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Business Design Engineering  
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June 1986





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Design professionals will wait in vain for any significant relief from the present tort/insurance system. The article in your December 1985 issue (page 18) entitled "Liability: the feds step in" holds out false hope.

The present tort/insurance system—the death, destruction, disaster, disease, and disability industry—is enormously profitable. It is profitable for lawyers (both plaintiffs' lawyers and defendants' lawyers) and it is profitable for property and casualty insurance companies. It is one of our hottest growth industries.

Insurance companies and lawyers have political clout; design professionals do not. Appointing a Department of Justice panel to seek "responses to the current crisis of the tort system" is asking one of the foxes to guard the chicken coop.

The lawyers, both defense lawyers and plaintiffs' lawyers, oppose significant change. The contingent fee system is a favorite target of critics of the system, but the hue and cry about contingent fees obscures more than it enlightens. The Defense Research Institute, which usually mirrors the view of the insurance companies and the defense lawyers they hire, has lent editorial support to the contingent fee system. Sherman, *On Contingent Fees*, 24 For the Defense 1 (September 1982). For every plaintiff's lawyer on a contingent fee there is at least one, and frequently several, defense lawyers clocking dollars by the hour.

A special committee of the American Bar Association recently has said a resounding *No* to proposed changes in the medical malpractice system. Taylor, Jr., "Lawyers-vs.-Doctors Battle on Malpractice Builds," *New York Times*, February 4, 1986, p. 1. A blue-ribbon panel of the American Bar Association headed by former United States Attorney General Griffin B. Bell carefully examined the tort/insurance system and in an encyclopedia-sized report found it to be basically sound. *Towards a Jurisprudence of Injury*, Report to the Special Committee on the Tort Liability System, November 1984.

So much for the lawyers. What about the insurance companies? The United States property and casualty insurance companies are *not* strongly motivated to reduce the costs of the present tort/insurance systems. Franklin W. Nutter, president of the Alliance of American Insurers, recently wrote, "The liability system is the fuel that runs the insurance engine." Nutter, "Search for Stability," *Business Insurance*, June 17, 1985, at 21.

poker parlor in Burns, Oregon. If there were \$10 in the pot, Uncle Ray raked off 50 cents; if there were \$100 in the pot, he raked off \$5. Do you think he wanted the stakes lowered? Insurance companies do not want the stakes lowered. They want "tort tinkering," not tort reform.

Consumer advocates such as Ralph Nader seem to have a kinship with the plaintiffs' lawyers' bar and view the tort/insurance system as a mechanism for curing the evils of American business. They are either opposed to reform or are neutral. The same can be said of labor union leaders.

With respect to personal injury claims, 75 cents of every insurance premium dollar goes to insurance companies and lawyers. Only 25 cents goes to compensate persons injured. While it is comparing apples to oranges, I think it is worthwhile to note that our "bloated bureaucratic" federal Social Security Administration charges only 1.8 cents to deliver 98.2 cents to its beneficiaries.

So much for the lawyers and the insurance companies. What about the politicians? New York's Senator Alphonse D'Amato announced, "There will not be federal tort reform in my lifetime, nor in my children's lifetime, nor in my grandchildren's lifetime."

I have a strong hunch that most design professionals decry the system and then send their daughters and sons to law school.

In our democracy, the public must share the ultimate responsibility. The public apparently likes the present system. They vote for it at the polls and they vote for it with their dollars by paying higher costs for goods and services. While lawyers and insurance industry allies dominate our local, state, and federal legislatures, they are elected by non-lawyers. We are getting exactly what we vote for and exactly what we pay for.

*Eugene R. Anderson  
Anderson Russell Kill & Olick,  
P. C.  
Attorneys and Counselors at Law  
New York City*

#### Corrections

With the article "Finance: little growth on this high plateau," by Joseph Spiers (RECORD, April 1986, page 41), Charts 1, 2, and 4 should have been labeled \$, though % was correct for Chart 3.

In the story on the shop for The Pace Collection (RECORD, April 1986, pages 98-103), credit for lighting design should have gone to the firm Light & Space, with Peter Barna as principal and Patricia Farber-Fleming as senior designer.

#### Through July 6

*Louis H. Sullivan: Unison with Nature*, an exhibit of more than 40 fragments of architectural ornament designed by Sullivan from the Louis H. Sullivan Architectural Ornament Collection at Southern Illinois University at Edwardsville; at the Octagon Museum, Washington, D. C.

#### June 5 through July 30

*Hugh Ferriss: Metropolis*, an exhibition of drawings, sponsored by the Architectural League of New York; at the Whitney Museum at Equitable Center, 787 Seventh Ave., New York City.

#### June 18-20

"Water Works: A Great Lakes Waterfront Workshop," a regional conference discussing waterfront planning and development, sponsored by the Center for the Great Lakes of Chicago and Toronto and the SeaGate Community Development Corporation of Toledo; at the Sofitel Hotel, Toledo. For information: The Center for the Great Lakes, 435 N. Michigan Ave., Suite 1733, Chicago, Ill. 60611 (312/645-0901).

#### June 20-22

30th annual convention and exhibit, the Construction Specifications Institute; at the Los Angeles Convention Center. For information: the Construction Specifications Institute, 601 Madison St., Alexandria, Va. 22314 (703/684-0300).

#### June 21 through August 28

*Liberty: The French-American Exhibition*, an exhibit including models, bronzes, and architect's drawings of the Statue of Liberty; at the New York Public Library, New York City.

#### June 23-27

A/E/C Systems '86, the seventh international computer and management show for design and construction; at McCormick Place, Chicago. For information: A/E/C Systems '86, P. O. Box 11318, Newington, Conn. 06111.

#### June 29 through July 2

79th annual convention and exhibit, Building Owners and Managers Association International; at the Hyatt Regency Hotel, Chicago. For information: Charles T. Glazer, Staff Vice President, Meetings and Convention, BOMA International, 1250 I St., N. W., Suite 200, Washington, D. C. 20005 (202/289-7000).

#### July 1-3

International Climatic Architecture Congress, sponsored by Université Catholique de Louvain, Belgium; in Belgium. For information: International Planning Associates, Inc., 5010 Sunnyside Ave., Suite 303, Beltsville, Md. 20705 (301/345-8800).

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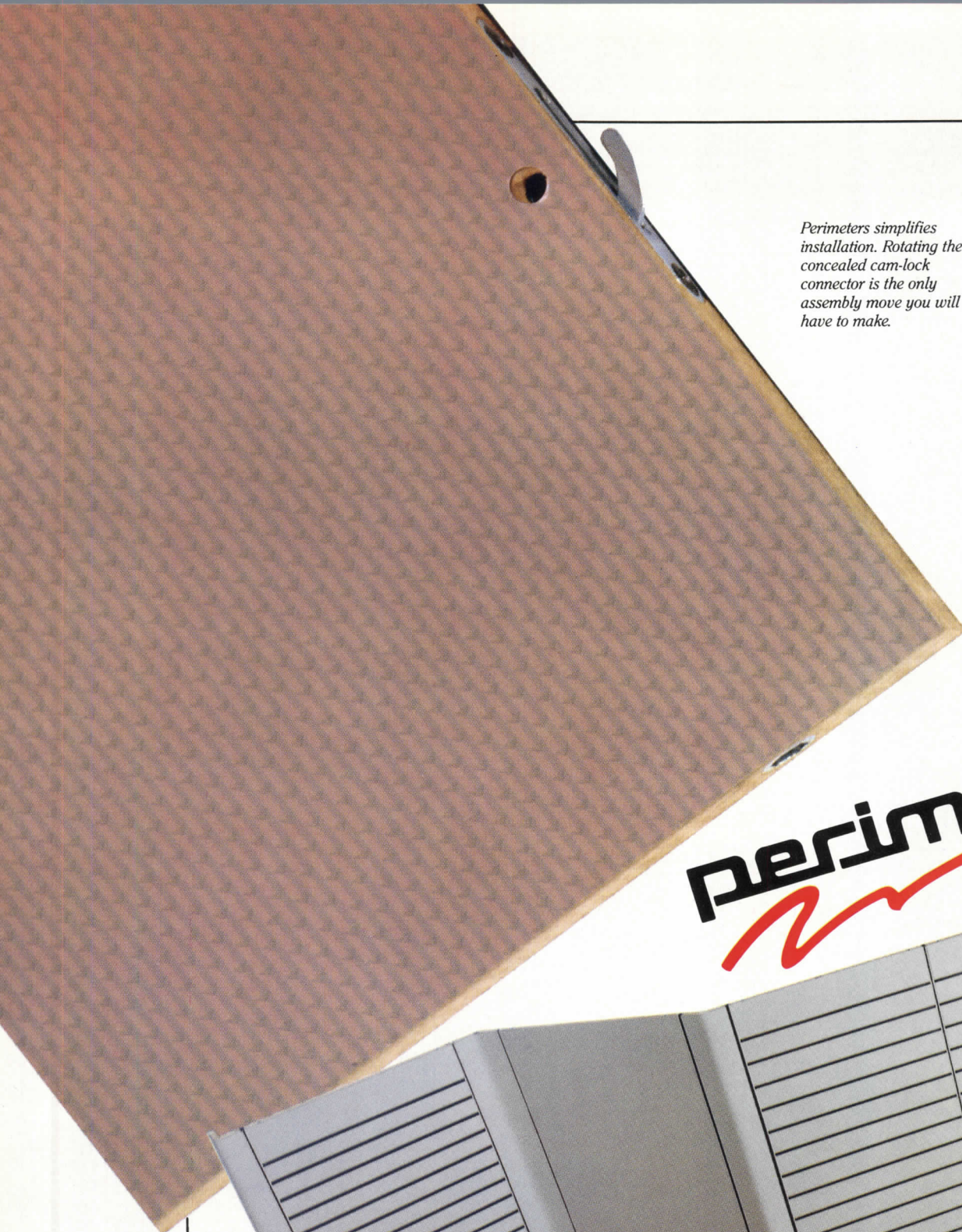






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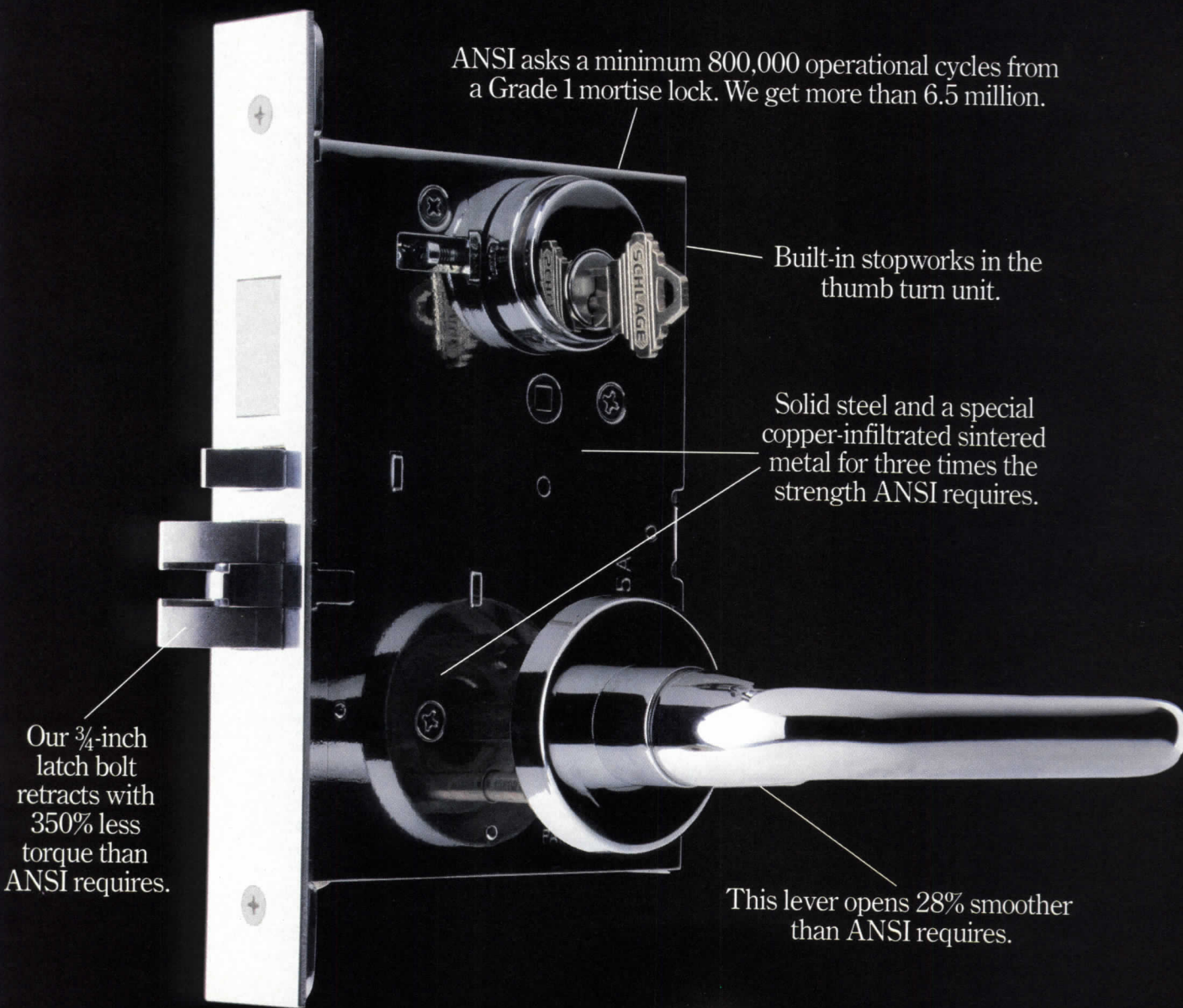
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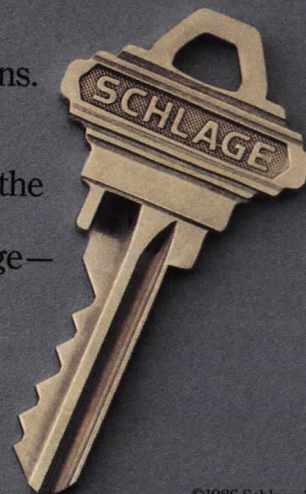
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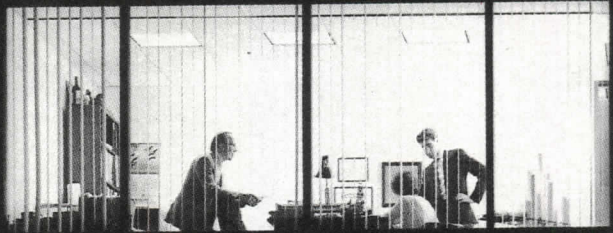
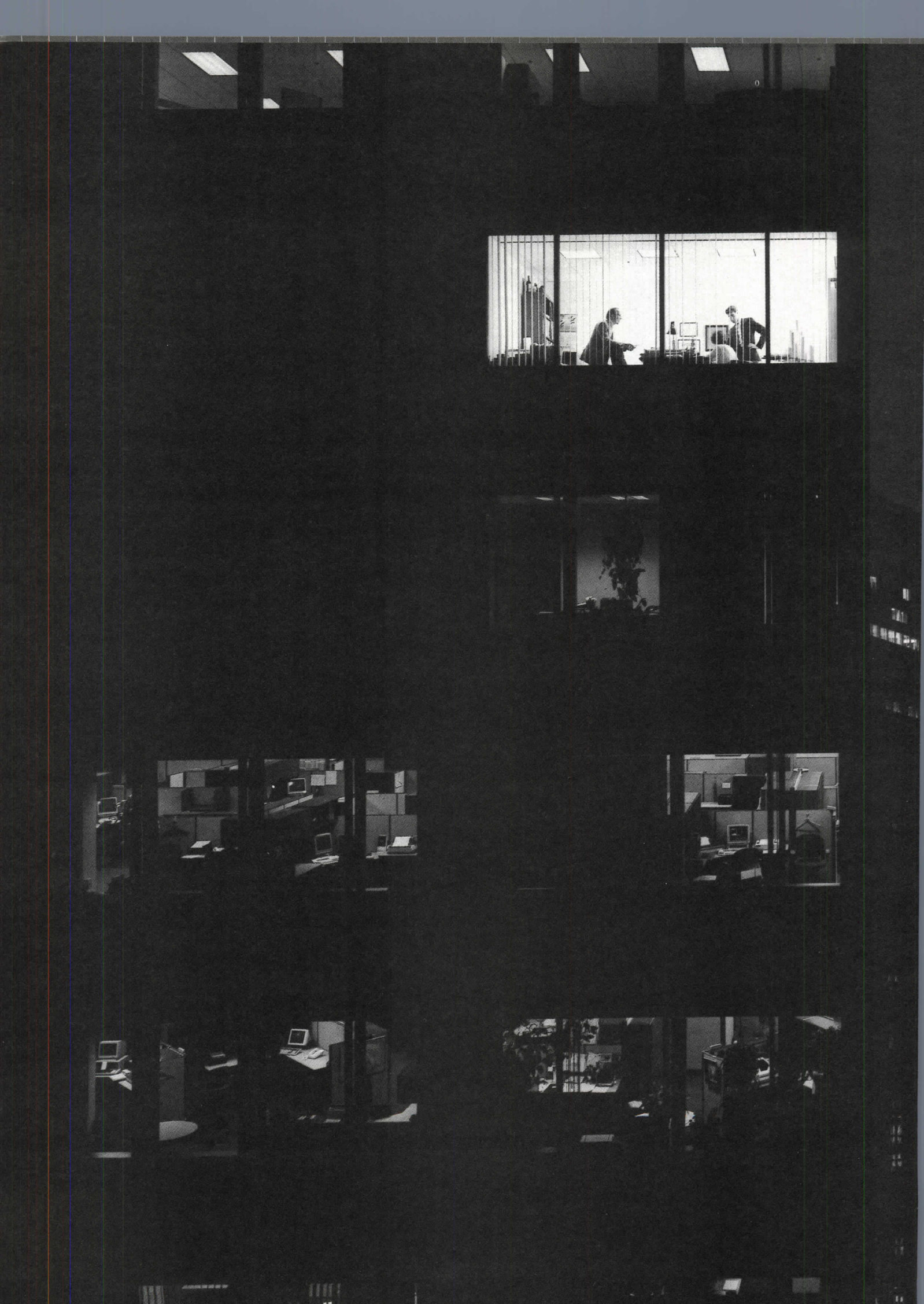
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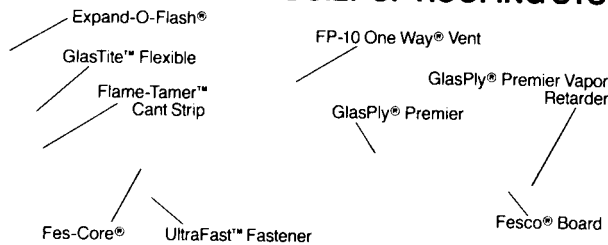
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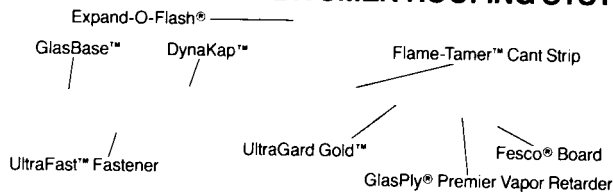
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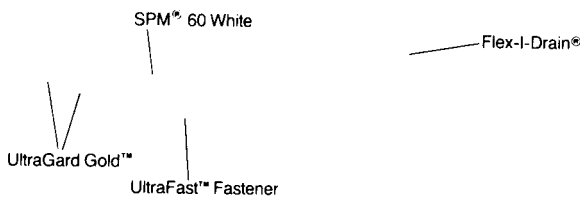
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A passion for authenticity in restoration and renovation sometimes goes unnoticed. And nothing could make the architects of this municipal building renovation happier. They gleefully recall a local resident's comment: "I looked at the building and I don't see that you did anything. Why did they pay you to do nothing?"

Nothing, indeed. The historic 1914 Municipal Building in Sewickley, Pennsylvania, has been restored inside and out. Council chambers have been renovated, administrative offices expanded, a conference room added along with an elevator tower and a wing for fire department apparatus. The intent was to restore the existing building and have all additions match the original in kind, in both materials and design. It shows, or doesn't show, in everything from the original brass hardware to the red common brick of the new additions to the custom Pella Windows.

## Custom Pella sizes and colors.

Custom Pella Windows were a vital part of the project. No other wood window manufacturer could provide the custom sizes and custom clad color the project required, with the quality the architects demanded.

Drafty, white double-hungs and basement windows were replaced with custom Pella Clad Double-Hung and Awning Windows. The architects "didn't want to look at the building and see a window and a window and a window" but rather intended the whole of the exterior to work together for a monolithic look. So Pella Clad Windows were specified in a custom tan enamel finish that matches the cleaned Cleveland limestone of the building's foundation.

Only Pella offers custom colors in aluminum cladding, adding just a week to normal delivery time. The baked enamel finish resists fading, chemical attack, chalking, chipping, peeling and cracking so the windows need no painting.

Inside, the natural wood beauty of Pella Windows complements the original oak woodwork, doors and molding which were carefully preserved.

The Pella Clad subframe system neatly covers the exterior of the old wood frame and allows for installation from indoors. Since no scaffolding or cranes were needed, the Sewickley Council of Garden Clubs could do the landscaping unimpeded.

## Lower heating and cooling costs.

Some things, like the charming hose-drying tower, are used today as they were in horse-and-firewagon days, but many things needed a drastic update. The building's energy efficiency, for instance. Pella's Double Glazing Panel System was specified for all Pella Windows, giving nearly an inch of insulating air between panes. The perfect space for the removable wood muntins, safe from dust and damage.

