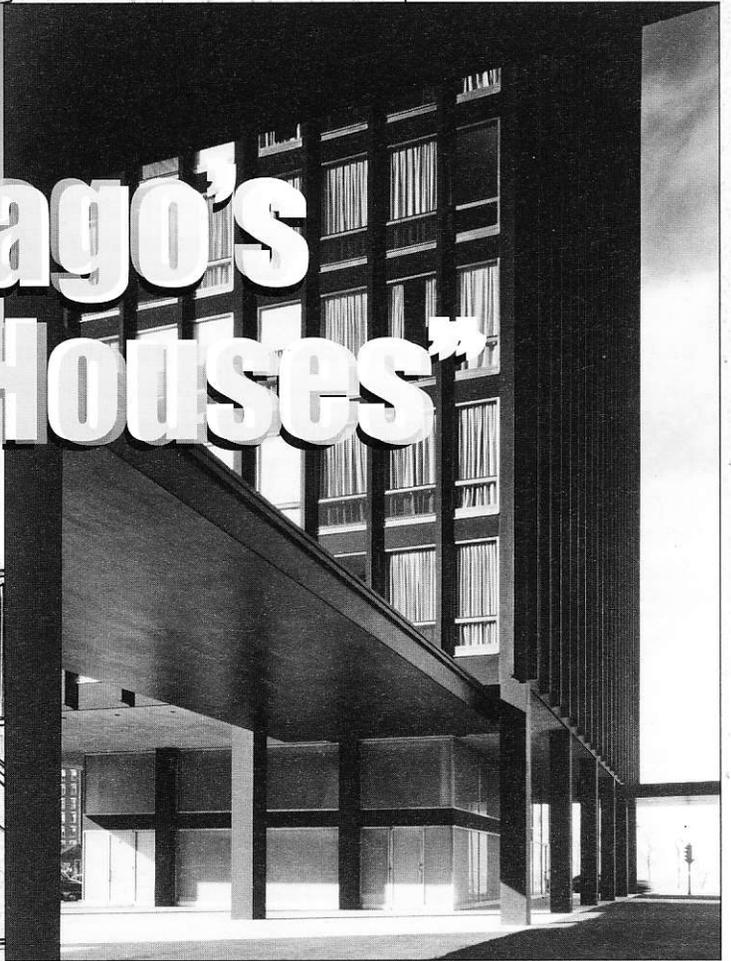
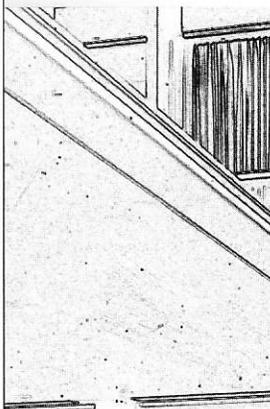
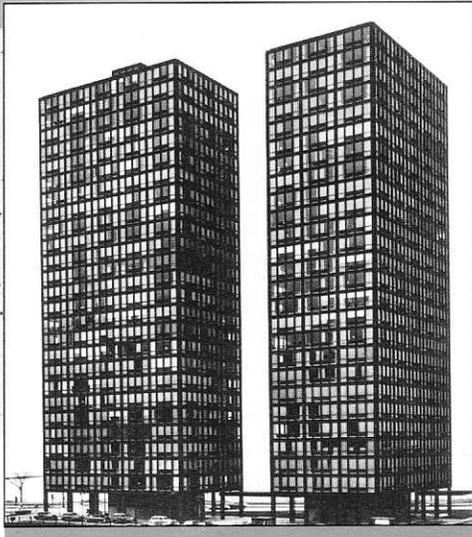


Restoring the Recent Past at
860-880 Lake Shore Drive

Chicago's "Glass Houses"



The sleek glass and steel towers that stand on Lake Shore Drive are connected by a covered walkway. Recent exterior repairs involved the ground-floor-level steel beams and travertine paving stone on the plaza.

Mies van der Rohe's design of the twin structures was considered so significant that the late-1940s buildings were listed in the National Register of Historic Places in 1980, well before the fifty-year period normally required before listing in the National Register.

