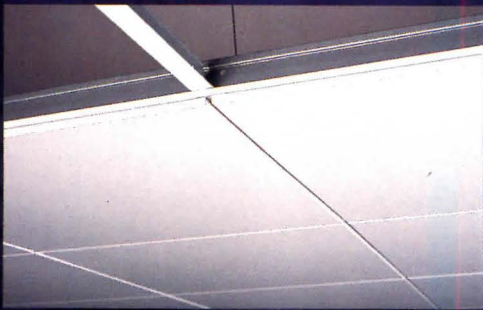


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## The Task of Diversity

*The architecture profession must diversify to reflect our pluralistic society.*



**AIA DIVERSITY TASK FORCE:** Stephen Glassman, Edith Porras (front row); Walter Blackburn, Gordon Chong (second row); Karl Thorne, Jack Travis (third row); Marga Rose-Hancock (top right); Thomas Penn and C. James Lawler (top) are joined by AIA staff and others at a June 1992 meeting.

It has been 25 years since Whitney Young of the Urban League chastised architects for their indifference to civil rights. "You are not a profession that has distinguished itself by your social and civic contributions," Young admonished at the AIA's 1968 convention. "You are most distinguished by your thunderous silence and your complete irrelevance." Little progress has been made in the profession since Young delivered these critical remarks—minorities still constitute only 7 percent of the AIA membership. But over the past two years, the Institute has made an effort to encourage diversity through new policies and programs. In 1991, the AIA code of ethics was amended to call for "fair, impartial, unbiased, and non-prejudicial treatment of all persons in every employment, social, and business transaction." AIA public policy was similarly amended to oppose "any denial or abridgment of equal rights by the U.S. or by any state on account of gender, race, creed, ethnic origin, age, disability, or sexual orientation." Last year, the AIA inaugurated Susan Maxman, the organization's first woman president. These steps clearly indicate progress.

But one of the AIA's most encouraging efforts toward multiculturalism has gone largely unnoticed. In 1992, then-President Cecil Steward formed the Diversity Task Force, a nine-person group charged with helping the organization become more pluralistic. The task force, including African-American, Hispanic, Asian, and gay architects, was chaired by Walter Blackburn, FAIA, of Indianapolis-based Blackburn Associates, who next month will run for AIA Vice President. Last December, Blackburn and his group presented a long list of recommendations to the AIA Board of Directors. Among these were suggestions to educate the AIA membership on the benefits of diversity and encourage the organization to lobby for gay rights legislation, to establish new education standards, and to publicize the efforts of minority architects.

Having made its recommendations, the Diversity Task Force has officially disbanded,

but its work continues. Last month, former task force members joined the Minority Resources Committee, Women in Architecture Committee, and representatives of the National Organization of Minority Architects and the American Institute of Architecture Students to plan a national symposium on multiculturalism. The event, to be held next spring in Washington, D.C., is aimed at attracting more minorities to the AIA in the hopes that the profession will become more relevant and inclusive.

Changing the profession will require a renewed commitment from the AIA leadership, bolstered by more symposiums and other programs. A good first step would be to establish a high-profile, permanent committee on diversity with expanded membership.

More importantly, it is up to AIA members to take up the cause of the Diversity Task Force and its allied groups and actively work to promote multiculturalism within the profession. One way to start is to institute change within each firm. Principals should examine their own hiring and promotion policies and sit down with the women and the minorities in their offices to determine their needs. Architects should set up mentoring and educational programs within their firms and prepare minority students for careers in the profession through scholarships and faculty support.

Without these efforts, architects will continue to lag behind other professions in reflecting this country's social, ethnic, and racial plurality. More simply, they will lose business: As clients become more diverse, they will be looking for more diverse firms to design and build their projects. Breaking the thunderous silence and opening the profession to minorities is long overdue. We can't wait another 25 years.

*Debraan K. Dietz*

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**New York's model housing**

Your editorial in January (page 15) had sound advice for President Clinton and HUD Secretary Cisneros on the use of nonprofit organizations to create low-income housing. But why go as far as Canada to find a model?

For more than a decade, New York has developed low-income housing through nonprofit, local housing organizations. The state provided more than \$190 million to support the administrative cost of nearly 300 local, nonprofit housing organizations. While these groups provide a wide range of housing services, 45 percent are involved in housing development and are prime users of the state's capital grant housing programs.

A critical part of this policy has been the formation of regional housing partnerships that tap local lending institutions, developers, businesses, and local governments to define and address local housing needs. Applications for funding reflect a variety of societal needs: low-income families, the elderly, AIDS sufferers, and the homeless.

New York's housing policies are built upon the type of community involvement cited in the close of your editorial. Come to New York and see for yourself that you don't have to go to Canada for inspiration.

*Angelo J. Aponte  
New York State Director of Housing  
Albany, New York*

**Bush-whacking the arts**

Your editorial in February (page 15) suggests that former President Bush was less than friendly to the arts. I would like to point out some of his achievements on this front.

Bush appointed an architect to the Fine Arts Commission for the first time in years. He participated in the AIA's Accent on Architecture program and worked closely with the AIA and the White House Historical Society to celebrate the 200th anniversary of that structure.

The Americans with Disabilities Act—for which Bush solicited AIA support—and the Intermodal Surface Transportation Efficiency Act of 1991, which mandates proper design and planning when federal monies

are being spent on transportation projects, were both passed during Bush's watch.

No President in the past 50 years has supported the profession of architecture or the AIA in such fashion. Let's hope the Clinton administration carries on this support.

*Benjamin Brewer, Jr., FAIA  
Houston, Texas*

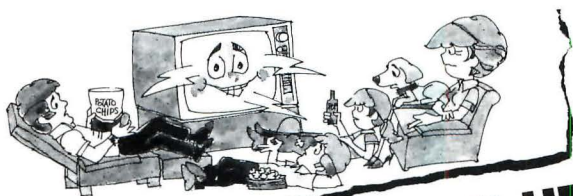
**Up on the roof**

Your feature on the Leesburg Government Center (February 1993, pages 54-59) was disappointing in its reference to the prominent roofing material as "sheet metal," and not terne-coated stainless steel, which is manufactured by Follansbee.

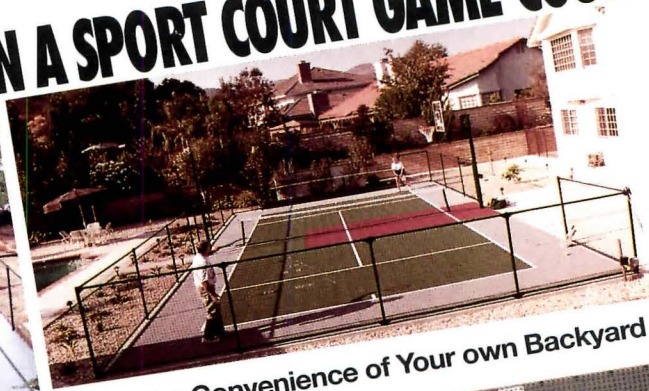
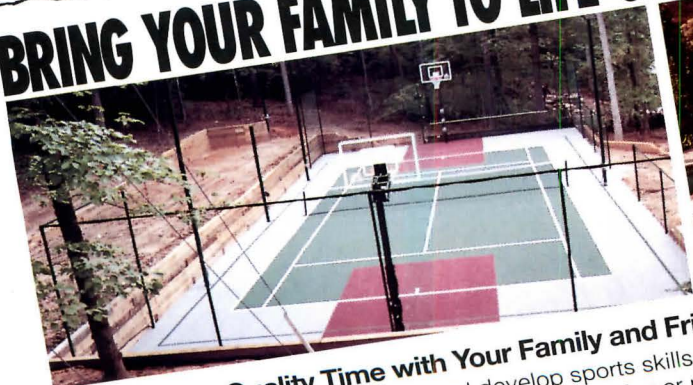
*John Bonar  
Follansbee Steel  
Follansbee, West Virginia*

**Correction**

In addition to Diane LaBelle, Claire Gallagher and Carol Crumby received the James Marston Fitch Charitable Trust Grant for teaching inner-city children about architecture (February 1993, page 23).



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## Events

May 12-16

Urban Land Institute's annual spring meeting at the Minneapolis Convention Center. Contact: Alyssa Donelan, (202) 624-7086.

May 13-14

Total Quality Project Management, a two-day symposium sponsored by the Association for Project Managers. Contact: (312) 472-1777.

May 17-19

Eighth annual Surtex seminar held at the Javits Convention Center in New York City. Contact: (212) 340-9223 or (800) 272-SHOW.

June 1-11

Advanced Photovoltaics for Remote Homes, a renewable energy education program offered by Sustainable Technologies International. Contact: (303) 963-0715.

June 6-10

Cedar Shake & Shingle Bureau's 78th annual general meeting and conference in Las Vegas, Nevada. Contact: (206) 453-1323.

June 7-10

A/E/C SYSTEMS '93 exposition in Anaheim, California. Contact: (800) 451-1196.

June 8-10

International Facility Management Association hosts Intellibuild '93 and Facilities '93 in Anaheim, California. Contact: (713) 623-4362.

June 11

Deadline for the seventh annual design competition, Excellence on the Waterfront. Contact: (202) 337-0356.

June 13-18

Reconstruction Ahead, International Design Conference in Aspen, Colorado. Contact: (303) 925-2257.

June 14-17

NeoCon exposition at the Merchandise Mart in Chicago. Contact: Laura Mercier, (312) 527-7555.

June 14-17

Solar Water Pumping, a program offered by Sustainable Technologies. Contact: (303) 963-0715.

June 16-20

Team Building, 24th annual convention of the Society of Architectural Administrators in Chicago. Contact: (206) 823-2244.

June 17

Harmony by Design, a symposium sponsored by INTERIORS and ARCHITECTURE magazines in conjunction with AIA Chicago and Allsteel, at the Merchandise Mart in Chicago. Contact: (312) 670-7770.

June 18-21

AIA annual convention coinciding with the Congress of the International Union of Architects in Chicago. Contact: (202) 626-7395.

June 19

Submission deadline for Table, Lamp + Chair, a furniture and lighting competition. Contact: (503) 226-3556.

June 21-23

International Lighting Exposition in Toronto, sponsored by the Illuminating Engineering Society of North America. Contact: (416) 890-1846.

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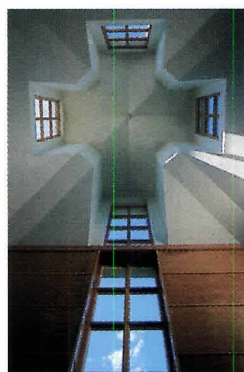
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## AN ENLIGHTENED ARCHITECT CALLS ON ROME AND ANDERSEN TO HELP A CHURCH

As a student in Rome, architect Al Fitzpatrick studied the design of St. Peter's. "Daylight was used as a source of inspiration and tranquility," he said.

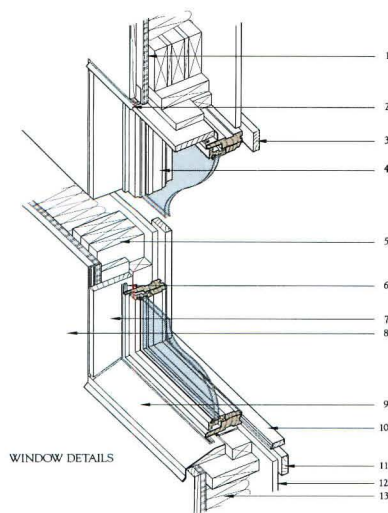


He wanted to bring that same light here to St. Joseph's—create a sanctuary in a hectic world. So he specified Andersen® windows. Said Fitzpatrick: "Andersen enabled us to use many sizes, configurations and special effects."

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## Calatrava at MoMA

A dozen 26-foot-long concrete tentacles are now hovering over the heads of visitors to New York's Museum of Modern Art (MoMA). This 31-ton sculpture is the work of Spanish engineer and architect Santiago Calatrava, and its title, "A Machine for Making Shadows," captures the mechanical-cum-mystical quality of the designer's dual career, now the subject of an exhibition at the museum. "Santiago Calatrava: Structure and Expression" features nine projects designed or built during the past decade in Europe and the United States.

The exhibition displays 16 sketchbooks, 20 photographic panels, 11 models, and a full-scale installation of 15-foot-tall wooden "trees" that cast cobweblike shadows through latticed tops. Architects must hurry to see this show because it's on view only until May 18, and no other American venues are planned.

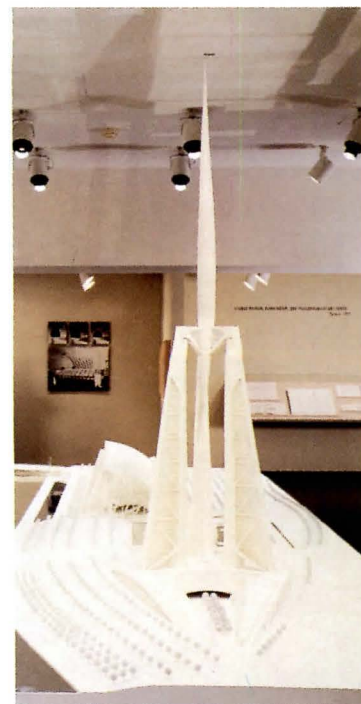
The show promotes Calatrava as the prophet of a renewed urban infrastructure. Calatrava's vision revives the romantic and theatrical flair of *La Città Nuova* by futurist Antonio Sant'Elia, the 1960s megastructures of Paul Rudolph, or even the 21st-century city of Fritz Lang's film *Metropolis*.

For example, the show-stopper of the exhibition is a 14-foot model of Calatrava's 1991 proposal for a massive complex in Valencia, Spain, which links three extravagant buildings along an elevated walkway. Calatrava anchors one end of the walkway with a 1,073-foot-high telecommunications tower shaped like a sci-fi rocket and the other end with an energetically ribbed science museum. Between them lies an elliptical planetarium with a library, auditoriums, and restaurants. The all-white model serves to interpret the design as an esthetic object of sleek elegance; in contrast, photographs reveal Calatrava's forms and surfaces to be brooding and brutal, like Eero Saarinen's TWA terminal at Kennedy Airport.

The MoMA show focuses on the designer's undeniable form-making powers, which few visitors will be able to resist. As curator Matilda McQuaid notes, Calatrava deliberately transforms images from nature—trees, animals, the human body—into three-dimensional structures. "One imagines elements of his bridges and railroad stations in a natural history museum," she says,



UNDER THE TREES: Cathedral bioshelter.



VALENCIA TRIO: Science complex.



OVERVIEW: Bach de Roda-Felipe II Bridge, Barcelona; science complex (background).

"as easily as in their urban context." Calatrava's Kuwait Pavilion at Expo '92 in Seville, for example, engulfs its visitors in a dinosaur-scaled cage of rising and falling wooden ribs, and the platform passageway at the Lyons Airport Railroad Station looks ominously crustacean.

Even small-scale work achieves monumental effect. The aluminum-slat doors of Ernsting's warehouse in Coesfeld, Germany (1983-1985), for example, rise into majestic scalloped canopies with the precision of an overscaled Rolex watchband.

Santiago Calatrava is part of a long line of 20th-century engineer-

poets, from Robert Maillart to Pier Luigi Nervi and Felix Candela. Calatrava follows in the footsteps of John Augustus Roebling and Alexandre-Gustave Eiffel, too, because he creates urban landmarks. And, like fellow Spaniard Antoni Gaudí, Calatrava often goes beyond his own description of engineering as "the art of the possible" to create complex hybrids of art, architecture, and engineering. The MoMA exhibit underscores the fact that oftentimes the most unique developments in these fields don't lie within set boundaries, but in the spaces in between.

—Donald Albrecht

24 **La Jolla Art Museum Branches Out**

24 **Japanese-American Museum Expands**

25 **Norman Rockwell Museum Opens**

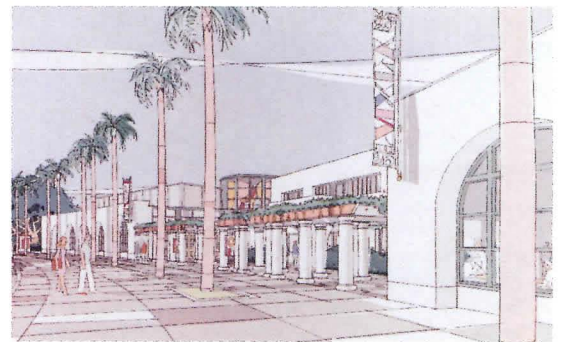
26 **Takamatsu in San Francisco**

29 **Socially Responsible Conference at Pratt**

25 **Details**



**RETAIL INTO MUSEUM:** Glazing attracts visitors.



**LA JOLLA FLAGSHIP:** Venturi, Scott Brown's proposed scheme.



**MCA GALLERY:** Partitions block windows.



**JAPANESE-AMERICAN MUSEUM:** HOK's modified temple.



**SAN DIEGO MCA:** Adjacent to trolley.

## La Jolla Art Museum Branches Out

A two-story, triangular building designed by Helmut Jahn opened in February as the new downtown home of the Museum of Contemporary Art, San Diego (MCA). Never mind that the space was designed as a retail component of Jahn's excessively glass-curtain-walled American Plaza tower and that its glass facades counter the museum's needs for wall space. The San Diego branch of the MCA, whose flagship facility in La Jolla was designed by Irving Gill, has nevertheless been transformed into a model exhibition space by the collaborative efforts of La Jolla architect David Raphael Singer and artists Robert Irwin of Point Loma, California, and Richard Fleishner of Providence, Rhode Island.

Better known by its former name, the La Jolla Museum of Contemporary Art, the MCA's parent structure occupies a stately Irving Gill house that was originally built in 1916 for the Scripps family. Museum Director Hugh Davies saw a need for a downtown branch of the contemporary art gallery when storefront galleries in San Diego's trendy Gaslamp Quarter proved popular. The \$1.2 million project was funded by a campaign begun by trustees in 1991, the museum's 50th anniversary, to raise \$10.5 million for renovations and

downtown galleries. The fate of a proposed rehab and expansion of the Gill building by Venturi, Scott Brown and Associates will be decided by the trustees in July, depending upon whether the fund-raising goal has been reached.

Venturi's scheme would restore the facade of the museum to resemble Gill's original; create a new exhibition court by enclosing the courtyard under a clerestoried dome; add a café and restaurant; increase library and education space; and expand a bookstore. The renovation includes redesigning a rear garden to make it more amenable to sculpture and opening the view from the front of the museum through to the back, toward the sea.

If the Gill building's renovation moves forward, the new downtown branch of the gallery is in place to serve as MCA's primary structure while the Venturi, Scott Brown scheme is under construction.

Wedged against a trolley stop and across the street from the historic Santa Fe Depot, the new San Diego MCA overlooks a busy commercial district, although its north-facing entrance on Kettner Street ignores the trolley hub to the south. The design team chose the northern entrance for its greater accessibility for large groups and handicapped visitors; the north end also addresses proposed development of the Santa

Fe property. The \$1.2 million satellite contains two galleries on each floor, expanding the MCA's exhibit space by 50 percent. Singer solved the window problem with walls that block the eastern and western facades of the 9,000-square-foot building, and Irwin opaqued the glazing at the building's northern and southern ends to engage passersby on the street, where stone-paved plazas show off outdoor sculpture. Inside, honest materials—concrete floors, 18-foot-high ceilings, and skylights—afford a minimalist elegance.

## Japanese-American Museum Expands

A new Los Angeles museum in a converted Buddhist temple is about to triple in size, with an addition by Hellmuth, Obata & Kassabaum (HOK). The Japanese-American National Museum, originally the home of Los Angeles' first Buddhist congregation, depicts the experience of Japanese immigrants in the United States—including their internment during the second world war. Those prisoners included the parents of HOK Principal Gyo Obata, who designed a \$12 million, five-story expansion of the museum devoted to

the history and struggles of Japanese immigrants to America.

The addition will allow the museum to stage exhibits devoted to Japanese-Americans involved in civil rights; the pioneering efforts of the Issei, or first-generation Japanese settlers; and the struggle of the second-generation Japanese-Americans to become accepted as Americans. The museum will also have a computerized data bank for researching Japanese history around the country.

Part of a downtown development that will include offices, housing, and ground-floor retail, the 110,000-square-foot building will contain 65,000 square feet of exhibit halls, classrooms, offices, archives, exhibit preparation areas, and a new entry lobby serving both old and new structures. A series of public spaces will be devoted to oral history lectures and artifact donations.

The C-shaped, steel-framed building is designed to evoke elements of Japanese design; its concave main facade, for example, will be clad in translucent white onyx, reminiscent of shoji screens. The two-level exhibit galleries will be located above the retail component and clad in granite and the onyx panels. Service cores at each end of the building echo the colors and texture of the original brick structure with Arizona sandstone. Construction should begin in 1994.

—Heidi Landecker



**NORMAN ROCKWELL MUSEUM:** Formal front designed by Robert A. M. Stern.



**VAULTED GALLERY:** Natural light will enhance permanent collection.

## Norman Rockwell Museum Opens

Across the continent in Stockbridge, Massachusetts, New York architect Robert A. M. Stern's first museum couldn't differ more from those featured on the facing page, and neither could its collection. The Norman Rockwell Museum, opened last month, contains works by the renowned illustrator whose celebrated paintings of freckle-faced Boy Scouts, courting couples, and curmudgeonly gentlemen depict a hyper-realistic, affectionate view of small-town America. Rockwell, who painted *Saturday Evening Post* covers from 1916 to 1962, calendar portraits for Brown and Bigelow, and illustrations for *Look* magazine, chronicled American life with his highly detailed, scenographic paintings of barbershops and family scenes.

By ignoring Norman Rockwell, art historians have raised the question of whether his meticulously detailed, staged landscapes represent any true artistic sensibilities. But whether or not they are considered high art, Rockwell's idealized paintings are enormously popular. A clapboard house established as a museum in 1967 in Stockbridge, not far from where Rockwell lived from 1953 until his death in 1978, proved too small to handle the crowds of annual visitors, whose numbers now

approach 160,000. In 1983, the museum secured Linwood, a 36-acre estate 2 miles west of the center of Stockbridge. The site includes a 19th-century Gothic Revival mansion and a Victorian carriage house, renovated by New Haven architect Warren Platner into an administration building and visitors' residence. Stern was selected as the architect of a new gallery building on the estate by an invitational competition held in 1987.

By recalling a Colonial civic hall on a small-town Main Street, Stern's museum serves as a stage for the sympathetic display of Rockwell's art, evoking, in the words of the architect, the artist's "ability to comment on the familiar." Stern adds, "The idea was to make a building Rockwell would have understood."

The two-story museum does indeed reflect Rockwellian values. Constructed of indigenous fieldstone, slate, and clapboard and fronted by a lawn designed to resemble a village green, the museum's entrance is framed by columns and topped by a four-sided cupola, which brings daylight into a central octagonal gallery.

Flanked by seven variously proportioned rectangular galleries arranged in an enfilade, the octagonal gallery offers visitors a view to a rear terrace and the expanse of 36 acres of museum property along the



**FIELDSTONE:** Evokes informality.

Housatonic River. A path from the terrace leads to Rockwell's studio, which was renovated and moved to the site from the backyard of his house in Stockbridge.

Stern describes his historicist building, which he likens to Karl Friedrich Schinkel's Altes Museum in Berlin, as a combination of formal and informal elements. "The entrance presents a very formal face to the green," Stern relates, but the rear of the building, facing the lawn and the river valley, is a "seemingly casual piling up of stone walls and chimneys and porch, suggesting a building that has evolved over time."

Stern's Colonial-style museum is also a direct rebuttal to the Modern museums Stern doesn't like: I.M. Pei's East Wing of the National Gallery in Washington and Edward Durrell Stone's Museum of Modern Art in New York. The East Wing, Stern maintains, is "more concerned with crowd control than contemplation"; MoMA is a "spatially incoherent nonplace."

If Stern's aspirations for a 27,000-square-foot building that houses calendar art seem unusually high, perhaps that, too, befits the collection it displays. Rockwell poked fun at the modest, ordinary features of American life, ignoring its difficulties and celebrating the way he would have liked it to be.

—H. L.

## Details

**Thomas Jefferson**, founder of the nation's first architectural education program, was awarded this year's second **AIA Gold Medal** at Monticello, the home he designed in Virginia, on April 13, the 250th anniversary of his birth. **Cynthia Weese** of **Weese Langley Weese** in Chicago has been appointed dean of the Washington University School of Architecture in St. Louis. The Hetrick-Martin Institute, a social service organization serving New York's gay and lesbian community, has selected **Smith-Miller + Hawkison** to design its new headquarters in Greenwich Village. **Olson Sundberg Architects** is developing a scheme for a Jimi Hendrix Museum in Seattle. Architect **Hugh Hardy** of **Hardy Holzman Pfeiffer** has been elected to the American Academy of Arts and Letters. **Tsoi/Kobus & Associates** of Cambridge, Massachusetts, is designing an addition for the Magee-Women's Hospital in Pittsburgh, Pennsylvania. The AIA/California Council awarded its 1993 Firm Award to **Fisher Friedman Associates** of San Francisco. **Sizemore Floyd Architects**, with **HOH Associates** of Atlanta, has been selected to develop a master plan for the Centers for Disease Control and Prevention. **David M. Schwarz Architectural Services** of Washington, D.C., with **Calloway Johnson Moore** of Winston-Salem, North Carolina, has been selected to design a multipurpose concert hall for downtown Ft. Worth, Texas. **Venturi, Scott Brown and Associates** has been engaged to renovate the galleries for the Barnes Foundation in Merion, Pennsylvania. The Kansas City office of **Ellerbe Becket** has been commissioned to design a new stadium in Washington, D.C., for the Washington Redskins. **Davis Brody & Associates**, master plan architect for the World Trade Center, is involved in rehabilitating the bomb-damaged complex. Kaiser Permanente has selected **Anshen + Allen** to design its new medical center in Santa Clara, California. Los Angeles architect **Frank Gehry** has been awarded a United States patent for the bentwood maple furniture he designed for the Knoll Group. **Benjamin Baldwin**, who designed interiors for buildings by **Edward Larrabee Barnes**, **Louis Kahn**, **I.M. Pei**, and others, died at his home in Sarasota, Florida, on April 8.



**SUICIDE MACHINE:** Origin III, Kyoto.



**BEER HEADQUARTERS:** Kirin Plaza, Osaka.



**MACHINE IMAGERY:** Syntax building, Kyoto.

## Takamatsu Exhibit in San Francisco

In an effort to focus greater attention on architecture of the Pacific region, especially contemporary Japan, the San Francisco Museum of Modern Art has mounted an exhibition of the work of visionary architect Shin Takamatsu, now on view through June 6. Like other architects of the post-World War II era, Kyoto-based Takamatsu challenges prevailing notions of Western rationalism and modernism in his search for individualism of expression. "Takamatsu is

one of the most prolific and consistently surprising architects of his generation—not just in Japan," claims Paolo Polledri, the museum's curator of architecture and design. "His work is reasserting architecture as a creative force not beholden to the past."

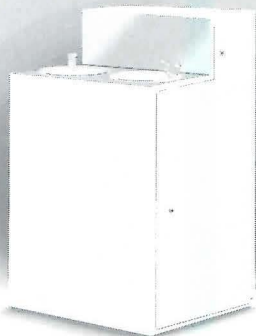
The 45-year-old Takamatsu is best known for a series of enigmatically named, richly detailed, and highly idiosyncratic small commercial buildings. His most familiar work is the Kirin Beer Company office building in Osaka, for which he won the 1989 Annual Prize of the Architectural Institute of Japan.

Takamatsu's work exemplifies the visual cacophony and harsh juxtapositions of scale and use that typify the modern Japanese city. His buildings set out both to mimic and subvert this complex and contradictory setting, and to Western eyes, they may have an undeniably science-fictionlike quality.

It is clear from the contents of this exhibition that Takamatsu is out to cast himself in the mold of the "hero architects" of an earlier time; his self-proclaimed task is nothing less than to build the "monuments" of our time.

No less astonishing is the architect's seeming disregard for current dogma. While his work may be rooted in bold juxtapositions of form and material typical of traditional Japanese design, it is also uncompromisingly individualistic, characterized by expressive excess in every form. At the show's opening, Takamatsu recounted that early in his career, he came to believe that form should not follow function, but that function should accommodate itself to form. In his writings, Takamatsu has explained this approach as one of "non-conceptual" architecture—based on

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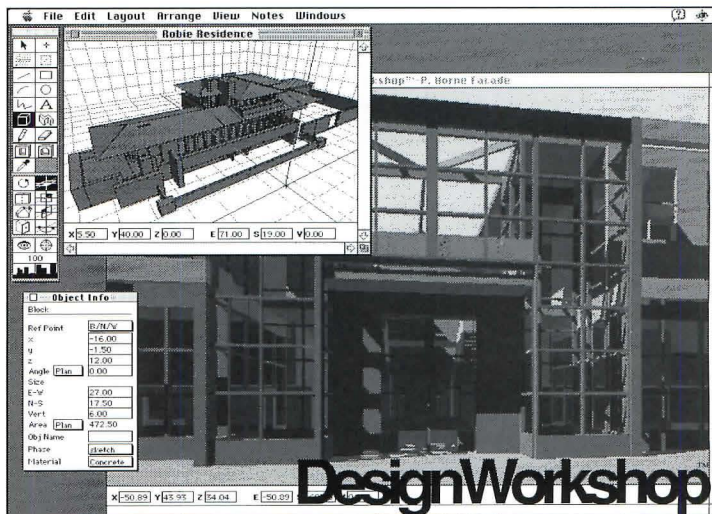


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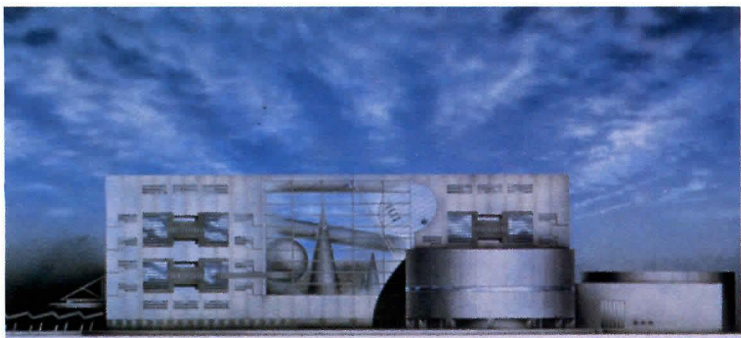
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**CONVENTION CENTER:** Kunibiki Messe, Shimane Prefecture.

emotional, intuitive, and ritualistic sensitivities. His buildings are reminiscent “if not of the strange monuments of a religious cult, then of overscaled mechanical models and, at times, gigantic jewelry,” writes Japanese architecture scholar Botond Bogner in the catalog accompanying the San Francisco exhibit.

Takamatsu’s work is also ominous and forbidding. Part of the reason may be the Japanese architect’s embrace of unabashedly high-tech, mechanical imagery. His Origin III building, with its razor-sharp fins, once reminded a writer of “a suicide

machine.” His architecture attempts to set itself apart from its surroundings by offering few clues as to scale or use. It is as if, Bogner writes, Takamatsu’s strategy was ultimately to distill the decadent material essence of the Japanese city into a series of finely wrought “black holes.” Such a vision may be disturbing to many U.S. viewers, but its poetic power is undeniable.

“No longer are Japanese architects looking to their Western colleagues for guidance,” explains Polledri, the museum’s curator of architecture and design. “Some of the



**WARRIOR'S MASK:** Origin I, Kyoto.

most innovative work in the world today is happening in Japan.”

Takamatsu’s career has recently reached a level where his newer, larger commissions are challenging his earlier design principles, and not long ago, he opened his first overseas office, in Berlin, to handle European projects.

The works featured in depth at the San Francisco exhibit—the Origin buildings (Kyoto, 1980-1986); Kirin Plaza (Osaka, 1985-1987); the Syntax building (Kyoto, 1990); and the Kunibiki Messe convention center (Shimane Prefecture, under construc-

tion)—reflect this progression toward a larger scale. Nearly 70 other projects are also shown, but in lesser detail. The exhibit contains painstaking pencil renderings; meticulously detailed models (some gold plated); bound blueprint books; and a series of dizzying, computer-generated animation loops. In addition, visitors may don headphones and special glasses for a tour of some of Takamatsu’s buildings using 3D, high-resolution television technology.

The most startling feature of the show, however, is Takamatsu’s four glass bridges spanning a gravel “lake” in the central, naturally lit space of the exhibition hall. Visitors may walk over the architect’s own sketches and development drawings, embedded in the glass. Surrounded by Takamatsu’s models—and literally standing on his work—visitors get the uneasy sense they may be floating in mid air. It is this ability to seemingly suspend time and space—as in traditional Japanese ritualistic architecture—that may ultimately be the most appealing aspect of Takamatsu’s work.

—David Moffat

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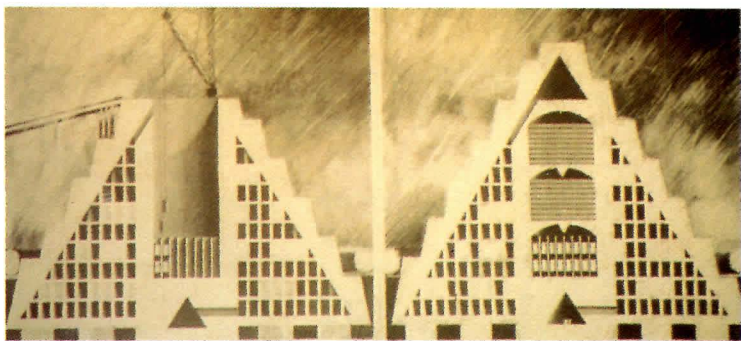
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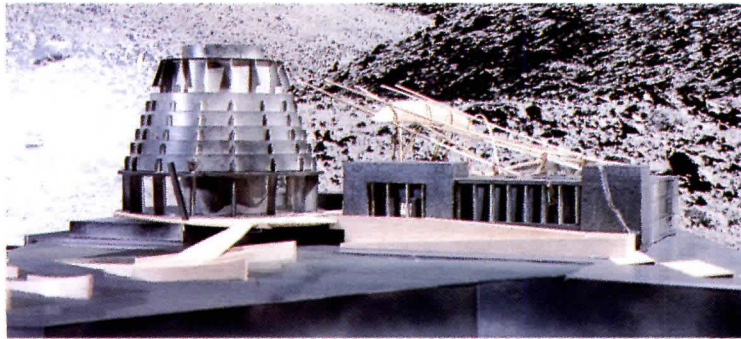
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**ENVIRONMENTAL STATEMENT:** Nuclear waste repository by Gerald Auten.



**NEW ZEALAND PARLIAMENT:** Scheme by Peter Victor symbolizes racial tension.

## Socially Responsible Design at Pratt

With renewed spirit, architecture's Good Samaritans have begun to tool strategies for social justice through physical space. In March, more than 200 architects, interior designers, educators, and students met in Brooklyn for a daylong conference sponsored by Pratt Institute and its Center for Advanced Design Research (CADRE) to examine the social conscience of the design profession. This event was the latest in a series of socially oriented conferences sponsored by the Brooklyn-based institution; last May, Pratt hosted "Universal Design: Access to Daily Living," a conference that examined the Americans with Disabilities Act.

The March conference, titled "Challenging Design Practice and Education: Social and Environmental Responsibility," broadened the design discourse to address militarism, Eurocentrism, sexism, imagination theory, kitsch, and a cultural analysis of "Star Trek." Discussion was steeped in political correctness, but the panelists made it clear that architects, faced with crumbling communities and stylistic schizophrenia, cannot afford to disregard the social context of their work. Estefania Chavez de Ortega, director of undergraduate urban design at the University of Mexico City, argued the

case for ethnic design expression, but cited the difficulty of exploring a Mexican vernacular in the midst of the current rage for Neoclassicism.

