

SANDRA DAY  
O'CONNOR  
FEDERAL  
BUILDING  
AND U.S.  
COURTHOUSE

by Lori Rohlk Pfeiffer



## A Modern Beacon of Justice



When you walk into the great atrium of Phoenix's new Sandra Day O'Connor Federal Building and United States Courthouse, you feel that you should speak in hushed, reverential tones. The six-story ceiling soars as high as the great cathedrals of Europe. A three-story special proceedings

courtroom, also of glass, stands like a sanctuary at the head of the atrium. Though the space is not flanked by grandiose scenes wrought in stained glass, the wide expanse of clear glass—348,000 square feet—reaches epic proportions. By day, the diffused sunlight shimmers on white walls. By night, the glass-clad building will glow from within, making it a modern beacon of justice.

Awe-inspiring buildings perhaps fell out of fashion for a while, but U.S. District Court Judge Robert Broomfield—charged with ushering the building into being—believes that reverence befits this important public space. “In my view, it should be awe-inspiring,” he says. “This is the symbol of the government of the United States in the city.”

This structure represents a radical

departure from traditional notions of public building; it's more of an Arcadia than a Parthenon. Instead of an imperious monolith sprouting overgrown pillars and enough steps for a “Rocky” movie, an inviting plaza, with a grove of trees and water features, will welcome the public. Judge Broomfield admits he had the traditional concept in mind when he first approached the idea while part of a committee developing new Government Services Administration standards for these projects in the 1980s. However, more inclusive notions of democracy and the explosion of new technology bring a new awareness of fitting form to function.

“This is a modern city and it should have a modern building,” says Judge Broomfield. “This is a building for the new century and, indeed, the new

millennium. This will be a building that people from all over the world will come to see.”

The building’s modernistic style has won awards even before its completion. The suspended glass ceiling that hovers over the special proceedings courtroom, designed by New York artist James Carpenter, won a GSA citation for design, as did the overall building design. The computational modeling used in developing the innovative air-conditioning system won an award as well.

The impetus for a new building came because the old 1959 courthouse had outgrown its digs. The Valley’s

sunlight here than they do in New York or other parts of the country.”

Langdon Wilson’s projects have included the Heard Museum expansion, Phoenix City Hall, the Phoenix Plaza and the Phoenix Museum of History. Meier’s projects have included the Frankfurt Museum for Decorative Arts in Germany, the Getty Center in Los Angeles and the Long Island Federal Courthouse in Islip, New York. Meier’s numerous awards include the Pritzker Prize, considered architecture’s highest honor.

Perhaps the most daring aspect of the project, given the searing summer temperatures in the Valley, is its

according to the GSA. Because the system had never been used on such a large space before, the architects commissioned extensive digital modeling tests.

The adiabatic cooling system gets a boost from a time-honored desert technique. The entire glass skylight at the atrium’s top is shaded by a sunscreen. The glass used elsewhere is an insulated, low-emissive glass, made even more efficient by a process called “fritting,” in which ceramic material is fused right onto the surface of the glass. Fritting creates a sunscreen in much the same way the vertical spines on a saguaro cactus shade the plant.

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breakneck population growth swelled the caseload substantially, says Richard Weare, District Court Executive and Clerk of Court. Where once three courtrooms served two district judges and one magistrate, the cramped space now serves five active judges, three senior judges and three magistrates. Several offices have been moved out over the years to make more room, including the Bankruptcy Court, Immigration and Naturalization Services, Tribal Courts and the Administrative Law Judges.

The challenge of designing a new federal building with flair and the functionality needed for all those departments represented a “once-in-a-lifetime opportunity,” says Kenneth Lufkin, project manager for Langdon Wilson Architecture of Phoenix. The company collaborated with Richard Meier and Partners, New York, to win the bid and beat stiff competition. Langdon Wilson’s strength as a local player and Richard Meier’s stellar reputation as an innovative architect appealed to the committee.

“Richard [Meier] kind of had a signature design that he wanted to bring with that, incorporating the play of light,” says Lufkin. “He was going to play on the unique qualities of light that the Southwest has, its brightness and its clarity. We do have a different

extensive use of glass and its large public space, all of which must be cooled. The innovative solution uses the windows and space in the atrium to power the cooling system, which is one part oversized evaporative cooler and one part high-tech shading system.

Court participants don’t have to sweat the cooling system in the rest of the building, because courtrooms, chambers and offices are cooled by standard-issue cooling towers and chillers. The atrium’s large space requires an innovative use of an old system—it is passively cooled in a technique called adiabatic cooling. The concept depends on the natural cooling effect of evaporation, says Lufkin. At the top of the atrium, the space above the glass skylights traps air, with temperatures that rise above that of the air outside. The heated air escapes through roof vents and, in doing so, creates an updraft in the atrium. This draft pulls in outside air through shaded openings in the north wall. That air is cooled by misters and becomes denser so it drops toward the atrium floor.