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Sewickley, Pennsylvania

Architects

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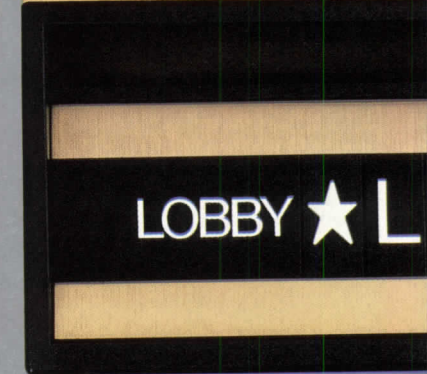
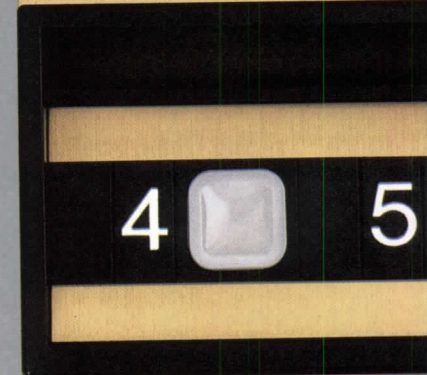
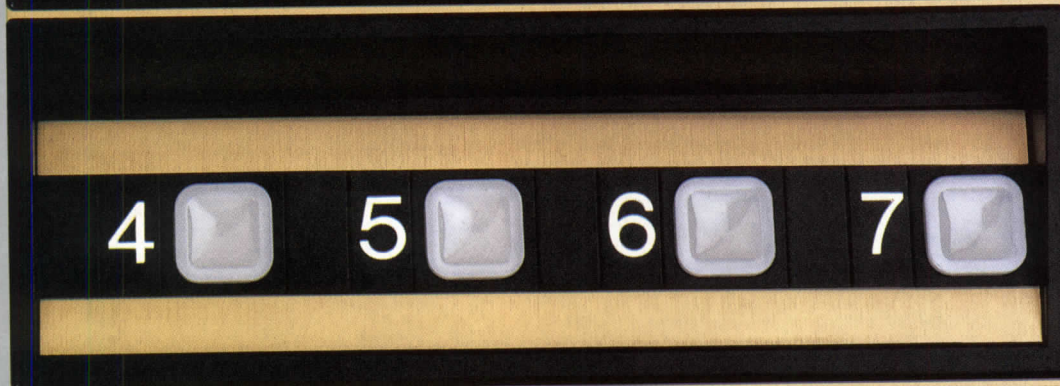
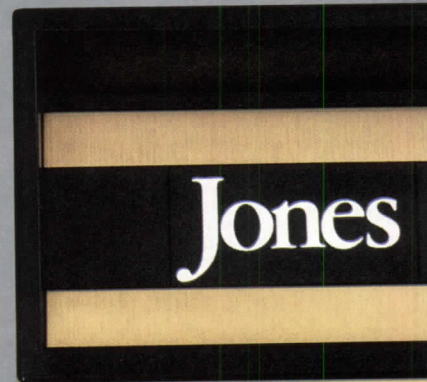
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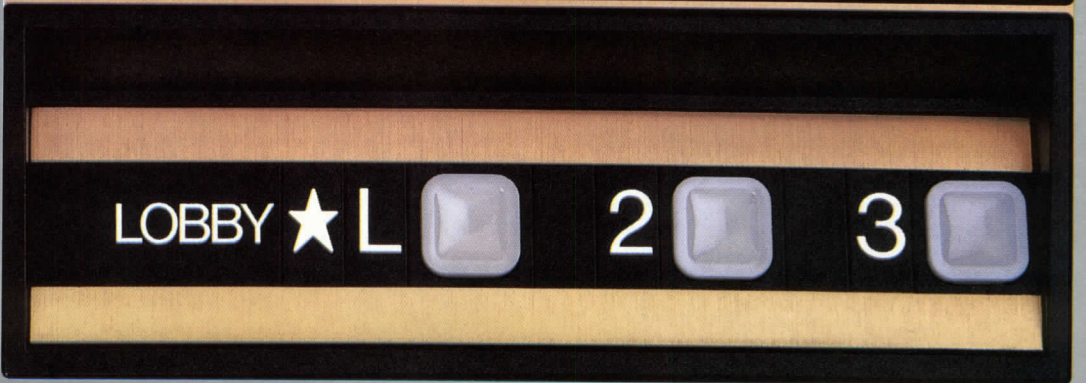
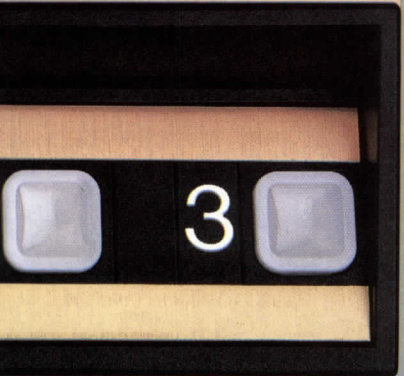
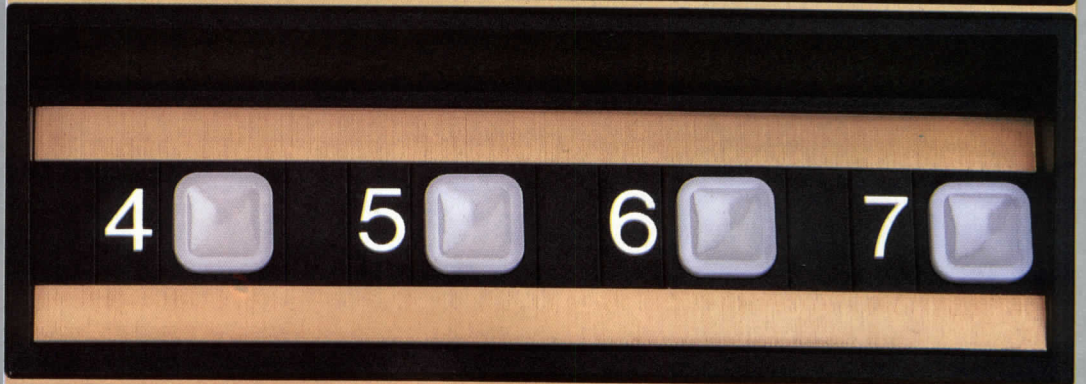
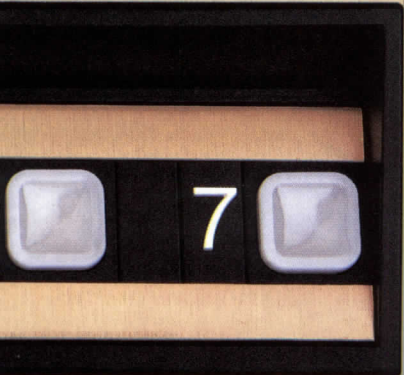
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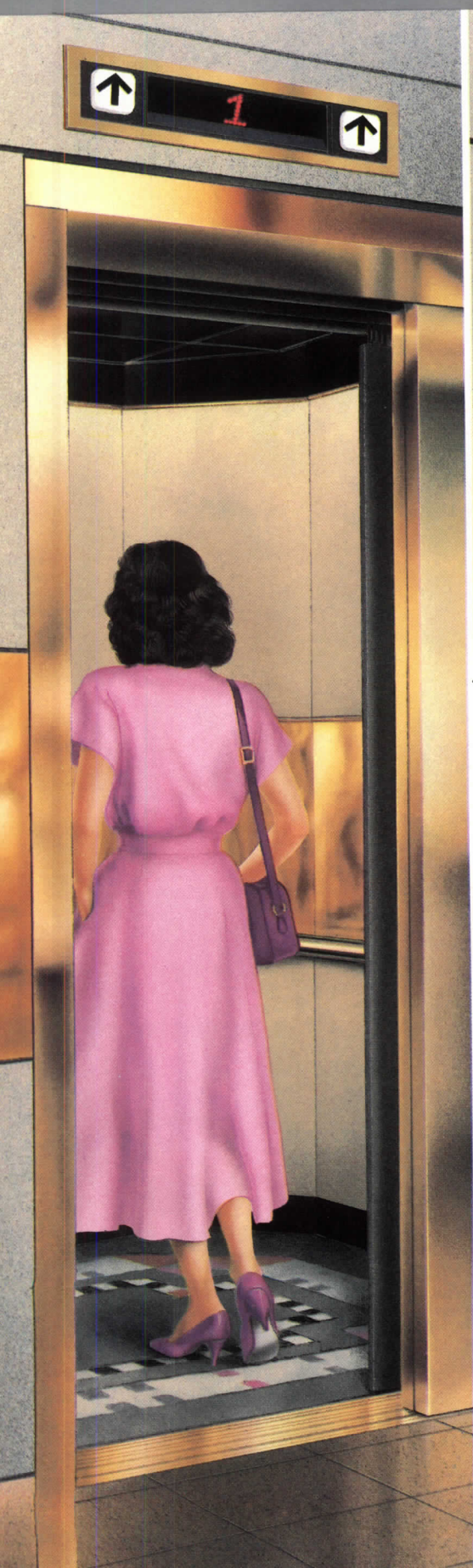
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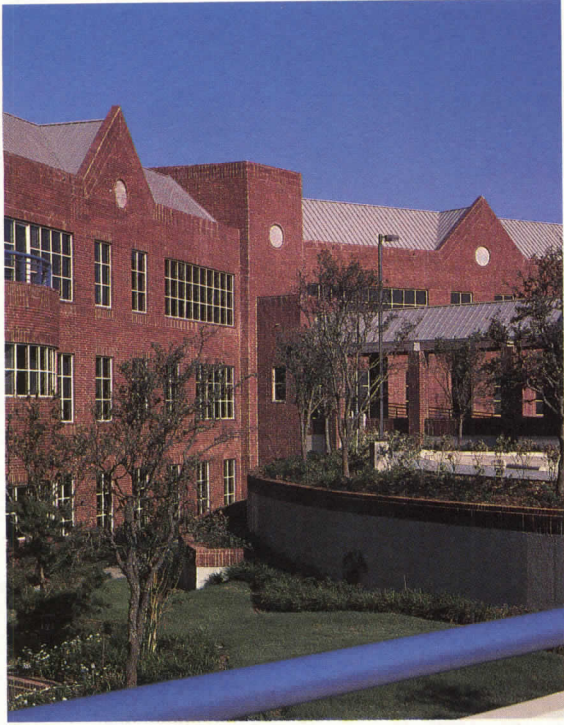
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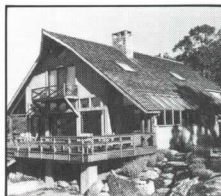


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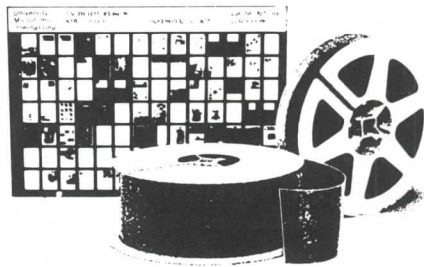
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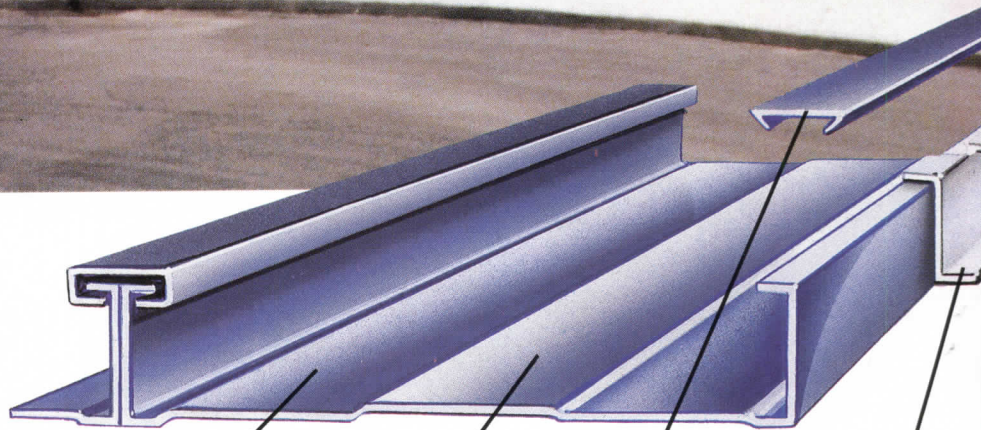


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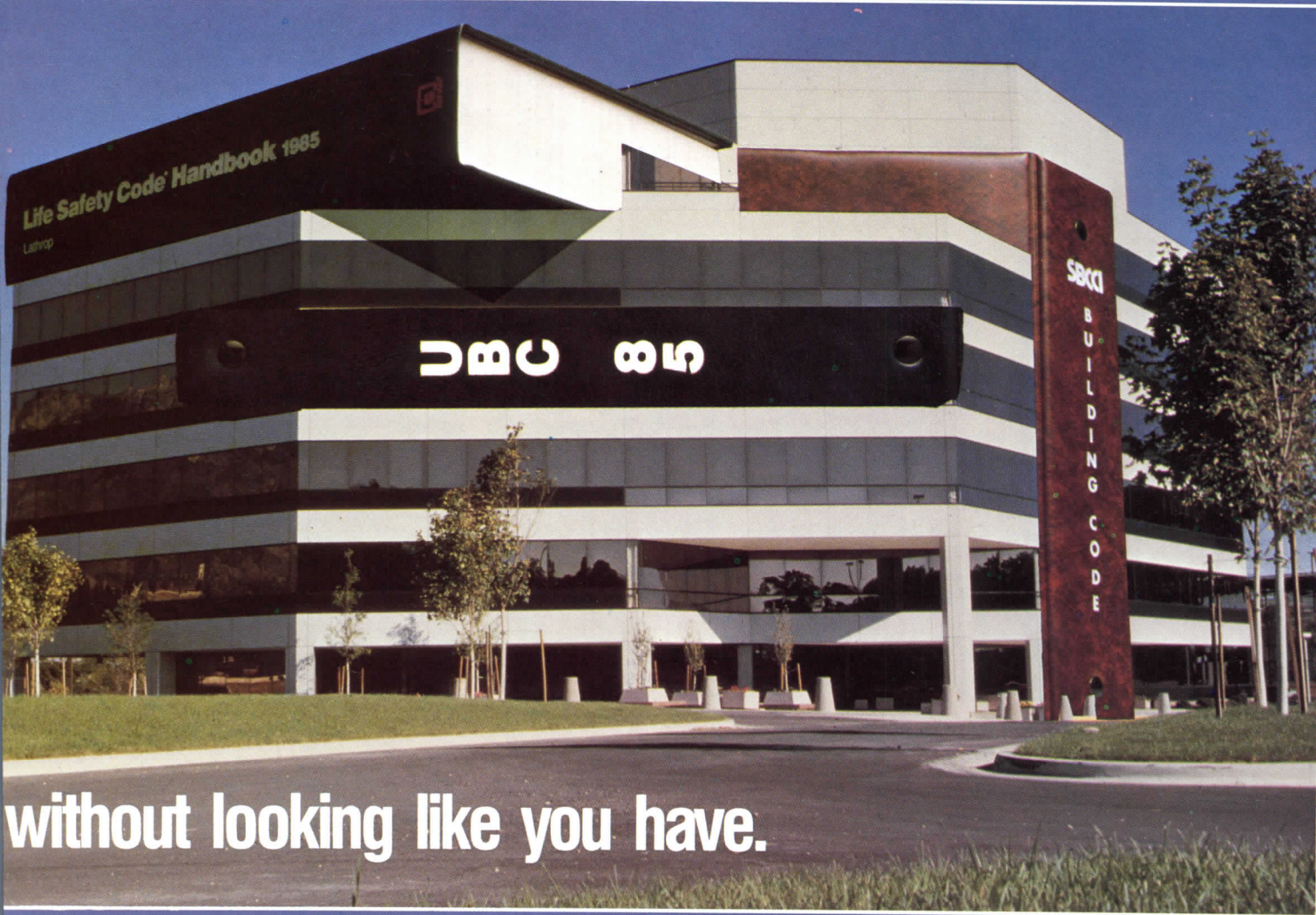


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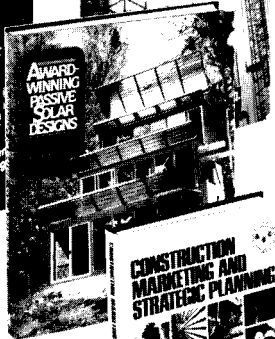
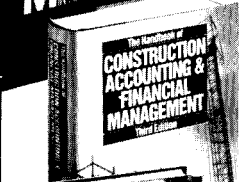
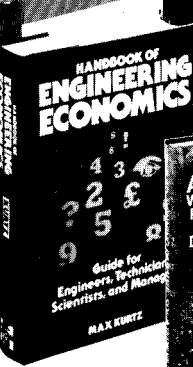
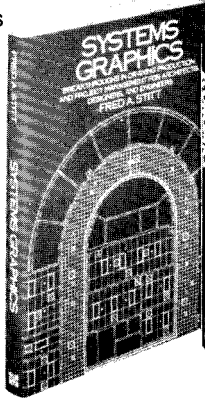
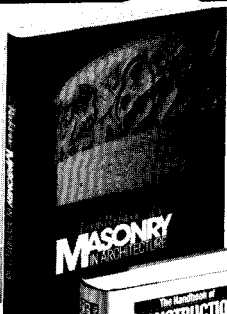
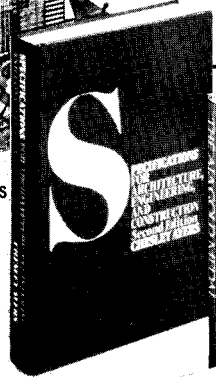
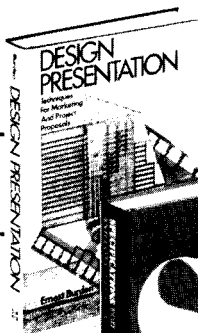
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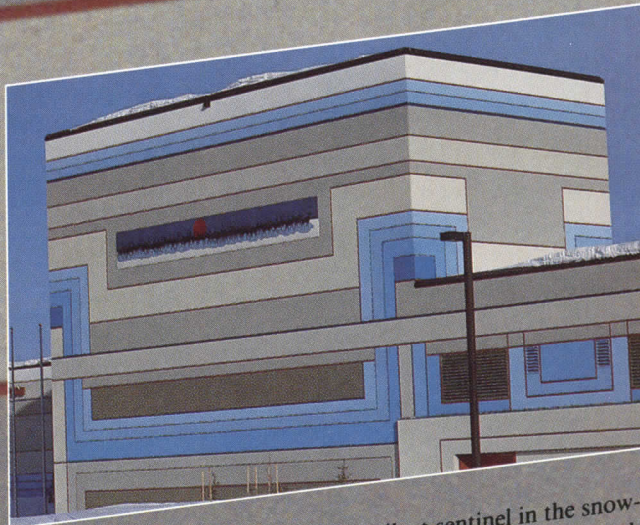
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## Growing market for housing the elderly explored

Americans are getting older—not just season by season, but on the average. One problem the growing population of elderly Americans presents—a shortage of appropriate and affordable housing—also promises to create a huge new market for architects. To help address the issues involved in designing for this group and to introduce a new AIA volume, *Design for Aging: An Architect's Guide*, the American Institute of Architects sponsored a symposium in mid-April on housing for the aged.

The new volume, believe such knowledgeable observers as Professor Leonard Heumann, of the Urban and Regional Planning Department of the University of Illinois, may become the single reference source for designing all forms of housing for the elderly. Statistics cited in the 179-page study, which was several years in the making, show the dimensions of the issue. In 1980, a watershed year for the aging, it says: "The United States elected the oldest president in its history, and, for the first time, the percentage of American heads of household aged 65 or older surpassed the number of those aged 30 or younger.

"By 1990, there will be 4 million more Americans over 65 than there were in 1980. America's population will have tripled since 1900, but the number of Americans over 65 will have multiplied eight times. By 2030, after the last of the baby-boom generation has passed 65, Americans over 65 will have increased from 11 percent of 1980's population to 18.3 percent of a significantly larger population. Jack B. W. Ken, of the San Francisco architecture firm of Anshen & Allen, who co-chaired the symposium, added this perspective: "Our median age during the Revolutionary War was 16; it is now 32, and it is forecast to be over 40 by the year 2020."

Parts of the building industry are already gearing up for the new market segment. One speaker, Theodore W. Litzenberger, vice president for design of the Crossings Corporation, which specializes in housing for the elderly, asserted that the country is already being flooded with developers who made their mark building general housing and who now foresee tremendous growth in this new market. Others, such as William K. Glass, design manager for elderly housing for the Marriott Corporation, said that there are only about 600 communities offering a spectrum of health care services for the aged—from the old-but-healthy to those needing total medical and nursing care. The 100,000 residents who live in these

communities, Glass said, represent "a fraction of the total market. In this decade alone, \$33 billion will be invested to construct more than 1,800 communities."

All speakers agreed that building communities and housing for the elderly calls for an unprecedented degree of sensitivity to their physical needs and their preferences. "Elderly people tend to be more bigoted, and they want to be with their own kind—whether it be military, fifth-generation Yankee, WASP, or Jewish," said Sheldon M. Bustow, director for gerontology programs of General Health Management, Inc. The right addresses and locations, including such considerations as "factory town" versus "management town," are important to the elderly, he added. Some elderly won't move to an otherwise desirable location because the mailing address isn't right, "... even if it has the best design," he says.