Tony Schuman, architecture professor at the New Jersey Institute of Technology, decried the profession's habit of valuing form over plan, and issues of accessibility, and cultural meaning. He criticized Ricardo Bofill's grandiose, low-income housing in Montpellier, France, which fails to recognize that many of its inhabitants are of non-European descent.

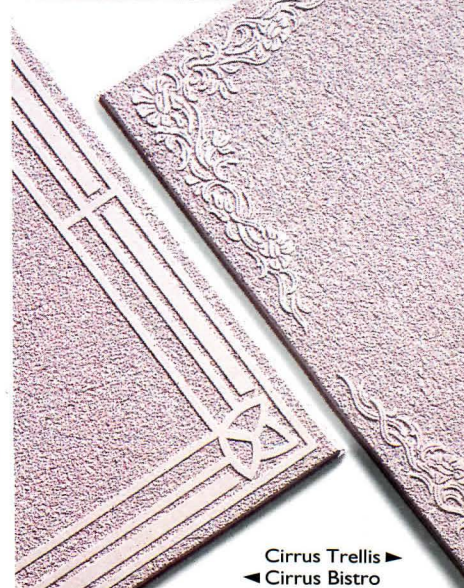
Throughout the day, discussion returned to the premise that change in the profession begins in the architecture schools. Educators were challenged to devise culturally sensitive teaching methods and to broaden curriculums to cover such practical topics as housing policy. The conference was accompanied by a traveling exhibition, organized by Pratt and now on view at the Chicago Cultural Center through June, presenting an international array of student designs that illustrate socially oriented visions. Among the projects featured in the exhibit are a new dormitory in China that challenges oppressive university practices and a monument to the historical clash of New Zealand's indigenous and white populations, symbolized by a Maori war canoe inserted between the country's Parliament buildings.

—Karen Salmon

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# The Fountainhead at 50



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**EGO AT WORK:** Gary Cooper as Howard Roark in the 1949 movie of *The Fountainhead*, which promoted the Modern architect as hero.

I don't intend to build in order to have clients. I intend to have clients in order to build." With that brash statement by Howard Roark in *The Fountainhead*, Ayn Rand forever changed the face of American architecture. Rand's epic characterization of Roark—the fictional architect who dynamites his own building halfway through construction because others drastically compromised his design—arguably did more to shape public opinion about architecture and those who practice it than decades worth of construction. *The Fountainhead* left an indelible impression of the architect as an arrogant, selfish iconoclast who builds to satisfy his own ego rather than to serve clients.

Roark's genius and integrity were as unyielding as granite. By the time Rand was through chiseling his features, so was the public's perception of the profession of architecture. And America's real practitioners have been trying to live it down ever since.

This month marks the 50th anniversary of *The Fountainhead*. It was first published in May of 1943 and hit the best-seller list that July. Warner Bros. released a motion picture version starring Gary Cooper and Patricia Neal in 1949. The Ayn Rand Institute in Marina del Rey, California, estimates that 100,000 copies of the book are sold every year, and that 6 million volumes are in print. And this year, Roark is poised for a comeback. Signet Books just issued a 50th anniversary edition of *The Fountainhead*. Rand's literary executor, Leonard Peikoff, is preparing to publish Rand's extensive collection of notes and character sketches for the book. And Giant Pictures recently disclosed that it is working with producer James Hill and Warner Bros. on a remake of the movie.

Fifty years after its publication, Rand's novel is instructive to read not only as a philosophical construct, but also for its insightful, almost prophetic, observations about the state of the profession after the Great Depression. *The Fountainhead* tells the story of a gifted young architect and his bat-

tle against lesser mortals who thwart his efforts at every turn. Along the way, he confronts Peter Keating, the weak-willed designer who always gets the plum commissions, and Ellsworth Monkton Toohey, the vicious architectural critic who never praises Roark's work. The plot is thickened by Roark's secret relationship with Dominique Francon, a woman whose force of will is as strong as his own. He enlists her aid to blow up a public housing project after discovering that his design for it has been altered by others.

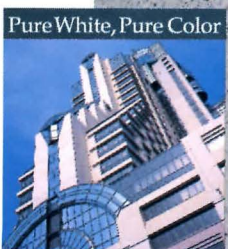
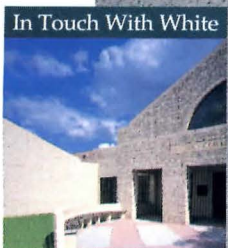
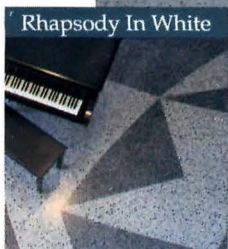
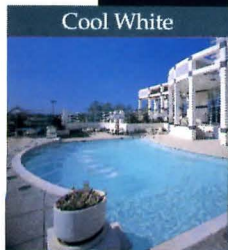
Rand, who died in 1982, contended that she wrote *The Fountainhead* to depict the "ideal" man. The book set forth a philosophical framework for its characters, stressing the importance of the individual over the masses, the creator over the "second hander." It helped win an enthusiastic, almost cultlike, following for Rand's philosophy of "objectivism," which has been characterized as the "deification of selfishness."

"The book is not about architecture," Rand wrote in notes published for the first time in the 50th anniversary edition. "It's about Roark against the world, and about the workings of that thing in the world which opposes him."

But even if Rand intended the book to be a character study, *The Fountainhead* soon took on a life of its own as a tale about architecture. From the beginning, it captivated America's architects, who thirsted for any mention of their profession in the popular press. The plot's credibility was due to extensive research by the author, who worked for six months without pay as a secretary in the office of New York architect Ely Jacques Kahn, solely to learn about the profession.

Rand depicted Roark as being everything a young architect was supposed to be: brilliant, self-absorbed, creative, headstrong, invincible. His quest to build the ultimate skyscraper presaged, and perhaps fueled, the rise of Modernism in the United States. The book taps into many issues associated with the rise

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of Modernism—the stripping away of ornament, the notion that form follows function, the emergence of the corporate client as a key patron of architecture, and the discovery of the marketing value of “brand-name” design. It presents a world that reached its zenith in the hedonistic, avaricious, “greed is good” corporate decadence of the 1980s.

But now, faced with an economic downturn, decaying cities, and environmental destruction, both the public and the profession are in the midst of a backlash against Roarkian values. Today there is a distinctly different kind of role model—the “responsible” architect who is kinder, gentler, environmentally sensitive, civic-minded, politically correct, and, above all, humble. For many, Howard Roark the hero has become Howard Roark the villain, a despicable symbol of everything an architect should not be.

If *The Fountainhead* was readable as sheer entertainment in the 1940s and '50s, then it is valuable today as a cautionary tale about the profession, especially since so many of the nation's design issues involve correcting mistakes made by the Howard Roarks of the world. Though it was not Rand's main goal, *The Fountainhead* made a strong argument for Modernism over Classicism. And the movie, featuring sets designed by Edward Carrere,

may have had more impact than the book because of its visually compelling images.

Rand's book particularly merits renewed attention today, given the advent of Postmodernism, the movement that prompted a rethinking of architectural history. One of *The Fountainhead's* basic architectural premises—that Modern architecture alone can save the world—has been turned upside down by the Postmodern movement, which made it permissible again to learn from historical precedent. In that context, Roark has become not only a symbol of the wrong way to be an architect, but also of all that is wrong with Modern architecture—the personification of Modernism gone awry.

Some of the most challenging architectural commissions of the 1980s and '90s were launched to heal the wounds and repair the damage inflicted by Modern architects who wiped the slate clean and designed in their own Roarkian way. They range from enlivening the barren, windswept plazas at the base of so many downtown office towers to removing elevated highways that cut cities off from their waterfronts to finding alternatives to unlivable high-rise housing. (It is no small irony that Roark's fictional dynamiting of his own public housing project was followed by the very real demolition of Pruitt-Igoe in St. Louis.)

With 20-20 hindsight, it is clear that Roark's method of designing in isolation resulted in buildings isolated from their context, objects to be put on a pedestal and admired. Along with objectivism, Rand inadvertently promoted the objectification of architecture—the notion that it is all right to view buildings apart from their surroundings and users. Roark made little effort to design structures that work well as urban design, yet such site-sensitive architecture is what American cities need most.

Today's more collaborative and inclusive attitudes about architecture are showing Howard Roark to be the myth he really is. Given shifting currents of architectural theory and design, and diminished opportunities for the kind of ego-gratifying commissions that Roark craved, the architectural profession seems to be attracting a different kind of practitioner. Indeed, if Ayn Rand were to write her novel now, Howard Roark would probably be cast as a rock star.

The key to reading *The Fountainhead* today is not to see Howard Roark as a role model, but as the ultimate bad boy of American architecture. Rand's 50-year-old depiction of the architectural profession has grown more and more out of sync with reality; there is no room in the profession for Howard Roark today.

—Edward Guntz

It is a testament to Ayn Rand's writing that many architects vividly remember where they were and what they were doing when they first read *The Fountainhead*. Following are brief observations about the book by leading architects and architectural historians.

**E. FAY JONES:** I was in about my second or third year as an architecture student at the University of Arkansas. There weren't that many novels about architecture at the time, so of course I read it. I also knew it was about Frank Lloyd Wright, and he was a hero of mine. I enjoyed the book, but I remember having reservations about some of the philosophical attitudes.

**SUSAN MAXMAN:** Take a look at almost any American city and you'll see the egocentric Roark attitude. You'll see it in the cold high rises in which we are increasingly warehousing the elderly. You'll see it in fortresslike schools and hospitals that say nothing about the joys of learning or deliver none of the compassion of healing. You can hear Roark laughing in historic downtowns that have been scarred by inappropriate, insensitive buildings, buildings that

look as if they've been launched from some underground silo against an unsuspecting population.

**RICHARD MEIER:** I remember reading it when I was 16 or 17, and I had just decided to be an architect. I found the novel not only riveting, but exciting—a very important book for someone young. And that was before the Gary Cooper movie came out.

I was not knowledgeable enough to make any association with Wright or Sullivan, so I read it at face value as a novel that depicted the kind of democratic spirit that existed at the moment: the feeling that good triumphs over evil and that, somehow, the architect has an influence over this. There was a sense that quality and idealism and striving for excellence were important in the world and that single voices could make a difference.

**KEVIN ROCHE:** I read it in 1948. I was in Washington, D.C., trying to get a job. I thought it was ridiculous, the whole thing. It's just a misrepresentation of what the profession is all about. Rand used the book as a vehicle to support her own crypto-Fascist views.

**VINCENT SCULLY:** *The Fountainhead* is the message that shaped the late Modernism of the 20th century. I read it as I was getting out of the service in 1946. I would read 10 pages and want to throw it against the wall.

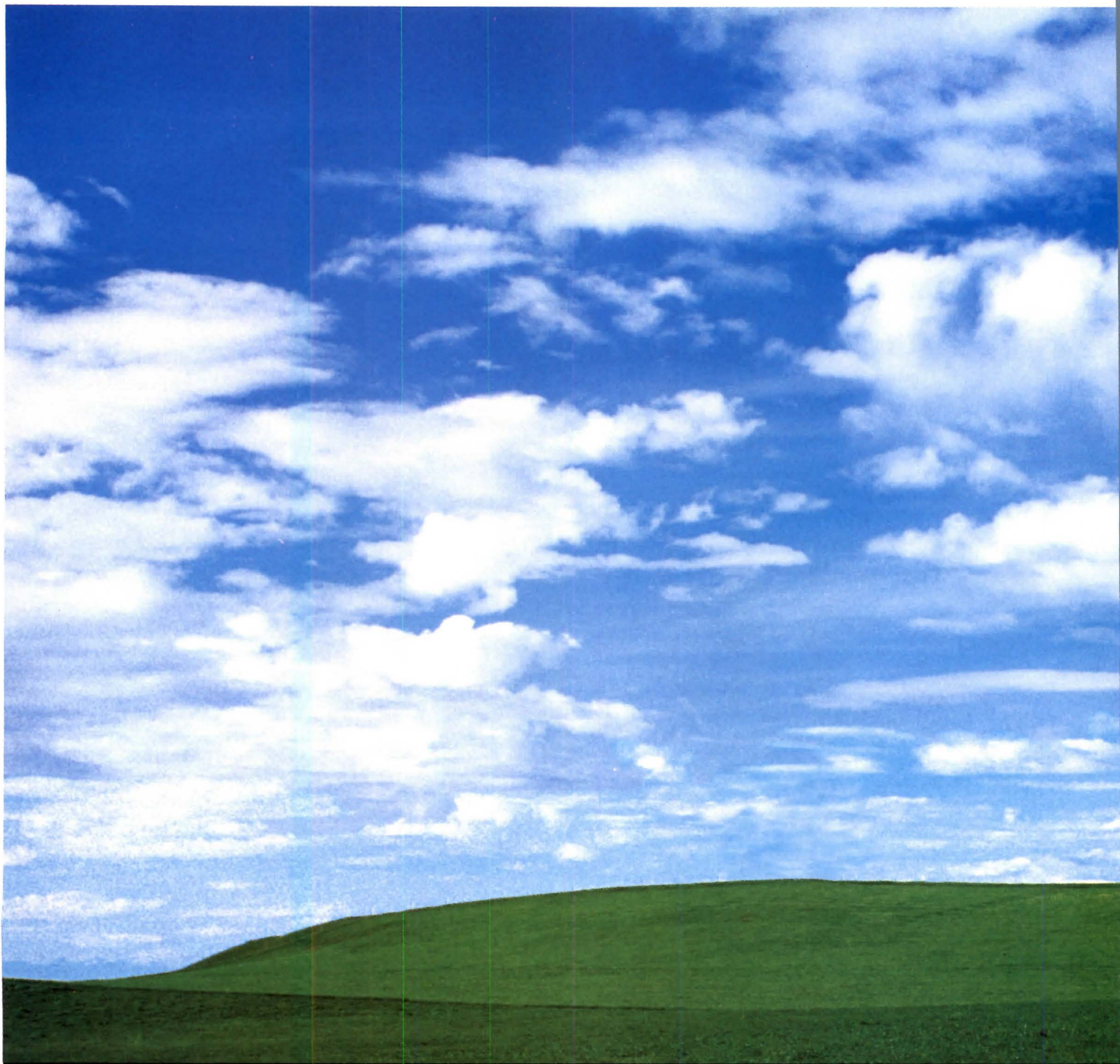
**ROBERT A.M. STERN:** I've never read the book, but I have seen the movie. ... It's like the Bible. You almost feel as if you've read it, even if you've never opened it. I shudder to think that any architect would actually model his career on that of Howard Roark.

**STANLEY TIGERMAN:** That book caused me to become an architect. It was tremendously influential in my life and remains so to this minute. On one level, Ayn Rand was a ridiculous person, with her neo-Fascist ideas. But the heroism of *The Fountainhead* has never left me—the feeling that architecture represents an heroic gesture. I'd look at architects like Sullivan, Wright, and Mies, people for whom heroism was different from success. Rand was not writing about Modern architecture. She was writing about a person going against the grain, the status quo. She was writing about going against inertia.

**JAMES WINES:** I use *The Fountainhead* in my lectures all the time as an example of the changing perceptions about architecture and architects in society. The book glorified the notion that Modernism and industry are going to conquer the world. It's the exact opposite of the ecological age, in which the goal is to integrate architecture with the environment.

I always thought it was a silly book, a little funny. Ironically, it has nothing to do with Frank Lloyd Wright, who was a great advocate of the environment and organic architecture. Ayn Rand was just playing off the public's attitudes about Modernism and architecture, and she used him because he was American, and his life was filled with scandal.

**FRANK LLOYD WRIGHT** (in a letter to Ayn Rand): I've read every word of *The Fountainhead*. Your thesis is the great one. Especially at this time. Your grasp of the architectural ins and outs of a degenerate profession astonishes me. Your novel is Novel. Unusual material in unusual hands and, I hope, to an unusual end.



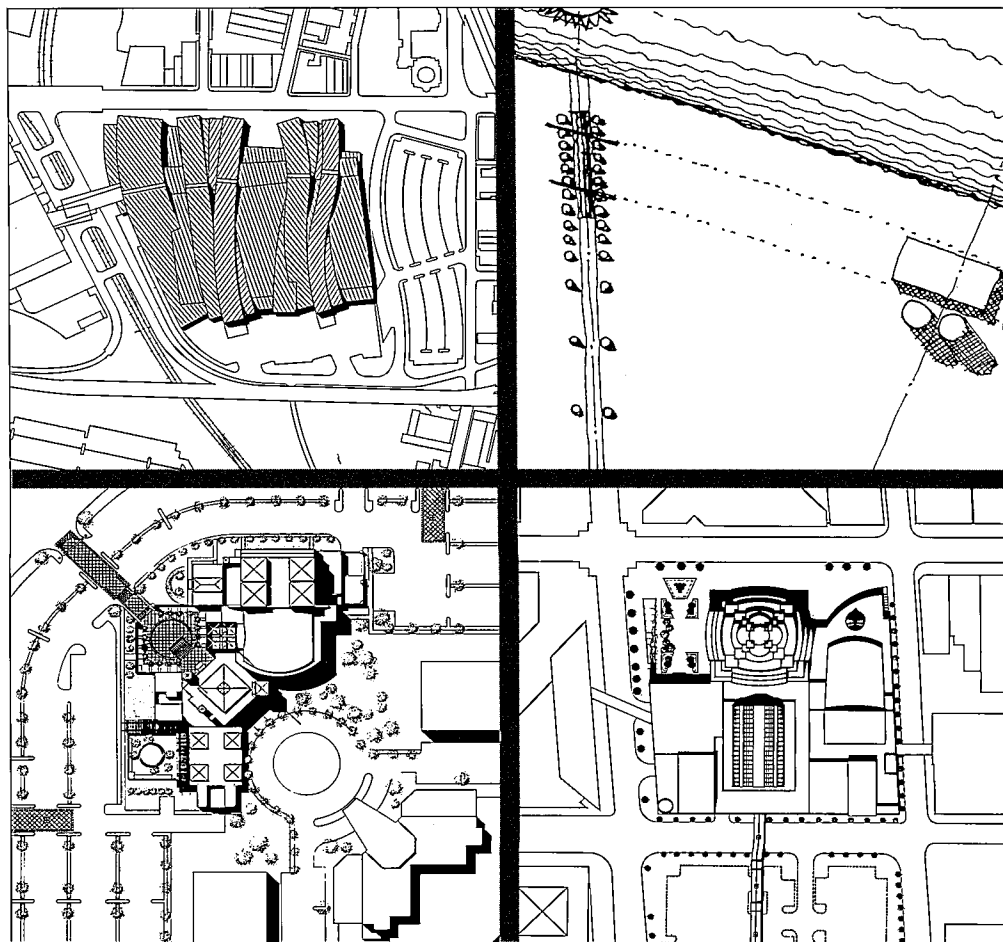
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## Urban Connections

*A quartet of major public buildings elevate American cities through metaphorical ties to their surroundings.*

This year's review of American architecture focuses on four projects that reinvigorate the notion of contextualism, with buildings that do more than just defer to their surroundings: Each enlivens its environment through metaphors derived from the site. In the Chicago suburb of Zion, Tigerman, McCurry mediated between the grid of a former utopian community and a nuclear power plant to create a basilicalike museum of energy; Eisenman and Trott play off party-wall buildings and highways in Columbus to create a convention center of sinuous bays; Pelli & Associates establishes a cornerstone of American urbanism—the town square—for a multi-use complex in Charlotte; and in designing the Cerritos Performing Arts Center, Barton Myers forms a new public magnet for an edge city of Los Angeles.

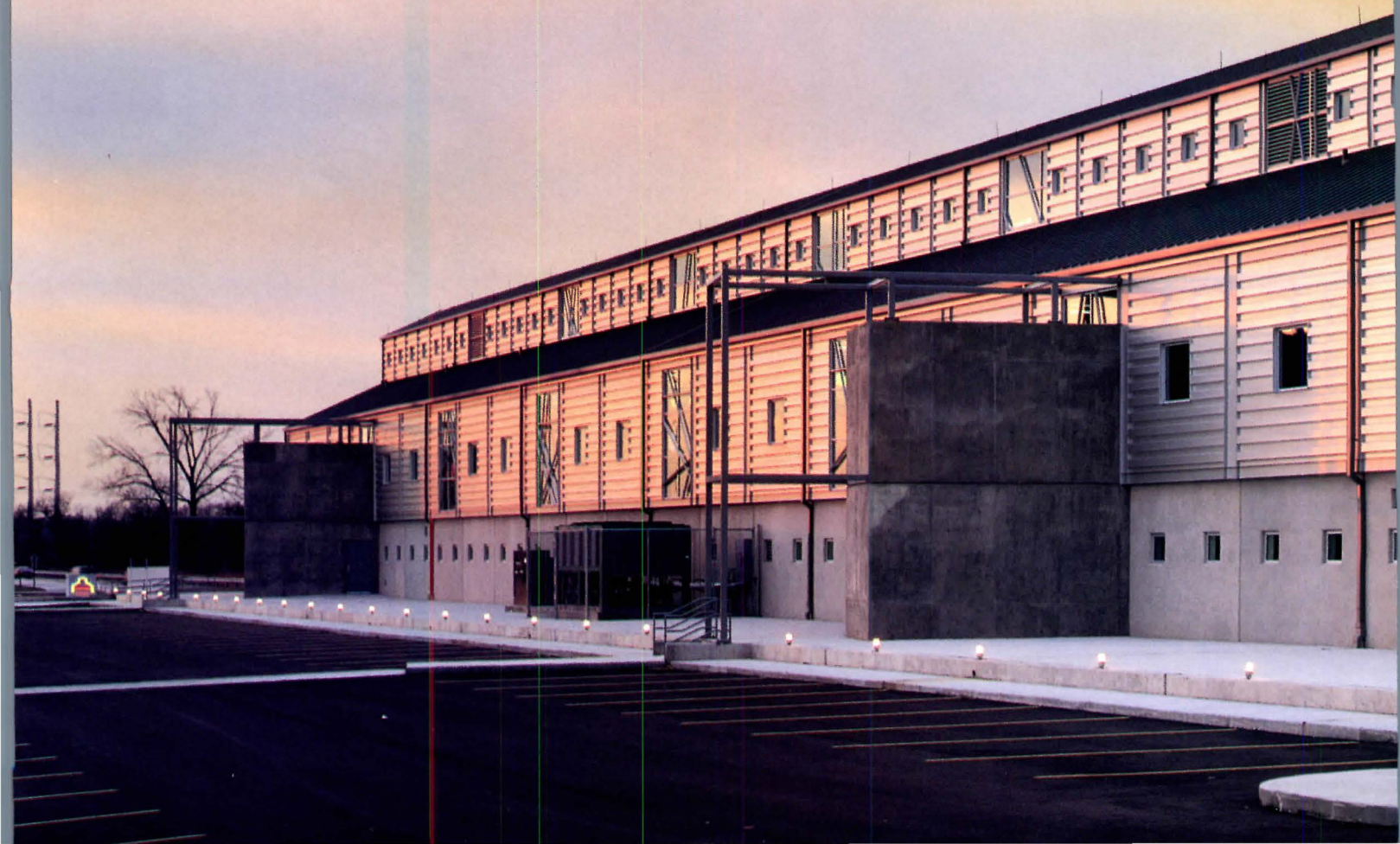


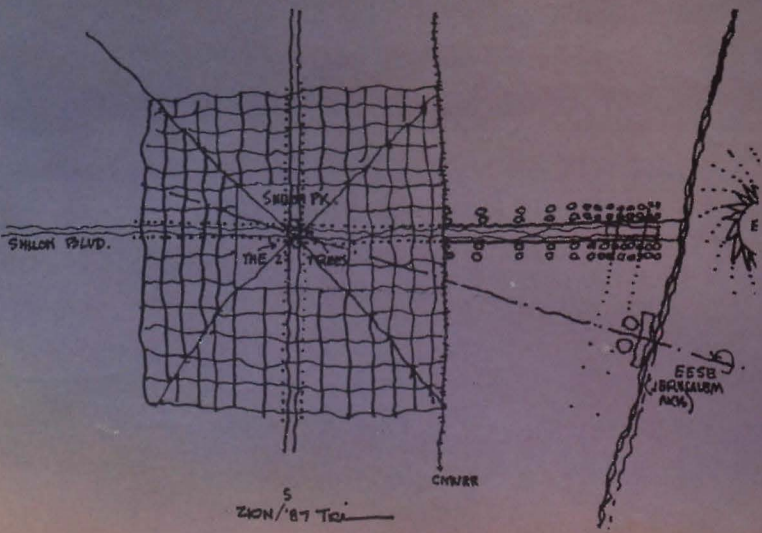
**Power House**  
Zion, Illinois  
Tigerman, McCurry Architects

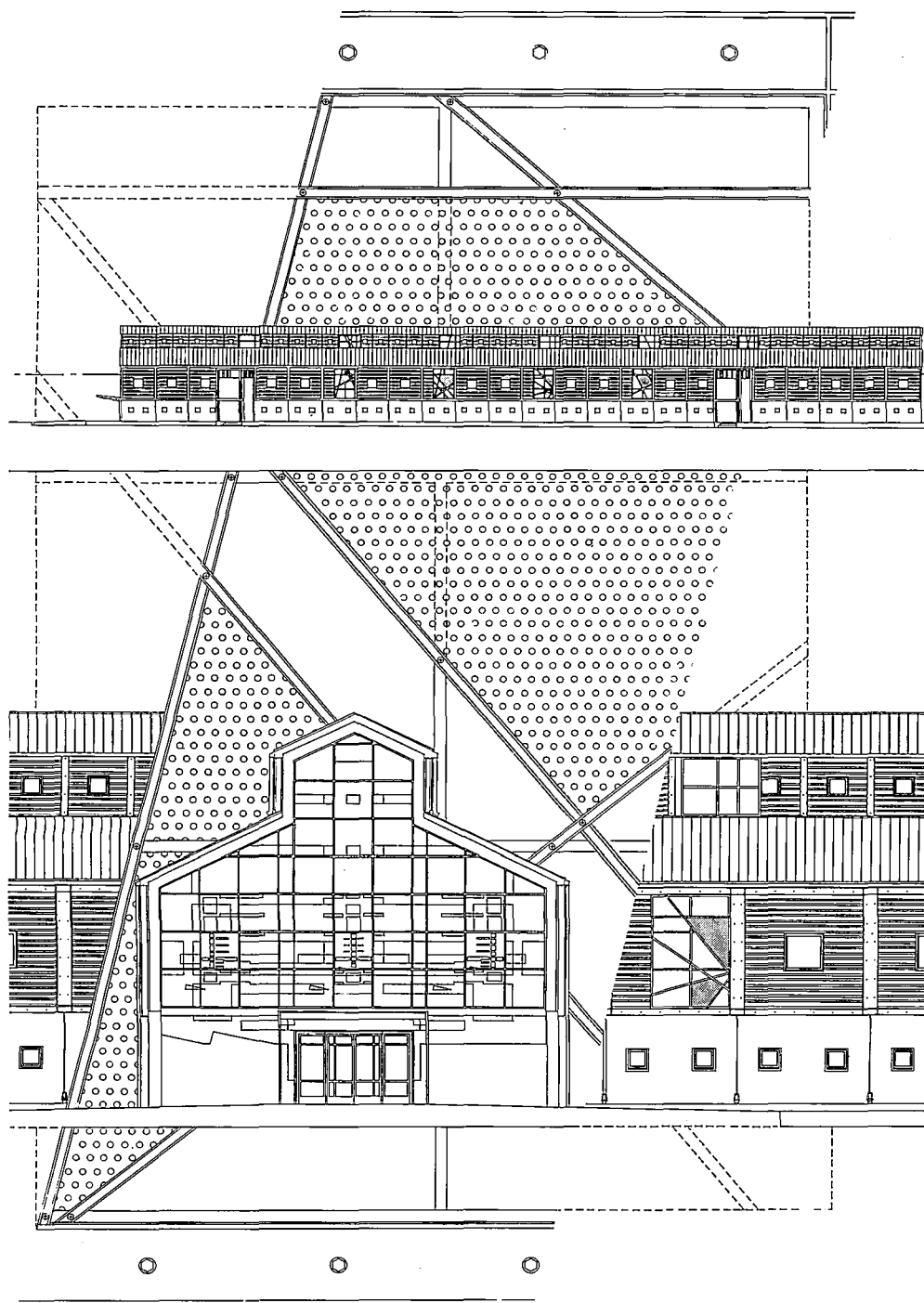
# Temple of Energy

**BELOW AND FACING PAGE:** Tigerman, McCurry's new energy education center stretches 336 feet on an east-west axis extending from Zion's Shiloh Boulevard. Canted fire stairs project from the building at a 13-degree angle.

**SITE PLAN:** Tigerman's sketch reveals relationship between Zion's street grid, the nearby nuclear power plant, and Lake Michigan to the east.







The simple gabled profile of Stanley Tigerman's new energy education and resource center in Zion, Illinois, summons up time-honored images of the Midwest: barns dotting the prairie or factory sheds looming up from the street grid. Such cultural references root the museum in its region, much the same role they played in a Michigan weekend house Tigerman and partner Margaret McCurry designed in 1983.

In both projects, however, rural metaphors mask other, more universal meanings. The Michigan house and its circular porch "have at least two metaphorical programs: barn and granary, or basilica and baptistry," Tigerman wrote in a 1989 Rizzoli monograph of his work. The Zion education and resource center, officially known as the Power House, demands a similarly complex reading. The controlling images of the 336-foot-long structure derive as much from the spiritual realm of early Christian basilicas as they do from the workaday buildings of the rural and industrial Midwest. Ugly and ordinary as it initially may appear, this largely undecorated shed ultimately demands to be understood as a temple of energy, at once playful and profound.

Located on the shore of Lake Michigan in a suburb 46 miles north of Chicago's Loop, the Power House was designed for Chicago-based Commonwealth Edison Company, one of the nation's largest utilities. The two-story, 30,000-square-foot building contains 45 hands-on exhibits and a 100-seat auditorium intended to educate visitors about energy and its history, as well as alternative power sources. Less than 200 yards to the south of the Power House looms a massive Commonwealth Edison nuclear generating station. A state park lies to the north; Zion's town center is located about a mile to the west; and Lake Michigan abuts the site to the east. From this contextual *mélange*, Tigerman has crafted a powerful design that expresses tensions between natural and man-made forms.

This emphasis on what Tigerman calls the "ethical imperative" of architecture might



seem out of place anywhere else, but not in Zion. Founded as a utopian community in 1902 by a Scottish faith healer named John Alexander Dowie, the town of 19,700 still has avenues named Gideon and Galilee, Ezra and Ezekiel. Drinking, smoking, and card-playing were prohibited until the 1940s, as was the eating of oysters, clams, and pork. But traces of Zion's original character persist. Last year, in a case brought by the Illinois chapter of American Atheists, the U.S. Supreme Court ruled that Zion's city seal, with its cross and the motto "God Reigns," violated the constitutional separation of church and state. Determined to retain its religious identity, Zion came up with a new motto—"In God We Trust"—that seems expressly designed to foil its atheist opponents as well as the courts.

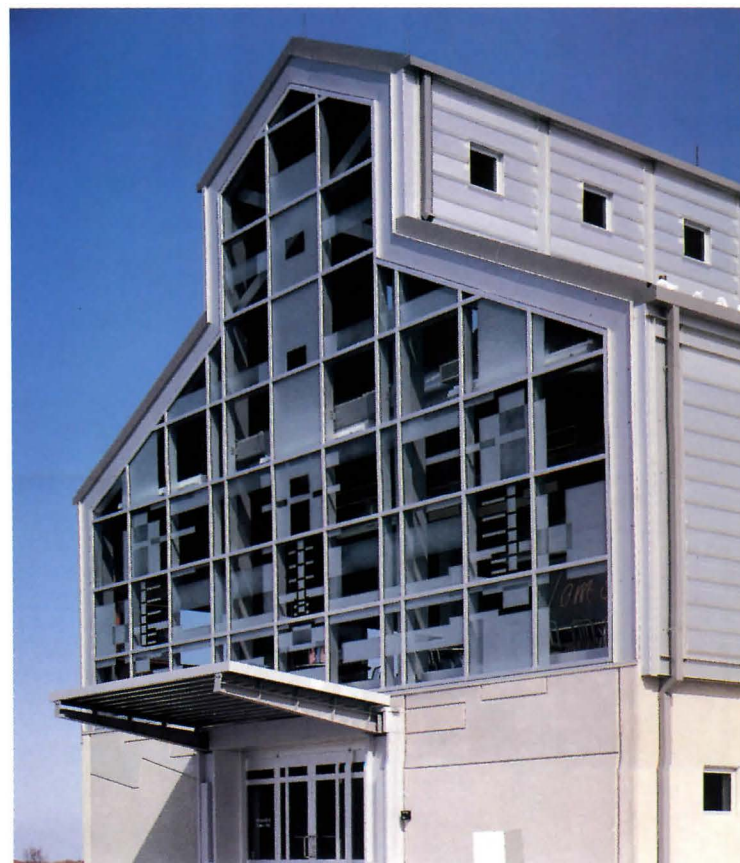
Instead of poking fun at the town's spiritual streak, Tigerman has translated it into architecture. By terminating Zion's main street, Shiloh Boulevard, with the center's 42-foot-wide entrance facade, the architect deemphasizes the building's size, making it seem approachable rather than monumental. This placement also minimizes the presence of the built environment within the natural realm of the adjacent state park. At the same time, it places the Power House directly between two highly charged sources of meaning: God-fearing Zion to the west and the most powerful form of natural energy, the rising sun, to the east. The building's basilica form directly expresses this quasi-religious linking of man and nature. As if to seal the temple metaphor, Tigerman set his aluminum and concrete basilica on a concrete podium, raising it above the surrounding parking lot.

The form of the Power House is simple, serene, and violated. Tigerman, who strives to stay on the cutting edge, incorporated Deconstructivist elements into his essentially straightforward composition. The most obvious examples are the concrete fire escapes and light steel trellises, which diagonally puncture the building's otherwise unbroken envelope. Yet there is a method—or more accu-

**FACING PAGE:** Drawing shows west and south elevations superimposed over skewed window mullions, which are applied to alternating bays.

**BELOW:** Glowing from within at dusk, the 42-foot-wide entrance facade expresses basilica form; illuminated museum signs echo the profile of west elevation.