During the hot months of July, August and September, the air will be humidified to 60%, which will lower the temperature of the atrium from 15 to 25 degrees Fahrenheit below the temperature outside the atrium,



“It may look like a glass building, but it’s a shaded glass building,” notes Lufkin. “In the Southwest, the way to save energy is to prevent the sun from hitting the glass and transmitting the heat from the glass. Right there you have put 50% of the building in shade.”

Cooling a glass building in the desert may appear to be the biggest design challenge, but in reality the most complicated hurdle was the one germane to all federal courthouses: keeping three sets of users—the public, judges and staff, and prisoners—from crossing paths. Attorneys have special needs because, though they enter the building with the general public, they occasionally need access to judge chambers and prisoners. To meet this challenge, the architects created and

L-shaped building that is really two buildings in one. The west wing contains the law library, circuit judge chambers and the cafeteria. The south wing houses all the courtrooms.

Special interview rooms for prisoners are located on the second floor in a secure circulation area, says Lufkin. Prisoners enter these interview rooms from the holding cell block and attorneys enter from the other side. A stainless steel screen separates the two parties and U.S. marshals monitor the sessions. Attorney/client conference rooms are also located at the entrance of each courtroom on either side of the vestibule.

ence call—has been eliminated, says Bern. The new telephone system is completely integrated into the courtroom's audio system. In addition, attorneys can use the video facilities to easily set up a video conference with a remote witness.

A committee of attorneys gave their input on one of the building's new features—an attorney's workroom. Located on the fourth floor, this facility is designed so attorneys involved in a trial can make efficient use of their time during breaks and stay in touch with their office. The workroom features telephones, a fax, computers and other amenities.

**"THE USES THAT THE BUILDING HAS ARE ONLY LIMITED BY ONE'S IMAGINATION." – JUDGE ROBERT BROOMFIELD**



The courtrooms themselves are wired for high-tech proceedings, notes Ross Bern, District Architect for U.S. District Court. The wires are integrated within the building's infrastructure so they are unobtrusive. Carts with VCRs and computers are available in the courtrooms so attorneys can make visual presentations. In addition to two large monitors mounted in each courtroom, flat-panel screens are mounted on the judge's bench and in front of each juror in a recessed area. The attorney's table can also accommodate a flat-panel screen. The judge and deputy clerk can control the courtroom lights and loudspeaker system.

One complaint with the old courtrooms—the difficulty of trying to gain phone access to make a confer-

The expanded library on the fourth floor, coupled with its computer access, will make it more amenable for attorneys to do on-site research. Reading areas will also be available.

And if all that work makes you hungry, there's a new cafeteria that will feature an improved menu, notes Judge Broomfield. He anticipates that the cafeteria's reputation will draw people for lunch who don't necessarily have business in the courthouse. The public and staff can mingle in the common dining area under a large wall of windows. Judges can eat in nearby conference rooms.

While the building has ample security, its single point of entry, open design, checkpoints at strategic areas and a large number of elevators designed for specific users contribute to a more open feeling than one might expect. "That was the one thing the GSA was a proponent of: not to make concrete bunkers because of fear of what the public will do," says Lufkin. "We make public spaces for reasonable people."

The open feeling is enhanced by the fact that people waiting for a trial to begin or a courtroom to become available are no longer banished to a dark hallway—they wait on a balcony overlooking the atrium, which is cooled by the regular air-conditioning system.

## Phoenix's New Federal Building and United States Courthouse

401 W. Washington St.  
Phoenix, 85003-2115

### Hours

8:00 a.m. – 5:30 p.m. weekdays

### Parking Spaces

190 underground, 50 surface

### Size

571,078 square feet

### Cost to build

\$84 million

### Attorney workroom

Third floor

### WHO'S INSIDE

U.S. District Courtrooms & Judges

U.S. District Court Clerk

U.S. Probation Office

U.S. Pretrial Services

U.S. Marshal Service

U.S. Tax Court

Court Library

Four Ninth Circuit Court

of Appeals Judges

Congressman Bob Stump & Staff

### CEREMONIES

#### Dedication

Monday, October 23 at 1:00 p.m.  
with Justice Sandra Day O'Connor

Wednesday, November 8 -  
Architects of Justice - 6:00 p.m.  
Cocktail party to benefit the  
Arizona Bar Foundation

This makes it much more enjoyable for any person trying to pass time, because they can look out over the public area, says Lufkin.

Above all, observes Judge Broomfield, Phoenix's new federal building will be a gathering place for citizens. The atrium will be available for public use in the evenings and on weekends.

"I will die a happy man when I see a grade-school graduation on some Saturday," says Judge Broomfield. "The uses that the building has are only limited by one's imagination. 🏛️"

**Next Month: Inside Tucson's Evo A. DeConcini Federal Courthouse**