The design must walk a fine line between attractiveness and ostentation, said Litzenberger. It must have a great deal of "curb appeal" but it should not be trendy. A feeling of home and comfort is important, especially at meal times. Cafeteria-style food service is not conducive to this: "Linen and china are important—not just a bare dining room."

The elderly should have sufficient living space to help them preserve their dignity, Professor Heumann said. "Bed-sitters are not a good idea. The elderly don't want to entertain in their bedrooms."

Heumann found fault with many of the present total health care facilities of 300-400 units. "They tend to be very large, very boxy, very institutional looking." In European countries, which he said are 10 to 15 years ahead of the U. S. in terms of over-65 population percentages, facilities are designed closer to what he thinks is a better approach—smaller groupings of buildings, often in a campus-like setting. The elderly don't want to be shut in or shunted out of sight. But neither should communal spaces be wide open to the general public. "The elderly should not have a feeling of being on display, of being spied on, or of having to look over their shoulders." Yet they want to be close to urban life as much as possible. Among the best solutions is to place such a community in a residential neighborhood, "but only a block from a shopping area," Heumann said. "They want to be where there are lots of things to do and see," yet, "the critical distance within which people can operate gets shorter and shorter as people become more frail."

*Peter Hoffman, World News, Washington, D. C.*

## New publication would clear sources of misunderstanding with clients

A new AIA publication, *You & Your Architect*, is intended for architects to give to clients to educate them about their services and eliminate misunderstandings that might result in liability problems. It comes with a wrapper that guides the architect in using the book. Among its suggestions are:

- Understand the client's financing and resources, and know whether they match his expectations.
- If clients can't decide on programs, schedules, or financing, suggest an initial short-term contract to pin these issues down.
- Define exactly what you will do.
- Don't promise what you can't.
- Consult counsel before signing alterations to the standard AIA agreement. For more information, contact the AIA, 1735 New York Avenue N.W., Washington, D. C. 20006 (202/626-7380).

## A new construction market in the U. S. S. R.?

HUD officials are now negotiating with their Soviet counterparts to expand business opportunities in the Soviet market for American design and construction companies and building product manufacturers. The discussions are taking place under the same technological cooperation agreements that resulted in the Apollo-Soyuz project. HUD's assistant secretary for policy development and research, June Koch, recently visited Moscow to determine what the Russians' needs were and to request that they coordinate the Soviet agencies that approve purchases. The Soviets appear to be mainly interested in buying new technologies, such as CAD or manufacturing processes for building products, and consulting services in such areas as construction management, according to a department spokesperson.

The two governments have agreed to hold an international construction exhibition next May in the Soviet Union where American firms will be able to promote their products and services. The details have yet to be worked out but the department is compiling a mailing list of firms that might be interested in participating. For more information, telephone HUD, 202/755-5600.



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## Practice:

# What can we do about the liability crisis now?

*A joint RECORD/AIA symposium develops new approaches to the problem and finds ways to make the most of solutions architects may already have. The first of a three-part series*

*On March 12 of this year, 12 highly qualified people from around the country met in New York to tackle one of the most crucial issues that architects face today: architects' current liability problems—as reflected in rocketing insurance premiums and exorbitant defense costs. Meeting at the joint invitation of the RECORD and the AIA, the panelists, identified here under their photos, included architects from small and large firms, led by AIA president John Busby; lawyers well familiar with the myriad legal problems involved; and the executives of two major insurance brokerage firms. The panel was moderated by RECORD senior editor Herbert L. Smith and myself.*

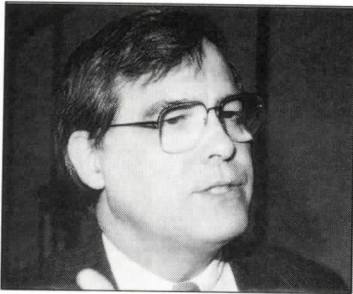
*The problems of rising liability costs are, by now, not exactly news. To meet the challenge, the AIA has sponsored several symposia on the subject, thereby developing a large body of knowledge about the problem's causes and concerning who pays what costs. These meetings have also produced possible solutions. Accordingly, it was the primary purpose of our current symposium to study these solutions, to try and find new ones, and, if possible, to break new ground. The panel concluded that there are at least several practical ways to reduce insurance costs right now. And there are many ways to reduce the attendant costs of litigation and undue liability exposure. The long term looks even brighter.*

*Despite this symposium's focus on what is, after all, a business issue, there were also worthwhile and provocative discussions of professional practice and ethics, which are, of course, closely intertwined with the liability problem. How much responsibility for their acts, in the current situation, should architects, engineers, and other designers take? Are there ways to distribute their liability without losing control of traditional professional roles? Should design professionals change the scope of the services they provide?*

*Because both ethics and long-term solutions to the liability problem comprise whole subjects unto themselves, each will be separately covered in a future issue of RECORD. To begin, we will focus on the heart of the matter: Where are we now and what can we do about it? Charles K. Hoyt*

It is small comfort to know that architects and other building-design professionals are not in this dilemma alone. As AIA president and symposium co-host John Busby stated in his opening remarks, "All of the professions are in the same boat, paddling up the same stream, trying to reach some destination that will give us relief."

It is also small comfort to know that many of the causes of the



*John A. Busby Jr., architect and president of the American Institute of Architects and executive vice president of Jova/Daniels/Busby.*

dilemma are beyond our control. "The insurance industry brought much of this on itself [and you]," said insurance-company vice president Paul Genecki. He was referring to overly competitive practices during the six to seven years prior to 1985 by which the companies, to develop income for the high-yield investments then available, wrote premiums that were "clearly inadequate."

The result now is not only rapidly rising premiums but—as the companies' surpluses, once profitably invested, are depleted to pay claims—a lack of capacity to write some policies at all. While insurance companies write premiums at a ratio to their surpluses of one to three, Genecki said, the regulators are happy. But, when the companies fail that test,



*Ava Abramowitz, attorney and associate general counsel of the American Institute of Architects for liability issues.*

audits occur. "There is an old axiom within the industry," he added, "that the aroma of the premium will overcome the stench of the risk." But now, apparently, that's not so.

And then there is the cause of the crisis that John Portman & Associates' chief executive officer Stanley Steinberg referred to as the new "lottery mentality" of the public toward liability litigation. "It is now common occurrence," he said, "to make huge awards to individuals and groups, not as compensation for loss or hurt but to inflict extreme punishment on the guilty. In this manner we're witnessing a redistribution of wealth that has no real focus, purpose, or ultimate goal.

"The huge awards and expenses being imposed are ultimately being paid for by everyone in the form of higher rents, higher product costs, higher professional fees, and higher taxes. This is a financial burden that will make it harder and harder to compete in the world market, will slowly erode our standard of living, and will become a burden the economy cannot carry."

"We used to have errors-and-omissions insurance," said Gensler and Associates head Arthur Gensler. "What we have now is risk-free insurance—to make the world risk-free from everything."

"It is highly inconsistent," said attorney Arthur Kornblut, "for those same people who have been advocating the protection of everyone from everything for many years to now be advocating that we should have insurance available at a readily affordable price."

### **Given that the problem affects everyone, are the designers of buildings being singled out?**

"We're not being singled out for particular grief; it just seems that way," said Steinberg.

"The frustration that many of the design professionals are facing today," Busby said, "is that statistics will show that we're fairly proficient in what we do. We do hold very high the responsibility of public safety and also the delivery of our professional services. What concerns us most is that we're being swept up in a groundswell."

And it is true that current insurance coverage for architects reflects a dismal picture. Those companies that will even write policies for design firms of any type in any location have shrunken dramatically—some 85 percent in the last year, according to Genecki. AIA counsel Ava Abramowitz pointed out that architects who may never have had a claim are experiencing increases of 100 to 400 percent in their premiums.

"There is no profit," said Gensler. "Building-design firms are losing

money before they open the door." Haines Lundberg Waehler senior partner Martin Raab revealed that a recent New York City survey shows that firms with gross fees under \$500,000 pay about 6 percent of gross revenues for insurance; firms between \$500,000 and \$1 million pay about 4.4 percent; and larger firms pay between 2.5 and 2.7 percent. On a national level, as described by 3D/International president Charles Thomsen, the rates that the really large firms discussed at a recent AIA roundtable were between 0.5 and 4 percent. Abramowitz pointed out that it is the small firms that suffer most. Genecki noted that his figures show higher rates for most firms and they are still going up—by about a third on average for current contract renewals with his insurance company, Schinnerer.

When one talks about premiums that are 6 percent of an average design firm's revenues, said CJS Group president Christopher Smith, "that's the profit; that's the enchilada. You are out of business."

### **Practical ways to reduce insurance costs include passing them on to clients**

Busby asked, "How should the costs be fairly distributed between the various partners in the design team—including the client?" This implied that the AIA, as ethical



*Arthur Gensler, Jr., architect and principal of Arthur Gensler and Associates.*

arbiter, was ready to accept a role for architects of less than total responsibility in exchange for meeting the pressing goal of fiscal survival.

"In our opinion," said Genecki, "a source of immediate relief is to get the costs of insurance for the design team where it has probably belonged all along—in the owner's project budget."

Smith, citing shared costs as a matter of survival for the small firm, said that he currently invoices his insurance as 3.8 percent of each client's bill, an amount that represents the difference between his previous and new premiums. "I was frightened, at first," he said. "I thought I would be nailed. But



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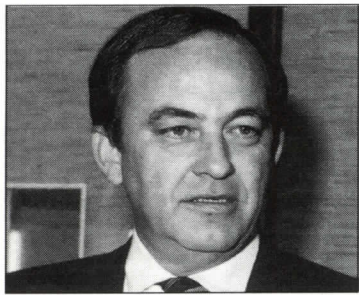
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*"Get the costs of insurance where they have belonged all along—in the owner's project budget"*



*Paul Genecki, insurance executive and senior vice president of Victor O. Schinnerer Company.*

that simply didn't happen."

Raab talked about precedent: "We have charged our clients for project insurance for years. We carry a certain amount and clients who want us to carry more, and many do, pay for it."

But how, when all is said and done, do you convince an owner that he should pay for a design professional's insurance? Seventy-five percent of all claims and a large percent of incurred loss, said Kornblut, are for defects in owners' buildings. In the absence of other coverage such as liability insurance, those damages and remedial costs would come directly out of the owner's pockets. If, reasoned Kornblut, "you take that concept, along with the fact that the owner already pays for the contractor's insurance, and present that to the owner, it then becomes only logical and fair that he pays for yours. He is a direct beneficiary of it."

How does the architect decide how much to bill the owner? He prorates his billings by project to his overall billings to figure out what his liability premium by project is. Then he bills by project just as he would any other reimbursable, such as printing costs or travel.

Furthermore, as opposed to simply seeking reimbursement, there is a way to profit from higher insurance costs—by seeking higher fees.

"This crisis, among hundreds of causes that could be named," said Raab, "can be used as justification. One of the largest loss areas in our profession is our negotiations. A dollar left on the table there is a dollar less profit returned on the bottom line. For the average firm, it means marketing \$50 more in volume to make up that lost dollar." Raab clearly saw the current situation as one in which negotiations can be improved.

**Can architects lower the rates they do pay by the way they handle their liability problems?**

"The reasons for the different rates and increases architects pay," said

Abramowitz, "seem to be unfathomable to them—to have nothing to do with geographic location, claims history, quality of practice or anything."

Architect Barry Moore, whose firm was founded 52 years ago by his late father, had something ironic to say about claims history: "We have never had a claim in all those years and so I am now very privileged to pay out my gross for not very much protection."

But the panelists were assured by both Genecki and Design Professionals Insurance Company president Peter Hawes that all those factors that Abramowitz had



*Peter Hawes, insurance executive and president and chief executive officer of DPIC Companies, and vice president of Orion Capital Corporation.*



*Arthur Kornblut, attorney, architect and principal of Kornblut & Sokolove; chairman of the American Bar Association Forum Committee on the Construction Industry.*

listed, as well as the types of work a firm undertakes and its size, do indeed determine its rate.

The panel was asked how a firm establishes a good liability track record. "The *Challenger* failure was not a technical problem," said Genecki. "It was a management problem. About 80 percent of our claims are caused by management problems—how an architect manages his practice, his communications, and his relationships with the other parties to the construction process."

Still, one of the factors that many panelists felt would most influence both their track records and their

other liability costs was quality control. To assure that his drawings and specifications do not go out with obvious defects, both Smith and Moore bring in outside consultants with solid working drawing experience—a similar process to that of the American Consulting Engineers Council in its peer-review program that has recently resulted in reduced insurance for engineers.

"I find a lot of architects feel that the man doing the drawing ought to be able to perform his own quality control," said Steinberg. "And I think that's impossible."

Moore, who represented the smallest firm at the panel—"about 3 1/2 persons," he said—talked about his first trial run with the consultant: "He didn't find as much as I was afraid he would, which made me feel good and it was very cheap insurance."

Gensler, whose firm has an employee who only checks drawings, reflected the big-firm view: "We wouldn't go for an outside architect red-lining. We consider ourselves capable of evaluating and reviewing our own work. I think CAD will help. But if you don't hire quality people and pay them well, you are never going to find mistakes." He also underscored a view by other panelists that liability could lead to specialization: "To reinvent the wheel everytime you go out is just dangerous."

Thomsen agreed with the view that CAD will help quality control and emphasized that his personnel, like Smith's, spend time in the field both to achieve better rapport with the builders and to catch any mistakes that might have slipped through on the documents.

Abramowitz added that the AIA is currently working on establishing data from successful suits against architects in order to help the profession know its weaknesses—including quality control.



*Barry Moore, architect and principal of Barry Moore Architects.*

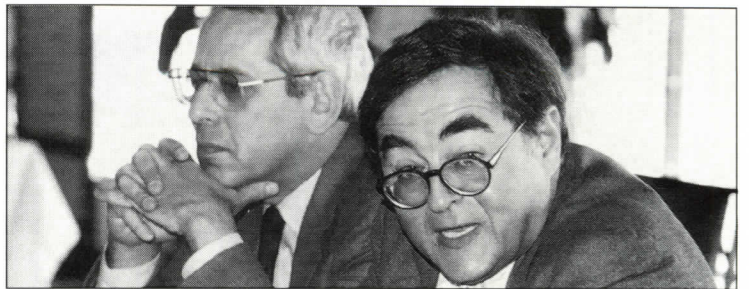
**Can architects structure their practices and their work to achieve lower rates?**

There was a consensus among the architects that they could better manage their rates if they knew in detail how such factors as claims history, projects undertaken, and geographic location, were weighted by the insurance companies. Both Hawes and Genecki, after discussion of the possible confusion that might result from misinterpretation, promised that the information would be made available.

One of the currently better understood factors that can raise or lower rates are the building types that an insured firm undertakes; Genecki listed schools, hospitals, churches, and condominiums as being frequent sources of liability problems.

Possible new ways to structure a firm elicited a great deal of interest. For instance, Smith asked the insurance people if he could separate parts of his practice, including planning, research, and environmental impact statements, from coverage to lower his premium.

The answer was that the tactic is probably not practical nor, in the end, cost effective. Hawes said that, of the claims against design firms



*Martin Raab, architect and senior managing partner of Haines Lundberg Waehler and vice president of the New York Chapter of the AIA.*

*Carl Sapers, attorney, author, lecturer, and partner of Hill & Barlow, counsel to the National Council of Architectural Registration Boards and adjunct professor at Harvard School of Design.*



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*“An insurance agent will say that \$5 million in coverage is better than \$1 million, but I’m not so sure”*

insured by his company, some 5 percent represented about 80 percent of the total dollar volume, and that one of those representing the highest dollar volume was for a feasibility study. So that, even if the design professional wanted to take the risk of not being covered for such activities, it would still not satisfy the insurance company’s basic mechanism that spreads over the many the impact of the large “silver bullets” aimed at the few.

“Insurance rates,” added Kornblut, “are caused by the losses that do occur, not the ones that don’t.” He pointed out that low-risk, loss-free segments of practices do not cause the rates to be up where they are right now; if every architect were not to cover them, they would still be paying the same high rates because of those areas of practice that are risk-prone.

**The basic ways to lower costs with conventional insurance remain less coverage or more deductible**

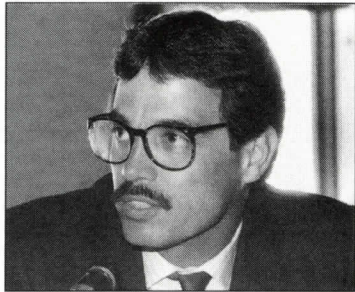
How much insurance should a design firm have? Thomsen: “The top side is the biggest loss we might ever experience.” Hawes: “You can’t buy that much.” Thomsen: “So then, it’s probably all you can afford.” Hawes: “Two years ago it was \$50 million. Now it’s \$5 million.”

Gensler: “An agent will say \$5 million is better than \$1 million. But I’m not so sure. If I tell clients, ‘I have \$2 million,’ that’s what they will want. If I have \$1 million, that’s what they will want.”

“At some point,” said attorney Carl Sapers, “there is a figure at which large developers and corporations at least seem to be willing to say ‘we’re not going to seek your permanent residence, your yacht, your Mercedes Benz or any of your other goodies; we’ll stick with your insurance. I have thought in the past few years that, for large design firms, \$5 million was that figure.” Kornblut agreed: “Most claimants would rather take quick cash than litigate.”

The large firms, in particular, said Hawes, must consider more than one claim at once. More than 50 percent of the claims made against his clients have resulted from projects that are more than one year post-completion.

Raab: “I think it’s purely a matter of how comfortable you feel. I have lived with \$1 million when we felt comfortable with it and could have purchased \$5 million. We went to \$2 million when we saw claims going up. Each year, it’s looking at the cost of the different coverages, and seeing what your business and your comfort level warrants—whether you’re willing to sacrifice income for comfort or not.” Steinberg repeated the same



*Christopher J. Smith, architect and president of CJS Group-Architects and board member of the American Institute of Architects.*

concept, saying it is a matter of personal “risk aversion.”

It is a similar situation with deductibles. Referring to the reason he wanted a high amount of coverage, Thomsen noted that, as a result of the AIA symposium for the big firm, at which most deductibles were stated to be in the \$250,000 range, it was common practice to set deductibles on “the maximum loss we can sustain and still stay in business.” Genecki reported that, currently, medium-size firms are taking deductibles between \$10,000 and \$25,000. Raab reported the average deductible in New York state is \$5,000 for firms with under \$500,000 income and under \$10,000 for those with \$1 million.

**And then there’s the possibility of no insurance; but it may pay to go bare only if you strip**

Most architects, said Hawes, will prefer to go half-dressed. But Raab was not so sure: “What I think we can do—and this is a radical solution—is go bare; that’s really an economic decision, and I would advise those who choose it to protect their assets.”

Gensler: “It is possible that you will not be sued at all if people can’t get any money out of you.” By this, he meant that the design company per se would hold no insurance and minimal assets—such assets as computers or buildings being held by separate spin-off companies. He said that large companies might have problems doing this. Many smaller firms in California, however, were going bare because work on, for instance, condominiums had become so perilous they couldn’t get insurance even if they wanted it.

All of which brought up the question of how well efforts to protect personal assets were met by forming professional corporations. Especially in the event of no insurance, said Sapers, “if you are hit by a cab driver and he turns out to be John D. Rockefeller the 5th,

you might not sue Checker Cab, you might just sue the cab driver. And that is equally applicable to any design firm.” He stated that it was a misconception that a professional corporation insulates the individual.

One way of making the lack of insurance work may be to do planning but not complete working drawings. Asked Smith: “If we’re doing 80 percent planning, does that really represent, in essence, the threat of lawsuits and are there not occasions when we should say, ‘I just don’t want to have insurance on 100 percent?’”

**Certainly better contracts will protect architects from, at least, the costs of litigation**

Will better contracts lower your rates? Not per se, said Genecki, but they will improve your track record. And an architect who uses client-imposed contracts is going to have

“There are other tools: we’re being hounded now by subrogated claims against architects by property-damage coverers who pay the owner for a burst pipe. There is no reason why we can’t have a waiver of subrogation in our standard form of agreement.”

What contracts architects do have must be used effectively. Part of the process, said Raab, is to make employees understand them and to know what their and the client’s responsibilities are.

Steinberg offered a good summation of where we now stand: “We continue to analyze the problem, adjust to it, and, if possible, we’ll exploit any opportunities that we may identify as a result of it. I believe that as we discuss tactics such as tort reform, quality control, peer review programs, alternate dispute programs, going bare,



*Stanley P. Steinberg, architect, engineer, and chief executive officer of John Portman & Associates and executive committee member of Portman Companies.*

*Charles B. Thomsen, architect, author and president and chief executive officer of 3D/International.*

difficulty getting insurance at all.

Said Moore: “We have some of the best documents available in the construction industry. We can greatly reduce that 70 percent of suits that come about because clients have fallen out of love with us through contract limitations.”

How many architects use the standard AIA documents? Four of the six architects present used them as their basic contract and the other two as a reference.

“Architects and engineers,” said Kornblut, “are much more willing today to resist a client’s efforts to impose an unsavory contract. The liability issue has led many firms to turn down projects if they can’t negotiate a contract with which they are comfortable.”