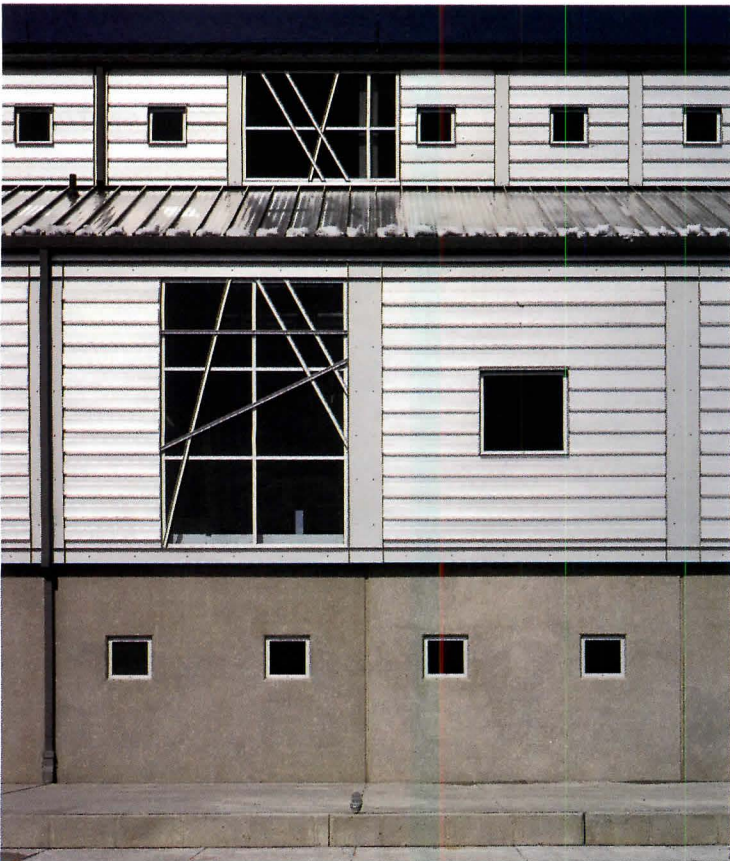
**BOTTOM:** Etched glass panels are patterned to resemble site and building floor plans. Steel canopy and aluminum sides express industrial character of Power House.



**BELOW:** Steel trellises continue dissonant diagonals aligned with power plant.

**BOTTOM:** Diagonal mullions express in elevation the angled geometries of plan.

**FACING PAGE:** Plans show Tigerman's geometric rotations, based on the Power House's relationship to Zion's street grid and nearby nuclear plant. Beginning with orthogonal geometry at entrance facade, the architect turns walls and trusses seven successive 13-degree rotations to 91 degrees—1 degree off the starting point—at the building's auditorium.



rately, a metaphor—to Tigerman's madness.

The architect's metaphor is rooted in a complex geometric conceit based upon the siting of the nearby nuclear power plant. The plant's massive turbine building is canted on a southwest-northeast diagonal. This line is skewed 13 degrees off an imaginary north-south line, which runs perpendicularly to the Power House's east-west axis. The building's fire escapes are set at the 13-degree angle of the power plant; so are diagonal bands of carpet that continue the angle through the Power House. Large windows along the building's southern edge focus the visitor's eye on the massive nuclear generating station, underscoring a metaphorical collision between its man-made energy and the energy of the sun.

Tigerman further explores this tension in the interior, which is divided into eight 42-foot squares. (The squares are delineated by bands of light carpet tile on the interior and by downspouts on the exterior.) The first, or westernmost square, contains conventional institutional facilities—a lobby, cloakroom, cafeteria, and restrooms—and is thus constructed with conventional orthogonal geometry. Moving eastward, the next six squares incorporate elements that are diagonally rotated within the plan of the main exhibition space. The final, easternmost square, which houses the auditorium and meeting rooms, seeks to “reconstruct” the orthogonal geometry with which the sequence began. This area of the Power House expresses an important theme of Tigerman's recent work: “Failed attempts at healing an irreparable wound.”

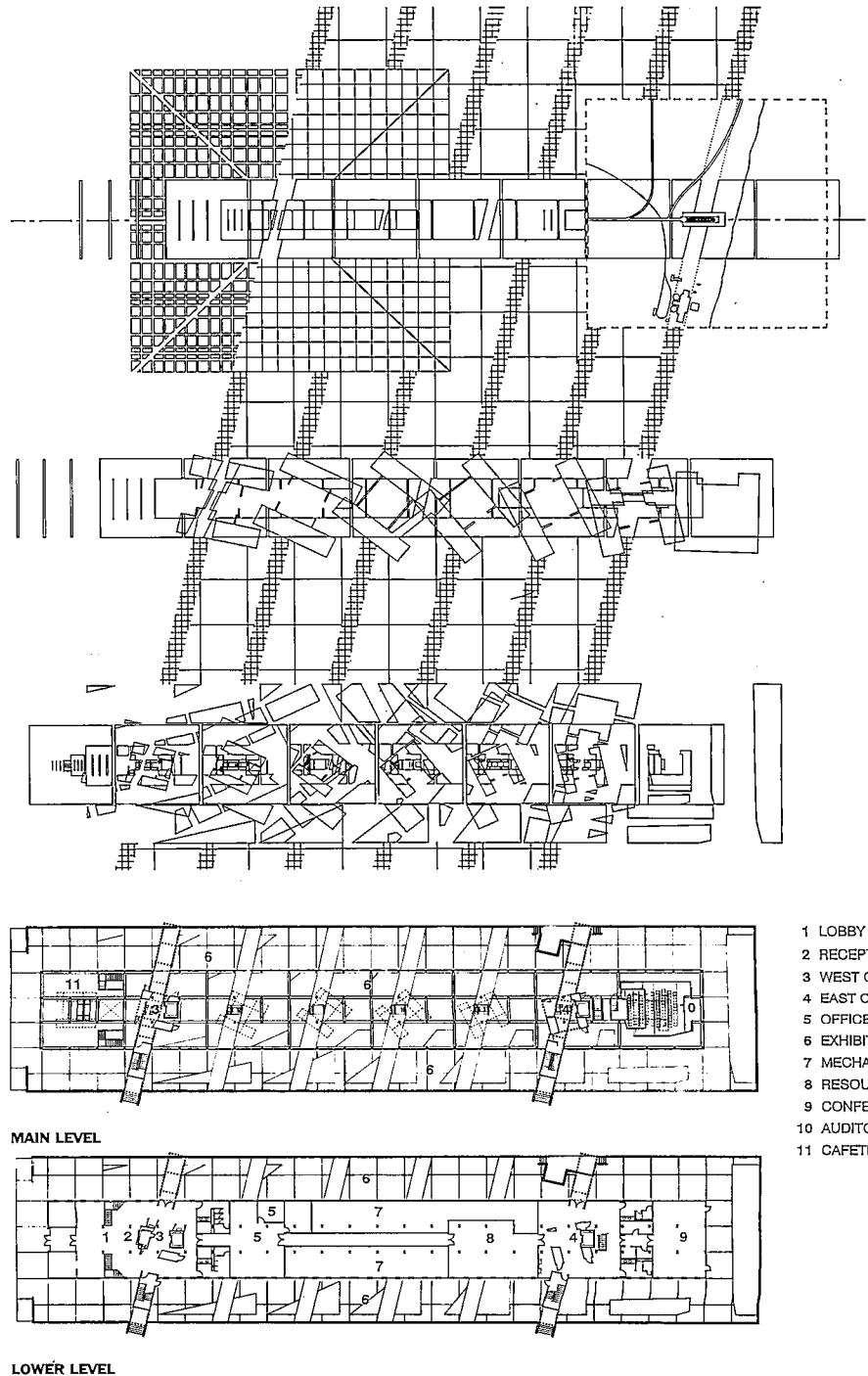
Just what does that mean? The “irreparable wound,” broadly defined, is the fragmented quality of contemporary life: restlessness, rootlessness, a homelessness of the spirit. Through architecture, Tigerman attempts to express the “ethical dilemma of our epoch, the salient feature of which is, for me, disjunction.” At the same time, Tigerman feels an “innate optimism inherent in the practice of architecture, a force that motivates a search for an ideal that is, perhaps, unattainable.”

This optimistic sensibility is clearly evident within the Power House, especially in the light-filled confines of its main-level exhibition area. Clerestory windows flood the basilicalike space with daylight; thin birch panels, set in a grid, lend a subtle warmth to a largely gray palette. Partaking in the bare-bones tradition of Chicago architecture, Tigerman exposes heating and cooling ducts, electrical cords, structural columns, and the bolts that anchor the columns to the floor. These raw elements teach visitors how a structure stands up, as well as how it is lighted and heated.

An optimistic disposition also characterizes other features of the exhibition space. Four H-shaped steel kiosks introduce the four main exhibition areas. Topped by steel trusses, the kiosks are equipped with television monitors that feature a cartoon character named Louie the Lightning Bug, striking an appropriately playful note in a facility that caters to school-children. Even the ledges are scaled to the height of children rather than adults. But the Power House exhibits jarring notes as well.

The most noticeable disruption occurs in plan. Walking eastward from the orthogonal geometry of the cafeteria at the western edge of the building, the visitor encounters an elevator lobby wall that is angled to repeat the 13-degree diagonal of the nearby nuclear power plant. Further to the east, the suspended H-shaped truss hovering above the first exhibition kiosk is canted at 26 degrees; the truss above the second exhibition kiosk turns to 39 degrees; and so on through a succession of seven rotations that end with a truss located above the building's 100-seat auditorium. This last truss is turned all the way to 91 degrees—or 1 degree off the orthogonal geometries with which the sequence began. In the windows, diagonal mullions seek to mirror in elevation the series of rotations that occur in plan. There are four such groups, expressing the skewed geometry of the center's four main exhibition areas.

The danger of Tigerman's design is that architecture enters a realm of metaphor so



**BELOW LEFT:** Carpet patterns inside Power House echo its diagonal axis with nearby nuclear power plant.

**BELOW RIGHT:** Mullion-decorated windows frame views of nuclear plant.

**BOTTOM:** Angled, H-shaped trusses top exhibition kiosks, which support monitors that inform visitors about the history of energy. Exposed ducts, columns, and bolts reveal architecture's inner workings.

**FACING PAGE:** Sunlight is admitted through 12-foot-high windows; exhibits teach the history, nature, and uses of energy.



rarified that it threatens to obscure the essential qualities of space, light, and structure. Once it crosses into this territory, architecture edges perilously close to being stripped of its constructive essence: the shaping of space in three dimensions and concomitant linking of structure, ornament, and meaning.

By expressing his geometrical maneuvers through superfluous elements rather than through the structure, Tigerman severs this link, rendering much of the ornament all but illegible to lay visitors. While the mullions and rotated squares energize the experience of the Power House and enrich its meaning, they confuse its fundamentally simple parti.

What saves the Power House from such self-indulgence is the no-frills barn/basilica upon which it is based: Tigerman's geometrical rotations are reduced to energetic decoration subservient to his building's overall image as a Machine Age icon, not unlike a sleek cutter about to steam into Lake Michigan. In that respect, the handsomely proportioned, light-filled educational center succeeds as both building and symbol, optimistically heralding the future even as it evokes the ghost of Zion's lost utopia.

—Blair Kamin

*Blair Kamin is the architecture critic of the Chicago Tribune.*

**POWER HOUSE  
ZION, ILLINOIS**

**ARCHITECT:** Tigerman, McCurry Architects, Chicago—Stanley Tigerman (principal-in-charge); Dante Domenella (project architect); Tom McKercher (exhibit design); Claire Theobald (graphics); Catherine Carr (interiors); Mark Searls, Mark Lehmann, Tom Leung, Chris Gryder (design team)

**ENGINEERS:** Beer Gorski & Graff (structural); Environmental Systems Designs, Inc. (mechanical/electrical); Daniel Creaney Company (civil)

**CONSULTANTS:** Kirkegaard & Associates (acoustics); Chicago Lighting (lighting); Contempo Design (exhibit fabrication & installation)

**GENERAL CONTRACTOR:** William A. Randolph, Inc.

**COST:** \$248/square foot

**PHOTOGRAPHER:** Bruce Van Inwegen

# Energy in Transition

← Heater →

ENERGY!

Is there a problem?

CHECKPOINT 3

Energy Use Through Time



CHECKPOINT 3

Energy Use Through Time



**GAS**  
CONSUMES 9 PERCENT OF ENERGY, GENERATES 1 PERCENT OF GREENHOUSE GASES

**YOU DECIDE**

**POWER**  
CONSUMES 3 PERCENT OF ENERGY, GENERATES 1 PERCENT OF GREENHOUSE GASES

**SAVE AT WORK**  
CONSUMES 1 PERCENT OF ENERGY, GENERATES 1 PERCENT OF GREENHOUSE GASES

**Doesn't RUN on AIR... But Helps Keep It CLEAN!**

CONSUMES 1 PERCENT OF ENERGY, GENERATES 1 PERCENT OF GREENHOUSE GASES

# Beyond Convention

**SITE PLAN:** Built on the former site of Union Station, the Columbus Convention Center is located adjacent to Ohio Center, an arena, hotel, and shopping mall complex to the south; low-rise commercial structures to the west; and highways.

**FACING PAGE, TOP:** Segmented roof, colored in shades that allude to metals of telecommunication cables, forms building's fifth facade, visible from high rises and airplanes.

**FACING PAGE, BOTTOM LEFT:** Roofscape echoes surrounding highways and 19th-century buildings to west.

**FACING PAGE, BOTTOM RIGHT:** Loading docks at the rear of the site are expressed as bays extending from roof.

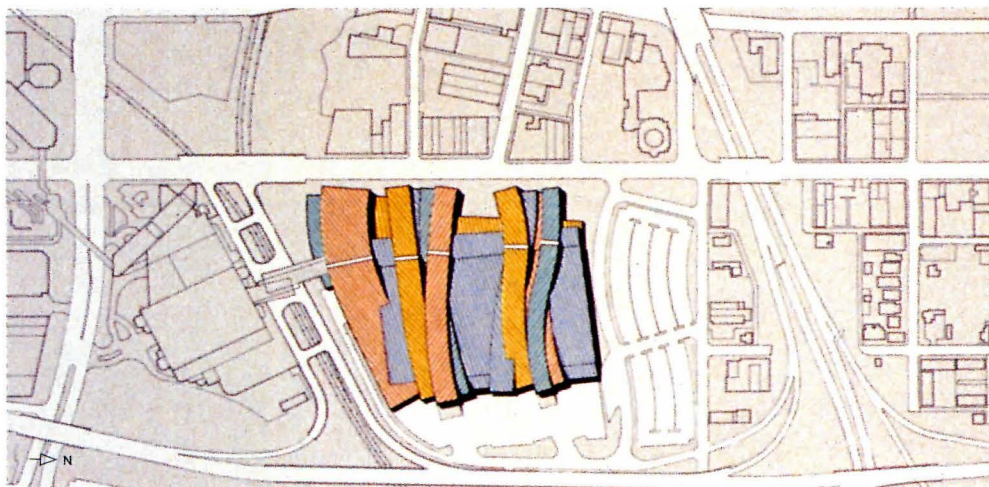
A decade ago, Ohio State University staged a national competition for the Wexner Center for the Arts and the resulting building by New York architect Peter Eisenman and the local firm of Richard Trott and Partners (pages 90-91, this issue) single-handedly put the Big Ten college campus on the international culture map.

Columbus city officials, no doubt pleased by the notice the building generated in national magazines and newspapers, and television shows, decided in 1988 to hold a competition for the long-planned Greater Columbus Convention Center, to be built on a site several miles away from the Wexner Center, at the opposite end of High Street. Sponsors defended the competition for the convention center by asserting it would not produce a plain building. In its Midwestern flatness, Columbus has few postcard features, and the city sought to cultivate a high-profile, man-made cultural landscape. Columbus was an Avis among cities, trying harder.

Michael Graves, Peter Eisenman, and Holt Hinshaw Pfau Jones, along with their associate architects, submitted proposals for a competition funded by Leslie Wexner, chairman and CEO of Columbus-based The Limited. Eisenman won with a departure from

his grid-based buildings. He had been reading the work of French social critic Jean Baudrillard, who maintains that America is an environment of movement made possible by its sinuous highways and transportation systems. Noting that the site of the convention center had formerly been occupied by a train station, Eisenman pointed out that Columbus, in the age of information, was very much on-line with fiber-optic cables, vast highways for flows of information. For Eisenman, the railroad tracks, highways, and cables all converged as contemporary symbols to inspire a building composed of long fingers twisting their way between the truck docks at the back of the site and the front doors along High Street. The rumor also circulated that the design's inspiration came from a lunch with Philip Johnson, who—twirling a forkfull of linguini—challenged Eisenman to create a noodle building.

In coincidental but important ways, the newly completed Columbus Convention Center recalls the grandly arcaded Union Station, designed by Daniel Burnham, that once stood on the site. Classical architecture lacked a typology for train stations, and the parti that evolved in the 19th century dictated a shallow but wide Classicized structure situated at the head of cast-iron sheds. For







ARTO G. G. OLSHAVSKY





**ABOVE:** Center's anti-monumental facade along High Street matches height and diversity of 19th-century party-wall buildings across street. Bay widths correspond to traditional lots.

**LEFT:** Skylit transverse concourse, extending from bridge linking Ohio Center, slashes across roofscape.

**FACING PAGE, TOP:** Facades are articulated to suggest fenestration patterns of 19th-century buildings along High Street.

**FACING PAGE BOTTOM:** Glass facades with shifted window grids alternate with opaque facades surfaced in brick, precast concrete, and metal siding.

**WEST ELEVATION:** High Street facade registers convention center's movement and collisions. Glass expanses incorporate public entrances to seminar rooms, ballroom, and concourse.

**PLANS:** Center is organized around 5-acre exhibit hall surrounded by meeting rooms, service spaces, and ballroom at southwest corner (bottom right).

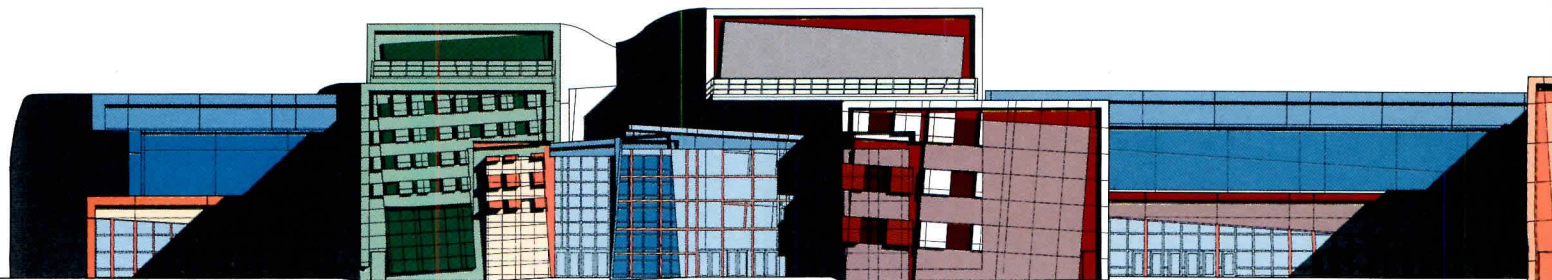
the convention center, Eisenman conceived a classic train station parti, with a 5-acre industrial shed for exhibits built behind a shallow, two-story building that stretches across the leading edge of the shed. Eisenman's design also conforms to the diagram recommended by convention center consultants for optimal organization, with break-out rooms programmed in the fingers at the front of the building, arrayed along a long, grand concourse that feeds into the adjacent exhibit hall. The partis for the train station and convention center are basically identical because the two building types function in the same way, gathering people at the front and distributing them to working sheds.

But Eisenman's building does not trumpet a conventional organization. It focuses on the unusual narthex along High Street, which is remarkable from an architectural point of view and is the building's most bankable section. The main hall, divided by columns placed 120 feet on center, is the bread-and-butter part of the design, whose efficiencies paid for the more complex frontispiece and allowed the whole building to be completed for \$105 per square foot.

For the Wexner Center, Eisenman based his design on two divergent 19th-century Columbus street grids that meet along High

Street, where survey teams working down from the north and up from the south converged. Eisenman allowed one grid to pass through the other, and his building grew from their misalignment.

At the convention center, Eisenman adopted the same approach, but rather than incorporating the city's two grids, he drew from the general massing of the derelict brick structures on High Street and conjured a broken facade of 19th-century buildings from which he extruded his own system of bays. From the rear, he extended imaginary curving highways, as if they had sent out shoots toward High Street. As at the Wexner Center, these two geometries overlap, but assume the form of three-dimensional structures rather than two-dimensional maps. At the Wexner Center, the two conflicting grids are kept separate and not averaged into a third composite grid, while at the convention center, Eisenman merged the 19th-century building shapes and the highway shapes: "We pushed the morphing button on the computer," he says. The convention center, which seems to start on High Street with an abstract version of a streetscape that trails back to the highways, mediates the otherwise impossible transition from 19th-century party-wall buildings to mid-20th-century



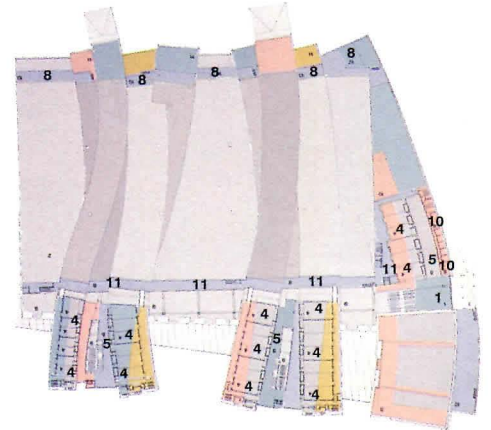
highways. The Columbus Convention Center is contextual, and it civilizes a postindustrial no-man's-land in an unexpected way.

Eisenman's morphed shapes, as though ratcheted from one position to another, register on the facades, in the body of the building, and in the roofscape, which forms the fifth elevation of the Columbus Convention Center—an expansive 21st-century facade visible from surrounding high rises and from airplanes. Interior walls and ceilings trace the progress of solids and voids coursing through the building, which register like multiple footsteps imprinted on a sandy beach, trace upon trace. Recording the dislocations of the bays as they were moved and rotated about their axes, the building implies a dynamic condition and the passage of time, destabilizing the monumentality that a building of this size and mission normally implies.

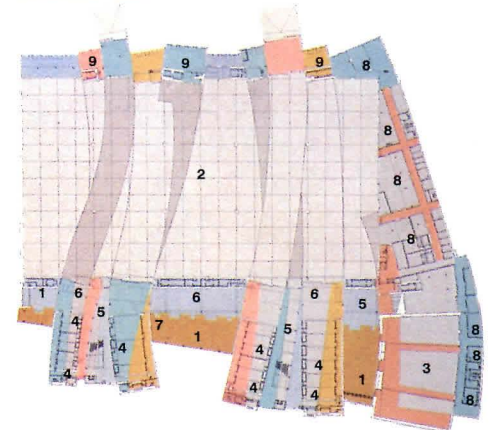
The facade along High Street graphically represents the genesis of the dislocations, while small patterns of squares allude to the fenestration in the brick facades across the street. Inside, the dislocations are graphically coded by subtle color changes, but they are also spatial, pressed into surfaces. The narthex, which is really the glory and pith of the building, keeps the convention center as a whole from being merely a decorated shed.

The drama of the Columbus Convention Center derives from the way its "finger bays" are extruded through the building—how they converge and diverge, creating moments of focused intensity along with much more relaxed areas. The spaces and forms are so agitated and diverse that even the long concourse from the north side of the building to the south—basically a straight-shot corridor—constitutes a fascinating promenade of spatial discovery. The two halls located between the four service bays are especially charged, with long, curved walls sweeping back behind tilted columns. The sweeping walls force the perspective, bending the line of sight, and the space speeds up, as though zooming front to back. Patterns of fluorescent lighting reinforce the effect.

Eisenman, the most cerebral of architects, engages the visitor through the gut with listing walls and complex intersections. Reactions to these disorienting elements have been so strong that some optical illusions have caused visitors to leave seminar rooms. Adjustments have been made—especially to some walls gridded at the angle of the Titanic in her final hours. The architecture does not simply depict the graphics of turbulence as a sign or symbol, but fosters the experience by inducing an empathic response.

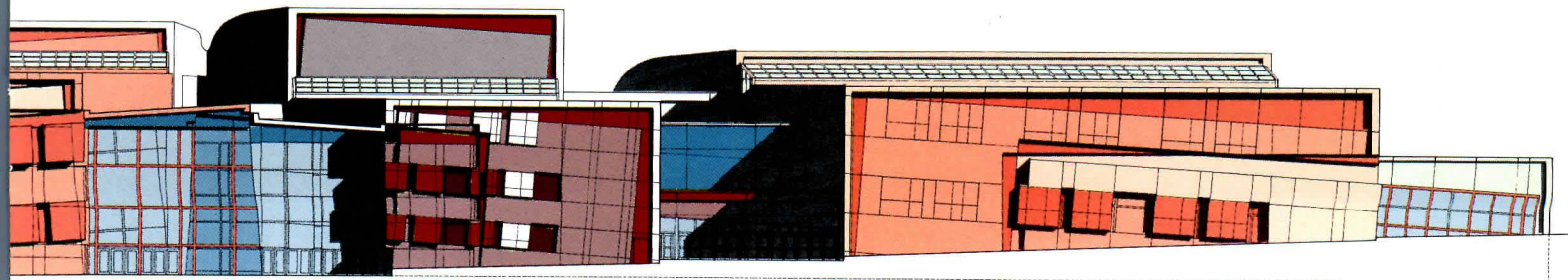


MEZZANINE PLAN



GROUND FLOOR PLAN

- |                     |                      |
|---------------------|----------------------|
| 1 ENTRANCE          | 7 CAFETERIA          |
| 2 EXHIBITION HALL   | 8 STORAGE/MECHANICAL |
| 3 BALLROOM          | 9 LOADING DOCK       |
| 4 MEETING ROOM      | 10 OFFICE            |
| 5 PREFUNCTION SPACE | 11 SERVICE CORRIDOR  |
| 6 CONCOURSE         |                      |







**ABOVE:** Two-story prefunction area leads to meeting rooms. Tilted columns and shifted ceiling planes suggest movement.

**LEFT:** Balconies are layered to record design genesis of building.

**FAR LEFT:** Beams are detailed to express shearing action and discontinuities.

**FACING PAGE, TOP:** Angled walls force perspective in prefunction area already disturbed by tilted columns and beams.

**FACING PAGE, BOTTOM LEFT AND RIGHT:** Lighting, diffusers, and ceiling reinforce sensation of movement and dislocation.

**FACING PAGE, TOP:** West wall of exhibit hall is divided into angled bays, continuing building's segmented geometries.

**FACING PAGE, BOTTOM LEFT:** View of lobby leading to ballroom reveals gridded carpet and ceiling soffits.

**FACING PAGE, BOTTOM RIGHT:** Ballroom with sloping walls and ceiling creates disorienting sensation of rising floor.

Turbulent space is hardly new; Baroque architects also mastered spatial drama. But Baroque space orders up to a hierarchy that controls the turbulence, confining movement to ordering frames: The experience stays visual and never becomes somatic. In the convention center, Eisenman masks the ordering frames of structure and organization through the apparent disorder of a locomoted building with ratcheting spaces, which prevents structure and layout from unifying the building into a single entity. The narthex is too complex to be perceived as a totality either inside or out, and though clear in its basic organization, it is really experienced episodically. The interior offers the accidental and incidental spatial variety of any hillside village in the Mediterranean, without its imagery or sentimentality, and the street front has the richness and comfortable scale of the American Main Streets that inspired it.

In a number of places, the intentions of the architect were overruled: Eisenman wanted to weave the convolutions of the roof more deeply into the great exhibition hall, and he had hoped to clad the flowing surfaces that were to wrap and unify the sides and roof in metals—copper, lead, bronze—that would reinforce the notion of transmission cables. He had to settle for a design-neutral-

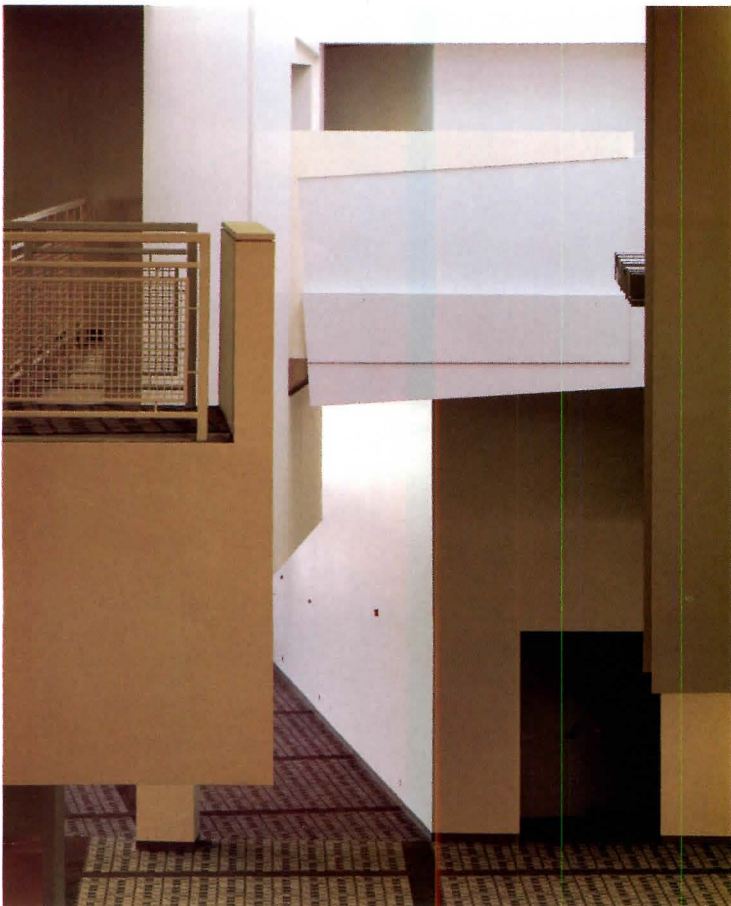
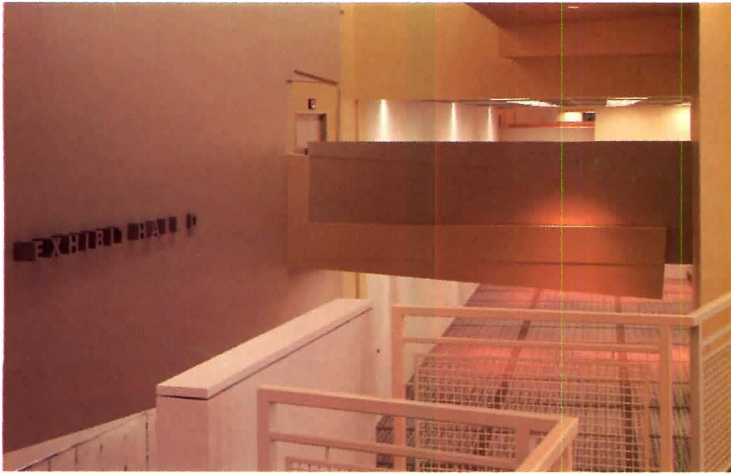
ized wall and standard-issue finishes and paints that only faintly recall metals. The brick, precast concrete, and metal siding on the front facade also have a disappointing materiality—neither strong nor abstract, but somewhat anemic and without spatial powers. Though hardly material, the sheetrock interior better conveys the ideas that drive this building.

Despite these drawbacks, the convention center is astounding for the ways its complexity and ambition have broken out of the architect's atelier—and out of the ghettos of protected cultural and academic institutions—into a public arena. The building at the level of the parti, and in the pay-off exhibition space, is similar to other convention centers and therefore may not be as “unconventional” as advertised. But if the Columbus Convention Center does not deliver metaphysical dislocations by displacing such centrisms as efficiency and optimization—as Eisenman's discourses have led us to expect—it does convey physical ones and restores architecture to a level of experience that is thrilling. It is the rare building that achieves such intensity.

—Joseph Giovanni

*Joseph Giovanni is a writer and practicing architect based in New York City.*





**GREATER COLUMBUS CONVENTION CENTER  
COLUMBUS, OHIO**

**CLIENT:** Franklin County Convention Facilities Authority—Claire Sawaya Hazucha (executive director)

**CLIENT REPRESENTATIVE:** The Galbreath Company

**ARCHITECTS:** Eisenman Architects, New York City; Richard Trott and Partners Architects, Columbus—Peter Eisenman, Richard Trott, Jean Gordon (principals-in-charge); Richard Rosson, Michael Burkey (associate principals-in-charge); Tracy Aronoff, Philip Babb, Thomas Ingledue (project managers); Mark Wamble, Jerome Scott, Thomas Leaser (project architects); Madison Spenser, Richard Labonte, Kathleen Meyer, Dean Maltz, David Trautman, Lewis Jacobsen, Joe Walter, Nuno Mateus (project team, Eisenman Architects); Jerry Kehlmeier, David Goth, Lu Schubert, Kristina Ennis, Tim Decker, John Meehan, Dave Reltenwald, Blaide Lewis, James Dean, George Van Neil, Carol Hummel, Chun Shin, Karen McCoy, Al Brook (project team, Richard Trott and Partners Architects); Yvhang Kong, John Durschinger, John Curran, Chiara Scortecci, Ilkka Tarkkanen, Jon Malis, Andres Viditz-Ward, Giovanni Rivolta, Francesca Acerboni, Jason Winstanley, John Jury, Daniel Perez, Andres Blanco (project assistants, Eisenman Architects)

**ENGINEERS:** Lorenz & Williams (structural/mechanical/electrical); Moody/Nolan (civil)

**CONSULTANTS:** Oregon Group Architects (codes); Simpson, Gumperts & Heger (roofing); Mayer/Reed (graphic design); Jules Fisher & Paul Marantz (lighting); Jaffe Acoustics (acoustics)

**CONSTRUCTION MANAGER:** Turner/Smoot/Zunt

**COST:** Withheld at owner's request

**PHOTOGRAPHER:** Jeff Goldberg/Esto, except as noted

**LEFT, TOP AND BOTTOM:** Balconies and bridges extend from second story of prefunction areas across concourse.

**FACING PAGE:** Two-story concourse, extending from north entrance to south end of building, is color coded to visually separate its parts. Daylight through skylights sculpts sectional changes in ceiling.

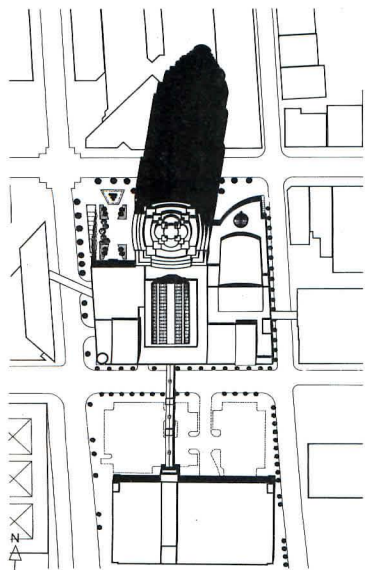




← Meeting Rooms  
C110-C226

↑ Area  
D  
North Parking

# New South, New Square



**SITE PLAN:** NationsBank tower and Blumenthal Performing Arts Center form multi-use complex located at historic crossing of Tryon and Trade streets. Complex is connected by a bridge to a new parking garage located to the south.

**BOTTOM LEFT:** The 60-story bank tower, 870 feet tall, rises high above "uptown" Charlotte's urban landmarks.

**BOTTOM RIGHT:** View from south shows city's compact urban core, with contemporary office buildings situated along the Tryon Street corridor.

**FACING PAGE:** Cesar Pelli & Associates' slender tower is positioned to north of glass-roofed Founders Hall.

Over the past 20 years, Charlotte, North Carolina, has rapidly ascended from a trucking capital to the financial center of the New South. But one quality of the burgeoning city has remained constant: the importance of the Square. Unlike civic spaces in most American cities and towns, however, the Square in Charlotte is not a green space, but an intersection of two prominent streets, Tryon and Trade, that forms the spiritual heart of the city and was once a crossing point for two Indian trails.

High-rise offices on three corners of the intersection pull back from the corner or incorporate small plazas that bear little resemblance to one another. Unlike these precedents, the new NationsBank complex on the southeast corner, designed by Cesar Pelli & Associates, accepts the historic crossing and its intensive pedestrian activity. To complicate matters, the original scheme comprised the bank tower, a hotel (later scrapped), and a performing arts center—each begging for a corner address.