Ludwig Mies van der Rohe, arguably Chicago's most famous modern architect, designed a pair of cooperative apartment buildings on Chicago's lakefront in the late 1940s. The twenty-six-story towers were the second project in a venture between Mies and Herbert Greenwald, a real-estate developer who appreciated high architecture. Greenwald commissioned Mies, who

had already distinguished himself as a leader in cutting-edge architectural design. The partnership was fruitful; together they produced over a dozen residential buildings, not just in Chicago but in other cities including Detroit, Michigan, and Newark, New Jersey. Their collaboration ended only when Greenwald died in a plane crash in 1959.

Construction on the Lake Shore Drive property began in 1949 and was completed in early 1951. It did not take long for Chicagoans to dub the buildings "the glass houses," since no other skyscraper in Chicago consisted of so much glass. Mies's

first glass and steel high-rise buildings, the project embodied a building type that Mies had envisioned as early as 1922, long before technology made glass-clad skyscrapers possible.

The glass-and-steel towers became the prototype for all of Mies's subsequent high-rise buildings. It is at 860-880 where he introduced a glass tower contrasted by natural stone, which he used on the plaza. As with his larger commercial high-rises, including New York's Seagram Building and Chicago's Federal Center, the buildings also feature such familiar Miesian elements as

Ludwig Mies van der Rohe

glass-enclosed lobbies recessed behind a colonnade of plain, undifferentiated columns; wide-flange "I Beams" affixed as mullions to the outer skin between floor-to-ceiling windows, and paving stones that run continuously from the plaza through the lobby interior and up the lobby core walls, producing a continuous, unified space on both sides of the glass storefront.

While only a few blocks from busy Michigan Avenue, 860–880 provides an unexpected oasis in a dense downtown neighborhood. Mies set the towers along the city grid, not parallel to Lake Shore Drive, which runs diagonally northwest. As a result, many apartments toward the back of the building are afforded views of Lake Michigan. The plaza, clad in Roman travertine, provides a rare urban open space and flows eastward to a front lawn—an even rarer feature for a downtown high-rise. The lawn, in turn, opens toward Lake Shore Drive and the expanse of lake.

The towers were added to the National Register of Historic Places in 1980, well before the "fifty-year-old" requirement, which was waived because of their overwhelming architectural significance. In 1996 the City of Chicago designated them official Chicago landmarks, and they are among the youngest buildings in Chicago to receive landmark designation. In 2005 the United States Postal Service included the buildings in a 12-stamp series entitled "Masterworks of Modern American Architecture."

Though powerful

and groundbreaking, Mies's design proved susceptible to the ravages of time and Chicago's harsh winters. While Mies undoubtedly selected travertine for its rich texture and beauty, over the years it cracked and, more recently, began to crumble. The cooperative began replacing many of these stones and a section of waterproof membrane beneath the plaza in 2002 and continued to replace pavers through 2006.

This partial repair and replace strategy did not work. In the fall of 2006, two panes of plate glass cracked along the outer wall of the 860 building. A structural engineer reported that the wall cracked because steel beams supporting the window had severely corroded. Further forensic work revealed additional corrosion along all elevations of the first floor of both buildings. Rain water and snow melt, the cooperative learned, had seeped into the travertine pavers and between the stone and the side of the buildings. Additionally, periodic inspections of the façade revealed that the paint system had begun to fail, causing corrosion on the steel spandrel plates and inside the I-beam flanges.



Although unique when they were built, the Mies towers are now surrounded by structures that incorporate Mies's revolutionary design.

The cooperative's board of trustees realized they need to take a more holistic approach to repairs than they had done in the past. They decided not only to repair the plaza and storefront systems in their entirety but also to find long-term solutions that would prevent water infiltration from recurring. Given the broad scope of work, they hired Cotter Consulting to manage the project and Krueck & Sexton as project architects. The buildings' landmark status required that work comply with the United States Secretary of the Interior's Standards for Rehabilitation of Historic Buildings as well as the City of Chicago's own guidelines. Because the cooperative hoped to qualify for property-tax relief offered to landmark properties, the restoration also had to meet the approval of the Illinois Historic Preservation Agency. Hence the team added Harboe Architects as historical architect/consultant. Krueck & Sexton and Harboe Architects had previously worked together to restore Mies's steel-and-glass Crown Hall on the campus of the Illinois Institute of Technology.