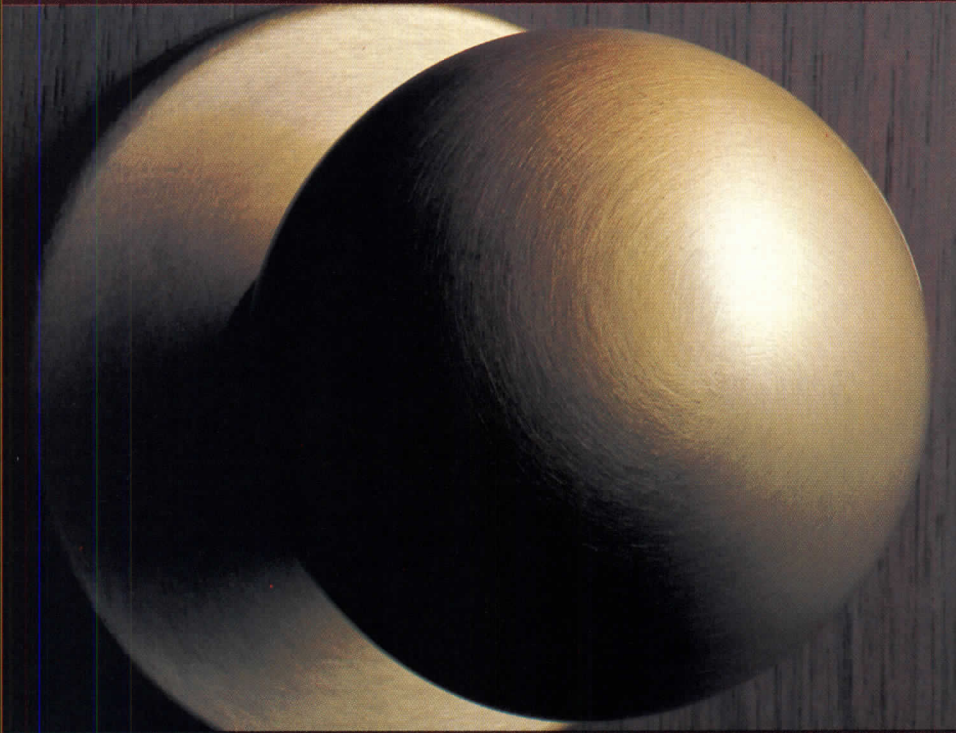
“I would like to see,” said Sapers, “the fact that we alone have contracts between all the parties in the construction industry be used as a way of shielding us—not from the consequences of unnecessary suits by contractors, but from the suits themselves by saying ‘you shan’t recover against the architect.’”

hold-harmless clauses, and all the other ideas, we must remember that we’re professionals who are in businesses that sell services and are operating in a new and unfamiliar business climate—one, which like all others, offers opportunities as well as pitfalls.”

*In a forthcoming issue of RECORD, we will look at what the future holds, at some of those opportunities, and at what we must do to both cope with and profit from the liability crisis.*



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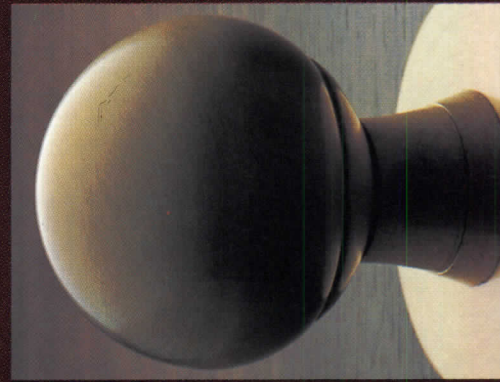


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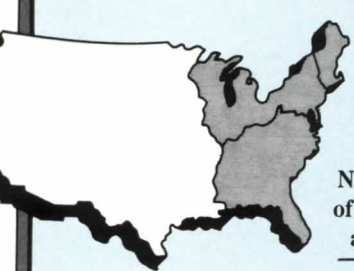
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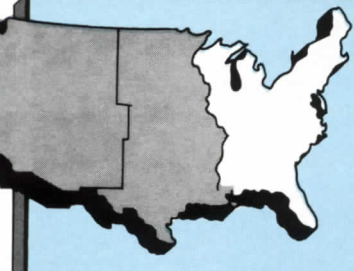


# Costs: A drop uncharacteristically reflects demand

## Summary of Building Construction Costs



		Districts Eastern U. S.		
	Number of metro areas	10/85 to 1/86	10/85 to 1/86	1977* to 1/86
Metro NY-NJ .....	18	0.16	2.88	1718.07
New England States .....	33	0.41	3.21	1664.27
Northeastern and North Central States ...	120	0.04	1.51	1646.87
Southeastern States .....	106	-0.20	1.33	1698.91
<b>Average Eastern U. S. ....</b>	<b>277</b>	<b>0.00</b>	<b>1.73</b>	<b>1673.48</b>



		Western U. S.		
	Number of metro areas	10/85 to 1/86	10/85 to 1/86	1977* to 1/86
Mississippi River and West Central States .....	122	0.10	1.64	1658.53
Pacific Coast and Rocky Mountain States .....	106	-0.29	0.73	1730.57
<b>Average Western U. S. ....</b>	<b>228</b>	<b>-0.08</b>	<b>1.22</b>	<b>1692.02</b>
<b>United States Average .....</b>	<b>505</b>	<b>-0.04</b>	<b>1.50</b>	<b>1681.85</b>

\* Using only cities with base year of 1977

At year end, as the volume of construction peaked and began to retreat from its high (in every field except housing), so too did construction costs. Of course, the difference here is that in previous retreats—even those that turned out to be much more severe than this one will hopefully be—costs continued to go right on up, exacerbating the problem.

The drop in costs in the final quarter of 1985 was not major, amounting to less than one basis point on the national average as shown on the summary of construction costs at left. But the symbolism was significant.

As usual, the drop was not evenly distributed across the country. As shown on the chart below, cities such as Atlanta, Baltimore, Cleveland, Detroit, New York, Philadelphia, and Seattle experienced the greatest drop in index points, while cities such as Chicago, Minneapolis, and Boston experienced dramatic gains. This meant that the change in costs by region averaged out to zero in the eastern part of the U. S., leaving the western states to produce the overall loss with their drop of .08 percent.

Such regional differences were also reflected by that volatile component of costs—labor. While winding up the year with a national

total of a 1.5-percent gain, as predicted in earlier forecasts on these pages by the McGraw-Hill Information Systems Company, these gains were felt most in the metropolitan New York-New Jersey area and in the New England states.

Of course, these increases—while among the lowest in recent years—left materials to carry overall costs lower. And, at least, some materials may continue their fall. Those materials produced with and/or by petroleum should definitely continue to be affected by lowering oil prices. And steel may continue its current moderate decline—at least, in the early part of 1986—due to increased production and restrictions on imports.

McGraw-Hill Information Systems Company studies are conducted quarterly by direct contact with union and nonunion sources, direct-material suppliers, construction-labor consultants, and both general and specialty contractors in each city.

*Cost Information Systems  
McGraw-Hill Information  
Systems Company*



## Historical Building Costs Indexes

## Average of all Nonresidential Building Types, 21 Cities

Metropolitan area	1977 average for each city = 1000.0													
	1977	1978	1979	1980	1981	1982	1983	1984	1985		1986			
									1st	2nd	3rd	4th	1st	2nd
Atlanta	1171.5	1712.6	1925.6	2098.6	2078.0	2360.6	2456.7	2448.7	2446.2	2506.3	2539.5	2518.3		
Baltimore	1018.4	1107.7	1304.5	1446.5	1544.9	1639.5	1689.7	1703.7	1737.1	1749.9	1750.8	1743.8		
Birmingham	1029.7	1142.4	1329.9	1407.2	1469.9	1468.1	1535.7	1594.7	1592.8	1583.9	1567.5	1565.7		
Boston	1028.4	0998.6	1236.0	1283.7	1432.5	1502.0	1569.9	1646.0	1671.6	1696.9	1714.5	1721.0		
Chicago	1007.7	1032.8	1199.7	1323.6	1344.7	1425.8	1439.5	1476.7	1476.8	1479.5	1499.1	1528.0		
Cincinnati	0848.9	0991.0	1323.9	1385.2	1350.4	1362.6	1430.8	1484.5	1487.7	1492.5	1488.1	1486.6		
Cleveland	1034.4	1040.8	1287.5	1388.2	1459.5	1511.4	1475.9	1464.0	1461.6	1472.8	1481.8	1474.1		
Dallas	1042.4	1130.6	1431.9	1481.9	1750.6	1834.3	1925.9	1958.0	1961.5	1971.5	1964.6	1963.3		
Denver	1038.8	1100.4	1495.6	1487.4	1632.2	1679.1	1800.1	1824.3	1828.7	1824.6	1825.9	1821.8		
Detroit	1018.1	1087.3	1275.3	1447.4	1580.3	1638.0	1672.1	1697.9	1711.9	1712.3	1704.6	1692.6		
Kansas City	1023.5	0951.5	1125.8	1233.2	1323.4	1381.8	1407.5	1447.1	1455.7	1465.1	1471.0	1472.5		
Los Angeles	1022.5	1111.0	1255.3	1387.5	1474.3	1503.3	1523.9	1555.1	1571.0	1584.3	1579.1	1582.0		
Miami	1004.5	1080.9	1330.1	1380.6	1369.1	1392.1	1467.6	1522.2	1529.8	1536.1	1543.7	1540.6		
Minneapolis	1060.2	1196.8	1286.9	1327.7	1442.6	1576.8	1624.6	1640.4	1639.9	1667.3	1680.7	1661.0		
New Orleans	1001.3	1138.8	1291.9	1505.7	1572.7	1616.9	1650.5	1691.4	1739.5	1751.0	1758.8	1762.5		
New York	1005.4	1043.0	1247.1	1319.4	1419.2	1491.8	1672.5	1747.2	1765.1	1789.5	1812.3	1806.7		
Philadelphia	1013.8	1074.2	1487.5	1539.5	1660.7	1769.4	1819.5	1922.1	1965.4	1982.2	1981.3	1967.9		
Pittsburgh	1016.1	1015.0	1227.0	1341.7	1493.2	1479.5	1497.2	1576.1	1580.2	1595.5	1612.5	1611.0		
St. Louis	1039.1	1198.8	1275.9	1320.0	1397.3	1451.2	1524.9	1625.5	1628.2	1644.8	1637.8	1641.8		
San Francisco	1083.2	1326.8	1473.4	1644.8	1776.4	1810.1	1856.8	1935.3	1929.5	1944.8	1958.3	1961.8		
Seattle	1142.5	1137.9	1373.4	1616.8	1814.9	1962.7	1979.0	1948.9	1973.1	1955.3	1963.5	1937.9		

Costs in a given city for a certain period may be compared with costs in another period by dividing one index into the other; if the index for a city for one period (200.) divided by the index for a second period (150.0) equals 133%, the costs in the one period are 33% higher than the costs in the other. Also, second period costs are 75% of those in the first period (150.0 divided by 200.0 = 75%) or they are 25% lower in the second period.



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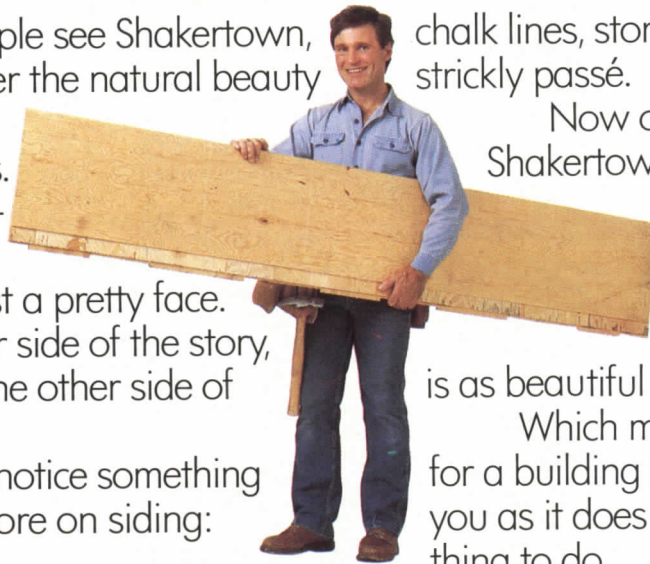
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# Finance: Look for lower interest rates and cheaper oil to stimulate growth

By Phillip E. Kidd

On the surface, conditions could not be better for a surge in economic growth. Interest rates, oil prices, inflation, and the value of the dollar have plummeted. Nevertheless, with spring well upon us, the economic signals remain mixed, and we are left to ponder the reasons for the economy's lack of vigor.

One explanation is that the positive stimuli have happened so quickly that consumers have not had time to react. At the start of 1986, there was considerable concern about the financial position of consumers and their ability to continue lifting the economy with their buying (RECORD, January 1986, page 45). They had been on a year-long spending spree, despite their incomes failing to keep pace. They had either borrowed substantially or dipped heavily into their savings. This greater financial burden was expected to slow consumer expenditures in 1986, although the economy would benefit from their buying more American than foreign goods.

As anticipated, consumer expenditures did not rise much in the first quarter. Instead, consumers slowed debt growth and rebuilt savings with their modestly increasing incomes. However, consumers are gradually realizing that they are becoming wealthier because of steep declines in oil prices, inflation, and interest rates. Soon, they will become aggressive about spending, which will be good news for a sluggish economy.

The indications of new wealth are on the financial pages, where declining interest rates have rapidly boosted the value of outstanding bonds, and cheaper oil and lower inflation have sustained a boom in stock prices. Equally important, the consumer is reaping rewards in other areas as well. New loans to finance automobiles and other durable goods are considerably less expensive than three months ago. Homeowners with high-rate mortgages are flocking to refinance at sizable interest savings. And, consumers are paying less to drive their cars and heat their homes.

Because those benefits have descended on them so swiftly, consumers have so far spent their time trying to take advantage of the improvements, or trying to measure the actual impact on their finances before stepping up their buying. For example, new homeowners have so overwhelmed financial institutions, such as commercial banks, savings-and-loan associations, and mortgage companies, with refinancing requests that mortgage closings are being delayed 90 days or more.

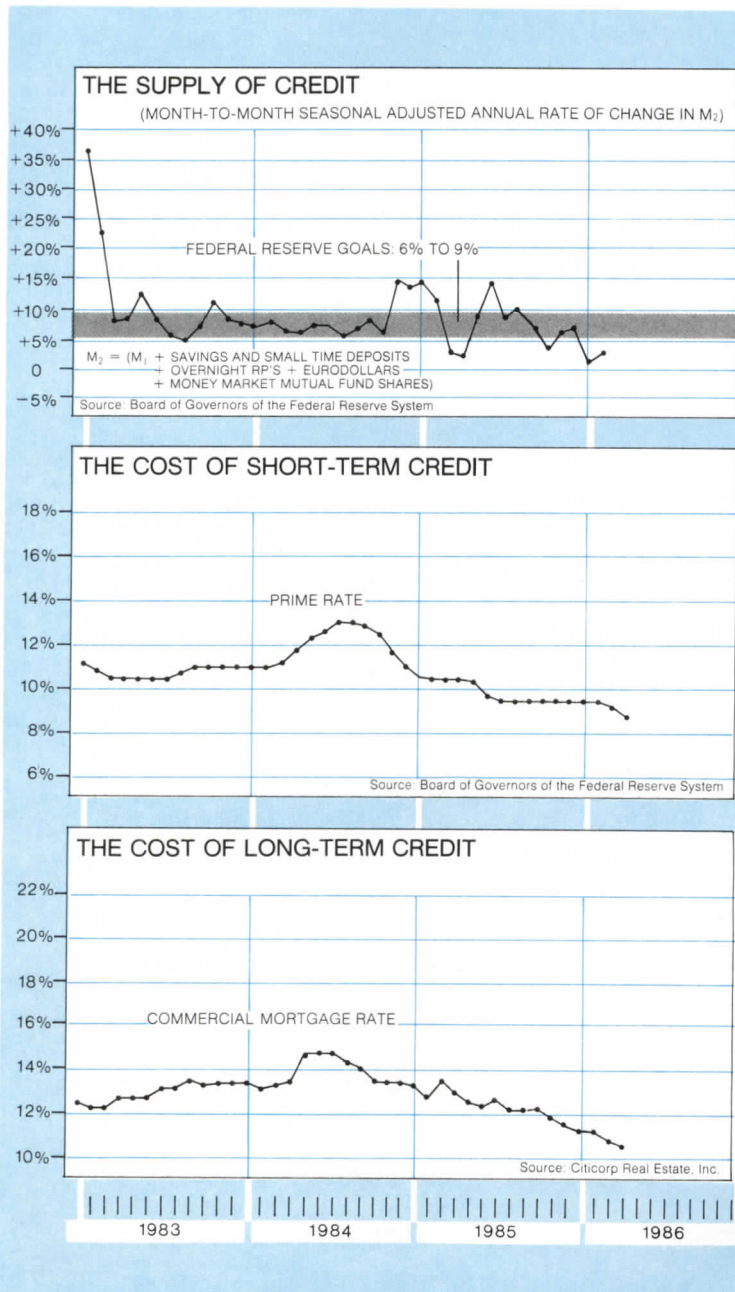
By contrast, those industries directly affected by these changes have assessed their significance and

reacted immediately with negative implications for the economy. The already troubled oil and energy industries have continued to lay off workers and reduce investment. Meanwhile, consumer-goods producers, after building inventory in anticipation of rising sales, have moderated their production until sales actually appear. The export industries, despite a year-long fall in the value of the dollar, have not aggressively moved to increase activity or investment. On top of that, the drop in inflation has almost matched the slump in nominal (or money) interest rates. That has kept real interest rates very large, which also hurts investment. In the absence of the stimulative influence of expanding production and investment on earnings and employment, the economy has registered uninspired real growth.

Already conditions for manufacturing activity and investment are becoming more favorable. Consumers are gradually spending more because their incomes are buying more than before. Moreover, these purchases increasingly will be for American goods, because the declining value of the dollar is making imported goods more expensive. In addition, more Americans and foreigners, worried about overseas terrorism, will take advantage of cheaper gasoline prices to tour the U. S. As they travel, they will be significant buyers of domestic goods and services. Foreigners will also import more American products because the lower dollar is making them more competitive.

With sales improving, manufacturers will respond with greater production and more investment. Their current personnel will work longer hours and new jobs will open up. Personal income will move rapidly higher, leading to even more consumer spending. Real economic growth will become stronger, registering a solid 4- to 5-percent rate in the second half of the year.

One drawback to the renewed expansion will be the rise in credit demands. In turn, the Federal Reserve, although accommodating, will become less aggressive in adding reserves in order to avoid overinflating the economy. Interest rates will stop falling and will firm. However, any increases in rates will be minimal during the second half because the economy still has sufficient capacity to expand without reigniting inflation. Mortgage rates will hold in their present 8.5-to 10.5-percent range. At those levels, home-buying and home-building will flourish through the end of the year.



Mr. Kidd is a prominent economic consultant and former director of Economics Research for the McGraw-Hill Information Systems Company.





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## Computers: One firm's experience

*A computer manager tells how his firm began using computers, some of the things learned, and why he feels that systems are now essential*

By Seymour Fish

*While breakthroughs still must be made to help architects use computers to their full effectiveness, the author believes that the greatest challenges facing us today include mastering those technologies that are already available. It might, then, be useful to review the experiences of one large architectural-engineering firm, Haines Lundberg Waehler, in its attempt to meet that goal.*

The history of CAD in our firm illustrates the progress of the technology itself—as well as the tasks firms face in acquiring and implementing their first systems. Since HLW is a large firm with complex multidisciplinary projects and a complicated work flow, our use of CAD also illustrates a wide range of its capabilities.

At the major trade show by suppliers for architects and engineers, Systems 1980, we witnessed demonstrations of a smattering of computers—demonstrations designed to sell systems drafting, pinbar overlay drafting, cut and paste, and minor microcomputer applications such as door and window schedules. Despite the limitations, we were in a peak period of work, were concerned about our efficiency and productivity, and decided that the time was right for computers. Our entry was cautious but, even so, quickly gathered momentum.

### **Starting out with a service bureau is a safe and practical route until you know where you are going**

We first engaged a computer service bureau to produce one project, 300,000 square feet of interiors. We had two purposes: to find out how we had to modify our operations for CAD documentation, and to demonstrate what productivity gains we could achieve with computers.

From the service bureau, we received documentation equal in quality to that produced by a professional draftsman. The CAD operators, however, were not professionally trained architects or engineers, but computer technicians. We found that they were unable to make even low-level technical decisions and that we had to devote a considerable amount of time to explaining our work. In spite of these problems, the experience convinced us that, with a concerted effort, we could make computers work for us. Our task,

*Mr. Fish is a partner and the director of production and computers for architects and engineers Haines Lundberg Waehler. He heads the computer applications committee for the New York Chapter of the AIA and is a noted author of articles on this subject.*

we reasoned, was to put information, experience, and technology together in the right fashion, and we decided to purchase our first system.

We studied the different systems and narrowed our choices to three. We rated them on their capabilities to meet our needs, the suppliers' service capabilities, the systems' expandability, and the range of available software they could use. The software criterion proved to be the determining factor—not only the quality of existing programs, but the suppliers' program of software development.

### **After you purchase a system, you can, with motivation, find ways to expand it rapidly**

Early in 1982, we acquired our first system, two black-and-white terminals and a pen plotter. Almost immediately, we discovered the extraordinary capacity of the system to absorb work—and the limitations of two terminals. We expanded to three terminals and then to a larger central processing unit so that still more terminals could be added. Then we purchased a 200-dot-per-inch electrostatic plotter that could print 60 times faster than the old pen plotter and generate a detailed construction document in 40 seconds.