Pelli's solution was to create a new public space in the heart of the block and funnel people toward it across a landscaped plaza from the southeast corner of Tryon and Trade. Once inside the glass-enclosed courtyard, dubbed Founders Hall, the bank tower and performing arts center are easily reached. Shops, restaurants, a theater ticket office, and an executive health club surround the marble-paved atrium, injecting activity into the site and providing a backdrop for performances and receptions. Adding the stores and restau-

rants was Pelli's idea, but the bustle they generate fits easily into NationsBank President Hugh McColl's vision for the bank as a stimulus for "uptown" Charlotte.

The bank headquarters is the centerpiece of the project and the city's dynamic new symbol. Sixty stories tall and 1.2 million-square-foot large, it easily dwarfs the surrounding office buildings in Charlotte's core. The tower's solid, Sullivanesque base is clad in dark granite, with glass doors set behind columns of green Vermont marble. From this heavy base, four gracefully bowed facades spring skyward into a slender tower with detailed, light-granite piers that accentuate its verticality. Notches cut from the corners of the shaft lead to setbacks at the top that culminate in a tiered forest of anodized aluminum rods. Unlike many building tops that seem arbitrarily plopped on a shaft, this crown seems to grow out of the lower stories' rhythmic piers.

Pelli carried the grand scale of the tower through to the bank's lobby, which exudes a sense of civic grandeur while stopping short of ostentation. From the lobby, one can proceed to Founders Hall, which also can be entered directly from the plaza. More architectural than the typical suburban mall, less contrived than the festival marketplace, Founders Hall was designed to catalyze street life. At its south end, a circular platform provides a permanent stage for concerts, with built-in spotlights and sound equipment. Beefy columns clearly define the shoebox form of the space while shouldering the load of arching trusses







that support the soaring glass roof. The hall exudes the character of an indoor park, reminiscent of Pelli's expansive winter garden at Battery Park City in New York.

The North Carolina Blumenthal Performing Arts Center, an ambitious theater complex to the east of Founders Hall, elevates the program for this site and testifies to Pelli's sectional skills. The architect wove two theaters, a rehearsal hall, lobbies, dressing rooms, and other back-of-the-house functions into the narrow, 46,000-square-foot site by staggering and stacking the spaces. At street level, top billing is given to the 2,100-seat Belk Theater, whose lobby adorns Tryon Street with a lively curved glass-and-steel facade that upstages the somber bank exterior. The more utilitarian Booth Playhouse, a 450-seat theater, is positioned on the balcony level of Founders Hall. While its lobby is easy to reach, its location seems just as likely to confuse first-time visitors. Indeed, if there is a weakness to Pelli's scheme, it is an incomplete resolution of the site's complex web of circulation. The roots of that complexity are many: a building site that slopes the height of an entire floor from front to rear; the need to stack the elements of the performing arts center; and the undeniable precedent of a second-story skywalk system that provides a kind of tunnel system to interconnect downtown buildings.

Although Pelli deftly tucked a smorgasbord of program elements onto the site, the multitude of theater and tower entrances, circuitous walkways, and changing levels steps

over the boundary between richness of experience and loss of control. In addition, an awkward competition exists between the delightful plaza on the Square and the light-filled Founders Hall. Ideally, the plaza should perform a secondary role and let the atrium play the lead, and in functional terms, that may be the case. In a formal sense, however, they resemble each other too much.

From an urban perspective, these are minor drawbacks. The NationsBank complex is a phenomenal asset to Charlotte and a consummately responsible work of architecture. And, because it is a building for its citizens, the quirks of NationsBank will be quickly mastered by the city's natives. Furthermore, the complex is user-intensive, and all the service functions could have dealt a death blow to the exterior of the building. Fortunately, access to the service bays is through a single opening in the rear facade. Pelli's team also went to extraordinary lengths to articulate the facades of two building types—a retail mall and a theater—that too often result in monumental blemishes on the landscape.

In that sense, NationsBank, Founders Hall, and the Blumenthal Center are good neighbors to Charlotte. While local gadflies may bemoan that the city's historic center never received appropriate design expression, they may also be the first to acknowledge a proper urban Square has finally been created in Charlotte, thanks to the resolve of civic leaders and the vision of their architect.

—Vernon Mays

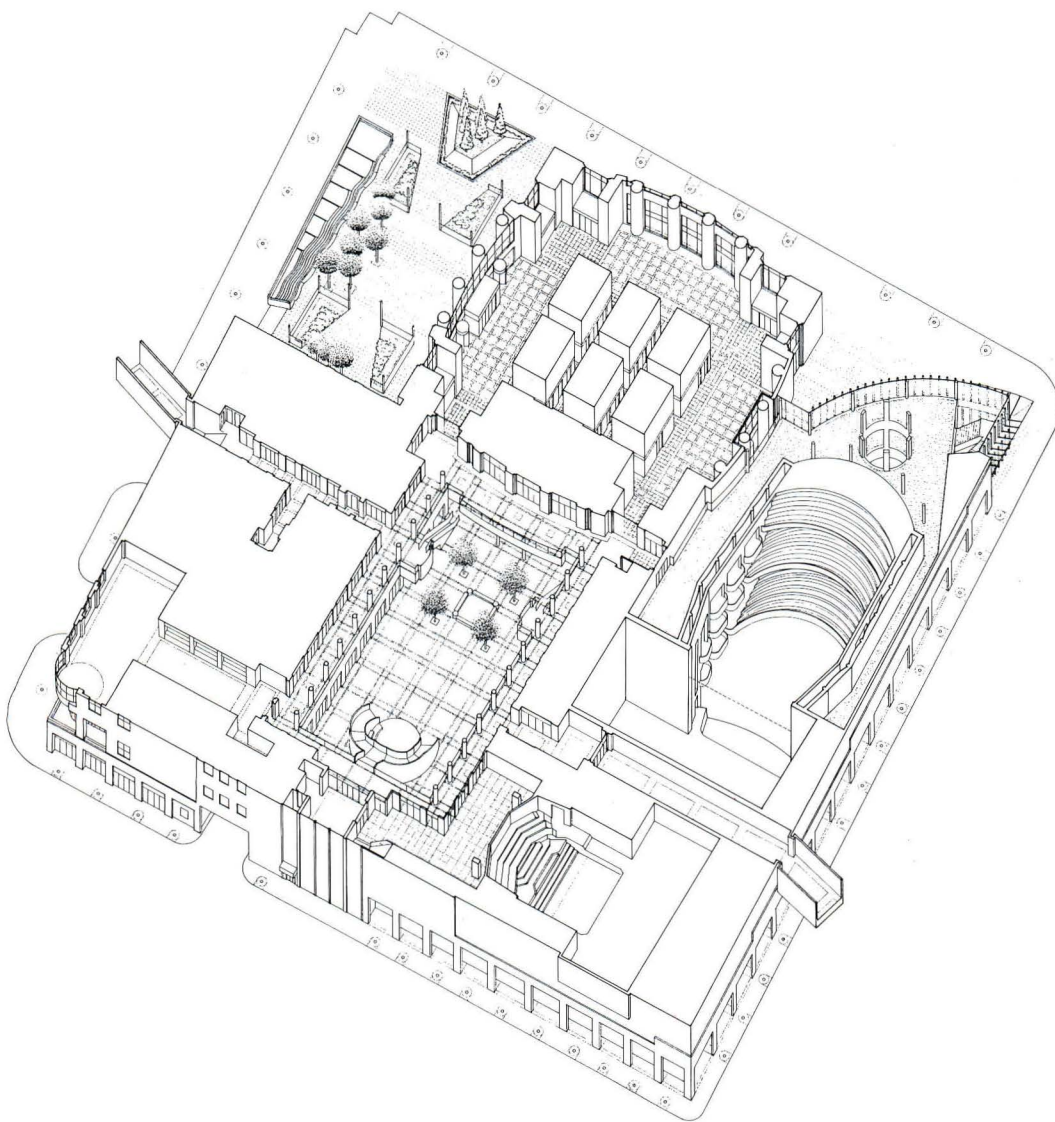
**FACING PAGE:** Pelli defined flyspace of theater with patterned brick. Idiosyncratic windows and banding of facades enliven south and east elevations.

**BOTTOM LEFT:** Rounded southwest corner of complex houses a plaza-level restaurant and a health club on the upper floors.

**BOTTOM RIGHT:** An undulating fountain wall borders the richly patterned plaza designed by Diana Balmori. Plaza leads directly into the bank lobby and Founders Hall to the southeast.







**FACING PAGE:** Grand proportions and thematic murals by painter Ben Long give bank lobby ambience of civic space. Ceiling was economically sculpted with curved, precast panels.

**AXONOMETRIC, LEFT:** Central tower lobby (top) leads to Founders Hall (bottom). Performing arts center is located to east with Belk Theater (top right) and Booth Playhouse (bottom right).

**BOTTOM LEFT:** Elevator lobbies are illuminated by patterned glass ceilings.

**BOTTOM RIGHT:** Light spills into Belk Theater lobby's rotunda.

**OVERLEAF:** Views of Founders Hall looking north in daytime and south at night reveal the changing character of steel-trussed enclosure.





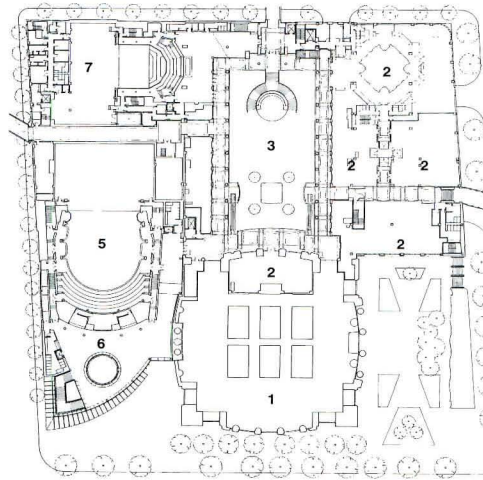




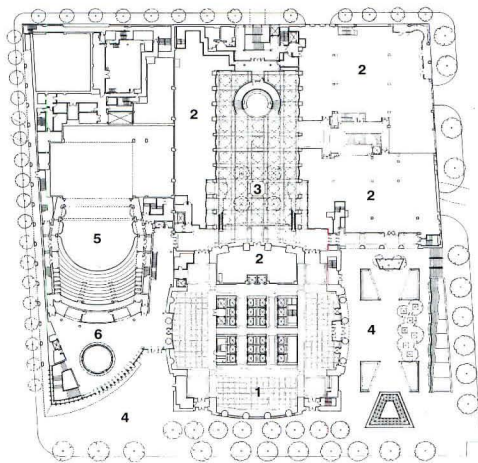
**BOTTOM LEFT:** Theater lighting and catwalks are exposed in the prosaic 450-seat Booth Playhouse, which is designed with removable seating to accommodate wide variations in the stage configuration.

**BOTTOM RIGHT:** Despite its 2,100-seat capacity, the Belk Theater has its own feeling of intimacy, achieved by narrow dimensions and cantilevered boxes.

**FACING PAGE:** Fiber-optic lights in Belk Theater dome produce subtle, almost hypnotic, play of colors. Diamond-patterned proscenium dresses up perforated metal panels.



SKYWALK LEVEL



PLAZA LEVEL

**NATIONS BANK CORPORATE CENTER AND  
BLUMENTHAL PERFORMING ARTS CENTER  
CHARLOTTE, NORTH CAROLINA**

**ARCHITECT:** Cesar Pelli & Associates, New Haven, Connecticut—Cesar Pelli (design principal); Fred Clarke (project principal and design collaborator); Mitchell Hirsch (design team leader, performing arts center); Turan Duda (design team leader, NationsBank); Keith Krolak (senior designer, performing arts center); Mihaly Turbucz, Margarita McGrath, Suzanne Franco Mitchell, Masa Ninomiya (design team, performing arts center); Paul Bormann, Barbara Endres, Julia Hawkinson, Christopher Hays, Masa Ninomiya, Roberto Espejo, Yann Poisson, John DaSilva (design team, NationsBank)

**ARCHITECT OF RECORD:** Middleton, McMillan Architects Inc., Charlotte, North Carolina (performing arts center); HKS, Dallas, Texas (NationsBank)

**ASSOCIATE ARCHITECT:** Morris Architects, Houston, Texas (performing arts center)

**LANDSCAPE ARCHITECT:** Balmori Associates

**ENGINEERS:** Walter P. Moore & Associates (structural); CHP & Associates (mechanical/electrical, performing arts center); BL&P Engineers (mechanical/electrical, NationsBank)

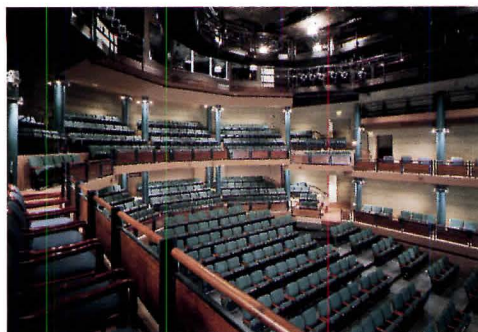
**CONSULTANTS:** Theatre Projects Consultants (theater/lighting, performing arts center); Kirkegaard & Associates (acoustics, performing arts center); Cline Bettridge Bernstein Lighting Design (lighting, NationsBank)

**GENERAL CONTRACTOR:** Beacon Construction Co. (performing arts center); McDevitt & Street (NationsBank)

**COST:** Withheld at owner's request

**PHOTOGRAPHER:** Timothy Hursley/The Arkansas Office

- |                     |                   |
|---------------------|-------------------|
| 1 TOWER LOBBY       | 5 BELK THEATER    |
| 2 RETAIL/RESTAURANT | 6 THEATER LOBBY   |
| 3 FOUNDERS HALL     | 7 BOOTH PLAYHOUSE |
| 4 PLAZA             |                   |





# Stage Presence



**ABOVE:** The Cerritos Center for the Performing Arts stands out as an architectural landmark in the city's flat and featureless context.

**FACING PAGE:** With its banners and colorful tilework, the center exudes the air of a Renaissance pavilion celebrating a permanent festival of the arts.

**H**L. Mencken's adage that Los Angeles is a clutch of suburbs in search of a center never really held true to the facts of the city's sprawl. No single center was ever meant to hold in Los Angeles, for this vast regional metropolis has always been a loose constellation of communities, each in search of its own particular center.

This decentralized character is particularly true of Cerritos, a prosperous community of 60,000 located 15 miles southwest of downtown Los Angeles. Situated in the midst of a patchwork of small cities straddling the border between Los Angeles and Orange counties, Cerritos has, in the past, been identified only by its huge Auto Square and regional shopping center off the San Gabriel River Freeway. Originally incorporated as Dairy Valley in 1956, this mixed community of Anglos, African-Americans, Latinos, and Asians has adopted a bold strategy in the creation of its own distinctive civic core. In January, the city inaugurated the \$60 million Cerritos Center for the Performing Arts, which forms the cornerstone of its 125-acre Town Centre development opposite City Hall, an ambitious \$225 million program that includes a newly completed hotel and office buildings.

Funding for the performing arts center was provided by the Cerritos Redevelopment Agency, raised mostly by tax-increment levies imposed on commercial development in the Town Centre. "Culture adds value to commerce," maintains former Mayor Diana Needham, whose administration originated the performing arts center in the mid-1980s. "As Cerritos matures into a real city with its own true heart, the arts will be a landmark in our coming of age."

To serve its diverse population, the community held a limited competition, won by Barton Myers Associates, to design a medium-size building with a flexible range of performance and event options, from symphony concerts, chamber music recitals, and Broadway musicals, to bluegrass jams, mud-wrestling, and the Miss Cerritos Pageant.

"We want to develop an audience where none presently exists," points out Victor Gotesman, the performing arts center's general manager. "And that means we have to appeal to every segment of our community."

The architectural context for the new performing arts center is decidedly mediocre. The central plaza of the Town Centre, on which the complex is located, is ringed by a concrete-clad hotel and glass-curtain-walled midrise office block of the kind that are legion in U.S. suburbs. "We felt that the architecture of the center had to be lively and dynamic, to create a focus in what is, in effect, a giant car park," Barton Myers explains.

Myers achieved those qualities through a building that has a strong yet graceful presence, featuring a composition of pyramidal roofs covered with lively tile patterns created by Los Angeles graphic artist April Greiman. The pyramids cascade down from a series of tall towers—theatrical fly towers and another tower housing mechanical plant and services—to roof lines just above pedestrian eye level. The effect breaks down the bulk of the center and gives the complex a human scale; the tiles have a geometric Mediterranean flavor that sharpens the building's silhouette in the hard Southern California light.

Below the pyramids, the center's exterior is finished in polished red granite relieved by horizontal bands of French limestone. The blank solidity of these surfaces is contrasted by the transparency of a pair of glazed stair towers. Together, the forms and finishes of the complex create a fine balance between accessibility and solemnity.

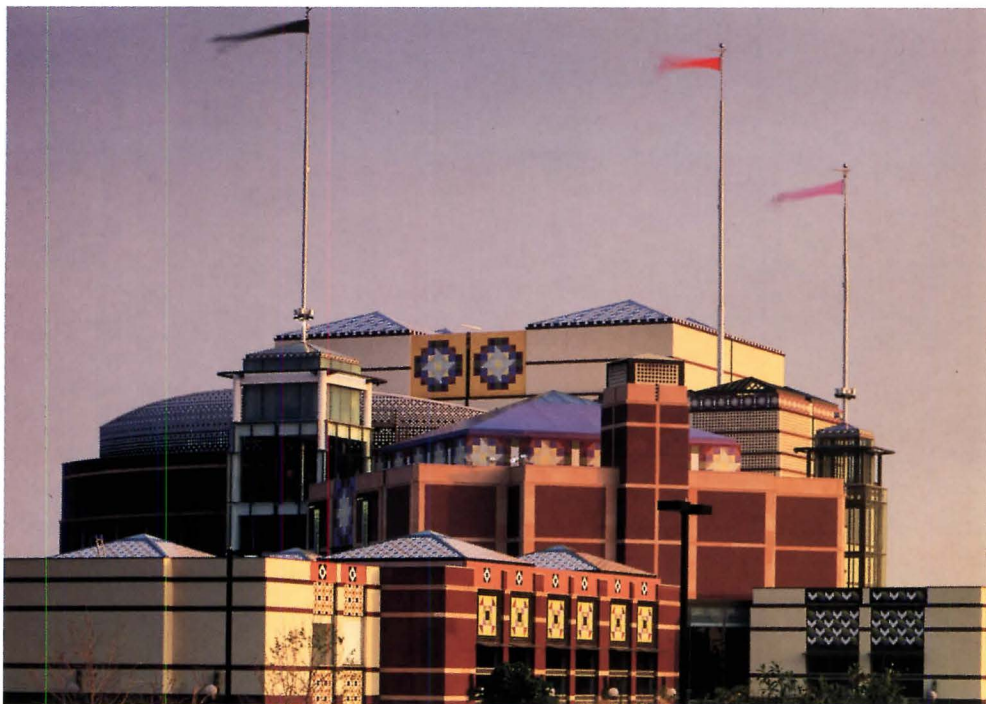
The center includes a 16,000-square-foot auditorium with dressing rooms, scenery storage, and loading bays, plus two community meeting rooms and offices. A large auditorium lobby, with adjoining entrance court, and a fancifully named "Poets' Garden" complete the complex.

Barton Myers designed the square, four-story lobby to evoke the atmosphere of a piazza brought indoors. Ringed by balconies



**RIGHT:** East elevation presents a composition of pyramidal roofs above a base of polished red granite articulated by bands of French limestone.

**BELOW:** Front entrance on west elevation is flanked by a glazed stair tower (left) and perforated concrete block tower (right), which screens mechanical plant and services.



and colonnades, it provides a spacious gathering place for theater and concert audiences. Windows on two sides fill the 70-foot-high space with light and link it to the glazed galleries that lead to the main auditorium. This grand public hall, complete with fireplace, focuses on a sweeping concrete staircase, which leads to the upper gallery levels.

The heart of the performing arts center, and its most innovative feature, is an 18,000-square-foot theater, designed to house almost every type of public performance. Five different configurations, varying from 972 to 1,894 seats, serve performances that range in size from intimate recitals to full-scale symphony concerts. The auditorium's arena and concert layouts focus on a raised central podium with movable, steel-framed seating towers lined up along the side walls. The lyric arrangement, intended for opera, large-scale musical shows, and theatrical dramas, provides a wide and deep proscenium stage at one end of the auditorium, under the 80-foot fly towers that house scenery and backdrops. In the recital mode, the towers along the back wall float forward to reduce the auditorium's size and create a sense of intimacy. In the cabaret mode, the auditorium's floor is leveled to accommodate dining tables and chairs, surrounded by seating boxes.

This system of movable towers and adjustable floors was developed by a British firm, Theatre Projects (ARCHITECTURE, August 1992, pages 95-102), that built its first highly flexible community auditorium in the English city of Derngate in 1984. Cerritos officials, who visited the project, were impressed by the system's essential simplicity and commissioned a study for their own facility.

Acoustically, the auditorium copes with its varying configurations by a system of movable elements devised by acoustician Larry Kirkegaard. Suspended within the main fly tower is a concert ceiling constructed of steel and laminated timber honeycomb panels that can be electrically rotated and hoisted to lie flat under the auditorium ceiling's system of

gridiron catwalks. In addition, retractable acoustic banners, curtains, and a movable free-standing orchestra shell can be manipulated to adjust the sound reverberations and direct them toward the audience. The result is inevitably uneven, given the wide range of acoustic conditions the auditorium must meet. *Los Angeles Times* music critic Martin Bernheimer, reviewing a concert by the St. Louis Symphony, wrote that, in the Cerritos auditorium, "Vibrancy is in plentiful supply. Melowness seems an endangered commodity."

The auditorium scores brilliantly, however, in its quality of lighting and in its subtle palette of colors and finishes. The architects have played down the cleverness of the mechanics in favor of an ambiance that recalls a delightful Italian Baroque *teatro comunale* with its boxes and balconies. The lighting design, a collaboration between Myers and Theatre Projects, provides an array of dimmable spots and chandeliers that can be raised or lowered to make the auditorium seem grand or intimate. The color palette, developed by Myers and Greiman, softens the towers with rich finishes of ash and cherry.

Moreover, the Cerritos Center for the Performing Arts is a prototype that can be duplicated in many communities. "The design demonstrates how a small town can afford to build and operate a multipurpose facility in scale with its capacities and aspirations," notes Myers, whose firm has designed a number of performance centers in the United States and Canada. In 1990, the firm won a national competition for the New Jersey Performing Arts Center in Newark, a larger and more conventional multipurpose concert and opera hall, now in design development.

Of these projects, the Cerritos Center for the Performing Arts is one of the most successful. Barton Myers Associates has given this small, Southern California city a building of great distinction, a civic focus whose sophistication is a model for raising the level of future architecture in the area.

—Leon Whiteson



WOLFGANG SIMON



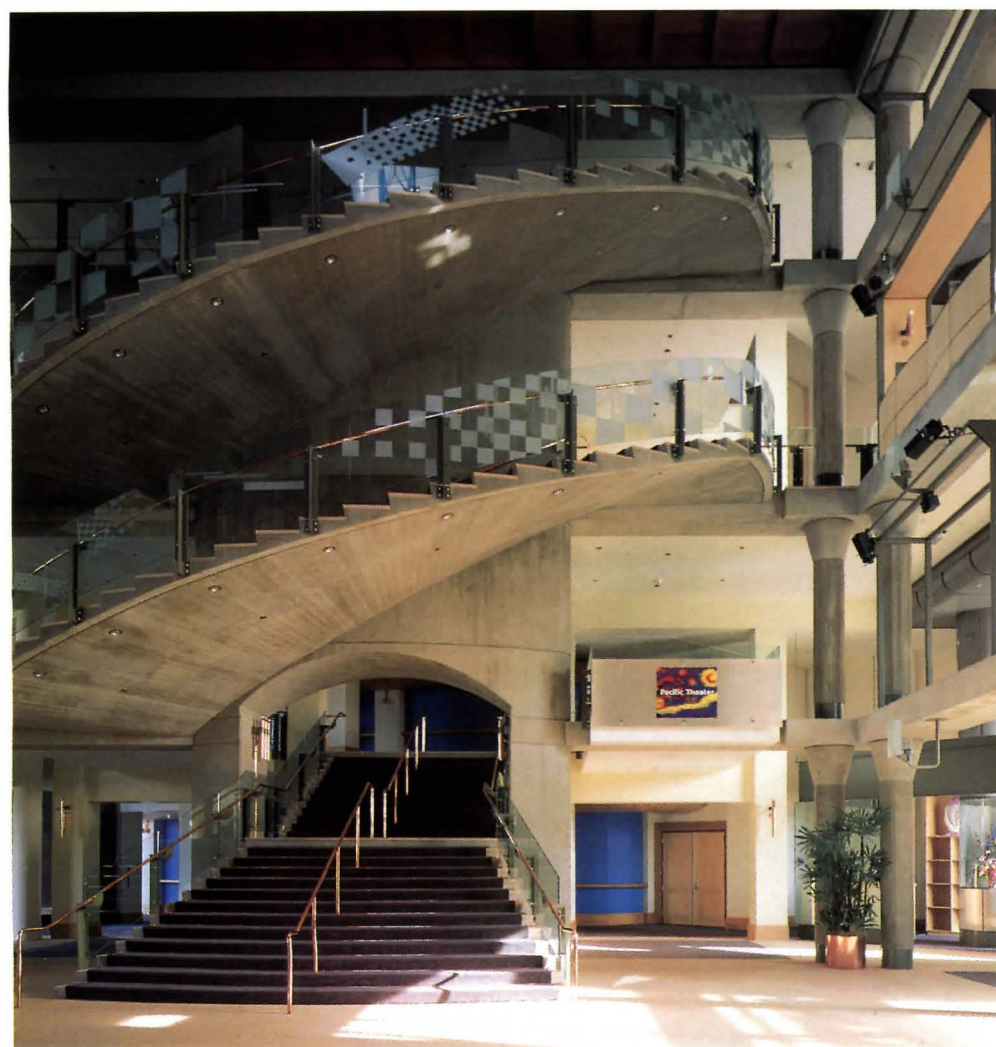
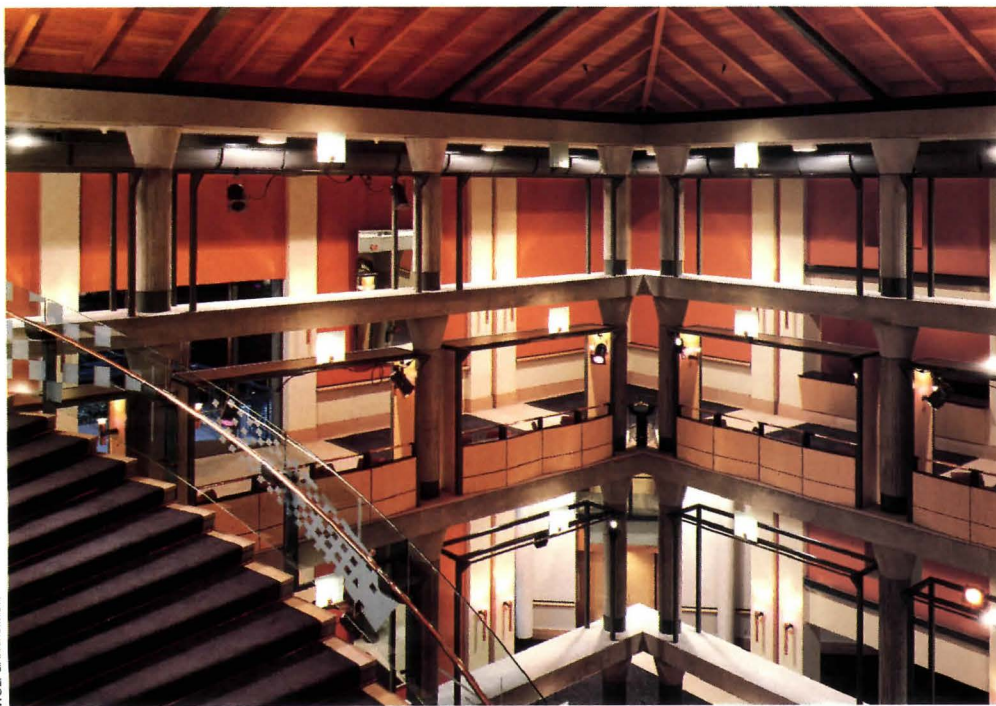
WOLFGANG SIMON

**TOP:** View from north reveals single-story block (left) housing meeting rooms and center's administrative offices, and auditorium (right).

**ABOVE:** View from south shows the 80-foot-high auditorium fly tower flanked by wing containing dressing rooms.





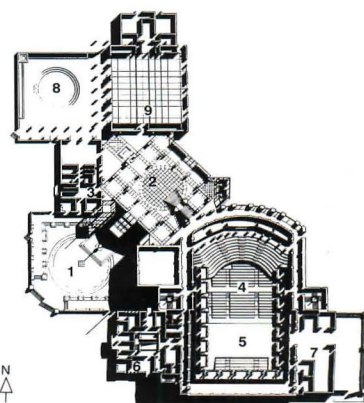


**FACING PAGE:** The 70-foot-high lobby resembles an outdoor piazza. Glass sculpture by James Carpenter decorates skylight. Concrete staircase links galleries leading to auditorium.

**TOP LEFT:** Close-up of upper balconies shows concrete columns, douglas fir ceiling, and copper handrails.

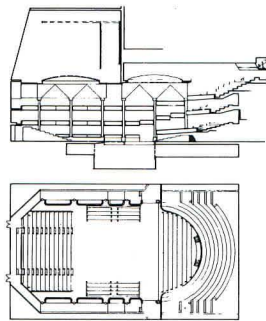
**BOTTOM LEFT:** Curved, Piranesi-like grand staircase is fashioned from poured-in-place concrete.

**PLAN:** Lobby joins auditorium and meeting rooms.



GROUND FLOOR

- 1 ENTRANCE COURT
- 2 LOBBY
- 3 OFFICE
- 4 AUDITORIUM
- 5 STAGE
- 6 DRESSING ROOM
- 7 SCENERY STORAGE
- 8 POETS' GARDEN
- 9 MEETING ROOM



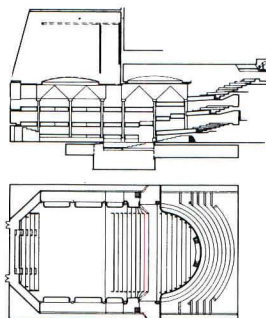
**ARENA:** 1,894 seats



WOLFGANG SIMON

**RIGHT, TOP TO BOTTOM:** Auditorium's three-story seating towers move on air-powered casters to form five different performance configurations. Seating at rear of stage can be pulled forward; horizontal lifts hydraulically raise and lower sections of the floor.

**FACING PAGE:** Seating towers are outfitted with candlelike copper fixtures with dichroic lenses to cast warm light on cherry and ash woodwork.



**CONCERT:** 1,818 seats



**CERRITOS CENTER FOR THE PERFORMING ARTS  
CERRITOS, CALIFORNIA**

**ARCHITECT:** Barton Myers Associates, Los Angeles, California—Barton Myers (design principal); Jonathan B. Hankin (associate-in-charge, management); Craig Webb (associate-in-charge, design); Sita Torres (associate-in-charge, contract documents); Stephen Hamilton, Patrick Winters (construction coordinators); Brian Aamoth, Barry Chusid, Kevin Duma, Craig Dykers, Wendell Galt, Laura Gardner, David Kim, Don Mills, Michael Murdock, Michael Sant (design team)

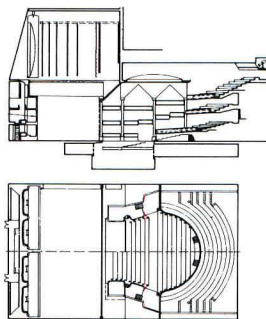
**LANDSCAPE ARCHITECT:** Burton & Spitz  
**ENGINEER:** Ove Arup & Partners, Los Angeles, California

**CONSULTANTS:** Theatre Projects Consultants (theater/lighting design); R. Lawrence Kirkegaard & Associates (acoustics); April Greiman, Inc. (graphics/interiors/tile design); Vermulens (cost)

**GENERAL CONTRACTOR:** Continental Heller Corporation

**COST:** \$60 million

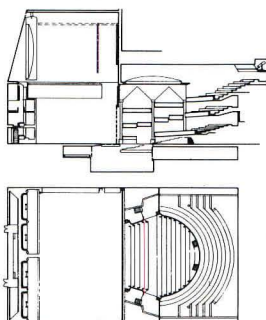
**PHOTOGRAPHER:** Tim Street-Porter, except as noted



**LYRIC:** 1,494 seats



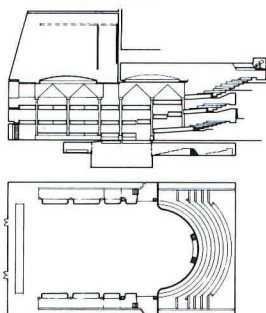
WOLFGANG SIMON



**DRAMA:** 972 seats



WOLFGANG SIMON




**CABARET:** 1,472 seats



WOLFGANG SIMON





**“Architecture, of  
all the arts, is  
the one which acts  
the most slowly,  
but the most surely,  
on the soul.”**

—Ernest Dimnet

And of all architecture, a home

evokes the very deepest emotion—we live not aside it, nor near it, but inside it. A home contains and shelters those people and objects that define our lives and bring us meaning. It becomes part of us. For the architect who designs each house with heart and soul, there is Grand Manor Shingle® from CertainTeed.

A Grand Manor roof creates instant

intrigue and makes a classic, elegant statement on virtually any upscale home. The natural appearance of slate and wood is created from triple-stepped laminations and an exclusive *Super Shingle*® design\* using two full-size, one-piece base shingles over an 8-inch weather tab. Once applied, Grand Manor becomes a

brehtaking five-layer roof.

A durable one, too. *Super Shingle* construction and premium-grade materials mean your client's roof is long lasting. In fact, Grand Manor has a lifetime limited transferable warranty (see warranty for specific details and limitations), plus extra protection in the early years following application when manufacturing defects, however rare, tend to appear. SureStart™ 10

guarantees 100% replacement cost for labor and materials, including tear-off and disposal costs incurred during the first ten years following installation.

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# Celebrating Pluralism



*This year, the AIA honors diverse projects that fulfill an urban or social agenda.*

The diversity of this year's AIA Honor Awards counters the elitist bent of last year's awards, most of which honored houses and institutions of the rich and famous. This year, the jury made no such errors of omission. "We set a new high-water mark for pluralism," avers juror Kent Hubbell, chairman of the architecture school at Cornell. Certainly a more conciliatory temperament prevailed upon the selection process, a welcome reprieve from 1992's acrimonious debate.

In addition to Hubbell, the jurors included chairman William Pedersen of New York-based Kohn Pedersen Fox; Jhennifer Amundson, graduate student of architectural history at the University of Illinois, Urbana; Carol Ross Barney of the Chicago firm Ross Barney Jankowski; Norma Burns, principal of Burnstudio Architects in Raleigh, North Carolina; Sam Davis of the Berkeley, California-based Davis & Joyce Architects; Cynthia Enzer-Radecki, an intern with Albert Kahn Associates in Detroit; New Orleans-based urban designer Grover Mouton; and Peter Walker, a San Francisco-based landscape architect.