The architectural team found paint that closely matched the original Detroit Graphite Black, Mies's preferred black paint color. At and above the second floor, workers removed corrosion, applied primer to the sanded area, and painted the entire façade. Because surfaces below the second floor had more layers of paint, all surfaces were sandblasted and repainted. Forensic work revealed that a

significant amount of concrete beneath the travertine pavers had weakened. This concrete was removed, and before it was replaced, repairs were made to structural steel beams embedded in the concrete slab that served as the plaza floor and the underground garage's roof. The team installed a new waterproof membrane over the concrete slab. Aware of the co-op's desire for a long-term design solution rather than just a repair, the team modified the original plaza design to allow for better drainage. They added a drainage mat over the waterproof membrane to wick water away from the stones and concrete, introduced a gentle slope to the plaza so water could flow to a new series of subsurface drains, and increased the thickness of the travertine pavers. New travertine came from a quarry outside of Rome, not far from where Mies obtained the original stone. The team selected it because it provided a close match to the original stone that still graces most of the lobby floors. The lower section of the storefront was replaced with new structural and

plate steel, while the remainder was refurbished in place. Research at the outset of the project indicated the need for repairs not originally contemplated in the scope of work. The cooperative decided to replace the roofs of both buildings and their adjoining canopies, install new ventilation equipment, upgrade the heating system on the buildings' first floors, and replace corroded exterior and interior can lights in the soffits and canopies.

The broad scope of the project allowed the cooperative to correct

historically inaccurate alterations that had been made over the years. For example, a lighting expert determined that the existing can lights were emitting only a fraction of the light that had been specified in the original plans. Lighting was considered a critical historic feature because Richard Kelly—widely recognized as a founding father of modern lighting design—had completed the original work. The new metal halide lamps restore Kelly's lighting plan, and they also consume a fraction of the energy used by the original.

Natural light was also enhanced as part of the restoration. Original



Situated on Chicago's lakefront in the heart of Chicago, the towers were placed on a site that is surrounded by an expansive lawn, providing a sense of tranquility amid the bustle of the city.

sandblasted glass on the first floor had been replaced in the 1980s with a laminated glass that created a blue-green colorcast. Sandblasted glass returned the street level windows to a neutral color that allows more sunlight to enter the buildings. In the lobby, new glass was added that matched the clarity of the original.

The cooperative decided to make other, smaller restorations as well. On the south side of the 880 building the doors were returned to their original locations. A railing that originally ran along the western edge

of the plaza to separate the plaza from a service roadway had been removed, and the architects replaced it. Usher lights along the garage entrance ramp walls were long ago abandoned, but they once again provide illumination along the ramp for cars. Chrome standpipes long ago had been painted black, though historic photographs clearly depicted them in chrome. Depending on their condition, they were either replaced with new chrome hardware or re-plated. These restorations addressed what some may consider small repairs, but given the minimalism of Mies's design, they have a huge visual effect. The buildings' appearance is now more historically accurate than at any time since the late 1950s or early 1960s.

Restoration work is almost always expensive. Fortunately the cooperative owners were able to take advantage of the Property-Tax Assessment Freeze program administered by the Illinois Historic Preservation Agency. It ensured two things: that it would be financially feasible for the cooperative to conduct a holistic long-term restoration rather than settle for a limited series of localized repairs, and that the repairs would be performed in the most historically accurate manner possible. As a result, Mies's first glass and steel skyscrapers can now be enjoyed in their original glory.

Marc Boxerman

Marc Boxerman, an attorney in Chicago, is a resident and one of five managing trustees at 860-880 Lake Shore Drive. He is also a docent with the Chicago Architecture Foundation.