The more we expanded our system, the more applications we found for it. Within three years of our first acquisitions, we had expanded to a total of 20 terminals; 25 percent of our professional staff were trained on the system; and we were operating it on two eight-hour shifts, five days a week.

The implementation of CAD in our operations has presented us with a host of management challenges. Personnel had to be selected and trained to work at the CAD stations, our operations tailored to accommodate CAD, and our production and, later, design schedules managed to accommodate expanding applications.

### **Here is what a computer manager does if your firm is large enough to warrant one**

In the early days, we were fortunate enough to recognize that we needed help. We hired a systems manager when we decided to purchase our first system. The criteria were that he be attuned to both the practice of architecture and the operations of the system and that he have management expertise as well. A systems manager must meet a wide range of responsibilities. He guides overall implementation, maintains and expands the level of applications, and is responsible for recommendations for future expansion, timetables for document

delivery, installation of new equipment, software modifications and updates, choice of projects for the system, and the training and scheduling of operators.

### **The source of training for your personnel can, at first, seem like a difficult choice**

We could have trained our professionals ourselves or sent them to a training program operated at the supplier's headquarters. We found the supplier's program preferable. At his headquarters, trainees received a one-week, 40-hour intensive training course for which we were charged \$1,000 per person. Even at this price, our chosen strategy was exceptionally cost effective. If we had undertaken the training ourselves, it would have removed one terminal from operation for those 40 hours. Our productivity would have been compromised, and an additional staff member would have been required for the training.

At the conclusion of the supplier's program, however, our trainees were prepared to take their place on our roster of competent CAD professionals. We maintained our productivity throughout their initial period of training, and these new operators were up to full speed within one to two months.

### **The choice of who shall be trained is an important one in making computers fully effective**

It is important that computers be received by employees with patience and be employed with alacrity. The selection of staff for initial training is consequently very important. We selected representatives from each of our disciplines for the first round of training. We did not want the system to be viewed as a tool for only architects or engineers or interior designers. The sight of these professionals, augmenting their skills with a computer rather than being replaced by it, has served as a powerful asset in allaying fears and in gaining staff support.

With a large and growing system, for which project managers and other senior professionals need constant help to organize and coordinate their work on it, the systems manager cannot manage alone and managers need to be trained to assist him. We have consequently created four support positions for applications managers who assist with my responsibilities. These professionals, chosen from the departments of architectural design, architecture and engineering, interior design, and engineering applications, supervise a range of CAD activities within their respective disciplines. Such

*Continued*



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activities include the investigation of potential applications, the creation of standards and cell libraries, plotting, and maintenance operations.

**Have computers, in this firm's experience, been worth all the effort to make them work?**

The litany of benefits for most firms has, by now, become rather standardized. That is to be lamented since we are only now beginning to realize what the actual benefits are. The heavily advertised increases in productivity and efficiency, consistent drawings and drawing quality, and improved drawing coordination are surely there.

But these benefits hardly represent what we are discovering to be computers' greatest impact: a dynamic relationship between professional skills and technological capabilities that is, for us, revolutionizing professional practice, enhancing the delivery of our skills, and improving the quality of our final product. Indeed, we have begun to find that CAD's benefits to our firm have also become benefits to our clients.

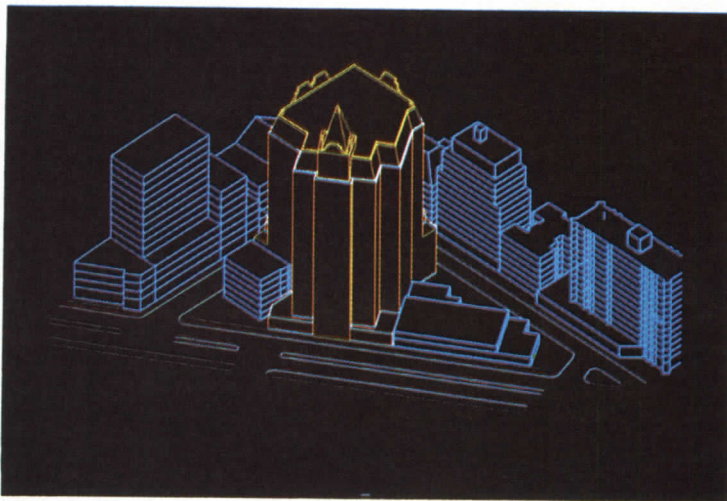
For example, by increasing our productivity and decreasing the time necessary for a drawing, CAD is giving us more time to do what we do best—design. As an extraordinary production tool, CAD shifts the balance of time on a project to design.

And, of course, it helps with design as well. With features such as solar and shadow studies, we are able to assess the impact of proposed building designs on the surrounding environment and to select, from among the viable options, the most sensitive and respectful response. With 3-D modeling studies, we can view a design in progress from an infinite number of angles—inside and out and in full color—before it is built. So can our clients. They are better able to understand a proposed design and to assess its congruence with their program and desired character and image.

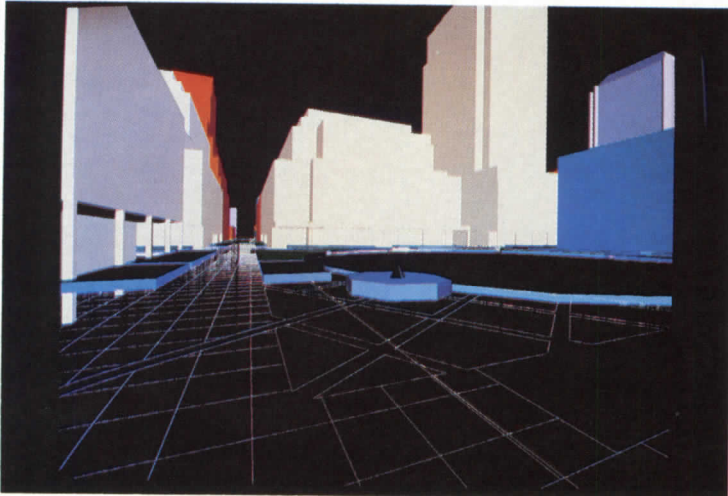
**CAD does mean that design has to be precise from the beginning and at every stage of development**

CAD requires unprecedented precision from designers even in the early stages of design. And, engineers can be involved much earlier than they were in traditional practice. Even in preliminary design investigations, designers must specify exact dimensions and design criteria for structure. Because engineers can be introduced much earlier, the result is a better integration of form and function.

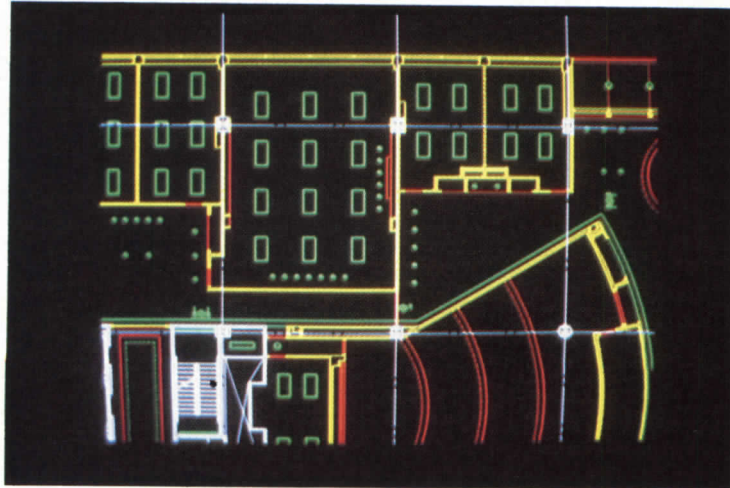
Not least among CAD's benefits are its project management capabilities. Projects are easier to



John Back/HLW



John Back/HLW



HLW

*Computers not only increased speed and accuracy in production for the author's firm but resulted in the ability to more completely research design options as well. "On one project," he says, "we prepared a series of massing and fenestration studies for an office building overnight without ever putting pencil to paper. Our design conclusions did not have to be redrawn, but were retained on*

*the database for use in subsequent construction drawings." Shown above are computer-generated massing studies for two major office buildings in Brooklyn, N. Y. The overlay of architectural and engineering working drawings on a single project, The Travelers Education Center in Hartford, is the direct development of early massing studies.*

track on the computer and thus time and progress are more accurately recorded. Since all project information is entered on a single database, coordination of all the disciplines on a multidisciplinary team is easier and more efficient.

The speed with which documents can be produced makes it possible to generate extra drawings for subcontractors—drawings that show in detail how the various systems in a complex project fit together. Documentation is clearer, and mistakes are less likely. The improved legibility and consistency of documents also enables contractors to bid more reliably on a project.

Finally, this speed also expedites response time for change orders. For our clients, this means projects that are more carefully coordinated and easier to build and that can be delivered on a more reliable design and construction schedule with more reliable estimates of cost.

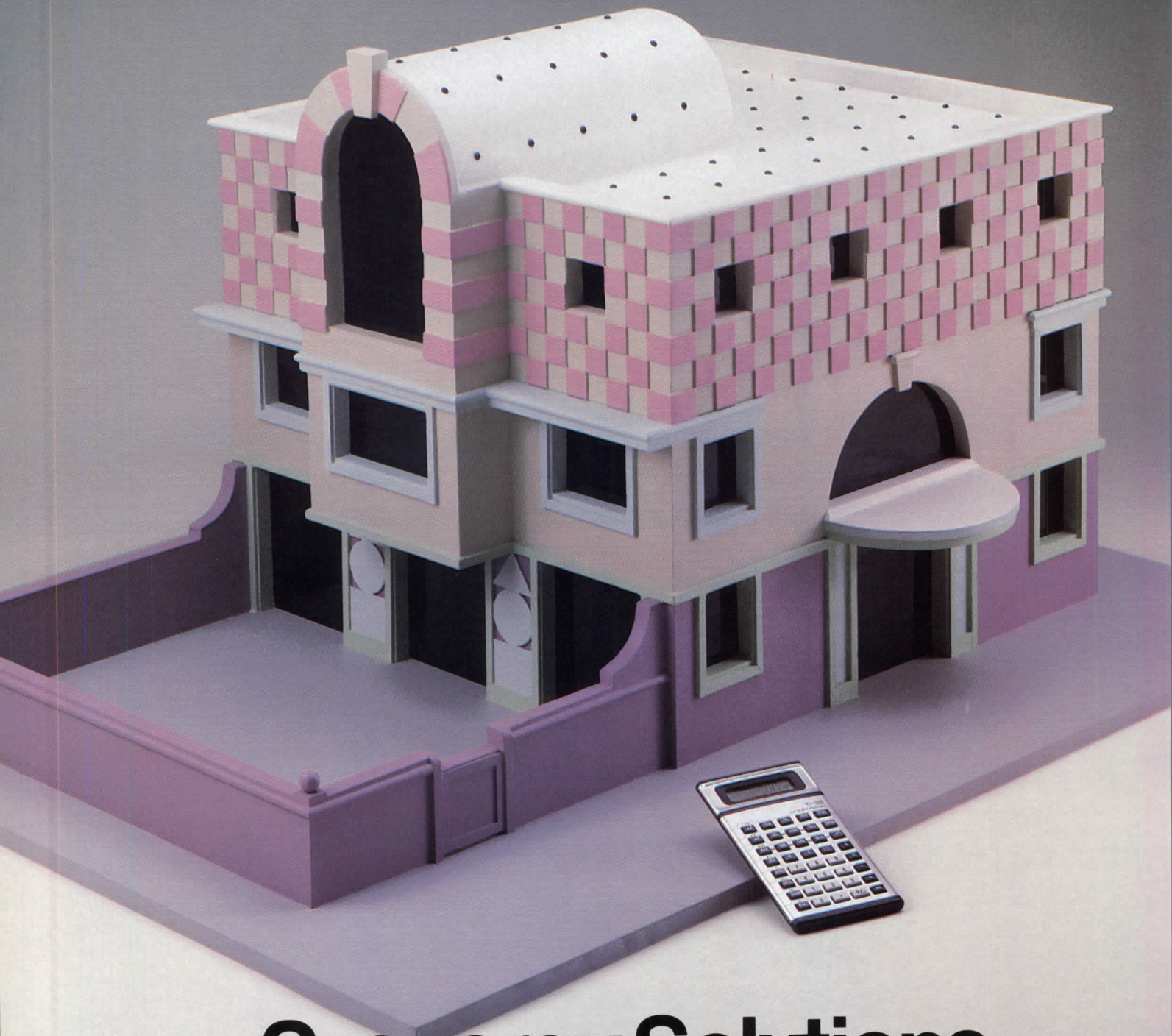
This is not the impact of an electronic pencil. It's the result of a carefully managed integration of new technology into an old profession.

**While mastering available systems remains a priority, the task of new systems is hardly complete**

The full integration of CAD with the other products of the electronics revolution has yet to happen. But such an integration is inevitable and in the not-too-distant future. It will surely be possible to have an interactive CAD terminal at the workstation of every design professional. And it will be possible to integrate that CAD system with word-processing and data-processing systems for design, structural-engineering calculations, energy analyses, specifications, communication with contractors in the field, and facilities management.

One final management issue deserves comment. It is not so much the management of the technology within our design professions as the management of the future course of our professions themselves. We architects and engineers have a responsibility to our professions to master this new technology. If we do not, we will almost surely be deferring a leadership role in the shaping of our environment to developers and contractors who undoubtedly will use the technology and establish standards for it to which we will have to adhere. We can no more avoid this technology than we can postpone the future. The only real choice we have is when and at whose initiative we will learn to use it.





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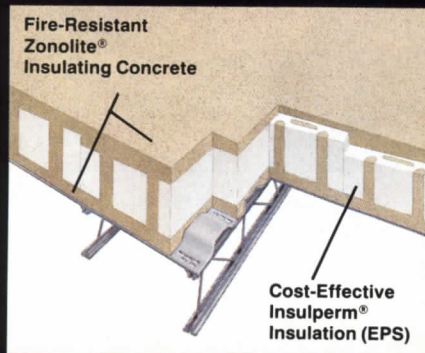
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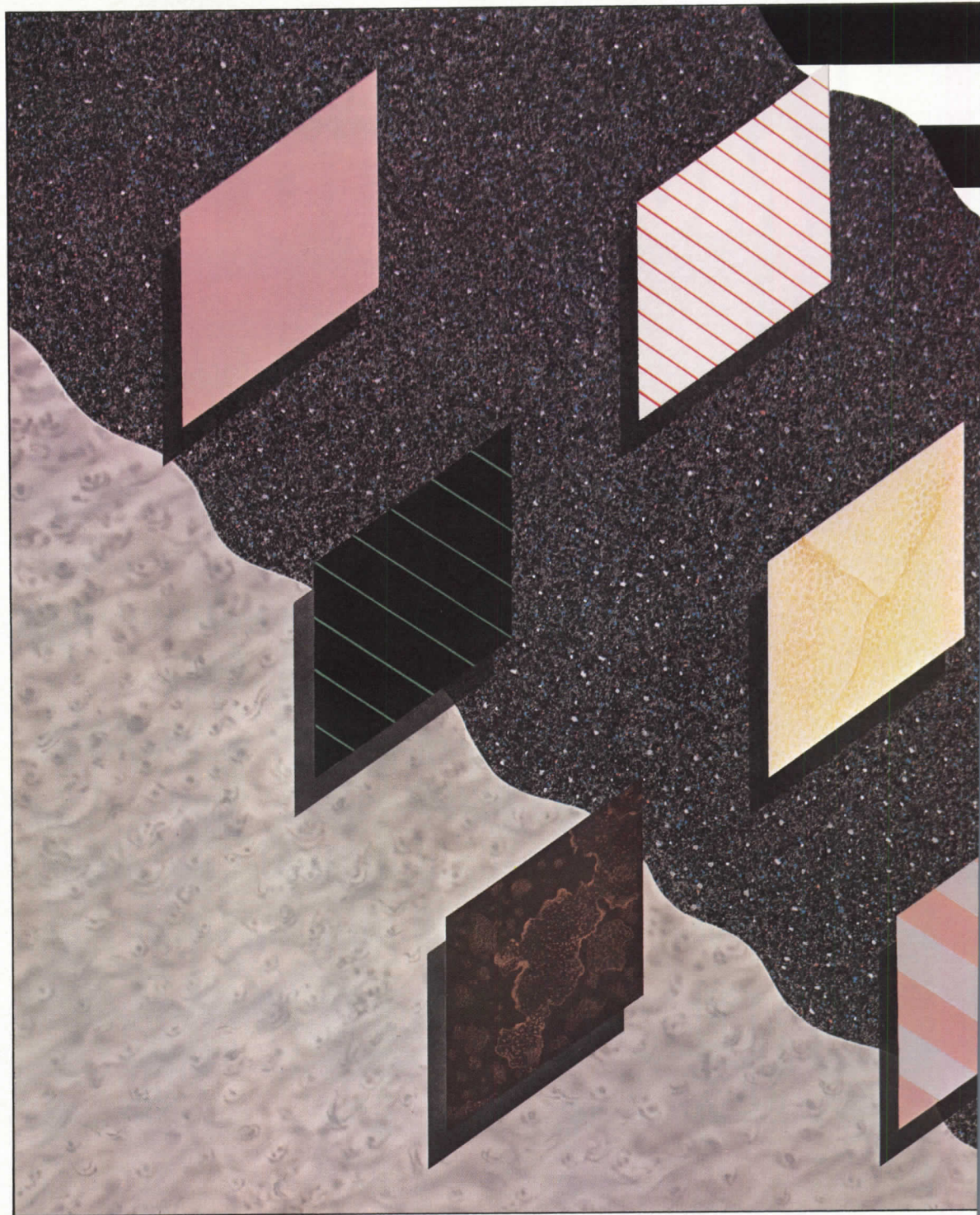
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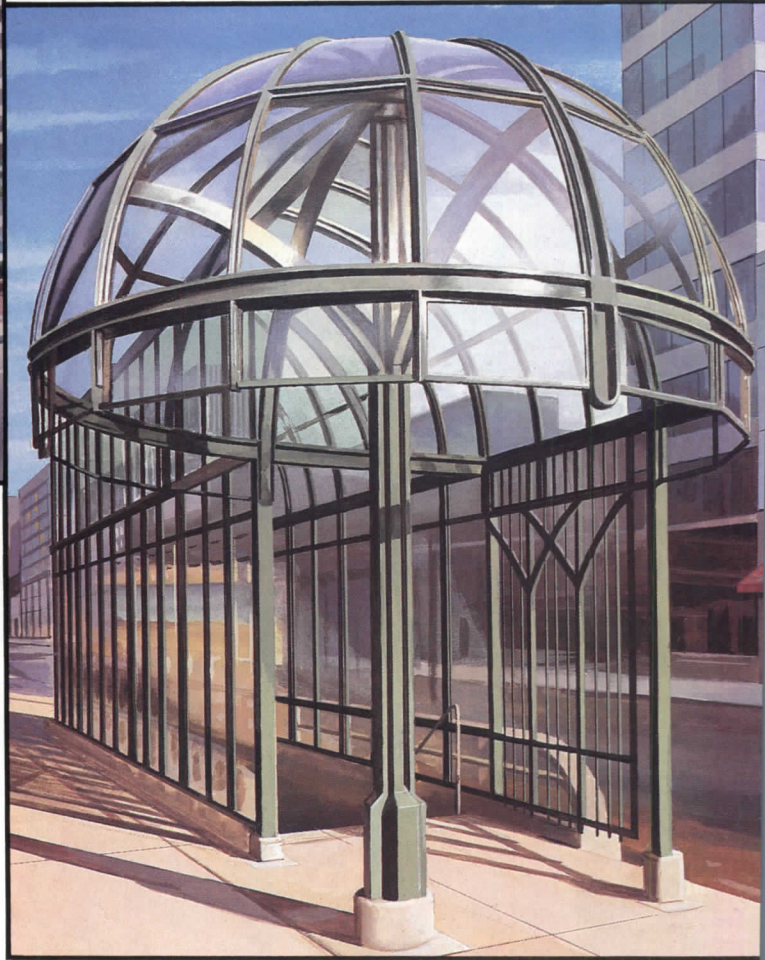