The AIA invented new criteria to ensure a more inclusive set of winners, including two broad categories and four nebulous subcategories, with such peculiar titles as Societal Advancement and Environmental Advancement. "We struggled with the new criteria," says Carol Ross Barney, echoing the comments of other perplexed jurors. "They spurred conversation more than anything else." William Pedersen was more convinced of their utility: "The

new categories helped focus our evaluations on issues of broader significance than architectural form." As a result, the winning projects fulfill an urban or social agenda, despite low budgets and leery review boards.

The jury honored 18 projects, nearly twice as many as last year. Four are residential, housing a microcosm of the American populace. At one end of the spectrum is a 6,500-square-foot house designed by Steven Holl for a wealthy Dallas couple; at the other is 202 Island Inn, a single-room-occupancy hotel designed by Rob Wellington Quigley.

Another residential winner is Langham Court, a mixed-income housing project by Goody, Clancy & Associates for the troubled South End of Boston, which, after six years of torturous bureaucracy, culminated in a seamless intervention. Amidst the genteel setting of Colton, California, Valerio-Associates transcended drab senior-citizens housing with a complex that skillfully balances the demands of community and privacy.

Two schools enthralled the jurors, most of whom understand the tenaciousness required to design a good one. In Douglasville, Georgia, Lord, Aeck & Sargent renovated and expanded the Mt. Carmel Elementary School, where the boundless energy of both the children and the school board rivals that of the architecture. Up in the Bronx, Voorsanger & Associates took on urban blight in its design for Hostos Community College/Allied Health Complex, where airy, light-filled rooms form an oasis within the gritty neighborhood.



In addition to Hostos Community College; five other large-scale award winners unify or revitalize fragmented urban contexts. Of these, Peter Eisenman's Wexner Center in Columbus exploits tension and dissonance within the existing context to generate a controversial building for displaying experimental art. Notes Barney, "For all the hype, the Wexner Center is well crafted and used." In the Atlanta suburb of Buckhead, Scogin Elam and Bray's design for a library also sparks reactions, mostly by those who have only seen it in photographs. According to Norma Burns, a visit to the building silences any objection on esthetic grounds: "What seem to be discordant elements are generated by the suburban strip that surrounds it."

Across the Atlantic in Paris, at the edge of the Seine, Richard Meier refines his own elegant vocabulary with a new headquarters for Canal+ that suits the French aversion to traditional forms and signals recovery for an ailing neighborhood. Harry Wolf's design for the regional headquarters of NationsBank in Tampa achieves a similar impact, but on a larger scale. The riverfront cylindrical tower defers to the lush public garden that surrounds it. In Chicago, the Morton International Building by Perkins & Will inflects toward a riverfront park, but with more technical bravura: Trusses suspend the first 12 stories over highly traveled railroad tracks.

While impressed with the capacity of several winners to invigorate the most depressed surroundings, the jury recognized projects that

contribute to an existing legacy by the integration of a large-scale project into an historic setting or by the restoration of an esteemed landmark. Kallmann McKinnell & Wood's design for Boston's Hynes Convention Center manages to mediate between the residential scale of Back Bay and that of a public building vast enough to accommodate throngs of visitors. In Manhattan, James Stewart Polshek and Partners, undaunted by the bureaucracy of the New York City Landmarks Preservation Commission, seamlessly incorporated the Seaman's Church Institute into the South Street Seaport historic district; from the balcony, the building seems ready to set sail. As for the nationwide obsession with convenient parking, Boston-based Machado and Silvetti's ethereal, bronze-latticed parking deck for Princeton University demonstrates, at last, how to design a garage worthy of fanfare.

The jury recognized a pair of outstanding restorations this year, both august masonry legacies. Venturi, Scott Brown and Associates was lauded for its dramatic transformation of the 105-year-old Furness Library at the University of Pennsylvania. The other award went to Chicago-based McClier for the restoration of Daniel Burnham's Rookery of 1888, where the architect grappled with changes made to the original building by Frank Lloyd Wright and William Drummond. Such honors are hard for jurors to choose: "It is difficult to know whether you are admiring the work of the original architect or the interpretation of the restoration architect," explains

Barney. Given the fine line, most of the jurors advocate conducting a separate awards program for preservation projects.

The two remaining honor awards invigorate the spirit. Deep in the woods of Ashford, Connecticut, the Hole-in-the-Wall Gang Camp was designed by Hammond Beeby and Babka as a frontier settlement; the 300-acre grounds indulge the fantasies of terminally ill children with a complex of buildings that recalls the set of *Butch Cassidy and the Sundance Kid*. In the more rugged woods of Bainbridge Island, Washington, the exquisitely crafted Virginia Merrill Bloedel Education Center, by James Cutler Architects, serves as a memorial to the owner's late wife, an occasional residence, and a semipublic arboretum reserve. Those jurors who visited the site fully understand the restorative power of Cutler's design.

According to Burns, mere esthetics seduced no one; at least two jurors visited every one of the projects to see what flaws professional photography manages to obscure. "All too often, architects celebrate what amounts to a pretty picture," notes Burns. "That offends those of us who practice in the real world." For her, the awards reflect "the best esthetic inclinations and the best social realizations of the profession." Adds juror Enzer-Radecki, "This year the awards reflect what is *really* going on in the profession."

—M. Lindsay Bierman

M.L. Bierman is editor of *Modulus*, the University of Virginia School of Architecture review.

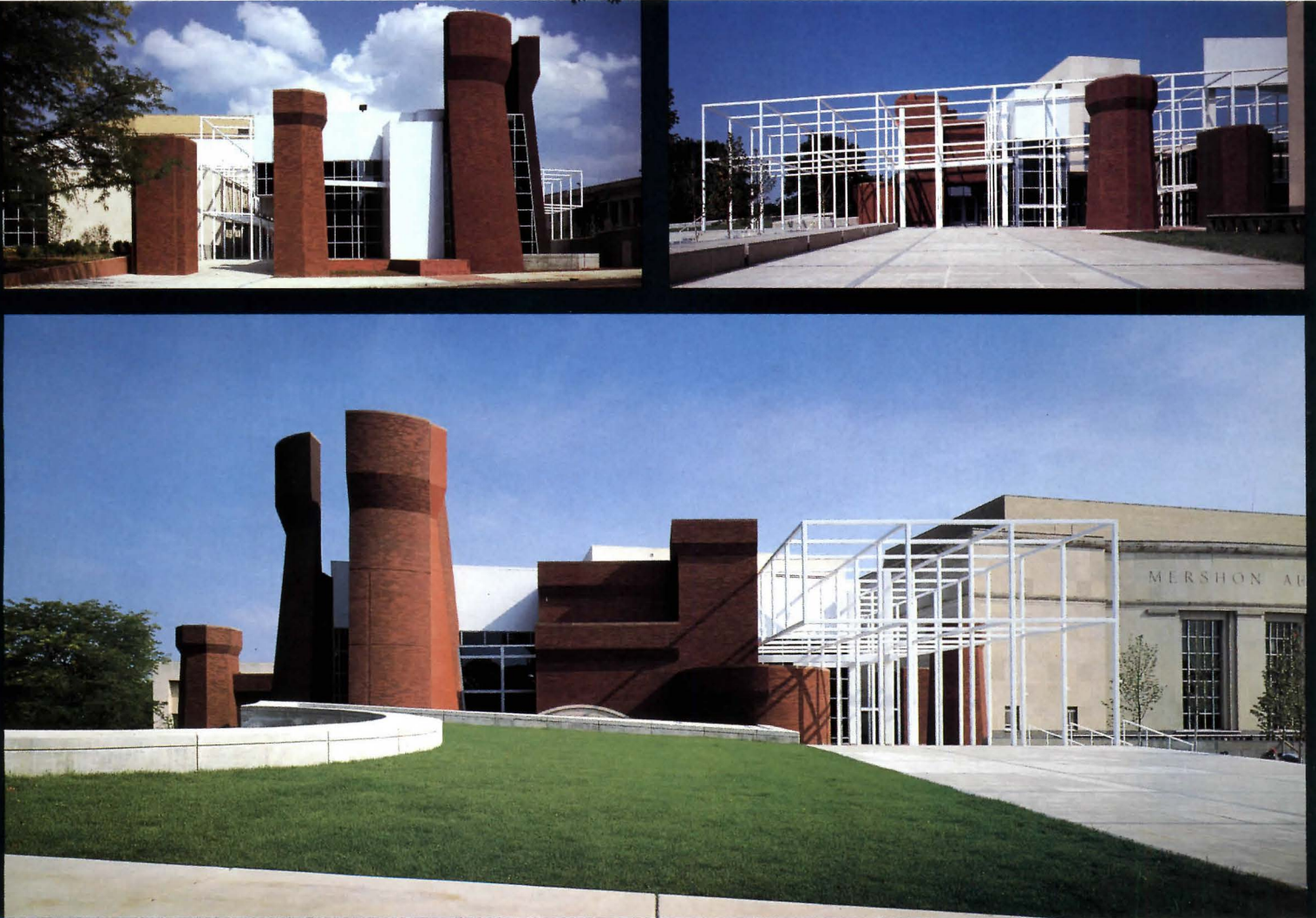
**Wexner Center for the Arts  
Columbus, Ohio  
Eisenman Architects**

The Ohio State University invested in the Wexner Center as an intellectual counterpoint to the football stadium. Scaffolding predominates the building because Eisenman intended it to constantly change. We can amend the spaces as we go along. The building will always invoke tension among the artists because the design is so powerful. But if the artists have a difficult time with the architecture itself and physical strength of the space, it forces them to reconsider what they might be doing here. It also forces us, as a staff, to take the journey with the artists. We have become Disneyland, for all intents and purposes, in Columbus, Ohio.

*Bill Cook  
Acting Director  
Wexner Center for the Arts*





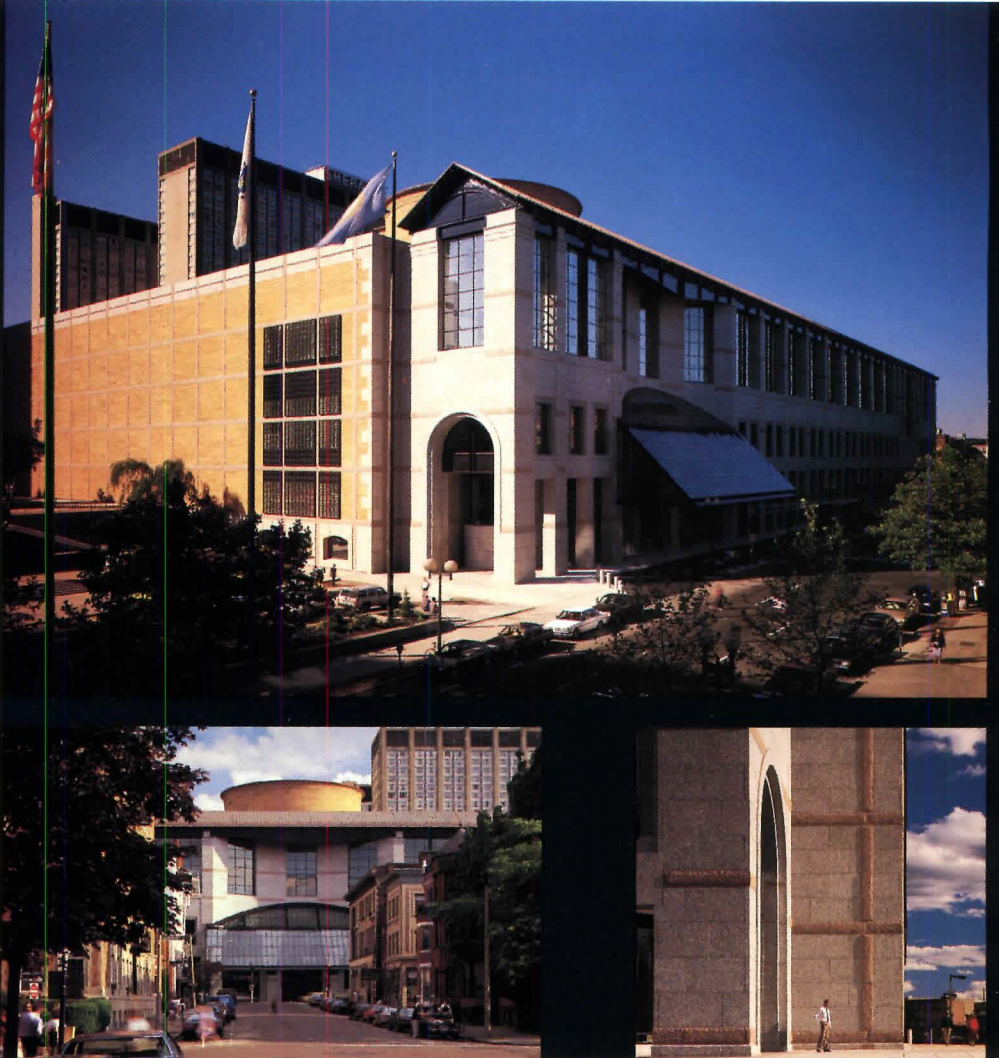


The Wexner Center screams at the artists who exhibit and perform within it, pushing them to experiment. It shrieks at visitors, challenging basic assumptions of what architecture should be. —*Awards Jury*

**Hynes Convention Center  
Boston, Massachusetts  
Kallmann McKinnell & Wood**

The building is massive. Integrating it into the Back Bay was not an easy task. But its design derives from the very streets of this neighborhood. The project was originally described as an expansion and renovation. But we salvaged only the parts of the old auditorium that spanned the Massachusetts Turnpike; so what we have, essentially, is a brand-new building. Considering the restrictions that we faced from the beginning, the architects created wonderful spaces. From every vantage point the visitor looks out over Boston. Hynes Convention Center is now on the list of things to see for people who visit the city.

*Francis Joyce  
Executive Director  
Massachusetts Convention  
Center Authority*



The design is monumental without being pompous. The architect brings order and humanity to a complex building type and bestows to the city a highly dignified work of civic architecture. —*Awards Jury*

**Seaman's Church Institute  
New York City  
James Stewart Polshek & Partners**



There is a tradition in the maritime world of church agencies that reach out to seafarers. This is a modern-day version of the seaman's church. We like to stand out on the balcony; it's like standing at the rail of a ship as it moves out of the harbor. The heart of that ship contains ministries that are significant in the lives of seafarers. We defend their rights here, train bridge crews, and prepare gifts for seafarers worldwide. We remember the importance of hospitality, the need of a special welcome. Most importantly, the building so convincingly conveys the dignity and stature of seafaring life.

*The Reverend Peter Larom  
Executive Director  
Seaman's Church Institute*

The building is a textbook example of contextualism, a fitting intervention in an historic district using modern methods and materials. It incorporates nautical imagery without being cute or cloying. —*Awards Jury*

**Morton International Building**  
Chicago, Illinois  
Perkins & Will

The building relates to the city. It is not just another cold stone or reflective-glass box. You can't see the best part of the project, the beauty of the engineering that supports the architectural design. Over the railroad tracks, the building stands on a concealed, reinforced-concrete platform that's 13½-feet thick. The trusses recall the bridges crossing the Chicago River. The clock on the tower is our gesture to the city. Even the cab drivers know the building.

*Steve Sinclair*  
President & CEO  
ORIX Real Estate Equities



The tower is sleek and sophisticated, a noble companion to the glass buildings constructed earlier in this century. A fascinating interplay of vertical and horizontal elements creates visual depth. —*Awards Jury*

**NationsBank Plaza**  
**Tampa, Florida**  
**Wolf+, Architects**



The building looks very much like a lighthouse, a majestic cylinder that can be seen from miles. The comment we hear most often is how user-friendly the building is. What a pleasure it is to work in a building with an adjacent park, where we can enjoy the river and experience the heartbeat of the city. But even from the inside we remain a part of what's happening—there are so many windows, there's so much light, so much motion. A round building creates a very unique environment: There are no corner offices. We have invested significantly in the architecture of Tampa and made a statement to that effect with a signature building. This is a landmark; it will last the ages.

*Eugene Taylor*  
 President  
 NationsBank

The powerful tower marks its place on the skyline yet defers to the exquisite garden and plaza that surround it. It demonstrates how a strong business-government partnership can enrich urban life. —*Awards Jury*

**Canal+ Headquarters**  
**Paris, France**  
**Richard Meier & Partners**

Richard Meier fashioned a modern image for Canal+. The building conveys the idea that this television network desires to communicate—this is an open building. It exploits freely ideas about openness and transparency. We appreciate Meier's esthetic and the way he brings in the outside world through a great urban window. The color white most clearly expresses the relationship between elements: It reflects and refracts light and the colors of the sun on the landscape. It reveals the absence of real color, which constantly changes. Our headquarters reflects how different this television network is from the others.

*Marc-André Feffer*  
*Secrétaire General*  
*Canal+*





Meier artfully accommodates the disparate needs of offices and television studios. The richly detailed curtain wall is breathtakingly beautiful, particularly at night, when the building glows like a lantern. —*Awards Jury*

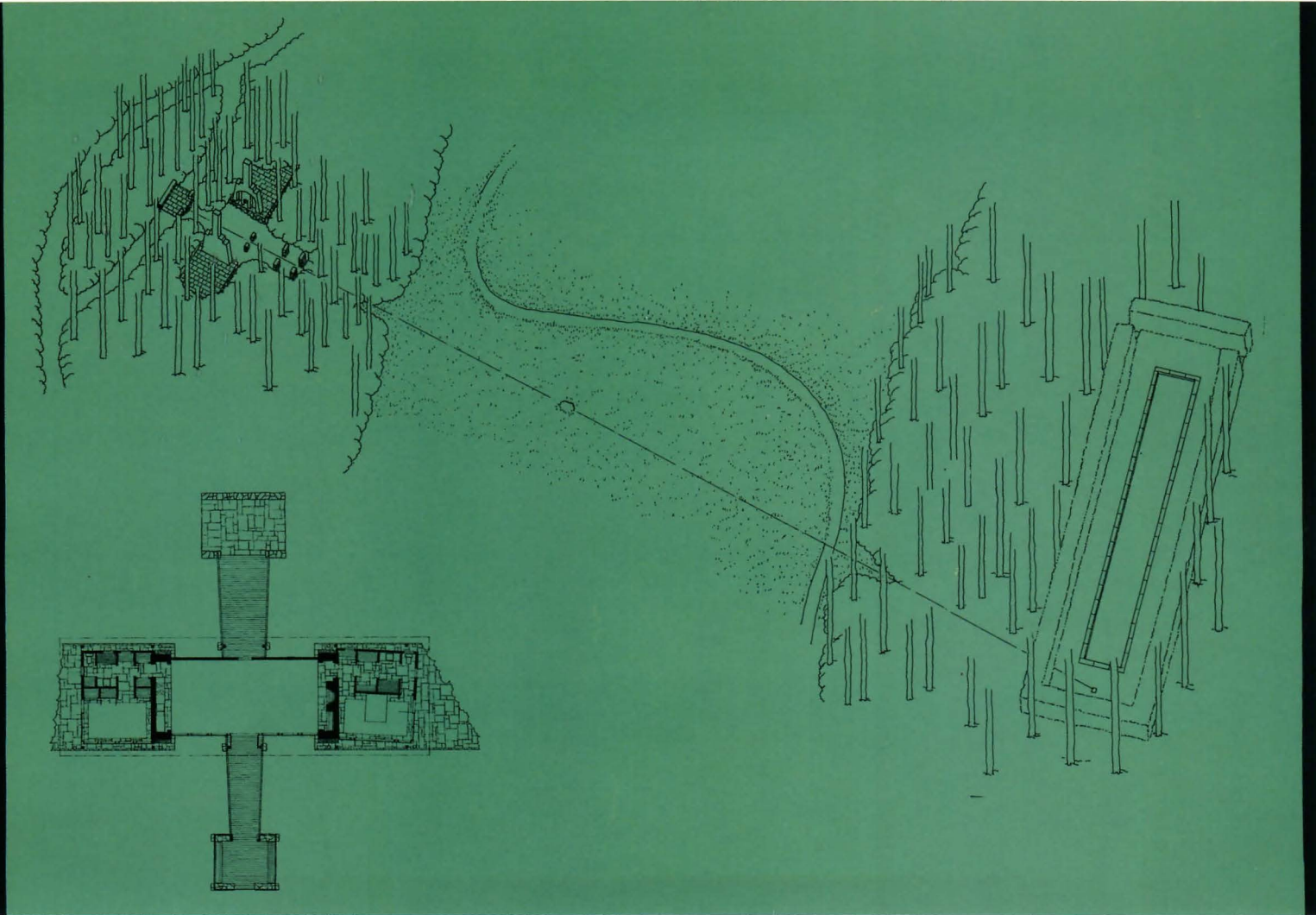
**Bloedel Education Center**  
**Bainbridge Island, Washington**  
**James Cutler Architects**

The center provides a place to conduct educational programs. It was named in memory of Virginia Merrill Bloedel, whose gravesite is located on the reserve. Mr. Bloedel desired to spend a weekend or two each month in close proximity to her remains. We see ourselves as a place for visitors to come and escape for awhile, especially for those who live in inner cities. The architect beautifully unites stone and wood, which blend so well into the landscape.

*Richard Brown*  
*Director*  
*Bloedel Education Center*







The serene and contemplative structure is exquisitely detailed out of indigenous materials. It seemingly grows out of the forest to provide a connection to the spiritual world. —*Awards Jury*

**Furness Building Restoration**  
**Philadelphia, Pennsylvania**  
**Venturi, Scott Brown and Associates**

Few buildings determine the architectural character of West Philly: 30th Street Station, the post office, and this library. Furness really conceived of this building as a generator of light. The window openings are so large they stress the walls to their utmost. The building is supposed to be for Fine Arts students, but all of the students of the university use it—they think it's by far the most beautiful building in which to read and study.

*David DeLong*  
*Professor of Architecture*  
*University of Pennsylvania*



This restoration strikes a balance between preservation and reconstruction. The technological improvements make it viable for our times without compromising the spirit of the original. —*Awards Jury*

**The Rookery Building**  
**Chicago, Illinois**  
**McClier**



After construction had begun, there was soot, grime, and sand-blasting compound all over the place. Then you walk into this great space, built over 100 years ago, and realize how incredible it is that we can save something as special as this. It was spectacular when Burnham and Root conceived of it. At the time, it was the largest, most expensive office building ever built. What a tribute to Chicago, to see it returned to its former grandeur.

*John McDonald*  
*Executive Vice President*  
*Baldwin Development*

McClier masterfully reconciled the work of Daniel Burnham, Frank Lloyd Wright, and William Drummond. The project enshrines the rich tradition of American craftsmanship. —*Awards Jury*

**Hostos Community College**  
**Bronx, New York**  
**Voorsanger & Associates Architects**

*The construction of this facility was the culmination of over 20 years of struggle for the residents of the Bronx community, who demanded a college for their neighborhood. This structure offers them hope in every aspect of their lives. Sixty percent of our female students are single heads of households. These women have tremendous courage. They believe in the American dream, that an education will make a difference in their lives and in the lives of their children. Here, students find the environment, the support, the light, the air, and the inspiration that they don't have in the other spaces they experience from day to day.*

*Isaura Santiago-Santiago*  
*President*  
*Hostos Community College*



This community college in the Bronx is efficient, practical, confident, and vibrant. It conquers urban blight with a building that is well used and respected in an otherwise defiled neighborhood. —*Awards Jury*

**Princeton University  
Parking Structure  
Princeton, New Jersey  
Machado and Silveti Associates**



We hired Machado and Silveti not because they were well versed in the design of parking garages, but rather because they were known to have a creative approach to town planning. Residents of the nearby residential neighborhood were afraid the garage would be a real intrusion, but this is hardly the case. It blends so skillfully with the existing wall designed by McKim Mead & White; the structure will surely age as gracefully.

*John Hlafter  
Physical Planning Department  
Princeton University*

The architect has forever silenced arguments against structured parking on the Princeton University campus. This lyrical structure makes poetry out of the most utilitarian kind of building. —*Awards Jury*

**Buckhead Branch**  
**Atlanta-Fulton Library System**  
**Atlanta, Georgia**  
**Scogin Elam and Bray Architects**

The Buckhead Library looks like a big, beautiful slate dragonfly. Children see this building as a wonderful toy—they're excited by it; they want to climb on it; they want to climb all over it; they want to play in it. How wonderful it is for them to discover all these fantastic books in such a magical space. Adults have a similar experience with the building. But we discourage them from climbing on the walls. The design of the building completely changes your concept of what a library can or should be. It is not a frightening object, but rather a very warm and inviting space. If we can have architecture that does such a thing, then we're living in a fine society.

*James Brooks*  
*Planning Officer*  
*Atlanta-Fulton Library System*



This library ennobles its disjointed context of neon lights, gas stations, and strip shopping centers. It puts the suburban branch of a library on a par with its urban counterpart. —*Awards Jury*

**Mt. Carmel Elementary School**  
 Douglasville, Georgia  
 Lord, Aeck & Sargent



The whole attitude of the school is that this is a fun, interesting place to be; this is a different building. It tells you so from the time you drive up and see the boulders that hold down the canopy over the entrance. Your eye never rests—it finds something new and exciting everywhere it looks. The design involves a lot of shape and color, things that spark interest. We'll have to wait until the total child is developed before we can say whether this worked or not. It's the same with a building; the pieces have to be in place and the process has to be complete before you can pass judgment. We took what could have been ordinary and, with a little thought and a little creativity, built a structure that goes beyond just mere functionalism.

*Dr. Harold Maier*  
 Principal  
 Mt. Carmel Elementary School

Building elements have become a part of the school's educational mission. The highly tactile environment piques the children's curiosity and embraces their spirit without being condescending or trite. —Awards Jury

**Hole-in-the-Wall Gang Camp**  
Ashford/Eastford, Connecticut  
Hammond Beeby and Babka

Paul Newman founded this camp for children with cancer and serious blood diseases. It was a vision that became reality in a very short amount of time. When you enter the camp, it's like stepping back in time, or walking into a dream. The place recalls an old western logging town. The children can not say which building is their favorite because they love all of them. There is an infirmary with a superb medical staff that operates 24 hours a day. Their presence is unobtrusive, but handles all the needs of the children, so they can go play. The memories they take home from this camp make all the difference in a dark day or a painful moment. I feel joyous about this place because that feeling prevails here.

*Karen Allen*  
Office Manager  
Hole-in-the-Wall Gang Camp



The camp celebrates the strength of the human spirit: Its buildings create a dreamy movie set, a playful hideout and retreat from the harsh realities in the daily lives of terminally ill children. —Awards Jury



**Colton Palms**  
**Colton, California**  
**Valerio-Associates**



A lot of the people who live here moved in with the idea that this would be their last home. But they do not look at it morbidly at all. The apartments are big, bright, airy, and easy to maintain. The design may not be the most expensive, but it is certainly enjoyed by people who perhaps were not able to afford something this nice before. The people from Colton who call it a “space station” are referring to all the railings, poles, and glass we have around here—those features which make the project attractive and unique. Colton Palms definitely encourages people to stay active and participate in various community activities. Now they can live in comfort and stay young.

*Hilda Garcia*  
*Resident*

The active involvement of the residents, from participating in the jury that selected the architect to providing design input, has created a lively community that truly meets the needs of its inhabitants. —*Awards Jury*

**202 Island Inn**  
**San Diego, California**  
**Rob Wellington Quigley**

The redevelopment agency in San Diego, the planners, and the residents of the Chinese historic district all had their input in the design of the building. So there are different facades to the building, one of which tilts at a 15-degree angle. So while the building was under construction, a lot of people stopped to make sure our contractors knew that the wall was leaning. The building does not resemble what you would normally think of as governmental housing. Its amenable design clearly affects our ability to develop these projects in good neighborhoods, as well as our success in attracting tenants to live there and stay there.

*Bud Fischer*  
*Owner*  
*197 Partners*



Rob Wellington Quigley was gutsy and adventurous. This single-room-occupancy hotel in San Diego demonstrates that low-income housing need not be short on design and amenities. —*Awards Jury*

**Langham Court**  
**Boston, Massachusetts**  
**Goody, Clancy & Associates**



Langham Court was borne out of a coalition of community groups who came together to work with the city on using public property to the greatest public good. Goody, Clancy sat down with us, listened to our dreams, and helped us realize what we really wanted to do. Children feel safe here. The back gate is open because it offers a place for the senior citizens who live nearby on Washington Street to come and sit. Even those who were against any housing going up on this lot admit how well Langham Court blends into the community. Many people said we couldn't do it. But we built something that brings fellowship and warmth to the neighborhood.

*Jeanette Boone*  
*President*  
*Four Corners Development*



As a tireless advocate for the project, the architect enabled the South End to realize its vision. The design accepts and embraces its tough urban setting; it makes the neighborhood a better place to live. —*Awards Jury*

**Stretto House**  
Dallas, Texas  
Steven Holl, Architect

This residence was constructed by the builder of Louis Kahn's Kimball Art Museum. It has the same heightened materiality. The light and space within the house have the exquisite flowing quality and richness found in many buildings by Alvar Aalto. Holl demonstrates a keen sensitivity to the site with components of the building that relate to the landscape. Every square inch of the project is impeccably crafted and detailed, even the bathroom, which resembles a fine piece of machinery with its stainless steel and bronze fixtures.

*Awards Jury*



The thin-shell roofs of the house float and undulate across the site. Holl's use of materials is at once frank, didactic, and extremely artful. —*Awards Jury*



*Sixty-seven years ago, a beautiful  
English Tudor mansion with a  
magnificent Ludowici-Celadon roof was  
built in Evanston, one of Chicago's  
most renowned suburbs.*

*Architect Richard Powers based his*

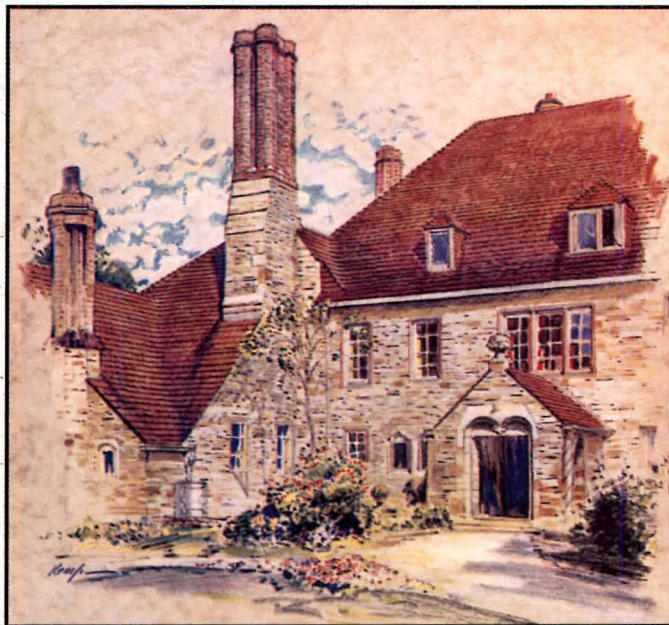
*1926 design on the timeless look of a*

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Ludowici's Provincial tile to match the  
enduring beauty of the design.*

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national headquarters of a fraternity,  
and, today, the Evanston Art Center.*

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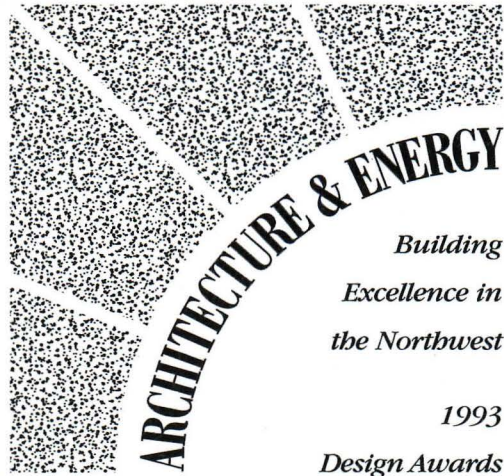


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# ARCHITECTURE



*Building  
Excellence in  
the Northwest*

*1993  
Design Awards*

Architecture that is responsive to reduced energy needs is a critical design strategy as our society gains a more global environmental awareness and strives for sustainable communities. *Architecture & Energy: Building Excellence in the Northwest* is an annual awards competition to encourage energy-efficient design of non-residential buildings in the Pacific Northwest. It is sponsored by the

Bonneville Power Administration and administered by the American Institute of Architects/Portland Chapter. The purpose of this awards program is to honor buildings of architectural excellence that exhibit an integration of energy-efficient design. The program will seek to encourage use of cost-efficient technology that results in low overall energy consumption.



# HONOR AWARD

## The 511 Building, Ketchum, ID

Architect: J.R. Smith, Ketchum, ID

Contractor: Wilson Construction, Ketchum, ID

Owner: Leadville Development Corporation

The range of solutions for energy efficiency in architecture is quite diverse as each solution responds to different climatic conditions, site characteristics, user functions, building type, size and so on. The design of the "building form and envelope" represents key opportunities for projects with energy requirements that are dominated by either the climate or by internal loads.

Climate-responsive design takes advantage of natural energy resources through such techniques as passive solar heating, natural ventilation, daylighting, and high thermal resistance for walls and roofs in

severe climates. For example, the 511 Ketchum Building in Ketchum, Idaho is located in a climate that may get as cold as 50° below zero and as hot as 100° F. The form and envelope for this mixed-use commercial building minimizes thermal transfer with R-29 walls and a R-76 roof, encourages passive solar heating and employs natural cooling through shading, glazing strategies and ventilation.

The use of natural light in most commercial buildings is an important design strategy in all climates to reduce energy use for electric lighting and reduce cooling loads that are generated by heat



photo: Fred Lindholm

***Juror's comment:** Instead of an installed air conditioning system, the 511 Building relies on the design of the natural ventilation and natural cooling. This type of approach in a commercial project is praiseworthy and we would like to see it more often.*





# HONOR AWARD

## Evergreen State College Activities Building Rooftop Addition, Olympia, WA

Architect: Olson/Sundberg Architects, Seattle, WA

Contractor: Berschauer Philips of Tumwater, WA

Owner: Evergreen State College

produced in electric lighting. As a major benefit, the effective use of daylight will also improve the visual quality of the interior environment.

In the rooftop addition to the College Activities Building at Evergreen State College in Olympia, Washington, interior and exterior light shelves made of perforated metal and located around the perimeter of the building, reflect daylight deep into the interior, reduce brightness near the windows and control summer solar heat gains. The core of the space is daylit through elegant south-facing clerestory windows, again with perforated metal

“eyebrows” and with a softly curving ceiling over a common space that is directly connected to the work areas. The result of the perimeter and clerestory daylight designs is a very effective, high-quality and glare-free working environment.

Building envelopes are the selective pathways that control solar heat gains, sunlight penetration, infiltration and conductive heat gains and losses. As such, glazing characteristics and thermal transfer through walls and roofs are primary elements of energy concern. Some of these aspects are straightforward in application—like, the higher the R-value



photos: Michael Shopin



**Juror's comment:** *What strikes us is the very simple, clean and elegant fenestration throughout the interior for visual comfort. The 3-dimensional treatment of the windows and the perforated light shelves really work to the building's advantage.*

# HONOR AWARD

## The State of Oregon Public Utilities Commission Building, Salem, OR

Architect: Unthank Poticha Waterbury Architects, Eugene, OR

Contractor: Anderson Construction Co., Portland, OR

Owner: State of Oregon, Department of General Services

of wall or roof insulation, the lower the rate of thermal transfer.

Glazing strategies are more complex. A comprehensive understanding of the energy effects responding to fenestration design, location, orientation, details and specification leads to innovative solutions for high energy performance. Advanced glazing for windows and skylights have the ability to selectively filter the amount of solar heat gain in relation to daylight penetration. In other words, a designer can specify a desired shading coefficient for solar heat gain control and have the option of a relatively high

or low daylight transmittance value, depending upon application and desired effect.