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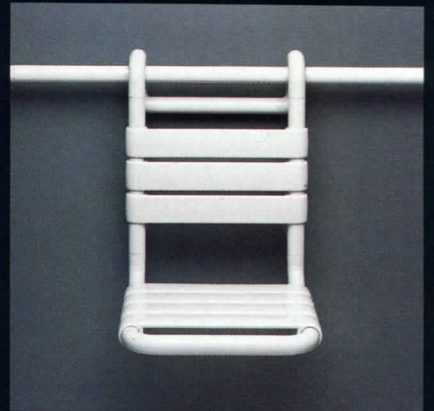
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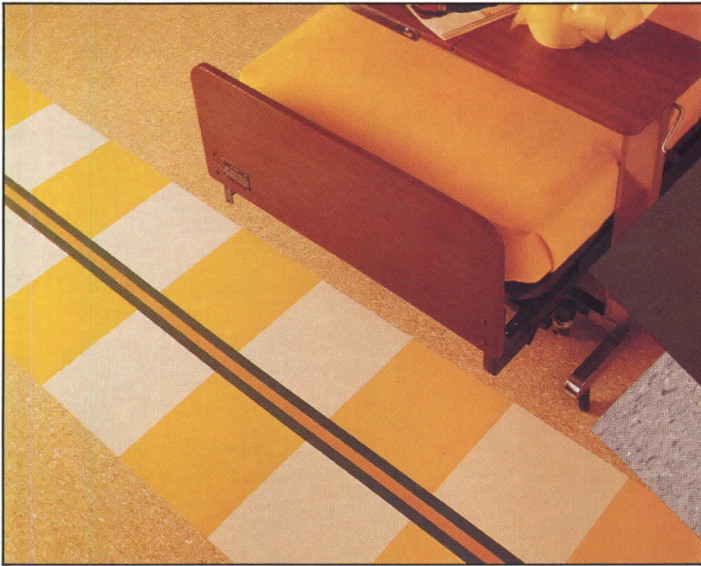
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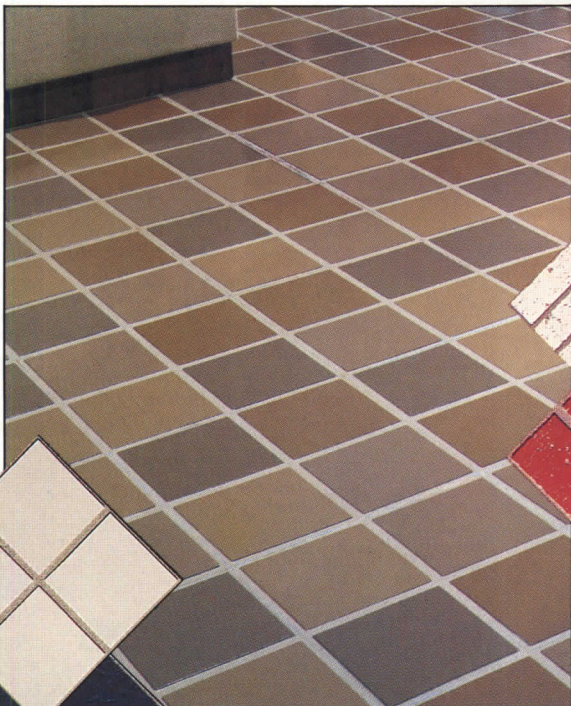
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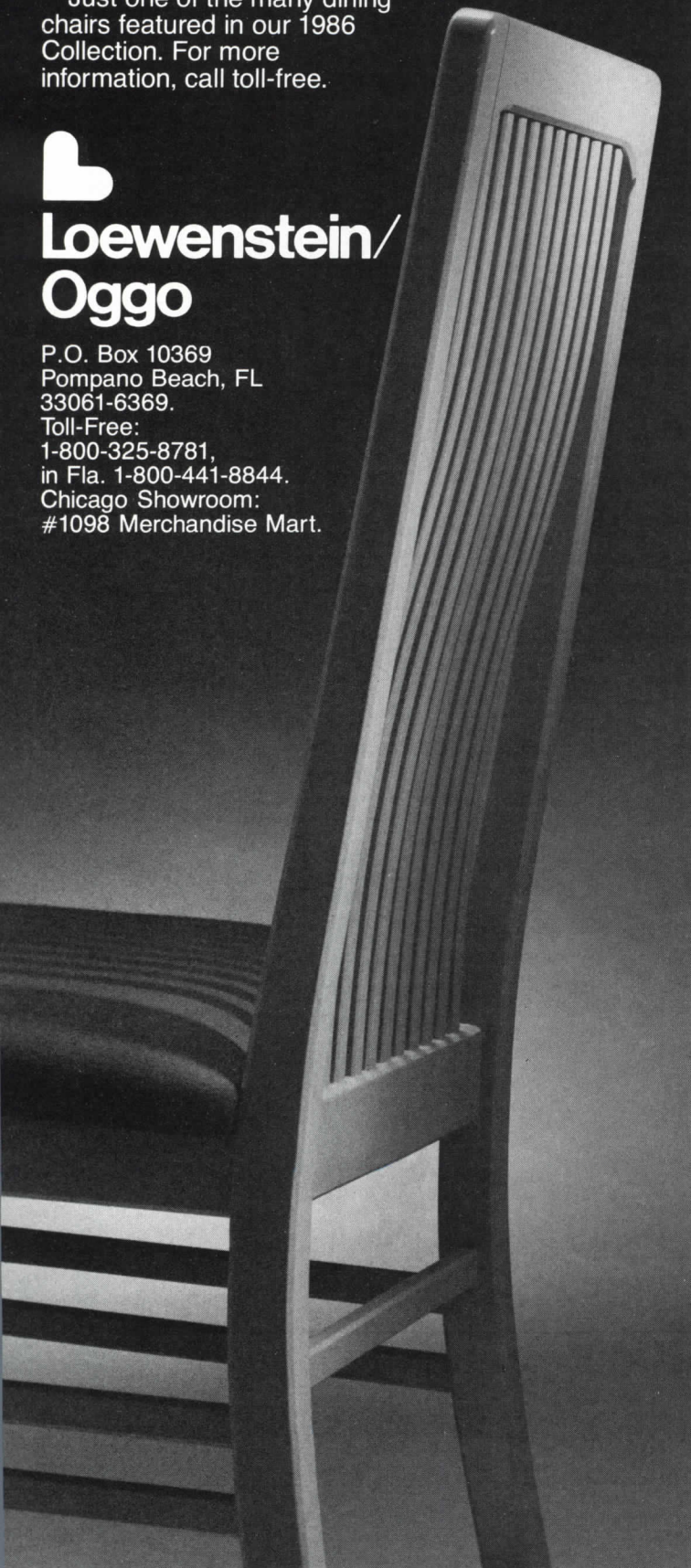
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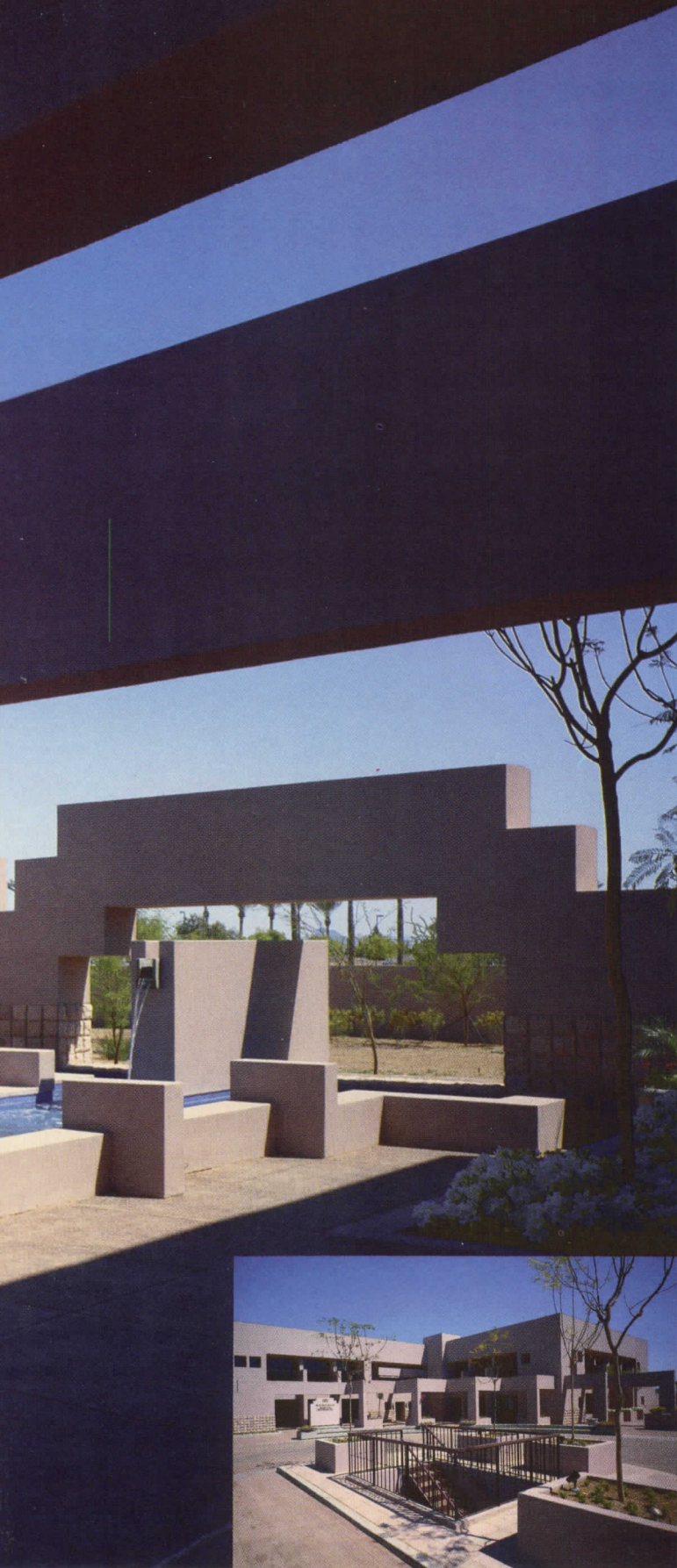




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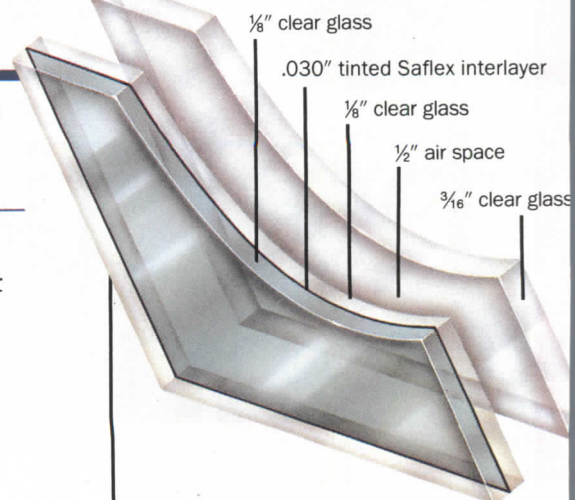
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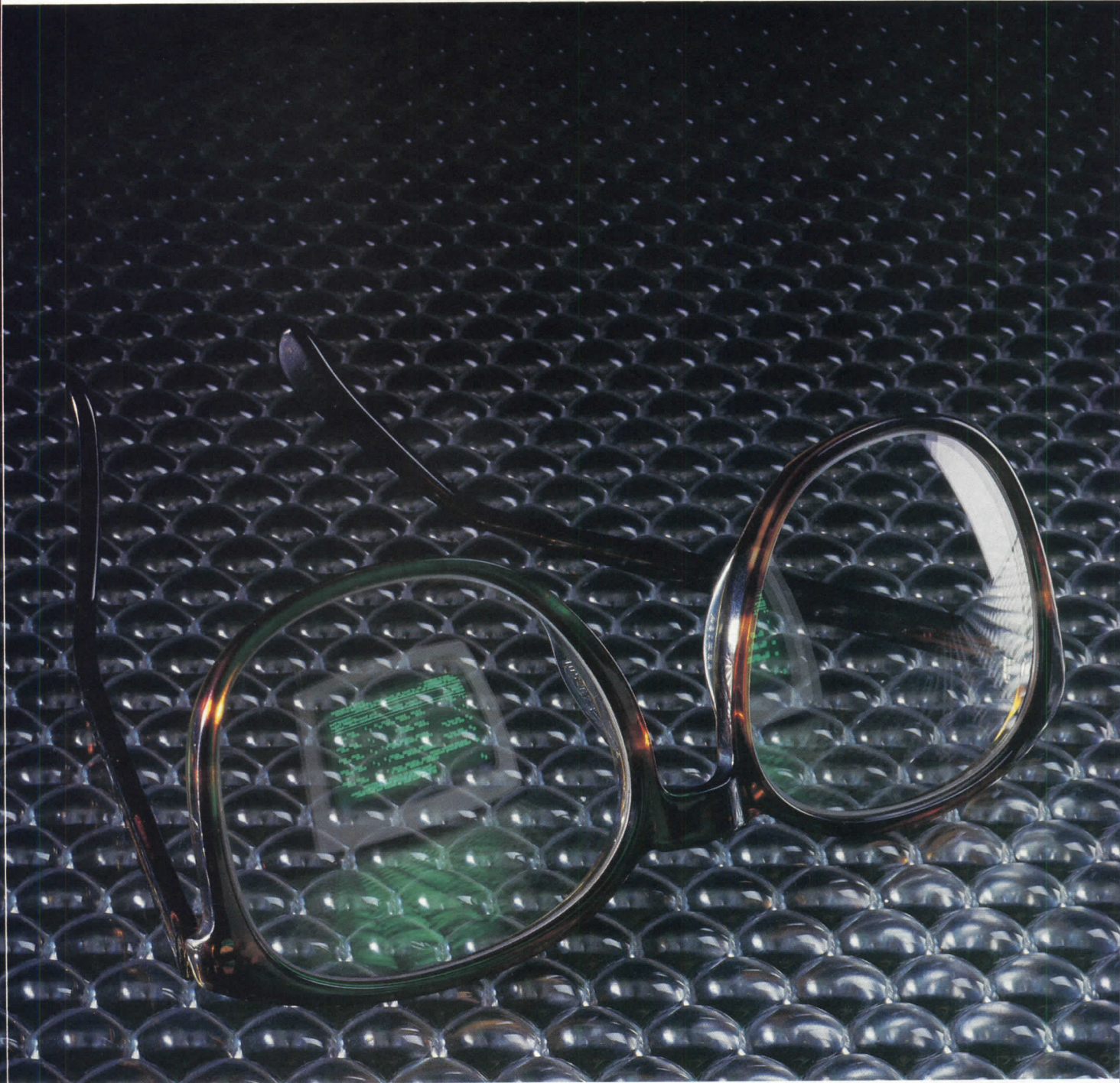
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## Architectural education: ACSA—a quest to advance the quality of education

By Richard E. McCommons



The Association of Collegiate Schools of Architecture (ACSA) is an organization linking 104 schools of architecture in the United States and Canada, and its goal is "to advance the quality of architectural education." ACSA's role is to facilitate the dialogue among educators, and between the educators and others representing the profession of architecture. ACSA is concerned with many issues affecting architectural education; this article will briefly explain some that have emerged as priority concerns in recent years.

### Education versus training

Schools of architecture in this country define their mission to include a strong element of ethical responsibility that extends beyond teaching "how to" practice architecture. Design solutions are expected to do more than provide economically functional space; students are taught that architecture is intended to elevate the human spirit and to improve the human condition.

The schools attempt to foster the flexibility and awareness required to adequately respond to ever-changing societal needs by encouraging life-long learning. Educators try to instill in students a sense of the continual need to "practice"—in the most literal sense of the word.

ACSA past president Wilmot Gillard summed up the attitude of most educators at last year's AIA Convention when he characterized the schools' mission as "winding up students for a lifetime of contribution to architecture and society."

Given the practical limitations on the number of courses that can be accommodated within a four- or five-year curriculum (or a two-year graduate program), the proper concern for assuring the breadth of the architecture student's liberal arts education places educators in apparent conflict with some practitioners who say that graduating students need to be better prepared to immediately enter and contribute to the office. The "education versus training" issue is not unique to the architectural profession; the same debate rages in virtually every profession where students are asked to learn specific trade and professional skills while simultaneously earning a liberal arts degree.

Practitioners complain that schools of architecture place too much emphasis on design, at the expense of other technical training required in the day-to-day practice of architecture. As the practice of architecture becomes more complex, there is also an increasing

*The major forum for the North American collegiate schools of architecture, ACSA involves itself with improving professional education. Executive director Richard McCommons explores here some of the association's many concerns*

demand for business-related skills: courses in marketing, law, computer science, research methods, public speaking, English, and professional ethics are most often suggested.

### Possible solutions

How are the educators to respond? One solution would be to increase the number of courses required in the same amount of time; this is not really a feasible solution because the number of credit hours required is already high compared to other disciplines. Years could be added to the first professional degree—an option unlikely to appeal to most students—or specializations added within the degree. Specializations can also be added at the Masters and Ph.D. levels—and this is the mechanism most schools have used to respond to the profession's need for expanded formal education. But most educators feel that the responsibility for training new architects is not theirs alone; that professional development requires a combination of formal education and practical experience.

### Balance required

As with so many perennial debates, the issue ultimately concerns achieving a balance—in this instance, a balance between education and training—in a situation that is continually redefined as society and the profession change. Other professions have perhaps made more progress in developing an appropriate partnership between the schools and the professional office in the development of new talent. Large manufacturing companies typically do not expect recently graduated engineers to enter their organizations as immediate sources of profit. Many companies spend several years moving their people around and introducing them to the full range of their operations. They are investing in the potential of their new employees. Doctors spend from two to six years in resident internship preceded by seven or eight years of formal schooling before they are expected to make individual contributions to their profession.

### Intern Development Program

The AIA/NCARB Intern Development Program (IDP), which ACSA supports, provides a roadmap for employers interested in fostering the professional development of new graduates. Intended to bridge the gap between graduation and professional accreditation, the IDP helps define the separate roles of the offices and the schools in the total education and training of architects.

Progressive employers are beginning to realize that the IDP can be a tool for attracting and keeping the best young talent; graduates know they will have an opportunity to be exposed to a variety of learning situations early in their career if their employer has made a commitment to sponsor them through the IDP program.

### Performance-based accreditation

The National Architectural Accreditation Board (NAAB) tackled this issue of appropriate preparation of graduates head-on in its revised accreditation criteria for architecture schools, which went into effect in 1984. The criteria are achievement-oriented, measuring student outcome rather than prescribing curriculum requirements, and are strongly supported by ACSA. The guidelines require students to "Be Able," "Understand," or "Be Aware" of skills, knowledge, and issues related to the practice of architecture.

### The part-time/full-time balance

Another issue plaguing architectural education is heavily tenured faculties, a situation that often discourages young architects from entering the teaching profession, and has created a generation of migrant faculty that is forced to move every four or five years solely because of a limit on tenure track positions. The same phenomenon can be seen in other departments of our universities, a result of demographic changes over the last 15 years. Baby boomers swelled the student population in the 1960s, creating a demand for larger faculties. When the trend reversed, the relatively large numbers of teachers hired in the '60s effectively locked up tenure track positions, so that those hired since have had limited opportunities for advancement.

Migrant faculty and their families are placed under tremendous pressure due to the lack of career opportunities, and as a result the teaching profession has lost many talented individuals. Schools have responded to this situation by hiring more part-time faculty. This offers students the benefit of increased contact with local professionals, but at the same time often strains the relationship between the architecture program and the rest of the university.

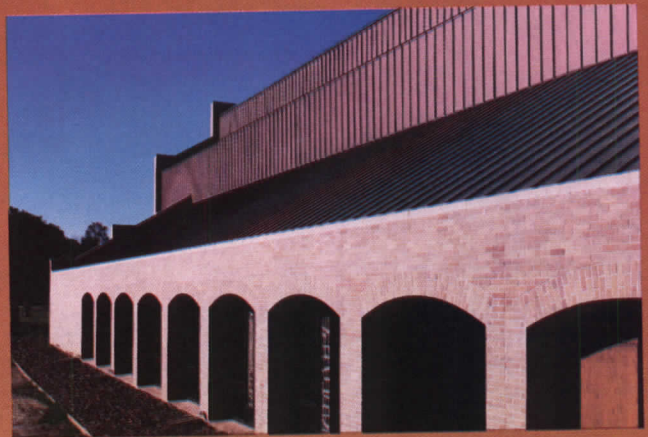
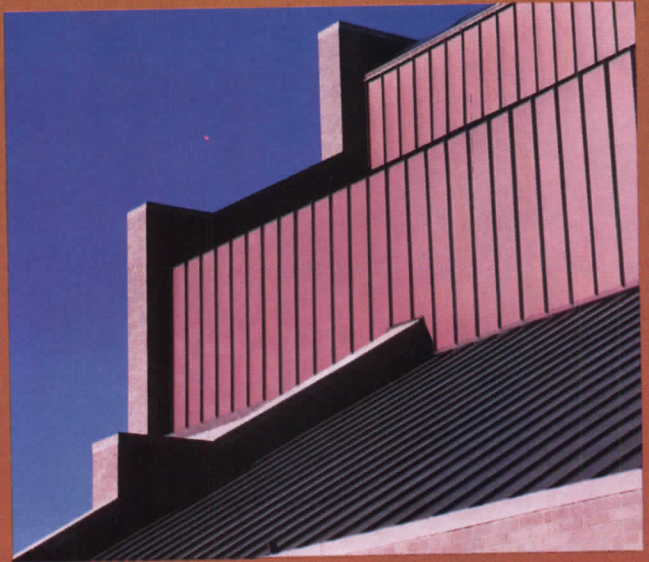
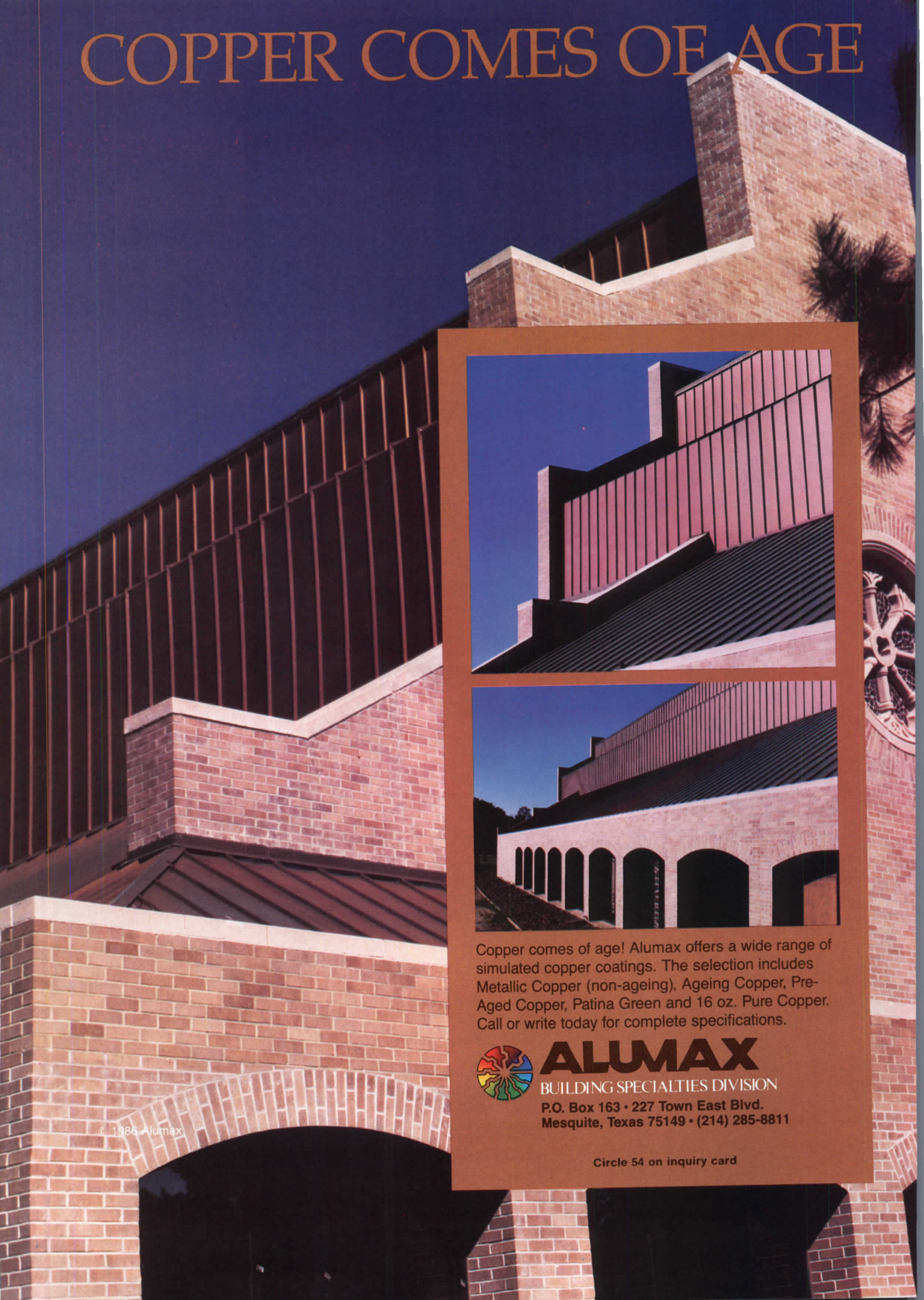
Part-time faculty members tend not to participate in the university community as much as their full-time counterparts. The part-time faculty member usually has an active architectural practice that claims first priority in his professional life; there is very little motivation for serving on the