The importance of the building envelope design is illustrated in the Public Utility Commission Building in Salem, Oregon. In this project, an 85,000-square-foot existing mercantile building, described as a "concrete bunker," was redesigned into a state office building. The building envelope of concrete was clad with three inches of continuous rigid insulation and exterior finish to minimize heat gains and losses. Of more importance from a qualitative viewpoint, was the introduction of



*Juror's comment: Here is a very active use of "eating away" at the concrete structure at the edges to provide lighting to some of the lower floors by making a skylight well. This building went beyond a mere rehab. . . there was an architectural intervention with the building that changed its character, turned it from a sow's ear to a silk purse.*



daylight deep into the open office landscape workplaces through perimeter and overhead glazing with controls.

The 67,000-square-foot Cooley Science Center at the Oregon Graduate Institute in Hillsboro, Oregon, demonstrates another approach to using the building envelope as a key component to energy-efficient architecture. The overall thermal transfer value (OTTV) of the building envelope exceeds the minimum standards of the Oregon Energy Code by 40%. The skylights utilize a ceramic frit on the clear glazing for enhanced daylight control.

Another component of the Cooley Center building envelope is the unique monitors over the stairwells. Although one might question the size and orientation from an efficiency viewpoint, the playfulness of the shape adds a special character to the architecture in an effort to integrate the energy considerations with aesthetics objectives.

Other architectural design strategies for natural energy applications in commercial buildings include: heat avoidance through orientation and shading; passive solar heating through proper orientation of fenestration, heat storage and dis-

## MERIT AWARD

**Cooley Science Center, Hillsboro, Oregon**

Architect: Boucher Mouchka Larson, Portland, OR

Contractor: Hoffman Construction Co., Portland, OR

Owner: Oregon Graduate Institute



photos: Sirode Eckert Photographic



*Juror's comment: We really liked and appreciated the "whole building" approach, the integrated design approach to all the different thermal and lighting issues involved.*

# MERIT AWARD

## Natural Resources Building, Olympia, WA

Architect: C.W. Fentress, J.H. Bradburn and Associates, P.C., Denver, CO

Contractor: Hensel Phelps Construction Co., Santa Clara, CA

Owner: State of Washington, Department of General Services Administration

tribution techniques; thermal mass for energy storage and the tempering of peak loads, and natural ventilation.

Although debatable as to the effectiveness of the design, the Natural Resources Building, a 354,000-square-foot office building in Olympia, Washington, exhibits an exciting architectural form that shades fenestration and minimizes east and west glazing, where it is difficult to control solar heat gains. The sweeping curve of the northern elevation allows for building elongation in an east/west axis resulting primarily in the preferred

orientations of north and south glazing.

To complement energy-responsive architecture, efficient lighting and mechanical systems, equipment and controls complete the package. Each project has its own needs and therefore the solutions must be responsive to the requirements and integrated with the architecture for the most effective results. Successful architectural design will have lower requirements for mechanical and electrical systems. One of the projects, 511 Ketchum Building in Idaho, was so successful with the architectural strategies that an air conditioning system



*Juror's comments: The south-facing stair tower made use of the light, heat and social aspect of gathering together by actually having social gathering areas around the edge that made use of that connection.*



photo: Nick Merrick

# CITATIONS

## Ocosta Junior/Senior High School, Westport, WA

Architect: Burr Lawrence Rising + Bates Architects,  
Tacoma, WA

Contractor: Bodenhamer Inc.

Owner: Ocosta School District No. 172

## The Museum at Warm Springs, Warm Springs, OR

Architect: Stasny & Burke: Architecture, Portland, OR

Contractor: S.M. Anderson & Co., Portland, OR

Owner: Middle Oregon Indian Historical Society

was not even used. High-efficiency lighting, heating, ventilating and air conditioning equipment with appropriate energy management systems were demonstrated in most of the award winners.

The Ocosta Junior/Senior High School in Westport, Washington is an example of "whole building" design that attempts to integrate a variety of natural energy techniques and energy efficiency measures with the other architectural program requirements. Heat avoidance is achieved through orientation and overhangs. Solar heating is used through heat-collecting air curtain windows. The building also has

high levels of insulation, high mass construction, and efficient mechanical/electrical equipment.

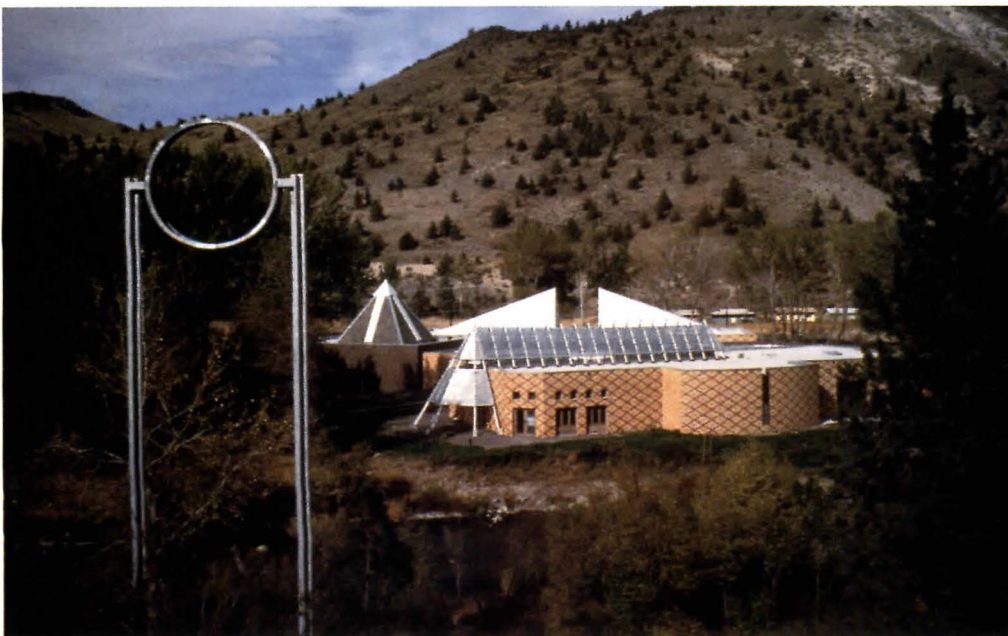
The Museum at Warm Springs in Warm Springs, Oregon also exhibits a "whole building" design approach to energy efficiency. It is responsive to a severe climate with outside annual temperatures fluctuating from minus 10° to over 110°F. As such, the design combines natural lighting, high-performance glazing, a unique water source heat pump system, a high-quality and efficient lighting system and other techniques with a building design that also responds to specific cultural requirements.

For balanced daylight and glazing



**Juror's comment:** *We found the activity zoning particularly appealing. Generally the sedentary type-activity spaces are located on the south side and the active spaces on the north side, excluding the gym which needed access to parking. We noted that drafting was classified as an active rather than a sedentary activity.*

For bringing daylight with control into a museum



**Juror's comment:** *This is a very interesting solution, much of which seemed to have a response to cultural programmatic needs, some site integration solutions and some energy response. We found it wonderful that the architects took up the challenge to daylighting a museum using culturally responsive forms.*

# CITATIONS

## Oak Creek Elementary School, Lake Oswego, OR

Architect: BOOR/A Architects, Portland, OR  
Contractor: Robinson Construction Co., Tigard, OR  
Owner: Lake Oswego School District 7-J.

The Oak Creek Elementary School in Lake Oswego, Oregon is another example of integrating a variety of energy design techniques. Of special note is the use of indirect electric lighting that is automatically controlled with the energy management system and the use of high-performance glazing with colored glass and suspended films using low-emissivity coatings.

The projects recognized in this awards program represent most energy design strategies in a fundamental way that has ample room for

continued growth. The evolution of creative solutions for energy-efficient and environmentally sustainable architecture promises to be a major challenge in the 1990's. It is hoped this program and others will continue to encourage energy-efficient architecture.

By Gregory Franta, AIA, Jury Member and Principal Architect of ENSAR Group Inc., a consulting firm specializing in environmentally sustainable architecture and based in Boulder, Colorado.

For bounced and borrowed light

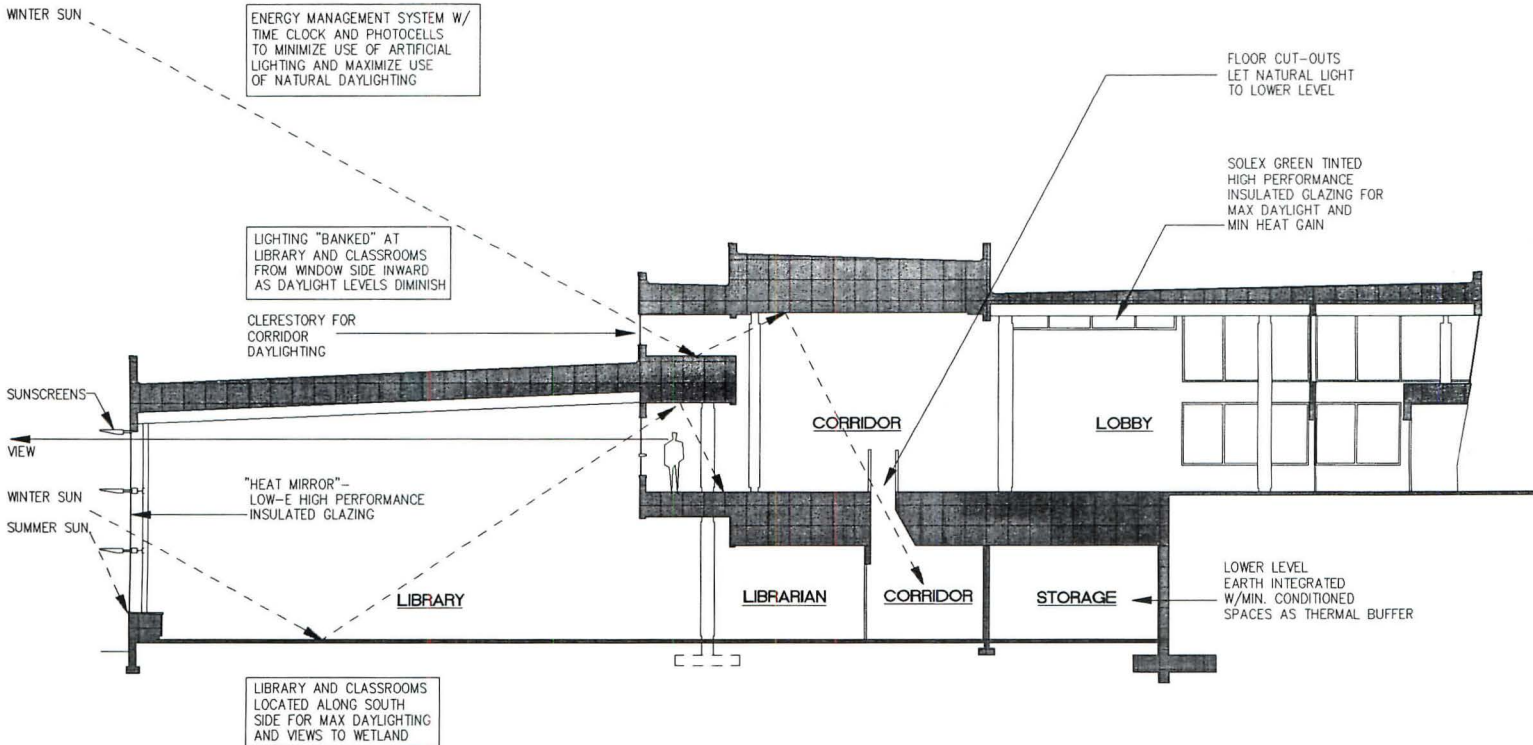


photo: Bryan J. Burke, AIA

**Juror's comments:** *It was a nice sculpturing effect to use daylight where it comes in at a high-deep opening and is drawn into a corridor. There is actually borrowed light coming from the corridor onto the ceiling of the library which helps avoid some of the glare you get from just side lighting.*

*We would like to thank all the jurors involved with the 1993 Architecture & Energy Design Awards Program: Gregg Ander, AIA, Rosemead California; Greg Franta, AIA, Boulder, Colorado; Amory Lovins, Boulder, Colorado; Marietta Millet, Seattle, Washington; John Reynolds, Eugene, Oregon.*

*For more information, please call Otina Monary-Kunz, Assistant Director—Programs, AIA/Portland Chapter, 503-223-8757.*

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**T**he pragmatism and diversity of this year's AIA Honor Award winners reflect not only shifting design attitudes, but also the changing realities of how architects are conducting business in the 1990s. This month's technology and practice section addresses emerging trends in practice in response to the growing demand for more cost-effective construction.

#### **Strategies for the 1990s**

To win commissions from increasingly knowledgeable clients, architects must enhance their business savvy by honing their communications skills and developing more efficient project-delivery methods. This story outlines changes in the marketplace and charts a course for successful practice.

#### **Ecologically Sensitive Waterproofing**

Architects have a responsibility to stay informed about developments that improve building materials. Environmental regulations restricting the use of volatile organic compounds are leading manufacturers to alter the chemical composition of solvent-based waterproofing agents. Our article on waterproofing methods reveals how efforts to shift to water-based sealants are, for better or worse, altering the performance of these products.

#### **Color Printers**

As competition for commissions increases, effective and convincing project presentations are all the more essential for architects. This month's computer feature explains how advancements in graphics and affordable technology are allowing more firms to efficiently produce presentation-quality renderings and perspectives from color printers.

#### **Construction Management**

One of the most significant trends changing architects' traditional role in the building process is clients' increasing reliance on construction managers. As our practice article explains, the AIA is responding by offering three new contract documents that better define the architect's role in construction management.



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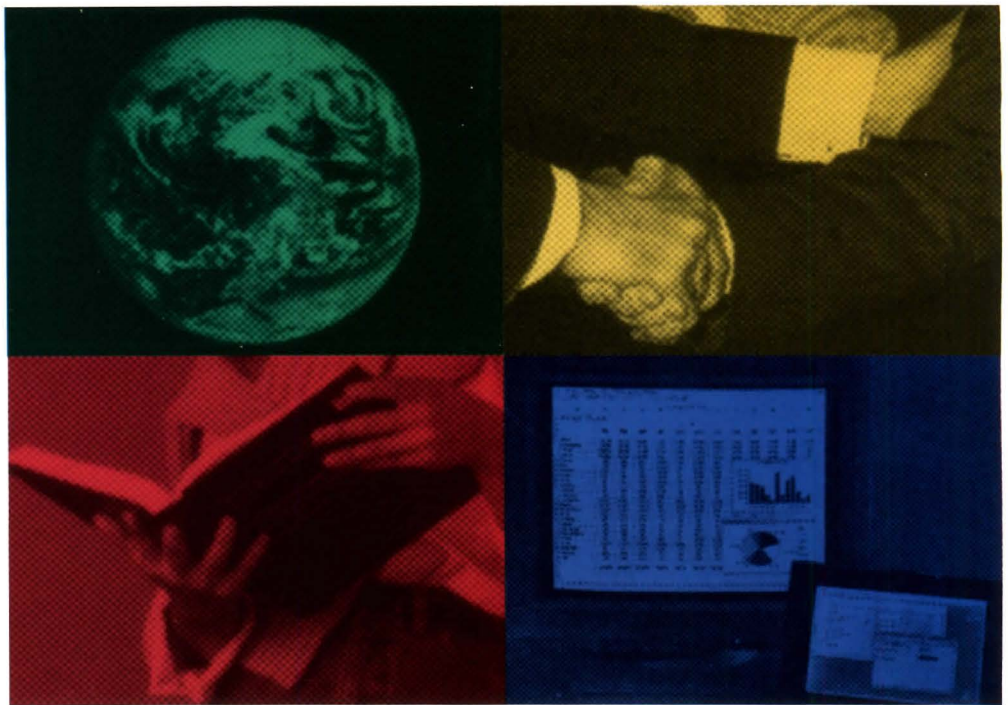
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## Strategies for the 1990s

*Architects must cultivate basic business tactics to meet a changing marketplace.*



For architects and for the rest of the design, construction, and real estate world, the 1980s lifted the design community to its most exalted heights in generations. A rich tapestry of projects permeated the air. It was a decade of abundant creativity and full employment. Only a few years later, the booming '80s seem a distant memory.

For a younger generation of architects, tutored in the latest lessons of design, the future was flush with the promise of jobs. These idealistic minions of the new esthetic were prepared to assume the mantle of fame when gurus Robert A.M. Stern, Frank Gehry, and Stanley Tigerman tired of all those interviews and PBS specials. Yet the curriculum of the architectural schools failed to include courses on the cyclical nature of the real estate and construction markets or the vagaries of the economy to which architects have historically been bound.

### **Accept new realities**

The unbridled optimism, grandeur, and excesses of the 1980s have created a new landscape for the profession to master. Many of the rules that governed architects' ability to secure business and keep their capable, talented staffs together have most likely changed forever. Today, architects must accept the new realities of the 1990s.

Gone are the gung-ho days of junk bonds and Deconstructivism. In the past 12 months, a new administration has taken office in Washington, D.C.; interest rates on

home mortgages have dropped to 7.5 percent; and inflation is up 2.9 percent. We continue to hear of bankruptcy filings by Macy's and other corporate stalwarts, as well as wholesale layoffs by General Motors, IBM, Digital Equipment, Aetna, and Amoco. Despite this series of events, business leaders and economists say the odds favor a business expansion that could last a long time.

As we emerge from the deepest recession since the 1930s, architects must begin to address their clients' new business consciousness: value-driven services. They must focus their practices on the fundamental strategies that will return them to their traditional role as the master builder charged with the responsibility for successfully completing a project as originally envisioned by the client.

### **Adjust to a global economy**

For years, architects have failed to adequately acknowledge what the rest of the business world has accepted: A global economy affects even those who never work overseas. Whether the clients are corporate global giants, local entrepreneurs, or homeowners, an increasing percentage of our nation's goods and services, as well as our level of employment, is heavily invested in foreign products.

Architects who are angry and resentful that their future appears to be dependent upon forces and events that emanate from distant shores and over which they seem to have little control must channel these emotions into more constructive responses.

Thinking on a more global scale will help all architects market their services and bring them into line with the prevailing business ethos. Outlined below are seven steps that architects throughout the United States must take to chart a new direction for the 1990s.

### **1. Return to the basics**

Architects need to find an historic center-point that will give them a framework for the direction of their practices today. During the late 1960s and early 1970s, when many of today's most established firms were founded, architects were closer to their clients, providing them with more fundamental, valuable services than over the past 20 years.

Clients today are demanding value-driven services that conform to the delivery of a precisely defined program, meticulously conceived solutions, and budget-sensitive design, creating a win-win position for both client and architect. A team of designers moving together from project to project will enhance a firm's product and provide a stability that can be marketed to clients. With slower firm growth the norm, we should take this time to study the traditional services that architects provided when their roles in the building were more highly valued and announce to clients and staff the return to basics as the new direction of the profession.

### **2. Explore new markets**

The trauma of the recession has severely affected the way all clients look at their new projects. Gone are the hordes of facilities managers who ruled over the expenditure of corporate building programs. Gone are the luxury beach and mountain retreats built by investment managers, moguls, and the no-longer-monied yuppies of yesteryear.

Clients are now demanding more personal attention and cost-effective solutions. Where architects could once expect a client to embark upon a regular program of projects, today it's only one project at a time. And that project must be completed to the owner's thorough satisfaction if the next project, when it does come, is to be kept with the firm.

Equally important, the traditional marketplaces for architects have shifted in new and exciting directions. The educational and healthcare fields, to name but two, have opened new vistas for opportunity-minded design firms. Most public school districts around the country need to retrofit facilities built 30 and 40 years ago for the baby boom generation. Add to this the growth of new, privately financed schools, such as the \$2 bil-

lion program recently announced by the Whittle Group, a pioneering educational and communications organization, and you have an emerging industry seeking fresh solutions.

In healthcare, baby boomers' parents are living longer, healthier lives, creating the niche for new outpatient and residential communities for the elderly. In turn, this market will spawn enclaves for the active, health-conscious 40- and 50-year-olds of today. A healthier, aging population will have less use for long-term-care facilities and more immediate need for attractive, highly specialized outpatient centers for short-term stays. These facilities are likely to be located on and around residential developments that cater to this new "gray" generation—more physically fit than any prior senior population, more economically secure, and more outspoken about its needs and wants. Creative thinking as to how designers will satisfy this growing segment of our population will shape these and other new markets in the next decade.

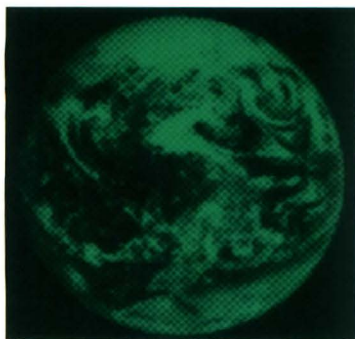
Biotechnology, computer-driven facilities, and environmental projects will also engender new markets for architects in the years ahead. Each of these markets will require buildings that are integrated into residential areas and corporate office parks. As most employment growth in recent years has been generated by small businesses and communities outside large cities, architects can look to these locales as exciting, new sources of future commissions.

Business-savvy principals interested in exploring these new opportunities would do well to meet the leaders in these educational, healthcare, and high-technology movements.

### **3. Improve presentations**

Because clients today are more sophisticated and knowledgeable about the building process than they were 20 years ago, their needs are defined in far different ways from years past. Clients now have pronounced beliefs about construction management, fast-track, design-build, and other delivery methods marketed in the 1980s.

The quick sell will no longer work. A carefully formulated, well-researched design and business plan for each project that is professionally presented to a chief executive or financial officer will reap substantial dividends. Whether public or private in nature, clients must incorporate their design needs within the framework of their own business budgets. It is no longer acceptable for architects to ignore the critical need to provide design solutions that are carefully matched with detailed



*A global economy affects even those who never work overseas. Thinking on a more global scale will help all architects market their services and bring them into line with the prevailing business ethos.*

construction costs that can be relied upon by the client as the project proceeds. Architectural principals and marketing leaders should make appointments with friends in decision-making positions and ask them how to make effective presentations that will succeed in the town hall as well as the boardroom.

#### **4. Accept changing technologies**

Advances in technology are revolutionizing the way architects deliver their services. The fax machine has perhaps had more impact on the day-to-day routine of the modern professional-services office than any other high-tech tool. Clients demand faster response time by sending instantaneous inquiries or changes. This rapid communication, however, has made it more difficult for architects to explain that the speed of technology does not always correlate with the time necessary to solve the design problem at hand.

The almost universal acceptance of CADD technology, coupled with the advent of the modem, has also raised the expectations of clients and design staffs to bring up-to-date solutions to projects across the state or across the world. Big or small, firms must accept the reality of these new technological standards and seamlessly blend them into business plans, personnel management methods, and marketing programs.

#### **5. Recognize marketing skills**

Architectural firms must recognize the value of principals and employees who can market and deliver clients to the firm, as opposed to heralding only the design leaders.

Architecture will always be about design: Architects should never abandon their commitment to bringing high-quality design solutions to their clients' projects. Yet all architects must acknowledge that bringing those talents to the fore requires a corollary skill—marketing—to convince old and new clients that your firm is the one best suited for the job. All too often, the reason the best firm does not get the job is because the firm lacks an effective way to communicate its special talents and experience.

Firms must develop an in-house ethos, recognizing that those who devote a substantial amount of time to winning new commissions are as integral to the future success of the organization as the most talented members of the design team. Making marketing a firm-wide commitment, publicly recognized by the principals, will spark new business while generating ideas that respond to the new realities of the 1990s.

#### **6. Expand school curriculums**

Architects need their primary professional education to function as more than the Little League for star designers. We can no longer allow the deans of our architectural schools to devote an overwhelming proportion of time to esthetics and so negligible an amount to management and marketing.

The curriculums must be revised to prepare tomorrow's architects for the broad spectrum of design, business, and marketing issues now confronting the profession. Courses should also focus on the economy's impact on the real estate and construction industries, factors influencing the historical boom-and-bust cycles.

#### **7. Encourage effective advocacy**

For the first time in our history, this nation has a recognized expert on environmental issues in Vice President Gore. And President Clinton has already taken significant steps to reverse the development-at-any-cost-to-the-environment mind-set of the past 12 years. Consequently, opportunities for architects, society's guardians of the built environment, are greater than ever before.

It is critical, therefore, that architects' professional associations become more aggressive, effective advocates for their members on issues that enhance architects' place in society. Furthermore, architects must insist that their national and local leaders rise above the limited purview of design competitions and awards and make their members' voices heard by government leaders, construction industry executives, and the general public. They must urge the AIA to hold national forums on how to help architects deliver services that provide value to their clients and how to translate that value into higher fees. Architects must enlist leaders in government and business to challenge the profession to develop their most creative solutions. And practitioners must demonstrate to the leaders that all will benefit from a strengthening of the architect's role in the design and construction world.

These seven steps chart a course for American architects in the 1990s. They represent a program that combines the best this profession has to offer our nation and itself. It is a comprehensive plan to restore architects to their former role as significant partners in the design and construction process.

—Barry B. LePatner

*Barry B. LePatner is a partner of the New York-based law firm LePatner, Block, Pawa & Rivelis.*



*Firms must recognize the value of employees who can market and deliver clients. Often, the best firm does not get the job because the firm lacks an effective way to communicate its special talents and experience.*

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## Ecologically Sensitive Waterproofing

*Manufacturers decrease solvents' harmful emissions by reformulating their products.*

**RIGHT:** In response to environmental regulations, contractors are beginning to apply waterproofing that contains lower quantities of solvents.



Not long ago, an architect only needed to worry about how well a waterproofing system kept water out of a structure. Today, however, the environmental movement has forced architects to consider the chemical composition of waterproofing materials, especially in California and a handful of other states that have adopted strict air quality rules. And the pressure to produce more environmentally sensitive waterproofing is expected to increase in the coming years, as national standards developed under the federal Clean Air Act and its amendments are enacted.

Many traditional waterproofing substances come down on the wrong side of the environmental fence because, like conventional house paints, they incorporate solvents as carriers for the waterproofing's active agents. These volatile organic compounds (VOCs) can be hazardous to workers if not handled properly: Vapors from solvents are dangerous if inhaled, and the liquids are flammable. In addition, VOCs are released into the atmosphere when the waterproofing is applied and as it dries. In the presence of sunlight, VOCs react with nitrogen oxide from car exhaust to create ozone in the lower atmosphere. Although ozone is desirable in the upper atmosphere to protect the earth from solar radiation, ozone in the lower atmosphere is a pollutant and a major component of smog.

Because the only solvents that do not create ozone in the lower atmosphere are chlorofluorocarbons (CFCs), which are harmful to

ozone in the upper atmosphere, manufacturers are working to reduce the solvent content of their products or eliminate solvents altogether while striving to maintain an equal level of waterproofing performance. "There is a tremendous amount of research going on in this area," explains Shelby F. Thames, who heads the Department of Polymer Science at the University of Southern Mississippi in Hattiesburg and directs an annual symposium on waterborne coatings. "There is almost furious activity in coatings companies trying to make a transformation from solvents to waterborne systems," Thames adds.

### Reducing VOCs

Existing and anticipated VOC regulations governing architectural and maintenance coatings affect both above-grade and below-grade waterproofing and damp-proofing systems. These systems include solvent-based, colorless sealers used above grade to protect concrete, wood, and other materials from rainwater. Restrictions also apply to solvent-containing mastics, primers, and adhesives used to protect foundations, parking decks, plaza decks, structural slabs, and retaining walls from water penetration. Even below-grade membrane systems—sheets or rolls of a solid, waterproof material that form a barrier against water—require that the wall first be treated with a primer which must now be low in volatile organic compounds.

The challenge of transforming a waterproofing material from a solvent-based to a

**BOTTOM AND FACING PAGE:** California is the leader in developing VOC regulations for architectural coatings now being enforced by a few states. National regulations, likely to affect all 50 states, are being developed, and a final version is expected from the Environmental Protection Agency in 1994.

water-based solution has proved to be a significant one, manufacturers say, and some point out that the idea of water-based waterproofing seems to be almost a contradiction in terms. "The industry is scrambling to get its ducks in a row," says Robert Sherrow, manager of technical services for Shakopee, Minnesota-based Sonneborn Building Products. "Performance has been the weak link of water-based products."

#### **Water-based coatings**

The switch from coatings with a solvent base to those with a water base is especially difficult when the waterproofing substance needs to penetrate the substrate to be effective, as with many above-grade sealants. Since solvents consist of smaller molecules than those in water, they are better able to penetrate substrates and, as a result, have greater durability. Potential problems with some water-based coatings include peeling and chalking of the waterproofing material.

Manufacturers warn that water-based products are not as "forgiving" as solvent-based coatings and must be applied to a clean surface that is free of dirt and other contaminants. Water-based emulsions also are difficult to design for application on wood, because water makes wood swell and may raise the wood's grain. In addition, the application of water-based waterproofing is temperature-dependent: Many of the new formulations can not be applied in temperatures below 40 degrees.

One official of a major waterproofing manufacturer calls some of the above-grade waterproofing products that have been sold in California, where strong VOC regulations have been in effect for five years, "clearly inferior," citing a reduced ability to cover, a need for frequent application, and a lack of consumer friendliness. Industry critics warn that some products on the market don't meet the criteria in the federal specifications for waterproofing and that others actually enhance a surface's absorption of water rather than inhibit it.

*Critics warn that some waterproofing products don't meet federal specifications and may enhance a surface's absorption of water rather than inhibit it.*

### **Existing VOC regulations affecting waterproofing systems**

Statewide regulation prohibits the use of architectural coatings for industrial or commercial application that either contain or are thinned with a defined list of highly photochemically reactive solvents. Maricopa County, which includes the city of Phoenix, has the following limitations: General or specialty primers, sealers, and undercoaters are restricted to 2.9 lb./gal. of VOCs; waterproof mastics are restricted to 2.5 lb./gal.; and waterproof sealers are restricted to 3.3 lb./gal.

VOC regulations are created separately by the state's 35 individual air quality control and management districts. Sixteen of those districts currently have architectural coatings regulations in effect, largely based on "suggested control measures" developed by the California Air Resources Board, a state agency. Regulations for two key districts within the state, the Bay Area Air Quality Management District, which encompasses San Francisco, and the South Coast Air

Quality Management District, which includes Los Angeles, have been in effect since 1987 and comprise the following: general primers, sealers, and undercoaters are limited to 2.9 lb./gal.; waterproof mastic coatings are limited to 2.5 lb./gal.; and waterproof sealers are limited to 3.3 lb./gal.

Statewide architectural coatings regulations went into effect on January 1, 1990. Primers, sealers, and undercoaters are limited to 2.9 lb./gal. of VOCs; waterproof mastic coatings are limited to 2.5 lb./gal.; and waterproof sealers are limited to 5 lb./gal.

**New**

One of the most frequently voiced concerns over the relatively new water-based waterproofing materials is their lack of a track record. Some researchers, including Michael Van De Mark, director of the Coatings Institute at the University of Missouri at Ralla, suggest that potential users of a new water-based product would be wise to test it themselves or hire a lab to do so before selecting something unproven. The possibility of a waterproofing failure due to an untested product, especially below grade, is an unwelcome specter to most contractors and owners. "All customers, but especially industrial customers, have a huge amount at risk from a waterproofing application," maintains Leonard R. Clark, vice president of research and development at Thompson & Formby, based in Memphis, Tennessee.

### Emission regulations

An increasing number of new or modified waterproofing products are likely to hit the mar-

ket in coming years as national regulations on VOC emissions go into effect. Currently, countries within just five states—Arizona, California, New Jersey, New York, and Texas—have tough VOC regulations in place, many enacted in recent years because the states do not meet federal ambient air quality standards for ozone. Several other states, also with ozone-compliance problems, have less restrictive VOC regulations on the books.

Manufacturers, environmentalists, and state and federal officials are now developing national regulations through the regulatory negotiation process under the Environmental Protection Agency (EPA). According to Ellen Ducey, environmental engineer in the EPA's Office of Air Quality Planning and Standards in Durham, North Carolina, the group is expected to reach a consensus by June, announce the preliminary regulations in the fall, and publish a final version by spring 1994.

Although many manufacturers, contractors, and specifiers don't want to be forced to

cope with new waterproofing products, there is a bright side to the move away from solvent-based products, according to Daniel Belik, enforcement program supervisor in the Rule Development Section of the Bay Area Air Quality Management District in San Francisco. Many of the new products are based on extremely sophisticated chemistry and replace products that have remained unchanged for 30 years. "Eventually, a lot of people come back and say these low-VOC products are a whole lot better than before," maintains Belik.

And the shift away from solvents has definitely improved working conditions for the applicators. Steven D. Wright, division manager for Seager Waterproofing in Greenville, North Carolina, says his crews find waterproofing products more user-friendly now than they were six or seven years ago, when they were almost exclusively solvent-based. As Wright points out with a laugh, "We have no more fires in the buckets."

—Virginia Kent Dorris

Architectural coatings have been regulated since 1988 in New York City and four adjacent counties: Nassau, Suffolk, Westchester, and Rockland; restrictions do not apply outside these areas. Primers, sealers, and undercoaters are limited to 2.92 lb./gal. of VOCs; waterproof mastic coatings are limited to 2.5 lb./gal.; and waterproof sealers are limited to 5.01 lb./gal.

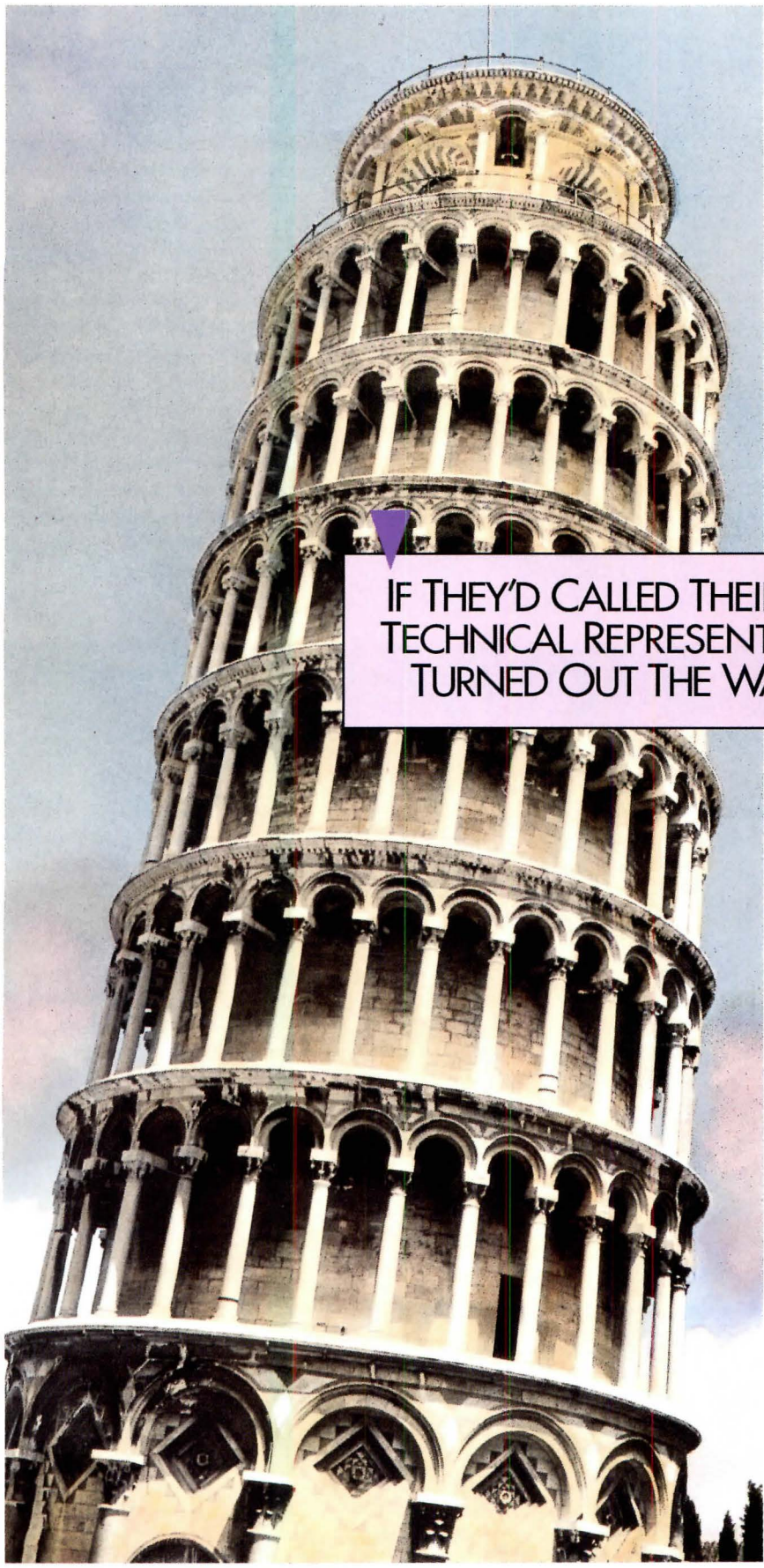
Although architectural coatings regulations have been in effect in Dallas and Tarrant counties since 1988 and are expected to go into effect statewide after July 31, the restrictions govern only paints and do not affect primers, sealers, or other waterproofing substances.