*Continued*

*Richard E. McCommons is executive director of the Association of Collegiate Schools of Architecture, and was previously director of Graduate Studies, Miami University, Oxford, Ohio, and lecturer on architecture theory and design processes. He is also principal of Richard McCommons Architects.*



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university committees that often make crucial decisions regarding allocation of campus-wide resources. As a recent report by the National Education Association noted, "the proportion of faculty who teach part-time increased from 23 percent in 1966 to 40 percent in 1980. The higher the proportion of part-time faculty, the more difficult it becomes to maintain collegiality, to assure continuity in the instructional program, and to preserve coherence in the curriculum."

Schools strive to achieve a delicate balance of full-time and part-time faculty; the appropriate balance varies from school to school and changes from time to time, but the problem arises when the part-time/full-time ratio is established, not by choice, but out of necessity, due to the unavailability of well qualified young architects willing to teach full time.

**Attracting the talent**

The same demographic trends that have decreased opportunities for careers in architectural education have diminished the pool of talented architecture students. College enrollments are down not only because there are fewer college-age people in the country than there were 15 years ago; enrollments are also decreasing because the young today tend to exercise their options. Many recent high school graduates do not attend college right away, and many others do not begin to study architecture until graduate school. The professions are in direct competition for a diminishing pool of student talent. Recent statistics show that the number of applicants to architectural schools is staying constant, but the quality of the applicants (measured by their entering academic records) is decreasing.

One of the major problems facing the profession as it competes for the best and brightest is widespread misinformation regarding architects' salaries. The American Institute of Architects (AIA) reports salaries as rather low, but it should be noted that the AIA figures are an average of base salaries. When broken down by firm size and location, and when bonuses, profit-sharing, and other fringe benefits are taken into consideration, the salaries of architects compare favorably with those in other professions, as is borne out by management consultants D. Dietrich Associates of Phoenixville, Pa., in its recent salary survey.

Students inquiring about potential earnings in the field of architecture are quite likely to hear gloom-and-doom reports. The fact of the matter is that, like many professions, architecture can offer either generous or relatively modest compensation, depending on the nature of the practice. Generally, architects working for larger firms in larger cities can expect to earn more.

In the fall of this year ACSA will publish a new fact book designed to help faculty members become better advisors to students. For example, the individual

requirements of state accreditation boards will be included so advisors can answer questions regarding out-of-state licensing. Eventually we would hope that the AIA could provide annually updated, regionally specific salary figures for ACSA to pass along to faculty and students.

**Hiring and keeping the talent**

Because the talent pool is drying up, I am often asked to advise large firms regarding how to attract and keep the best young architects. I am finding a desire among the large firms to go to the campuses and recruit—but they hesitate to do so because they are afraid of negative perceptions (the perception that firms that need to recruit are not attracting applications from talented students). As far as I can

see, architecture is the last hold-out among the professions in this hesitation to recruit.


I tell those interested in attracting talented people to offer what young professionals want and need: enough pay, and opportunity to gain exposure and training. Some firms are beginning to recognize that the IDP is not just another burden, but can function as a terrific recruitment tool. As noted above, an employer promising to participate in the IDP program guarantees the talented young architect a variety of experiences that will fulfill his or her professional development needs in the first years of practice.

**The role of ACSA**

ACSA's role is to provide a forum for educators to articulate their

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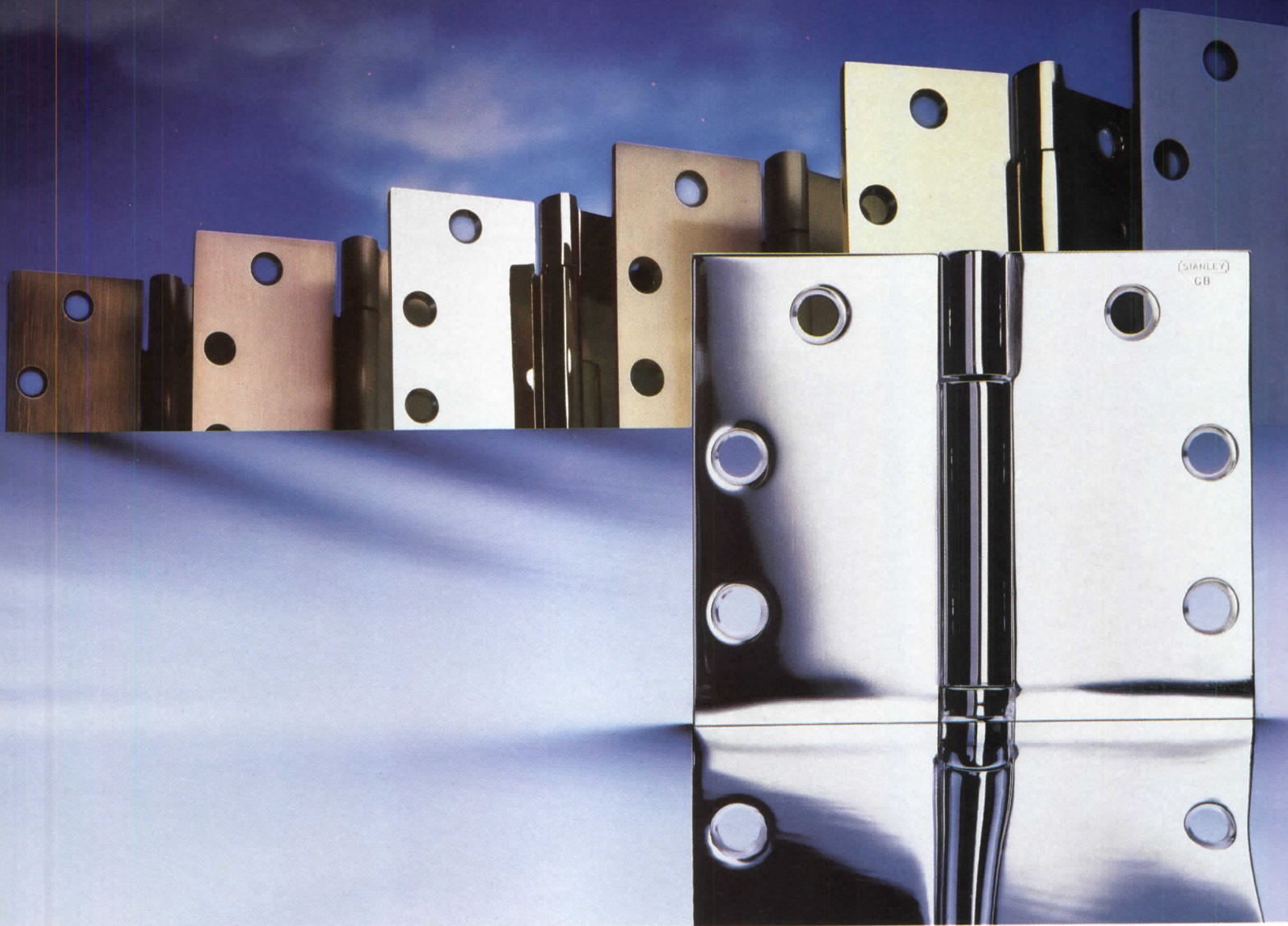
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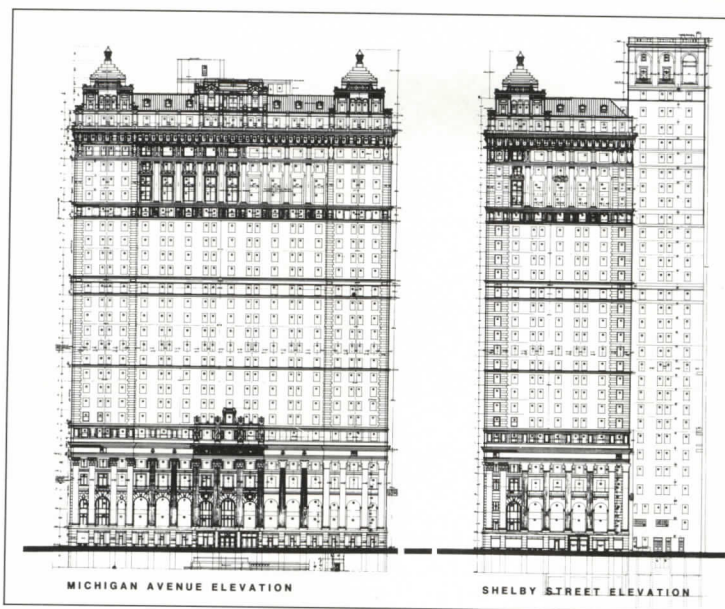
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## In Detroit and L.A., more room at two venerable inns



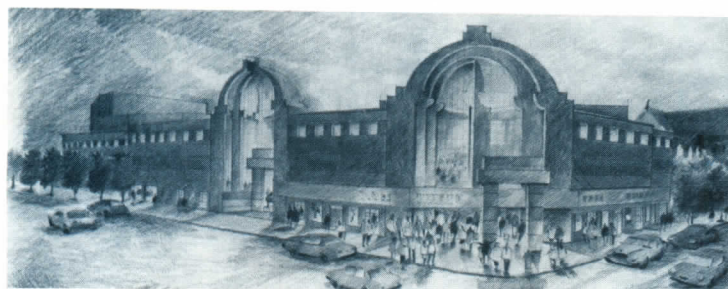
Except for their mutual dependence on the automobile (one makes them, the other drives them), Detroit and Los Angeles have little in common. What the two cities do share, however, is a lamentable disregard for their respective architectural heritages. Detroit's loss has been a case mainly of demolition by neglect, while in Los Angeles, destruction has come primarily at the hands of developers cashing in on the city's growth-oriented mentality. It is gratifying, then, to report on a pair of hotel restoration projects in Los Angeles and Detroit that will ensure the preservation of two National Register-listed landmarks. Interestingly, although the buildings in question were built within five years of each other, they exemplify divergent stylistic trends that characterized high-rise architecture during the 1920s. In Los Angeles work is proceeding on the conversion of the Sunset Towers Apartments (model left), an evocative monument of the Zigzag Moderne style, into the 81-room St. James Club Hotel. Designed by Leland A. Bryant in 1929, the florid structure on Sunset Boulevard was at one time the home of such notables as Howard Hughes, Errol Flynn, and John Wayne. In addition to the restoration of the building's facade, plans by architects David Lawrence Gray and Associates call for the gut renovation of the interior and the addition of an eight-story annex. Meanwhile, back east, the 32-story Book-Cadillac Hotel in Detroit (elevations left), designed by Louis Camper in 1924 and for years an aging Neoclassical dowager on Washington Boulevard, is being renovated into 518 suites, 180,000 square feet of office space, a health club, and convention facilities. Architects for the restoration are Rossetti Associates.



### Candle in an urban wilderness

While some local boosters might view Stamford's evolution from fading industrial suburb to corporate capital as an economic miracle, no one has had the hubris to call the motley collection of new downtown office buildings in the Connecticut metropolis anything but an urban wasteland. So it was with great fanfare that the Stamford Center for the Arts recently unveiled preliminary plans

for an arts complex that may restore the human scale and masonry tradition of the city's more gracious past. Designed by Charles Moore and Chad Floyd of Centerbrook, the project involves the renovation of the existing Stamford Theater, a 900-seat former vaudeville house erected in 1914, and the construction of an intimate 400-seat theater for drama, dance, and film presentations. The two theaters, together with support spaces, offices, and a shared lobby, will be clad in a unified facade of banded brick with stone trim. Fanciful concrete arches and a traditional wraparound theater marquee are meant, according to the architects, "to create a monumental image in keeping with the building's civic function."







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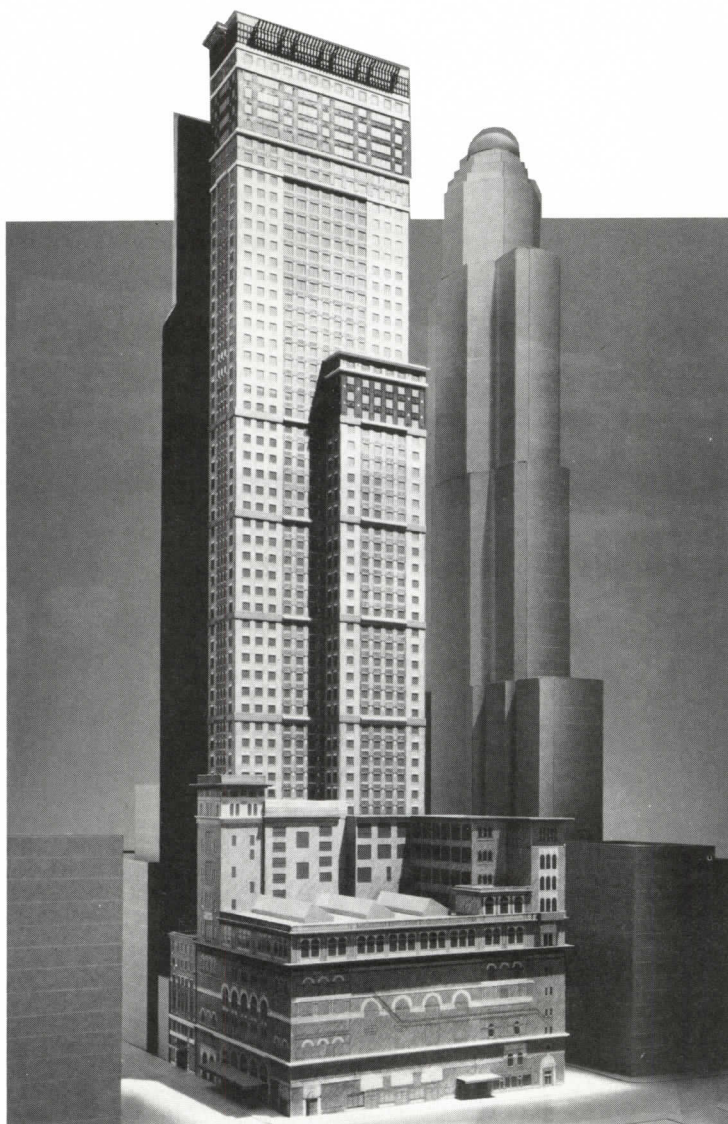
In concert with a midtown building boom

Mass appeal

**News from Boston:** The Museum of Fine Arts will open a satellite downtown gallery in the city's Custom House. Local developers Bruce and Robert Beal will donate space to the museum as part of an overall restoration scheme for the landmark tower, which was designed in 1915 by Peabody and Stearns and was for years Boston's tallest building. . . . The Boston Design Center has opened. The new facility, located in a converted warehouse on the city's old U. S. Army Base, has eight floors and 550,000 square feet of showroom space for interior furnishings manufacturers. . . . J. Scott Kilbourn, an architect from Cambridge, has been named the recipient of the 1986 Rotch Scholarship. The prize carries a \$14,500 stipend for eight months of foreign travel.

**The current calendar of architectural exhibitions is unusually rich.** Now on view: "Mies van der Rohe: Architect as Educator," at the Illinois Institute of Technology in Chicago through July 12; "Tokyo: Form and Spirit," at the Walker Art Center in Minneapolis through July 20; "40 Under Forty," an exhibition of the work of young British architects, at Glen-Gery Brickwork Design Center in New York through July 1, traveling to Philadelphia (July 8-22), Baltimore (July 29-Aug. 12), and Somerville, Mass. (Aug. 19-Aug. 29); "Frank Lloyd Wright and the Johnson Wax Buildings: Creating a Corporate Cathedral," at the Renwick Gallery in Washington, D. C., through Sept. 1; and "Building a Borough: Architecture and Planning in the Bronx, 1890-1940," at the Bronx Museum of the Arts through Sept. 1.

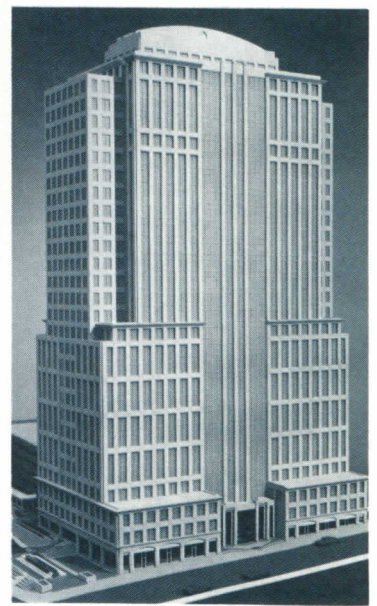
**The fall exhibition schedule also looks promising.** The major event will be "The Function of Ornament: The Architecture of Louis Sullivan," at the Chicago Historical Society (Sept. 4, 1986-Jan. 1, 1987), traveling to the Cooper-Hewitt Museum in New York, the St. Louis Art Museum, and the Renwick Gallery in Washington, D. C. Other important upcoming events include "The Architecture of Frank Gehry," at the Walker Art Center in Minneapolis (Sept. 14-Nov. 9); "New Architecture: Foster, Rogers, Stirling," at the Royal Academy of Arts in London (Oct. 3-Dec. 14); "The Architecture of Charles Moore: Buildings and Projects, 1949-1986," at the Williams College Museum of Art in Williamstown, Mass. (Oct. 20-Dec. 19); and "Architecture and 19th-Century Photography," at the International Museum of Photography in Rochester, N. Y. (Nov. 9, 1986-Jan. 4, 1987).



Carnegie Hall has unveiled the most ambitious phase of its ongoing renovation and expansion plan—a 59-story, 756-foot-tall office tower that will rise from a site adjacent to the landmark auditorium in midtown Manhattan. Designed by Cesar Pelli, the building will provide a steady income for the 97-year-old concert hall and will include, on its first seven floors, 24,000 square feet of much-needed backstage, support,

and service space. Although the new tower's orange-and-red brick facade, tripartite vertical organization, and decorative precast concrete ornament are thoughtful references to the color, massing, and articulation of William Tuthill's original Italian Renaissance Revival architecture, one wonders whether the overwhelming height of Pelli's narrow slab will render such relational gestures meaningless.

Despite persistent warnings of commercial overdevelopment, office construction in downtown Atlanta continues unabated. Witness plans for 999 Peachtree Street, an unusually handsome project that incorporates a 28-story office building with ground-floor retail space, a 650-car garage, and, on an adjacent site, a 200-room luxury hotel. Clad in off-white travertine and designed by Heery Architects & Engineers, the building is part of Peachtree Place, a four-block development currently being erected by Trammell Crow Company. The structure will feature a series of modest setbacks that are intended to lessen apparent mass, ease the transition from street to office tower, and conform with older buildings in the city's Tenth Street district. Completion of the project is scheduled for the summer of 1987.