Coatings containing solvents defined as highly photochemically reactive can not be sold or used in containers of 1 gal. or more throughout Ohio or in the city of Philadelphia.

Container size is limited to 1 qt. for highly photochemically reactive solvents. State also prohibits disposal of more than 1.5 gal./day of materials containing VOCs if the solvent is permitted to evaporate into the atmosphere.

Emissions of highly photochemically reactive solvents are limited to 15 lb./day and emissions of nonphotochemically reactive solvents are limited to 40 lb./day, unless the applicant can show that the organic emissions of the coating have been reduced by 85 percent.

Restrictions apply only to the Chicago area. The sale or use of architectural coatings containing more than 20 percent by volume of highly photochemically reactive VOCs in containers of more than 0.5 gal. is prohibited.



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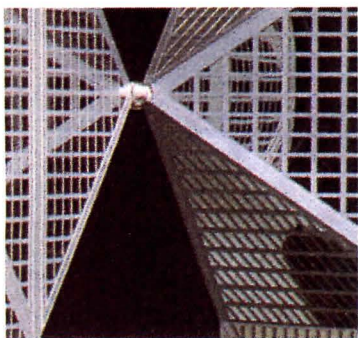
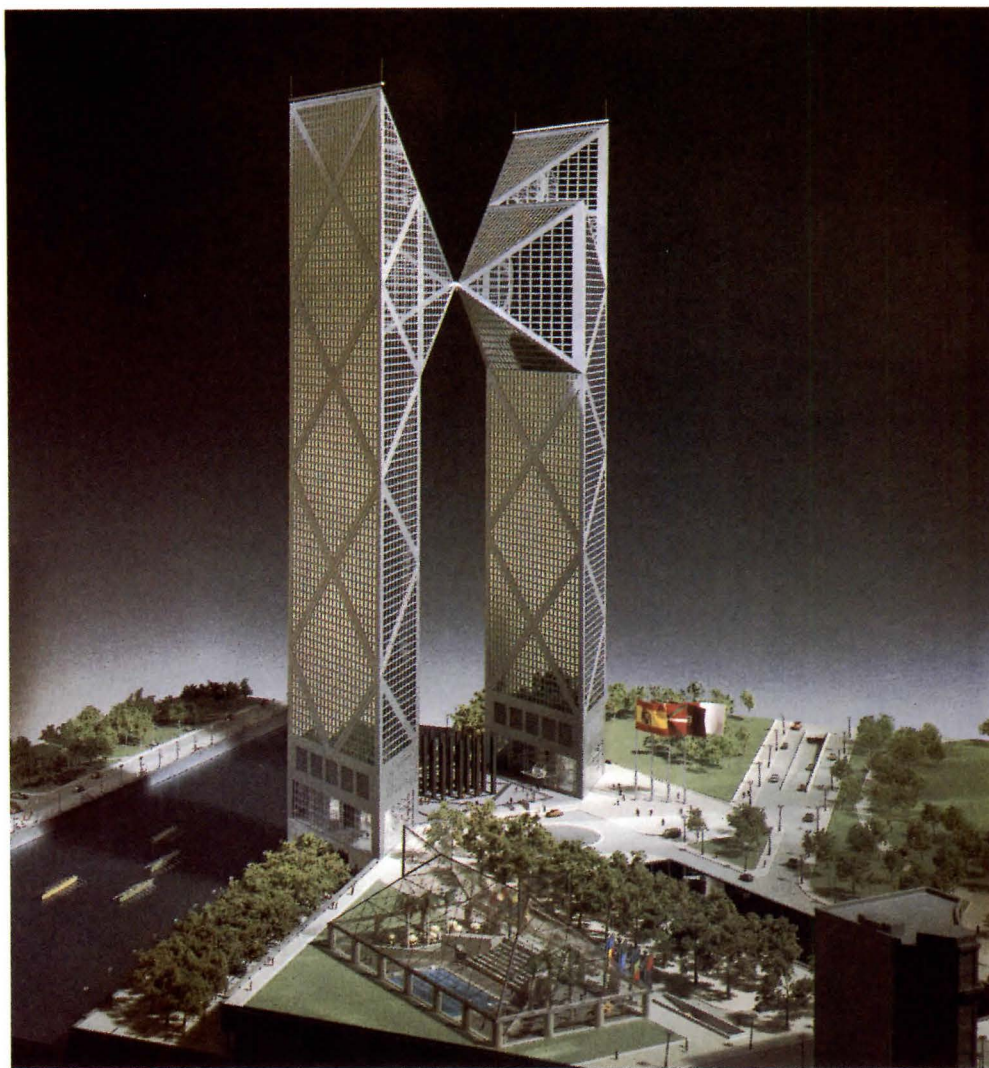
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*The Leaning Tower Of Pisa – Pisa, Italy*



## Color Printers

*Lower costs and new techniques make printers an indispensable presentation tool for architects.*



**TOP RIGHT:** Rendering of Bilbao Emblematic building, Bilbao, Spain, by Pei Cobb Freed & Partners.

**ABOVE:** A 200 percent enlargement of original print of Bilbao building from Iris continuous-tone inkjet printer.

As design presentation software becomes more sophisticated, architects are confronted with the problem of translating a rendering that looks beautiful on the monitor into a beautiful document for a client. Until recently, the only solutions were to shoot slides directly from the screen, print them in black and white or on costly electrostatic plotters, or send computer files to a service bureau that would generate expensive color prints or transparencies. A significant reduction in the cost of color printers, however, along with their increased compatibility with many different computer systems now make this technology a practical purchase for architectural offices.

A few large offices, such as CRSS in Houston, have been using in-house color printers for more than three years. Many smaller firms are on the brink of purchasing a color printer for producing presentations "as soon as the prices and technologies settle down," according to associate Walker Burns of Cen-

terbrook Architects. Because of the explosion in desktop publishing and computer-aided design, color output devices are becoming available at prices that architectural firms may find cost effective.

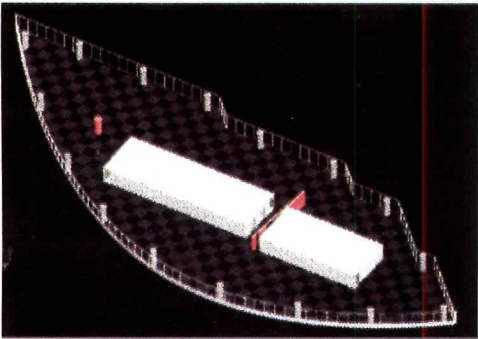
Whether a firm chooses to purchase a color printer or to use a service bureau depends on budget, personnel, and desired reproduction quality. The advantage of a printer in house is the ability to make instant presentations at relatively low cost. Going to a service bureau, however, means that prints can be billed to clients directly as expenses. Some firms find it useful to purchase an inexpensive, small-format printer for making proofs, while sending work out to service bureaus for more exacting details.

### Printer applications

"The days of rubbing sheets of Pantone on presentation boards are gone," maintains Alfred McAnespy, a graphic designer with CRSS Architects. He points out that the greatest



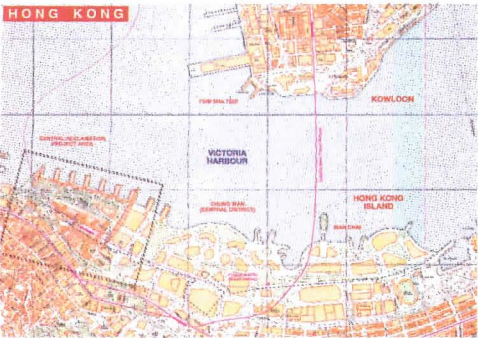
**INKJET PRINT IMAGE:** Printheads spray colors.



**THERMAL-WAX PRINT:** Brilliantly colored image.



**DYE SUBLIMATION MONTAGE:** Realistic, glossy print.



**ELECTROSTATIC PRINT:** Large-scale capabilities.

advantage of color printers is the ability to produce quick, in-house presentations, making it easy to convey complex ideas and impress clients. "It is possible to provide rendered perspectives at any stage of a project—something clients don't ordinarily expect," says Larry Dieckman, a principal of Summerdale Architects in Chicago. Mark Strauss, of Kohn Pedersen Fox, adds that computer-generated color presentation boards enable the firm to create stunning presentations from CAD files, eliminating the long hours associated with rendering presentations. Other practices are taking advantage of printers to create electronic photomontages, combining CAD-generated models with site photography. Mieczyslaw Boryslawski of View by View says 3D models and photomontages are easier for many clients to understand than 2D plans, sections, and elevations.

### Colored dots

Although color printers employ a variety of technologies, they all operate fundamentally the same way. Like typesetting machines, they break down images to be printed into four process printing colors—cyan, magenta, yellow, and black—that are adhered to the printing media as a series of dots of ink, wax, or dye. Unlike plotters, which render images in vectors, or lines, printers "rasterize" the images into a pattern of dots for printing. For the most part, the quality of the printing is far from photorealistic, and visible dot patterns characterize most color prints. The output from most printers is limited to either letter—8½-by-11-inch—or tabloid—11-by-17-inch—size, and almost all models require special coated paper or overhead transparencies, although a few print nicely on plain paper.

### Desktop inkjet

The most common and least expensive color printers, beginning at \$700, rely on inkjet with disposable printheads that spray tiny droplets of process colors. The printer's resolution is determined by the spacing between each nozzle on the printhead, which generally ranges from 150 to 400 dots per inch. Laser printer quality, for example, is 300 dots per inch. Inkjet printers can usually print on plain paper, but most manufacturers suggest using a coated inkjet paper for the best color and to avoid wrinkling and smearing. Designed primarily for business communications, charts, and graphs, inkjet printers are good for printing simple color graphics that require a minimal amount of page coverage. The image quality of most desktop inkjets may not be

acceptable for architectural needs.

Inkjet technology is constantly being refined. For instance, the Novajet plotter/printer uses inkjet technology on a wide format machine that can plot or print up to E-size drawings at a substantially lower cost than electrostatic prints. This kind of device does double duty: Larry Dieckman uses the plotter/printer to make in-progress rendered perspectives for clients as well as to plot working drawings. Novajet sells for about \$10,000. The Canon CJ10 combines a letter-size color scanner, color copier, and bubblejet printer in one box that retails for just below \$7,000.

### Thermal-wax transfer

Thermal-wax transfer color printers offer fast color printing of good, but not photographic, quality. Basic models are priced from about \$3,600 to \$7,000—down from nearly \$25,000 three years ago. Costs depend on output size, processor speed, and memory. These printers require solid wax sheets or page-size ribbons of the process colors and print them on clay-coated paper or overhead transparencies. A heated printing head melts the wax as needed to create an image on the page. When the clay-coated printing media is pulled away, the melted wax is left on the page, leaving a brilliantly colored image, generally much brighter and sharper than inkjets. The prints can be fragile, however, and can chip, scratch, and discolor over time.

The primary disadvantage of most thermal-wax printers is their need for special media. But new models such as the Phaser 200 line from Tektronix print on plain paper by applying a clear primer to the paper before the colored wax is laid down. The SpectraStar thermal-wax printer from General Parametrics can generate 35-mm slides and fabric transfer material for making T-shirts—ideal for outfitting the firm during softball season.

Closely related to thermal-wax printers is a class of printers called "phase change," "hot wax," or "solid ink" printers, such as the Jolt line of printers from Dataproducts and the Phaser III PXi from Tektronix. Prices for these printers range from \$5,000 to \$15,000. These printers liquefy solid blocks or pellets of colored wax as needed and solidify them as they are adhered to the paper, leaving a very crisp pattern of colored dots. The greatest advantage of this technology is that these printers can print reliably on plain paper—or on tracing paper, recycled paper, watercolor stock, or even cardboard. The wax is non-toxic and easily recyclable.

## Continuous tones

High-quality color printing can be recognized by its sharp image quality and continuous tones. Instead of creating a visible pattern of dots on a page, these printers blend the tones, leaving few visible dots or white spaces. These technologies include dye sublimation, color laser, electrostatic, and continuous-tone inkjet printers. Although the price of these printers has recently dropped significantly, they can still be too expensive or require too much maintenance to be cost effective for a smaller practice.

Dye sublimation printers diffuse gaseous dyes, vaporizing colors provided on ink ribbons, onto a special photographic paper to produce high-quality, glossy prints that could be mistaken for photos. They are therefore a good choice for photomontages and realistically rendered models. Dye sublimation printers cost between \$10,000 and \$25,000 and require special printing media.

Like monochrome laser printers, both color laser and electrostatic printers apply colored toner to a charged media. On a large-scale color electrostatic plotter, it is possible to create a color output that is 33 inches wide and up to 12 feet long.

For fine artists who demand precision, continuous-tone inkjet printers, such as the Iris, create very high resolution images on a wide variety of plain papers in sizes of up to 33 by 43½ inches. To make a print, a trained operator wraps the print media around a drum. A cartridge containing the four colors of ink dispenses vegetable inks onto tiny printer heads (each is only 1/7 the diameter of a human hair) that create millions of ink drops a second, each electrically charged. A "magnetic gate" determines which droplets go where on the image. A single, large print takes about an hour to complete and costs as much as \$300. An Iris printer is very expensive to purchase and requires continuous maintenance and frequent replacement of costly inkjet heads. The delicacy of the vegetable inks applied in this process limits the output to soft colors, which can flake or scratch if the drawings are handled extensively.

## Color matching

The most significant problem with color printers, either on the desktop or from a service bureau, is matching the color of images generated on the monitor with the color of the output. Because the colors on a typical computer monitor are made up of red, green, and blue (RGB) pixels of light, as opposed to the cyan, magenta, yellow, and black colors

used in printing, exact matching is impossible. Many of the printers that have been released recently offer Pantone-approved color matching that helps standardize color. New software and color calibration devices targeted to graphic arts users can also help, but trial and error is still the most common method. Peter Toomey, vice president of marketing at National Reprographics, recommends working out a consistent color palette, so that the colors specified on the screen will always yield predictable prints.

## Software and hardware compatibility

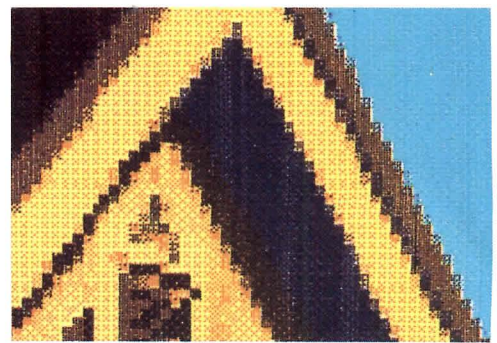
Architecture firms planning to purchase a printer should ensure compatibility between new and existing hardware and software. Authorized dealers can usually determine the necessary hardware connections and can provide the software required to run printers from a desktop. Some printer manufacturers offer several configurations to meet different needs. For instance, Calcomp offers three variations of the thermal-wax transfer ColorMaster Plus: a PostScript printer for creating sharp, high-quality color graphics, such as those created by page layout or image manipulation software; a vector-to-raster printer that converts line drawings into printer files; and an RGB printer that emulates the colors shown on the screen.

Because full-color images can contain millions of dots, the size of computer files created can be enormous. Ken Sanders, an associate architect at Zimmer Gunsul Frasca Architects in Portland, Oregon, estimates that a single 200-dot-per-inch, letter-size color output "could take up between 10 and 40 megabytes of memory, a file size that can take a painfully long time to print." To address this problem, manufacturers offer printers with built-in memory or hard drives to store the images so that the host computer is not tied up with printing. Nevertheless, sending a large image to a printer through cables can take minutes, and the memory added to printers can significantly increase the price.

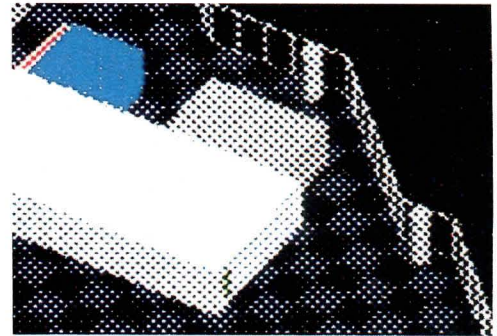
Even with technological advances and lower printer costs, service bureaus are still a key resource for high-quality presentations: They can afford the latest equipment and can supply technical support. Whether used in house or out, the new color printers offer flexibility and create eye-catching presentations without the drudgery of manual techniques.

—Julie M. Trelstad

*Julie M. Trelstad is practice and technology editor of I.D. Magazine.*



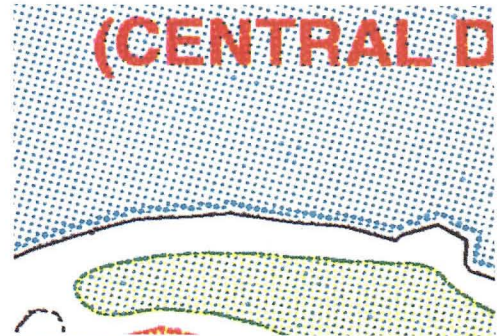
INKJET PRINT IMAGE: 200 percent enlargement.



THERMAL-WAX PRINT: 200 percent enlargement.



DYE SUBLIMATION MONTAGE: 200 percent enlargement.



ELECTROSTATIC PRINT: 200 percent enlargement.

# SOPHISTICATED SPLENDOR



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**Architect:** Opus Corporation  
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Medium Ironspot 46 (Velour Texture)  
Economy Norman (3 $\frac{3}{8}$  x 3 $\frac{3}{8}$  x 11 $\frac{1}{8}$ )

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# Construction Management

*New AIA contracts clarify the architect's role in managing a project from start to finish.*

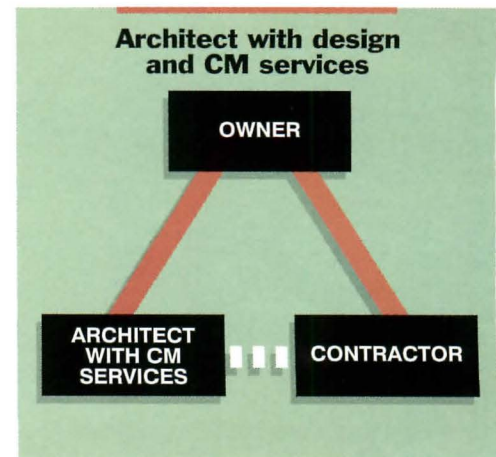
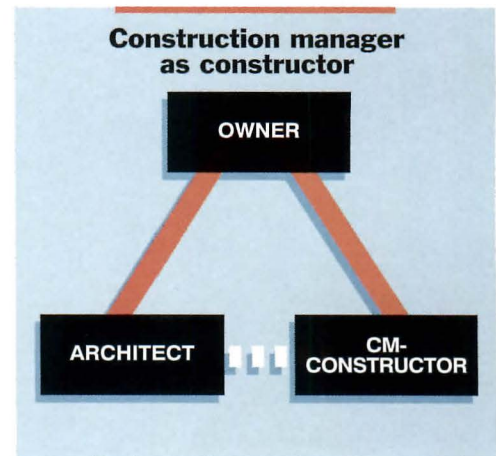
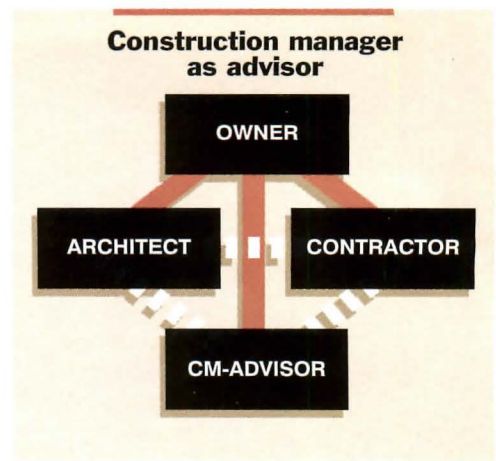
For many architects, construction management has become a dirty word. While some construction managers may be very capable, it is sometimes difficult to separate the professionals from the charlatans who have given this unregulated field a mixed reputation among owners, architects, and contractors. Many architects have endured projects where construction managers with questionable qualifications and motives were forced onto project teams by well-meaning owners. Frequently, the lines of authority are blurred between construction managers and architects, who find themselves burdened by the lion's share of project responsibilities.

Today, rather than surrender the field to such pretenders, architects are taking a second look at construction management as a valuable way of serving clients and a lucrative way of expanding their practices. "Why should an owner look outside the profession?" they ask. "Why can't I take on these construction management functions?" Now architects can offer such services, guided by new construction management contracts from the AIA.

### Defining construction management

Construction management (CM) is defined by contract as a set of services provided to help the client manage a project from concept to completion. To a limited degree, elemental aspects of construction management services are already provided by architects under their standard agreements as administrators of the construction contract. When applied to complex projects, however, construction management also includes relatively new computerized techniques that enable practitioners to attain a high degree of sophistication in managing such projects.

In expanding their practices to include construction management, architects should consider CM's various forms. One requires that the architect serve purely as an independent advisor who provides services in combination with or separate from design services and other construction administration functions. If the architect chooses to go beyond the advisory role and become the builder of the project, he or she can set up a separate branch of the firm, or even another corporation, to handle construction management. Even if full construction management services are not required, an architect can provide—and get paid for—services required by an owner to screen, select, and work with a separate construction manager who may be an engineer, general contractor, or another architect.



**CM HIERARCHIES:** The architect's role varies from independent advisor to designer and manager under different forms of construction management.

*In order to offer clients a package of construction management services, architects should develop greater expertise, either by training or hiring in-house staff, or by engaging outside consultants.*

### **Foundations of construction management**

In large part, clients are the driving force behind the introduction of construction management into projects. Right or wrong, some clients perceive a gap in the services provided to them by architects and contractors and assume that a construction manager will fill that gap. An underlying cause for this perception seems to come from significant changes in client sophistication. The independent client who individually initiates a project is increasingly being replaced by committees, boards, and other groups who act on behalf of stockholders or the general public. It is natural for these new "committee" clients to look for an expert in management to control time and cost, especially since many of them come from management backgrounds themselves.

When new management techniques began to appear in the construction industry, managers who were adept at these technological advances suddenly found themselves in demand. In the late 1950s, the U.S. Navy developed a mathematically based scheduling method called Project Evaluation Review Technique (PERT) to handle the complex scheduling required for constructing Polaris missile-launching submarines. By coincidence, a parallel method called Critical Path Method (CPM) for scheduling time and tasks was developed in the private sector by DuPont. Because those procedures originally required large mainframe computers, their application in the construction industry initially was limited. Today, however, it is possible to devise a CPM for scheduling a small project with personal computer software.

Several other construction management techniques originated from a search for systematic ways to control the cost of buildings. In the 1960s, the Education Facilities Laboratories, a subsidiary of the Ford Foundation, funded research on controlling school-building costs. The Houston architectural firm of Caudill Rowlett Scott (CRS) participated in the research and development of a fast-track method of overlapping construction onto the later phases of design. Although CRS was not the first to adopt the fast-track method, the firm developed an accurate, conceptual cost-estimating method based on building systems. Other participants, such as the Army Corps of Engineers, pushed cost estimating in a different direction and developed a life-cycle cost analysis method called value engineering.

Paralleling the advent of these new techniques was clients' need for better managed public construction. In the 1950s and '60s, New York and other state legislatures enacted

procurement laws mandating at least three prime construction contracts for significant public building projects. In passing this legislation, it was argued that having multiple contracts was more fair than using a single general contractor. The new ruling spread the construction work around to multiple contractors, who became known as multiple primes.

However, the multiple-prime method created its own problems for local school boards who were unfamiliar with construction management and incapable of coordinating contractors, with the result that disputes and lawsuits ran rampant. Around 1965, sensing a market opportunity, Turner Construction Company and other general contractors began to offer their management services to school boards on a fee basis. That is, they would work purely as advisors to the owner and not take financial interest in construction labor, materials, or equipment. In marketing this service, the terms "construction management" and "construction manager" were born, allowing these advisors to differentiate themselves from general contractors.

### **Federal government's role**

Construction management might have remained a localized phenomenon had it not been for the federal government. In the early 1970s, the General Services Administration (GSA) commissioned a study to find a solution to cost and time overruns on federal projects; the resulting report recommended construction management. Almost immediately, GSA mandated the use of independent construction managers on all federal projects under its control.

GSA's decision stunned the construction industry. At the time, there was neither a commonly accepted definition of construction management nor an existing standard contract to establish the responsibilities of a construction manager. In response, the American Institute of Architects, the Associated General Contractors of America (AGC), and the American Consulting Engineers Council (ACEC) formed a joint committee to establish the tenets of construction management. The committee never arrived at consensus on a single definition and was dissolved in 1979. Turf disagreements occurred over whether a construction manager's background should be that of contractor, architect, or engineer.

In the years that followed, the AIA, AGC, and ACEC took divergent paths to construction management, developing contracts to suit their respective points of view. Today, architects are becoming increasingly aware of the

market opportunities for construction management services. Unlike many contractors, architects already have the rudimentary training, knowledge, and disposition for working with clients on a range of management services from project inception to closeout.

In order to offer clients a package of construction management services, an architect should develop greater expertise, either by training or hiring in-house staff, or by engaging outside consultants. In addition, architects need to become familiar with new AIA documents (chart at right) for providing construction management services. They are organized according to the following general categories of CM documents.

#### CM as Advisor (CMa)

- CM serves as an advisor to the owner throughout the course of the project.
- CM does not furnish or commission the labor or materials for the construction of the owner's building.
- The CM-advisor mode places the CM in a solitary, independent role, but CM still works in tandem with the architect for the owner.
- A separate entity (or entities) is (are) awarded the contract for construction.
- The construction contract is frequently awarded by competitive bidding (thus, a lump-sum contract), which makes this the prevalent approach in the public sector.
- The construction team comprises four prime players: owner, architect, construction manager, and contractor.

#### CM as Constructor (CMc)

- CM serves as an advisor to the owner during the preconstruction phase and adopts the role of builder during construction.
- Usually, the CM takes a financial interest in the construction work by giving the owner a guaranteed maximum price.
- On behalf of the owner, the architect checks on the CM's work during construction.
- CM signs all subcontracts for construction. Because the CMc relationship is based on a cost-plus-a-fee arrangement, this approach may be more appropriate for private projects.
- The construction team comprises three primary players: owner, architect, and CM.

#### Architect with CM Services (ARCH-CM)

- An architect can perform separate construction management services using either the CMa or CMc approach. In addition, an architect can combine construction management services with design services under a new amendment to AIA Document B141. ARCH-CM is a merger

## A Guide to AIA Construction Management Documents

Condensed Document Title	CM as Advisor	CM as Constructor	Architect with Design-CM Services
Owner-Contractor Agreement	A101/CMa	See Owner-Construction Manager Agreement	A101
Owner-Architect Agreement	B141/CMa	B141 (with cost-estimating services deleted)	B141 as amended by B144/ARCH-CM
Owner-Construction Manager Agreement	B801/CMa	A121/CMc	See Owner-Architect Agreement
General Conditions	A201/CMa	A201 (as modified by A121/CMc)	A201
Guide: Supplementary Conditions	A511/CMa	A511	A511
Instruction to Bidders	A701	None	A701
Change Order	G701/CMa	G701	G701
Application for Payment	G702/CMa with G703	G702/G703	G702/G703
Construction Change Directive	G714/CMa	G714	G714
Project Payment Application	G722/G723	None	G722/G723

between the architect's design and construction management roles.

- Under ARCH-CM, the architect applies the new management techniques as an advisor for the duration of the project.
- Like the CMA arrangement, the architect does not take a financial interest in the labor or materials required for the building.
- Similar to conventional methods, separate contractors handle the construction work.
- The choice of methods used for awarding the construction contracts is flexible.
- The construction team is composed according to the conventional arrangement: owner, architect, and contractor.

#### Document details

Because the CM-constructor has a financial interest in the construction work, and because the method of compensation is cost of the work plus a fee, the CM-constructor arrangement is likely to be applied in private projects. Public procurement laws generally

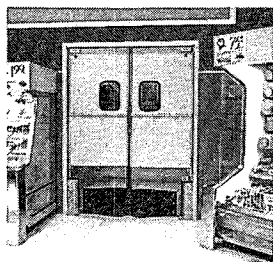
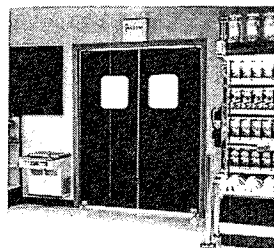
require competitive bidding to award lump-sum construction contracts. The public-private split is central to determining the mode of construction management.

The A121/CMc document is meant to be used with AIA Document A201. Like A201, the A121/CMc assumes that there will be three prime players on the construction team—owner, architect, and CM-constructor (that is, A201's contractor). In addition, A121/CMc assumes that design services will be provided by a duly licensed architect under AIA Document B141, which is compatible with the A201 general conditions. Both A201 and B141 are referenced in the A121/CMc document. Consequently, users of A121/CMc are cautioned to avoid mixing it with any other construction management documents, including, but not limiting to, A201/CMA. It is vital not to mix documents from the CMA category with the CMc or ARCH-CM categories, as this will result in the loss of parallel language and contractual intent.

If an owner wants the architect to provide a package of construction management services, critical business issues must be addressed. Does the architect have the requisite knowledge, experience, and ability to employ the new CM techniques? Most architects possess some management expertise and can provide cost estimating, project scheduling, procurement strategies, contractor screening, and construction administration. But when providing construction management services for an additional fee, those types of services must be more sophisticated. For example, an architect's cost-estimating services under AIA Document B141 are "based upon current area, volume, or other unit cost." This is sufficient to arrive at a ballpark figure during schematic design, but an owner who contracts for construction management deserves a higher level of accuracy.

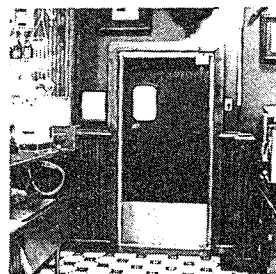
During this phase in the project's development, it is impractical to compile a detailed labor and materials estimate. Heightened accuracy is attainable, however, through use of

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the systems method of conceptual cost estimating, where the project is broken down into separate building systems. An architect can either develop these skills in house, or engage a consultant to provide cost estimates.

#### CM-related liability

Other business implications of CM services involve licensure, insurance, bonding, ethics, and the organizational structure of the architect's firm. Only a few states license construction managers; generally, an architect takes the exam for a contractor's license to become a licensed CM. Without adequate authority as granted through the required licensure, an architect's contract for construction management services may be unenforceable in those few states.

The availability of insurance is dependent upon the selected mode of construction management services. When services are provided on a purely advisory basis, such as with CM-advisor or ARCH-CM, professional liability in-

sureance may be obtained to cover those services. Professional liability insurance is not available to cover the CM-constructor mode, unless preconstruction services can be clearly separated from the CMC's construction services. Unfortunately, this is nearly impossible to do. Other insurance coverage generally parallels items found in AIA Document A201.

Although bonding is not always required on construction management projects, an owner has the option to make bonding mandatory. If bonding is required, an architect who acts as CM will need substantial net worth in order to qualify for such a project. Generally, where bonding is required, the construction manager will come from the construction contractors' ranks because of their greater financial capacities.

If an architect chooses the CM-constructor mode, the architect must fully disclose to the client any potential conflicts of interest so as to comply with the code of ethics and rules of conduct adopted by some state registration

boards. In turn, the client may determine whether to continue with the project despite that conflict of interest. These ethical requirements make it more likely that architects providing construction management will choose to operate as CM-advisor or ARCH-CM.

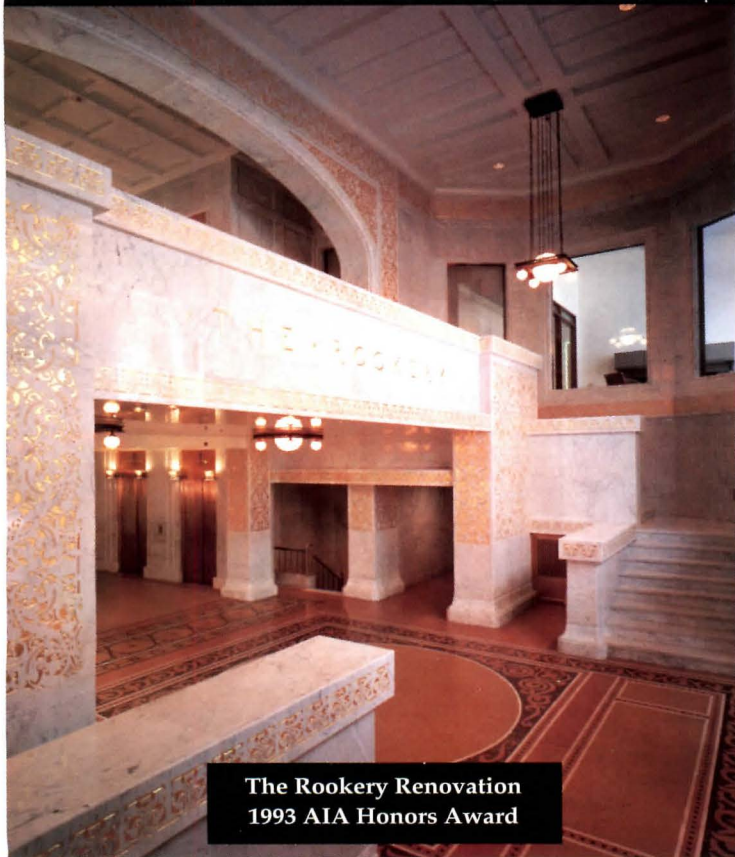
An architectural firm that provides construction management services should evaluate its organizational structure according to how CM will be integrated into the practice—whether outside consultants should be engaged to augment the architect's services, or whether these services will be provided through a separate, affiliated group.

For a guide to construction management, the AIA offers a new video, "CM: A Profitable Way to Expand Your Practice." For more information, contact the AIA in Washington, D.C.: (202) 636-7478.

—Dale Ellickson

*Dale Ellickson, an architect and an attorney, is in charge of AIA's Documents Program.*

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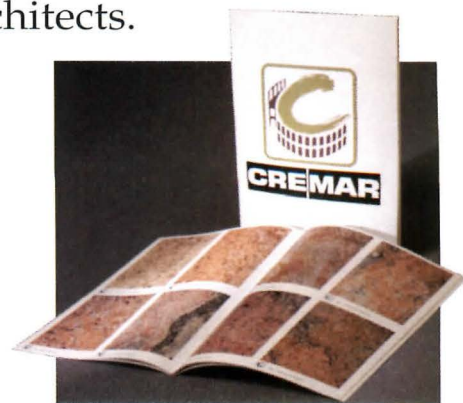
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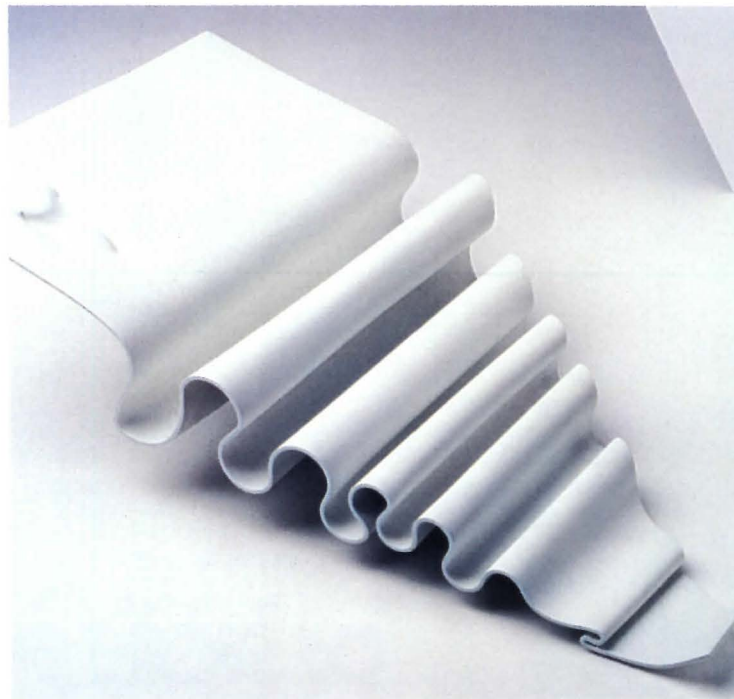
## Products

*Fixtures and finishes for the bathroom offer design versatility.*



**TOP:** Jacuzzi Whirlpool Bath offers Corner J-Dream, a whirlpool bath designed for corner installations. The shower unit features 16 programmable jets; a three-function, fixed shower-head; a hand-held shower with two spray settings; and two full-length mirrors. The Corner J-Dream is enclosed with curved glass doors and measures 36 inches long by 36 inches wide by 81 inches high. The unit is completely assembled for quick installation.  
*Circle 401 on information card.*

**ABOVE:** Grohe America introduces Sinfonia lavatory faucets and matching bath accessories as part of its new Noblesse Collection, which features cross or lever handles. Sinfonia is one of the Noblesse Collection's six contemporary faucet design options and one of four accessory lines. All Sinfonia faucets, Roman tub fillers, shower products, and bath accessories are finished in chrome, polished brass, and 23-karat gold with white or chrome accents.  
*Circle 402 on information card.*

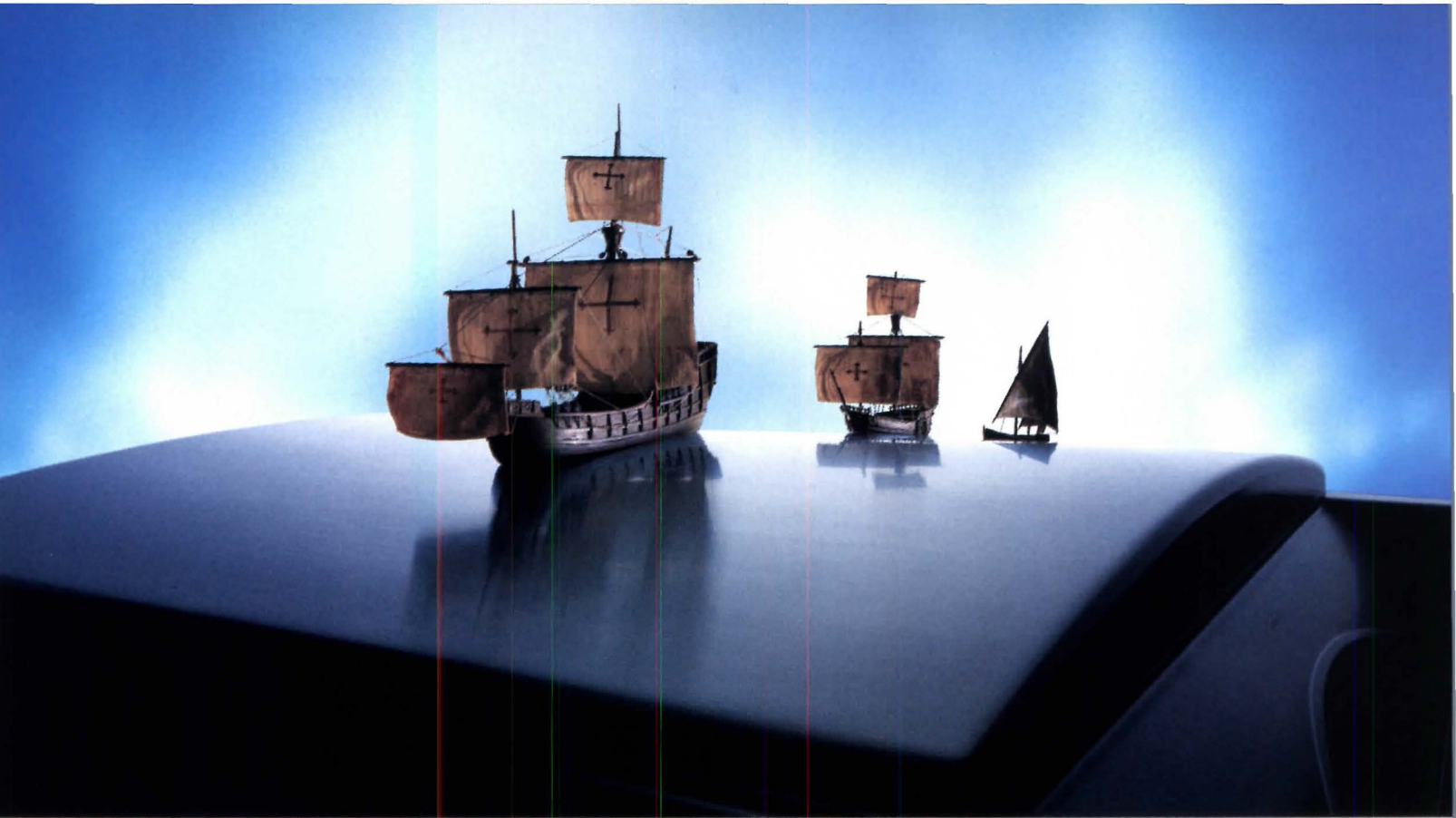


**TOP:** Kohler's single-basin pedestal lavatory from Trocadero's collection flares from a narrow base to support a fireclay lavatory with a basin surrounded by a spacious countertop. The collection's straight edges and arcs are enhanced by the expansive lighted mirror flanked with cabinets finished in bird's-eye maple veneer or painted maple. Kohler's bidets, showers, and whirlpools complement the lavatory and allow for a variety of bath configurations. All Trocadero ceramic and acrylic pieces are available in white; the faucets are offered in polished chrome.  
*Circle 403 on information card.*

**TOP RIGHT:** Jado, a German manufacturer of bathroom and kitchen fittings, hardware, and accessories, introduces the Kevin Walz Collection, a faucet line created by New York-based designer Kevin Walz. It combines traditional faceted faucet designs with modern proportions to create a sleek appearance. The fixtures' metals are

cast or forged rather than stamped, producing a seamless finish. All the pieces are solid and available in gold-plate with polished chrome combinations for highly tarnish-prone applications. Jado offers a five-year warranty on finishes and a lifetime warranty on parts and mechanics.  
*Circle 404 on information card.*

**ABOVE:** Formica Corporation introduces Nuvel, a high-density, mineral-filled thermoplastic polymer that is melted and pressed to form 0.09-inch-thick laminate sheets. This laminate can be reheated as needed and shaped to finish cabinetry, furniture, shelving, and a variety of commercial applications that mimic solid surfacing materials. Nuvel is cut, routed, and filed easily and purported to be more flexible than most solid surface materials; the material resists chipping, breaking, and stress cracking better than most thermoset laminates. It is recyclable and available in a matte finish and five colors.  
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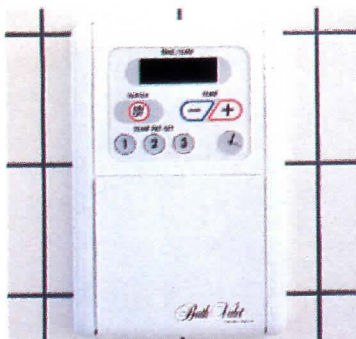
## BOBRICK Contura™ Series

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### Vandal-proof cubicles

Bobrick introduces Thrislington toilet compartments for commercial and institutional facilities. Two series are available with floor-supported components and exceptionally strong frame systems. The 6-foot-high compartment panels are positioned 6 inches from the floor to deter vandalism. The manufacturer's 1200 Lotus Series is constructed of plastic laminates and Corian, offered in various colors, patterns, and wood grains. 1300 Combat Series is constructed of fiberglass-reinforced, scratch- and dent-resistant plastic panels for added durability and is available in three standard colors. Circle 406 on information card.



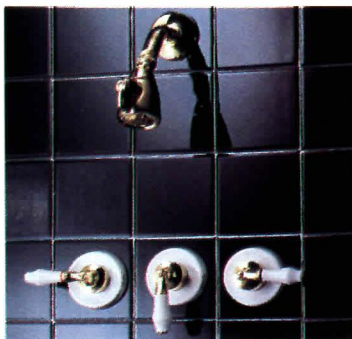
### Temperature gauge

Chicago Faucets developed Bath Valet (above) to eliminate fluctuations in water temperatures and the risk of scalding during a shower or bath. Microprocessors measure water temperature 500 times a second to maintain a preferred temperature and automatically turn the water off if temperature exceeds 115 degrees Fahrenheit. The Valet has a battery backup for an additional safety precaution and accommodates three pre-settings for individual temperature preferences. The unit also can be manually controlled and is available in white, brass, or chrome finishes. Circle 408 on information card.

### Electronic faucets

Speakman offers Sensorflo electronic faucets. These faucets meet ADA requirements and can be installed for barrier-free hygienic operation. Sensor operation conserves up to 85 percent of water usage and lowers energy costs by reducing the volume of hot water. Universal mounting plates allow for installations in renovated or new buildings.

Circle 407 on information card.



### Brass castings

Briggs Industries' new line of two-handled tub and shower faucets (above) is available in white china with polished brass. All of the company's two-handled faucets consist of solid brass castings, without soldered joints or multipiece fabrication. Circle 409 on information card.

### Ceramic wall tile

Laufen International offers Bright Glaze, 6-by-8-inch ceramic wall tiles with floral inserts and matching borders. This tile has a high-gloss surface and complements Laufen's floor, wall, and countertop tiles. Circle 410 on information card.



### Modular kitchen

Snaidero, an Italian-based manufacturer, offers Ola (above), a modular kitchen design by Pininfarina. Stainless steel sinks, cooktops, and cabinets are incorporated to enhance the company's designs. Cabinets are offered in opaque laminates or bright lacquers to produce mirrorlike finishes. Doors are available with lacquered wood framing and safety glass, and all units can be left- or right-hinged. Snaidero's aluminum backsplashes resist heat and are impervious to water, as are its curved stainless steel countertops. Adjustable shelving available. Circle 411 on information card.

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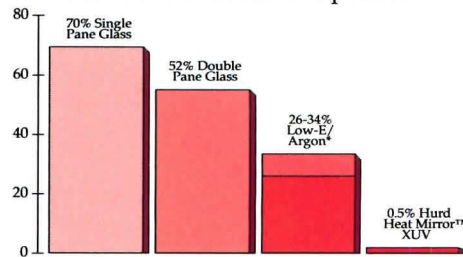
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### Dual bathing unit

Hüppe USA has designed Suite-Mates (top), a whirlpool and shower unit, measuring 7 by 7 feet and constructed of molded fiberglass reinforced with multiple layers. The L-shaped whirlpool contains a contoured armrest with an extra-deep bathing well. The shower assembly is seamlessly attached to the left side of the whirlpool and is also available as a steam bath.

Circle 412 on information card.



### Extended spray spout

Delta Faucet Company, a division of Masco Corporation and manufacturer of commercial and residential plumbing products, offers Handi-Lav faucet (above). This line was previously labeled as the 550 series. The faucet is designed with a pull-out spray spout that extends 30 inches. The 4-inch centerset is available in chrome and polished brass, with a knob or lever handle.

Circle 413 on information card.



### Corner shower unit

Showerlux Canada's Showerround II is a curved corner unit with sliding glass panels positioned behind stationary units. Panels are available in clear or smoked safety-tempered glass. The frame is available in six colors that coordinate the fixed panels with the bath decor.

Circle 414 on information card.

### Lever lock

Best Lock's 7K medium-duty lock-set is an alternative to heavy-duty lever applications. It meets building security and accessibility standards and can be keyed into any current or new Best masterkeyed system.

Circle 415 on information card.

### Replacement tiles

Granirex replacement materials for marble, granite, or ceramic tiles consist of 93 percent stone and 7 percent mineral pigments and resins. Tiles are formed by vacuum-melding small marble or quartzite chips, pigments, and polyester resins under intense pressure; the units are polished, honed, or textured.

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### Decorative tiles

Dal-Tile offers Kibak Tile, glazed interior ceramic tiles designed to complement Kohler furnishings. The tiles are available in patterns of seashells, flowers, and diamonds and can be installed as backsplashes and bath enclosures; they are not recommended for countertops.

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### Lighting control system

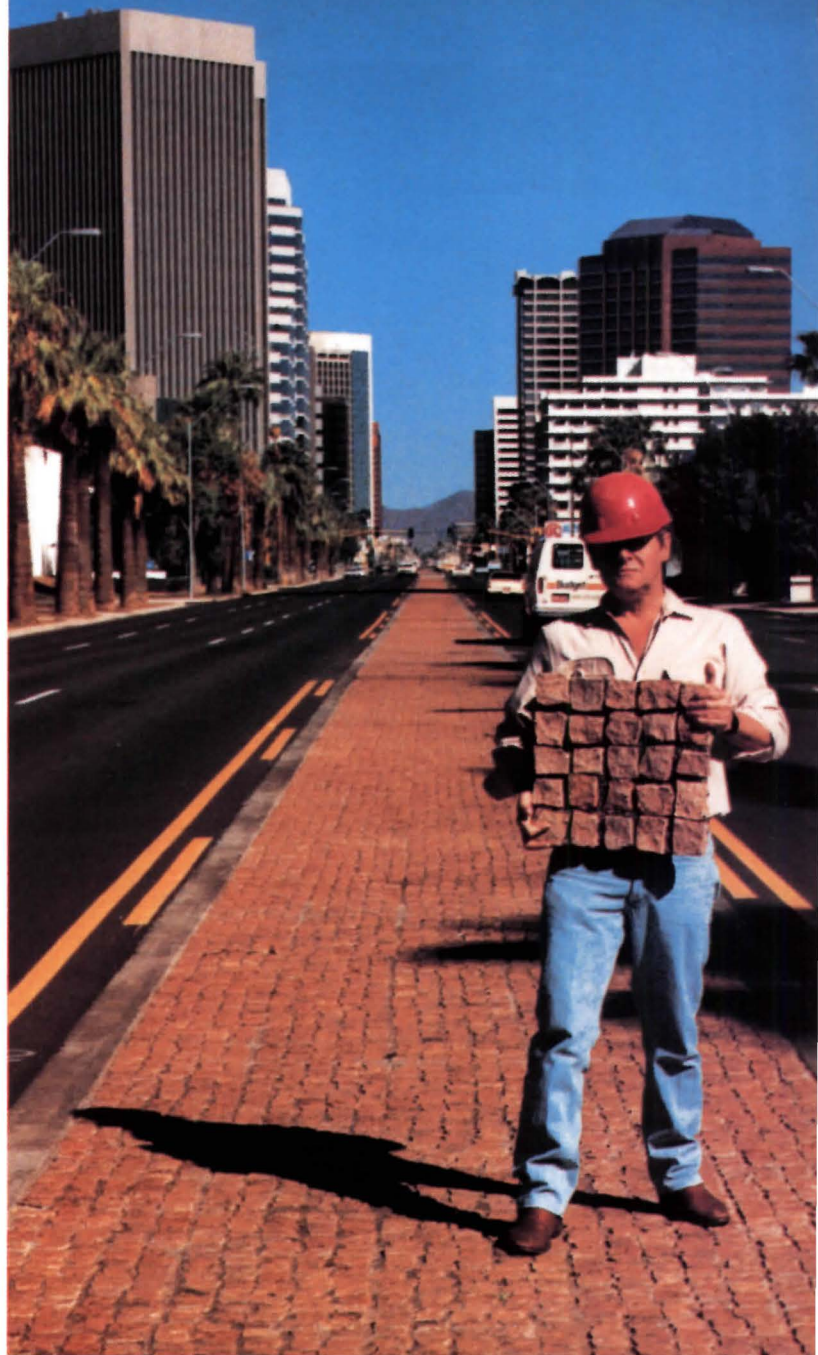
Macro Electronics Corporation's Designer Memory System controls dimmers, power relays, and fluorescent electronic ballasts as well as incandescent, low-voltage, and mercury vapor fixtures. The system can be coordinated with building management systems, security systems, and audiovisual systems.

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### Colonial faucet

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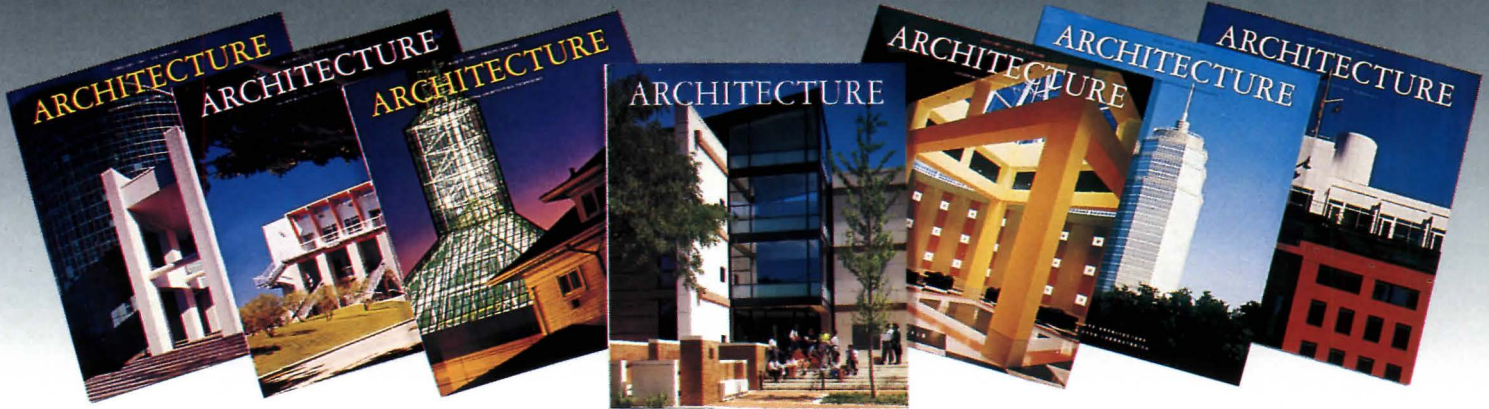
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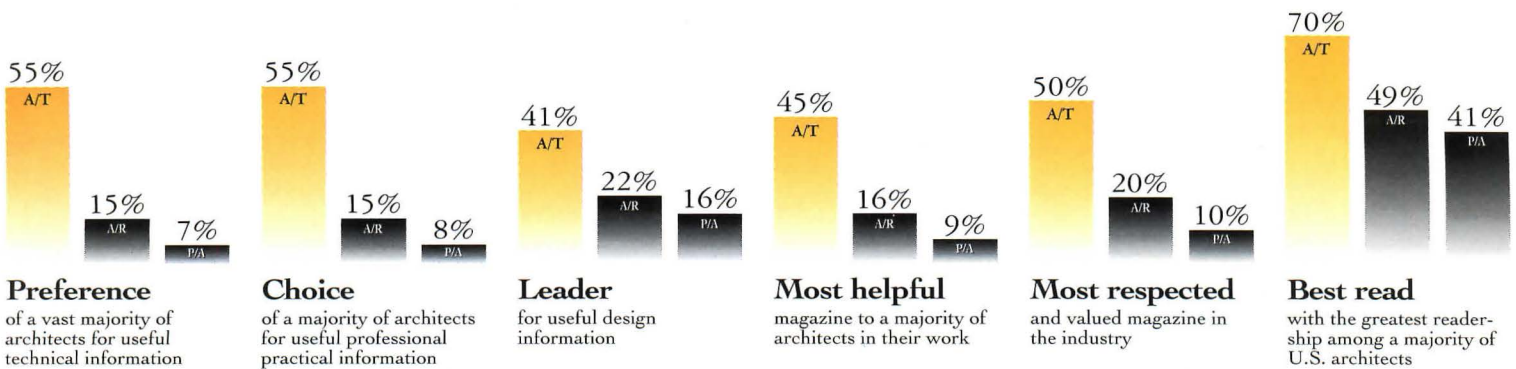
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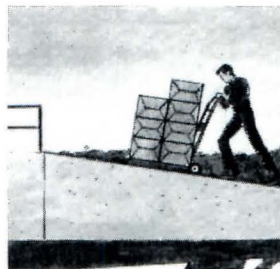
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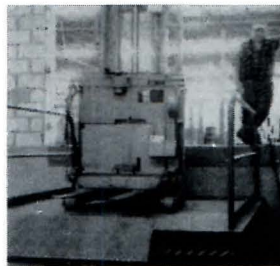
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ENGINEERS: Lim Consultants (structural); C.A. Crowley Engineering (mechanical); Verne G. Norman Associates (electrical)

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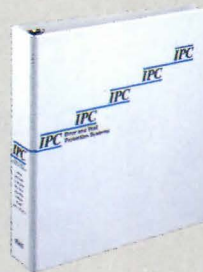


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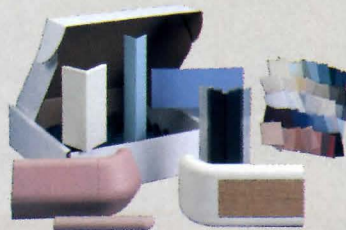
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Eisenman, Richard Trott (partners-in-charge); George Kewin, Michael Burdey (directing architects); Arthur Baker, Andrew Buchsbaum, Thomas Leeser, Richard Morris, James Rudy, Faruk Yorgancioglu (project architects); Andrea Brown, Edward Carroll, Robert Choeff, David Clark, Chuck Crawford, Tim Decker, Ellen Dunham, John Durschinger, Frances Hsu, Wes Jones, Jim Linke, Michael McInturf, Hiroshi Maruyama, Mark Mascheroni, Alexis Moser, Harry Ours, Joe Rosa, Scott Sickler, Madison Spencer, Mark Wamble (project team)

LANDSCAPE ARCHITECT: Hanna Olin  
ENGINEERS: Lantz, Jones & Nebraska (structural); H.A. Williams Associates (mechanical/electrical); C.F. Bird & P.J. Bull (civil)  
CONSULTANTS: Jules Fisher & Paul Marantz (theater/lighting); Jaffe Acoustics (acoustics); Chapman & Ducibella (security/fire); Robert Slutzky (graphics/color); Boyce Nemeec (audiovisual); George Van Neil (specifications)  
GENERAL CONTRACTOR: Dugan & Meyers  
PHOTOGRAPHER: Jeff Goldberg/Esto



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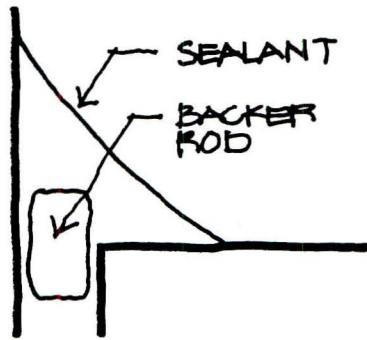
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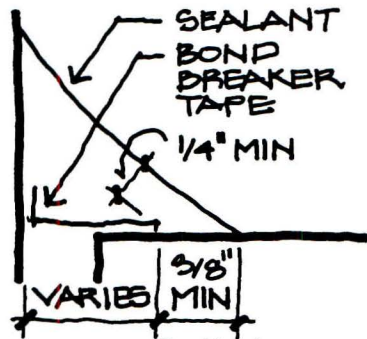
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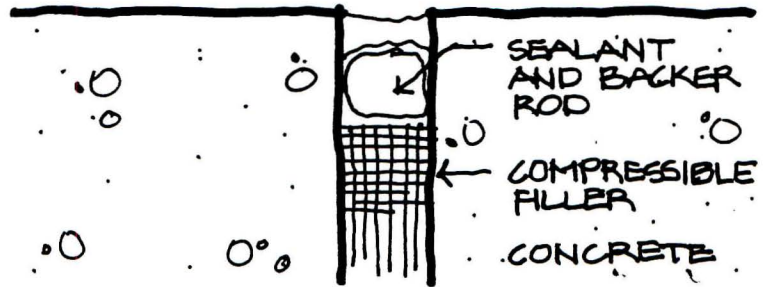
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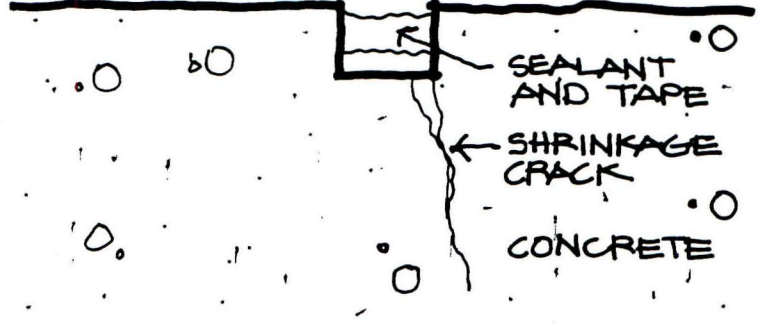
EXPANSION JOINT: Backer rod.



EXPANSION JOINT: Bond-breaker tape.



EXPANSION JOINT: Used when expansion equals or exceeds contraction.



CONTROL JOINT: Accommodates shrinkage in concrete products and systems.

## Joints and Sealers

CSI Section 7900

### Control and Expansion Joints

The terms "control joint" and "expansion joint" are often confused with one another, but they are not interchangeable. The two joints differ in both function and configuration.

Control joints are designed to accommodate the permanent drying shrinkage experienced by Portland cement-based products such as concrete, stucco, and concrete masonry. When this inevitable shrinkage occurs, cracking results. Reinforcement can minimize cracking, and the location of the cracks can be regulated by raked or formed control joints. In concrete systems, drying shrinkage always exceeds any subsequent thermal expansion and contraction, so the joints can accommodate this movement after the initial cracking has occurred.

Expansion joints are designed to accommodate movement in which expansion will be equal to or greater than contraction. They are continuous, open joints sometimes fitted with a soft filler material to keep out construction debris. The filler material must be at least as compressible as the sealant which is applied to ensure the joint is weather resistant. Whereas control joints are only appropriate for concrete products and systems, expansion joints of various types are

suitable for metal, plastic, wood, and clay masonry systems, as well as between different materials or building components.

Triangular fillet joints may be applied between adjacent panels in non-parallel planes, such as the inside corners of walls or at the window and door setbacks where access is difficult for the proper tooling of a butt joint. To accommodate cyclical movement, however, fillet joints must incorporate a backer rod or bond-breaker tape. A conventional round backer rod can be used when there is adequate space between the abutting surfaces, with the rod left protruding 50 percent above the joint surface. Bond-breaker tape is more commonly applied when the joint opening is smaller.

To calculate the width of the bond breaker, divide the combined thermal and moisture movement by the sealant rating. If the joint is expected to move  $\pm 3/16$  inch, and the sealant is classified with a  $\pm 25$  percent movement rating, the bond-breaker tape must be  $3/4$  inch ( $3/16$  inch divided by  $1/4$  inch). The sealant thickness should be a minimum of  $1/4$  inch, and the adhesion width should be a minimum of  $3/8$  inch. It is advantageous to use a conventional round backer rod whenever sufficient space permits its proper placement.

Christine Beall, AIA  
Christine Beall Architect  
Austin, Texas

## Acoustical Ceilings

CSI Section 09510

### Perforated Metal Decks

Perforated metal decking is often specified in gymnasiums, natatoriums, and other high-ceilinged areas where acoustics are important. Glass fiber insulation above the perforated sections absorbs sound.

Subtle differences in how perforated decking is specified and installed can dramatically affect the overall acoustical performance. To maximize acoustic benefits for flat roofs or those with gradual inclines, perforations should be located on the horizontal portions of the deck, rather than on the vertical flutes.

You should specify that the insulation be suspended from the back of the perforated deck face before the ceiling is painted to ensure that the insulation does not bridge the perforations and allow paint to fill them.

Brian Kubicki  
Acoustical Design Group  
Mission, Kansas

Architects are encouraged to contribute their practical suggestions about specifications and detailing, including drawings, for publication. Send submissions to:

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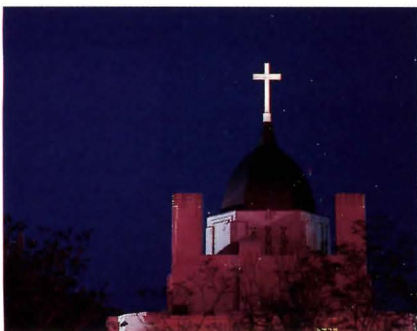
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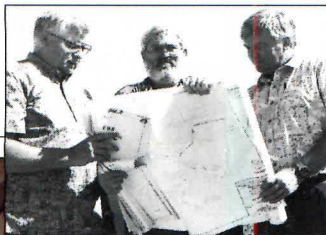
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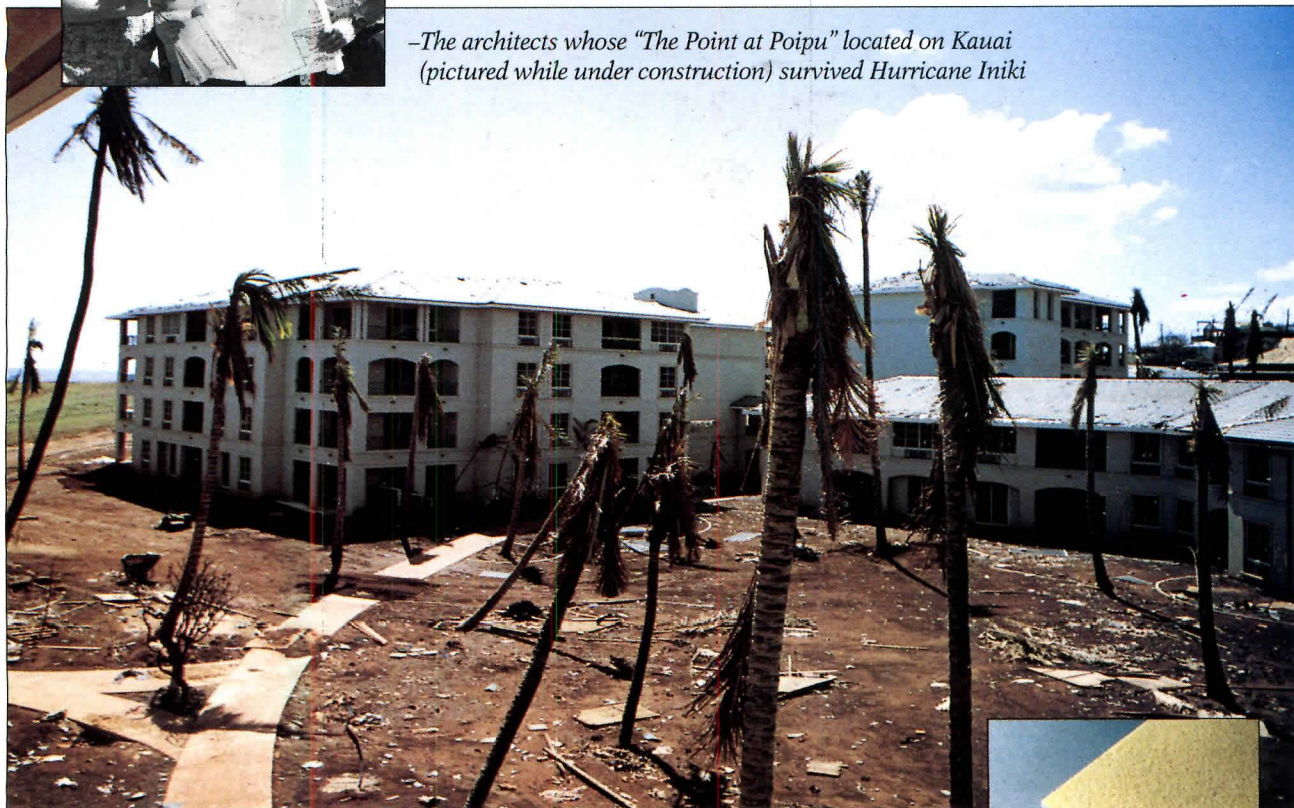
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*"We chose G-P Dens-Glass® Gold to protect the project from moisture. We were not expecting a hurricane."*



*-The architects whose "The Point at Poipu" located on Kauai (pictured while under construction) survived Hurricane Iniki*



Architect: Group 70 International, Inc./General Contractor: Fletcher Pacific Construction Company

**G-P:** You figured you'd use Dens-Glass® Gold to keep moisture out of the condos, and it ends up ...

**ARCH:** ...helping the condos stand up to hurricane force winds as well. The combination of the synthetic plaster we used and the Dens-Glass Gold gave the condos more structural stability than regular gypsum board could have.

**G-P:** You counted on Dens-Glass Gold for protection from sea spray, right?

**ARCH:** Yeah, constant sea spray riding in on lovely breezes up to 42 knots. That was a key reason we specified Dens-Glass Gold—paper-face can't touch it for moisture protection.

**G-P:** So when Iniki arrived, the condos survived the winds and the rain.

**ARCH:** Frankly, we were astonished. You know, over 85% of the buildings on the island were damaged. No one would have expected Dens-Glass Gold to withstand that kind of storm. But it is made for high performance. Its construction is totally unique. Silicone and fiberglass, right?

**G-P:** Silicone-treated core and embedded fiberglass mats front and back, with the gold-colored alkali-resistant coating.

**ARCH:** And it's those fiberglass mats that make it more stable than paper-face.

**G-P:** By the way, G-P backs Dens-Glass Gold with a six-month limited warranty against moisture deterioration when it's fully exposed to the weather. It's also warranted for 5 years against manufacturer defects.\*

**G-P:** So, you're a pretty satisfied customer?

**ARCH:** And you're a master of understatement.

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