In London, a stylish retreat for tire company building



Plans are afoot in London to convert the former British headquarters of Michelin Tires, an early 20th-century landmark in the city's Chelsea district, into a mixed-use facility comprising retail, restaurant, and office space. One of the oldest reinforced-concrete buildings in Britain, the building was designed in 1911 by François Espinasse and is best known for its exuberant Belle-Epoque facade,

embellished with 34 ceramic-tile panels depicting racing cars fitted with Michelin tires. A proposal drawn up by YRM Architects & Planners and Conran Roche calls for restoring the building's exterior and reinstalling original stained-glass windows and cupolas that had been removed over the years. The scheme also includes a new setback addition that will terminate in a curved penthouse.



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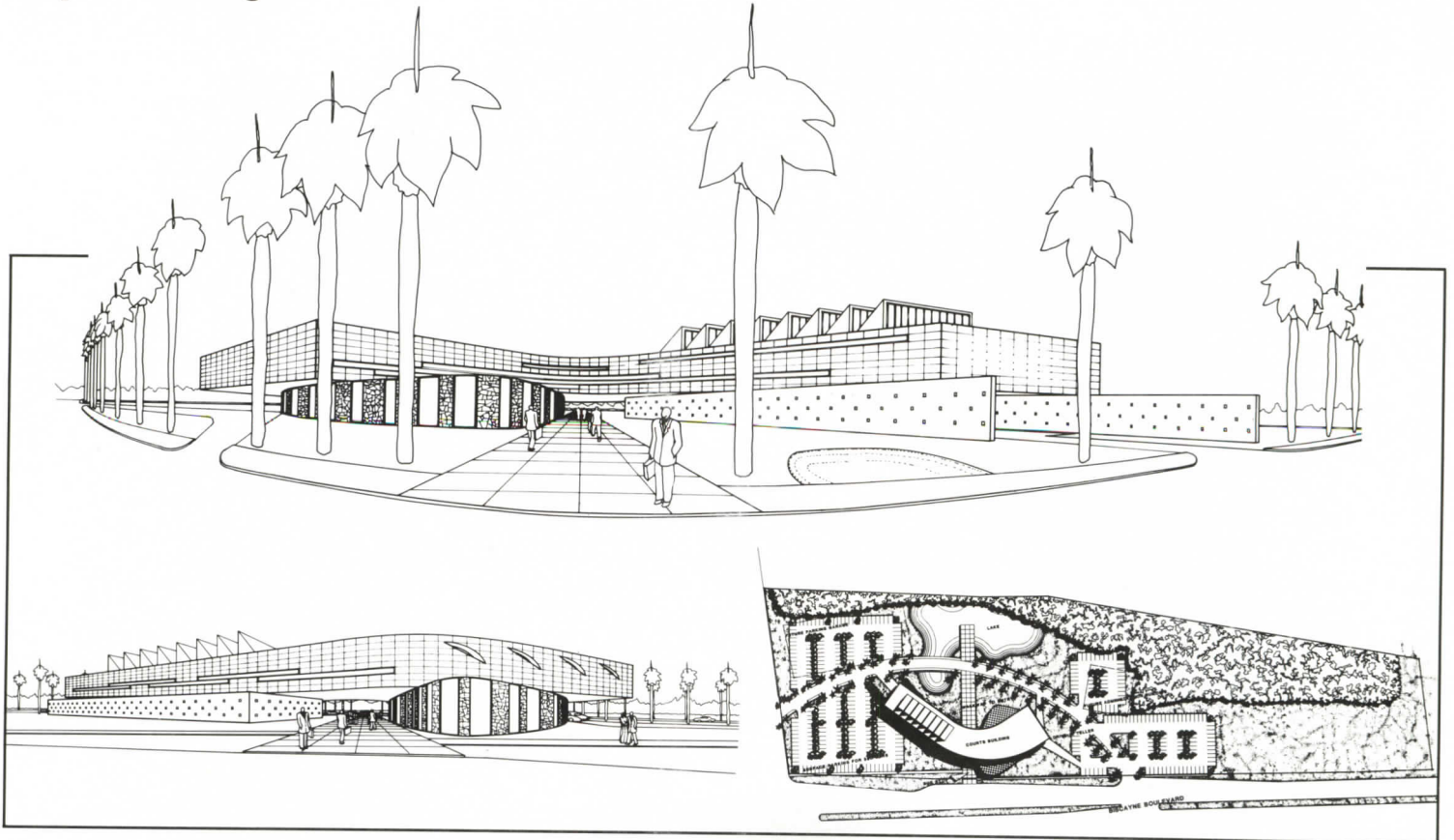
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## Arquitectonica goes to court



"Gentlemen, courthouse design is in a rut," announced Bernardo Fort-Brescia to the architect-selection committee for the new North Dade Branch Courts Building. The county powers-that-be apparently concurred, and construction is proceeding in earnest on Arquitectonica International's vision of a late 20th-century justice center. This most recent addition to a venerable building type reaffirms

the Miami architects' predilection for *not* looking to precedent for esthetic cues: "We chose to ignore all the traditions of courthouse design, . . . all symbols of power and order," says Fort-Brescia. A glimpse confirms. Located between busy Biscayne Boulevard and a protected mangrove preserve and manmade tidal lake (site plan above right), Arquitectonica's 39,000-square-foot building is divided into

three distinct volumes that accommodate three distinct functions and utilize three distinct material palettes. The most dramatic is the hockey-stick-shaped second level (containing courtrooms, hearings rooms, judges' chambers, and ancillary facilities), clad in a white- and reflective-glass curtain wall and crowned with eight yellow-tile clerestories. This wing presents a

convex face to the boulevard (above left) and a more protective, concave face to the nature preserve (top). Keeping it aloft, a giant lozenge sheathed in pink marble and green glass houses the facility's lobby and high-volume office areas. Across a breezeway is a rectangular parking garage, surrounded by a green concrete and black tile wall, where prisoners and judges alike can make high-security entrances and exits.

## Competition calendar

deadline is June 30. For information, contact Margaret De Witt, DRDC, 1133 Broadway, Suite 1407, New York, N. Y. 10010 (212/206-7979).

- Haworth, Inc., is sponsoring a competition that seeks hypothetical designs for work, conference, and relaxation areas for 60 people in the Pantheon. Architects, interior designers, advanced students, and recent graduates are eligible, and entrants' designs must incorporate the manufacturers' line of office systems furniture. The winner will receive an expense-paid trip for two to Italy (or \$5,000 cash) and a \$5,000 scholarship to be awarded to the school of his or her choice. Entry deadline is July 31. For details, call 1-800/442-9678 ext. 567.

- The Los Angeles Chapter of the AIA seeks entries to its first biennial international competition for the Los Angeles Prize, intended to "bring to the public view new possibilities for the physical environment." The theme for 1986 is "Visions of Architecture in the Year 2010." The competition is open to all architects, related design and science professionals, and students. The winner of the prize will receive \$10,000. Registration deadline is July 15. For information, contact the Los Angeles Chapter/AIA, 8687 Melrose Av., Suite M-72, Los Angeles, Calif. 90069 (213/937-1606).

- The City of Buffalo and the School of Architecture and Environmental Design at the State University of New York are sponsoring an international design competition that seek ideas for redeveloping the city's downtown retail core. Cash prizes totaling \$60,000 will be awarded. Entry deadline is August 30. Competition packets are available from Robert G. Shibley, Competition Director, School of Architecture and Environmental Design, SUNY/Buffalo, 3435 Main St., Buffalo, N. Y. 14214.

- The Downtown Research & Development Center seeks entries to its sixth awards program, honoring new developments and rehabilitated projects that "are helping their downtowns and reshaping the central business district." Projects substantially completed by December 31, 1985, are eligible for the awards. Entry

## A matter of discretion



Leave it to Charleston, that loveliest of Southern cities, to do it right. When the South Carolina metropolis set out to add garage space for 1,000 cars to its downtown historic district, it faced the challenge of integrating one of architecture's clumsiest building types—the multi-level parking ramp—into an urban fabric of legendary charm. In an admirable display of restraint and sensitivity, Sasaki Associates has

come up with a discreet solution to the city's esthetic dilemma: a pair of poured-in-place concrete structures, clad in stucco and trimmed in white precast, that echo the scale and massing of nearby buildings. Louvered openings reminiscent of local vernacular buildings ingeniously conceal access ramps, while ground-floor shops and offices reinforce the mercantile character of downtown.



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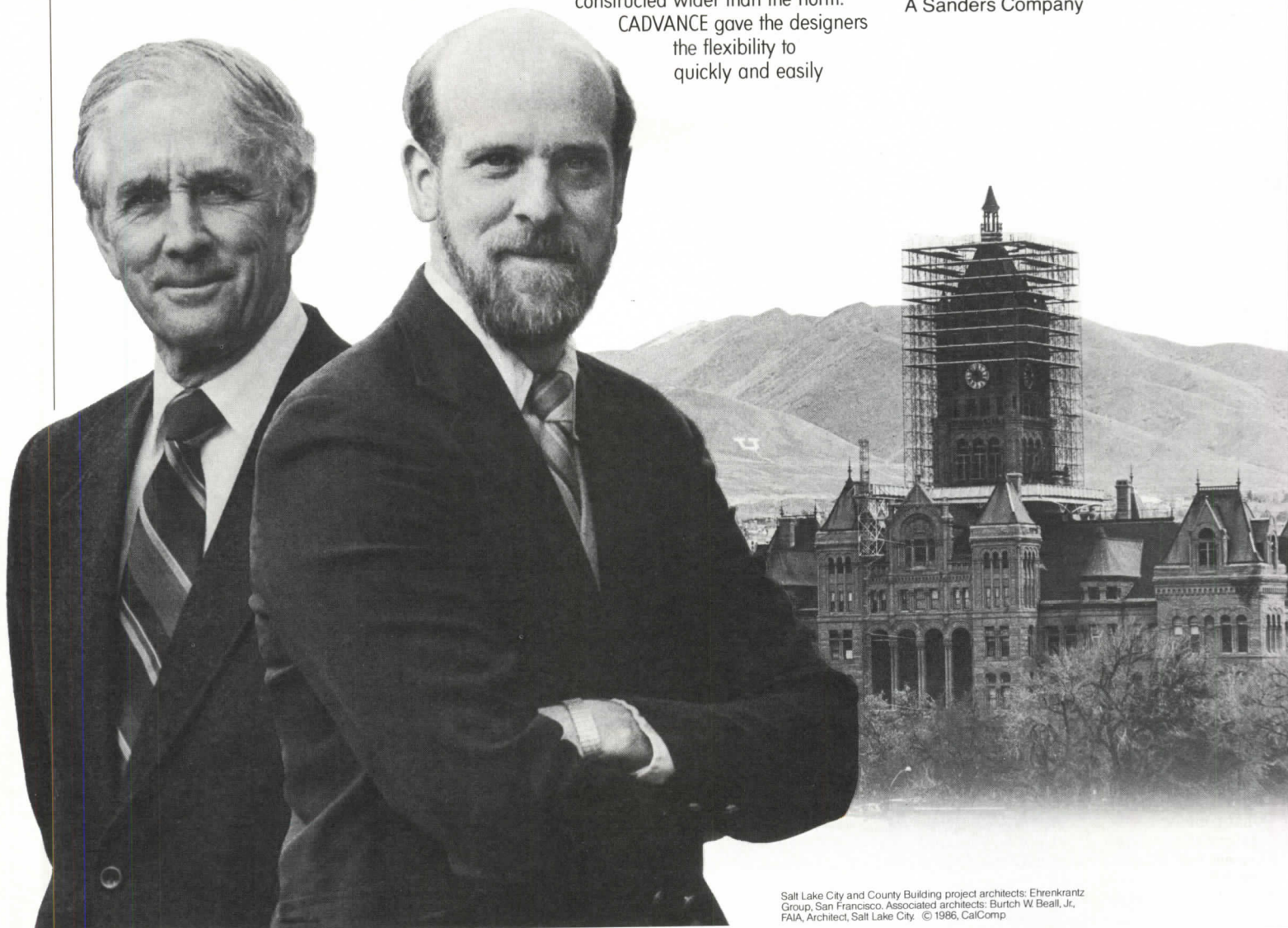
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Salt Lake City and County Building project architects: Ehrenkrantz Group, San Francisco. Associated architects: Burtch W. Beall, Jr., FAIA, Architect, Salt Lake City. © 1986, CalComp

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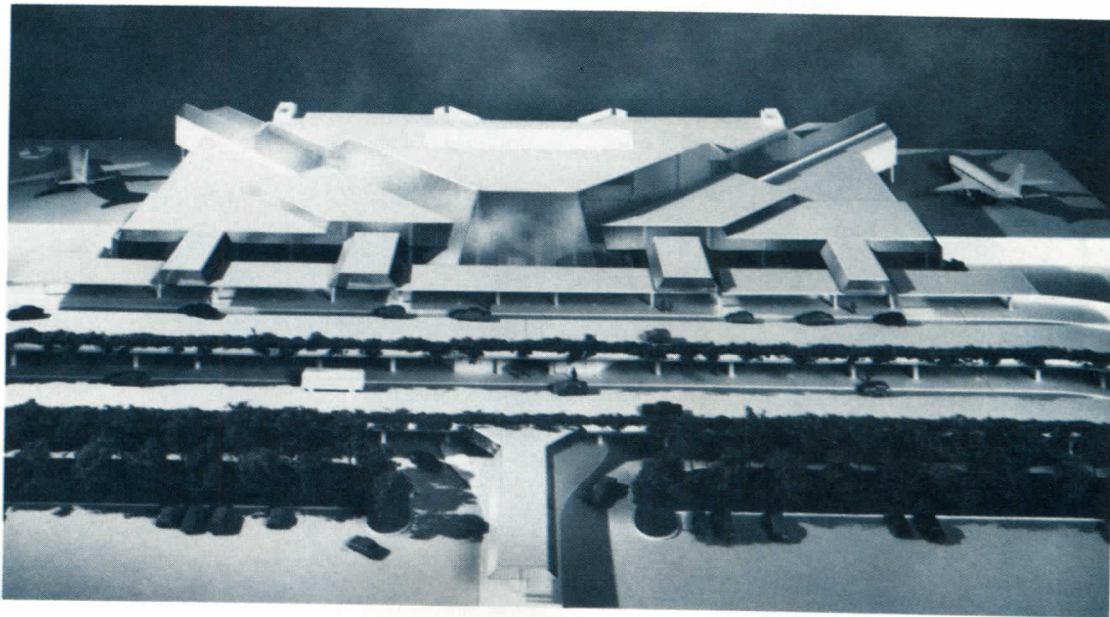
## Back to the future: New show unveils Modernism's revival

## Airport expansion plan is music to Nashville's ears

"Modern Redux: Critical Alternatives for Architecture in the Next Decade," an exhibition that opened earlier this spring at New York University's Grey Art Gallery prior to a national tour, heralds nothing less dramatic than "the phoenixlike resurrection of Modernism." While many active practitioners may consider the implied death sentence somewhat premature, "Modern Redux," conceived and curated by Douglas Davis, the architecture critic for *Newsweek*, proceeds on the grounds that Modernism, "allowed to dwindle to nothingness," is ripe for rehabilitation. Like most restorations, be they political or architectural, this one involves its share of adept revisionism, not to mention a new definition for a New Modernism.

The argument, presented through 35 projects, goes something like this: Modernism was a vital, honest, and diverse movement firmly grounded in rational analysis. It was not merely a style—and especially not just the International Style so exclusively and damagingly identified with it. On the other side, Postmodernism is style-dependent, derivative, two-dimensional, dishonest, and sometimes little more than "Modernism in drag." The one looks forward; the other cowers in the past. Drawing plenty of its own inspiration from the Enlightenment, "Modern Redux" shares the sound notion, espoused by the 18th-century architect-scholar J. F. Blondel, that "Good architecture is inseparable from reason." The mind boggles, however, at the projects selected for the show, which at first glance would appear to have nothing in common. Buildings as seemingly contradictory as SITE's turf-topped Ansel Adams Museum project in California, Gwathmey Siegel's addition to the Guggenheim Museum in New York City, and Fumihiko Maki's technologically sophisticated Metropolitan Sports Center in Tokyo stand side by side as representatives of the same brave, new principles. In fact, their very diversity is what qualifies them for inclusion. "Core purity" and not "surface appearance" is what counts here. These are all designs that evolved out of a respect for function, context, and site. "Reason, rather than precedent" determined the way they look.

Oddly enough, some of these building projects also appear heavily endowed with historical imagery. Masterfully, Davis reveals how the New Modern architect can use history appropriately to fulfill requirements of function. Rafael Moneo's Museum of Roman Art in



While airports in some small and medium-size cities have suffered a loss of service as a result of recent federal deregulation of the nation's airlines, others, particularly those in the strategically located Midwest, have been tapped by certain carriers as new transfer points for emerging hub-and-spoke route systems. One such city is Nashville, which has been selected by American Airlines as one of its

secondary hubs linking the Northeast and the mid-South. To accommodate increased traffic brought on by the arrival of American, the Tennessee metropolis has unveiled plans for a 350,000-square-foot expansion proposal that would add 44 gates to Metropolitan Airport's existing 16-gate facility. Designed by architect Robert Lamb Hart in association with Gresham, Smith and Partners, the new wing-

shaped terminal will feature a large central atrium, illuminated by sloping green-glass skylights that form a linear "trail" leading passengers to traditional double-loaded gate concourses. In addition to its symbolic role as a light-filled entrance hall to the city, the atrium will consolidate all ticketing and retail requirements, and promises to eliminate the visual cacophony that so often vexes air travelers.

## Smart move for a peripatetic Palm Beach dowager



Sea Gull Cottage, the oldest extant house in Palm Beach, has had a remarkably ambulatory history. Built in 1886 on the shores of Lake Worth, the picturesque clapboard-and-shingle dwelling was bought by railroad magnate Henry Flagler in 1893 and moved across the island in 1913 to an oceanfront site adjoining Flagler's Breakers Hotel. When the Breakers proposed demolishing the cottage three years ago to make way for new condominiums, the Palm Beach Preservation Foundation purchased the then-dilapidated house (small photo above) and arranged to have it moved *back* to a site on Lake Worth owned by the Royal Poinciana Chapel. Faithfully restored to its original late-Victorian charm by architects Hoffman Schofield Colgan, the cottage now serves as the foundation's headquarters and a chapel meeting facility.





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Spain is his favorite case in point. Due to the project's function as a repository of ancient art and owing to its site on ancient foundations, Moneo was justified in filling his warehouselike box with aqueduct-style, red-brick arches. Henry Cobb provides another fine example of New Modernist rationale at work. For his addition to the Neoclassical National Gallery in London, Cobb has not only appropriated the Corinthian order of the original but also added an abstracted Tuscan order in conjunction with latter-day slit windows. The creative combination of abstracted old and new is particularly New Modern. With true rhetorical savvy, Davis adopts the past for the future: "New Modernism often embraces history on a deeper, more substantive level than the wide-screen eclecticism that now makes a mockery of 'historicism,' a once-noble doctrine that proclaimed the equality of historical styles, each formed by its own circumstances." While this heightened sensitivity to context is admirable, it is not exactly an attitude that can be traced to early 20th-century Moderns, more bent on radically altering, if not destroying, a context they considered corrupt and hardly worth preserving.

Other key traits associated with the new esthetic are signs of abstraction rather than figuration, crisply organized plans, organic forms, and flexible programs. Above all, it's their attitude toward style that unifies these diverse projects: they avoid it. More precisely, the New Modern is expected to oppose any kind of surface adornment that does not either relate to or explain the interior, or else enhance and define a building's relationship to its neighbors. Thus, the Art Deco lobby of 233 Park Avenue South in New York, designed by Peter Pran and Carlos Zapata, is appropriate only because it is reacting to the Moderne office building next door. Anyplace else (as in a black-and-white photo for an exhibition about Modernism), it might risk looking *recherché*. "Modern Redux" even finds room in its expansive heart for a few stock Postmodern classics, namely Burgee/Johnson's AT&T Building, which, not surprisingly, is shown housing a strictly Modern modular core within its winsome walls. And Frank Gehry's Aerospace Museum in Los Angeles may look like a decorated shed, considering the F-104 Starfighter clamped over the entrance, but the choice of material—galvanized sheet metal—is singularly Modern. Thus, decoration, when it serves a purpose, when there is evidence of advanced technology in use (e.g., Cesar Pelli's "delightfully rusticated" Herring Hall at Rice University in Houston), or when there are at least assurances that no deception was intended (Venturi, Rauch and Scott Brown's Gordon Wu Hall at Princeton) is perfectly respectable in the New Modern vocabulary. Even the new visual art

center at Ohio State University by Peter Eisenman and Jaquelin Robertson is applauded for excavating an old armory and incorporating it into what is supposed to be a video center for the 21st century. Why? Because the "recall of history" is "both direct and controlled." One begins to wonder what buildings *wouldn't* rate the new label.

For sheer rhetorical drive and sophisticated argument, "Modern Redux" is without comparison among recent architectural exhibitions. It bills itself as "the first in-depth analysis of the current attempts to define a 'New Modern' alternative to 'Postmodern,'" which is no doubt accurate; but what does an "in-depth analysis" look like on

four walls? Apart from those few well-versed in 1st-century A.D. oratorical devices, most viewers will find the "Quintillian" organization of the show entirely baffling. Rather than explanations of who Quintillian was and how he defined perfect speech, what the visitor needs to know in advance is that the show is broadly divided into two sections: the polemic, presented through a wide range of stimulating quotations (from the 17th-century architect Perrault and early Gropius to the German philosopher Habermas and Aldo Rossi, among many eloquent others), mounted on plaques at the entrance, followed by the proof: i.e., the 35 projects in the form of plans, drawings, and models, arranged without much

more than labels. To make any sense at all out of "Modern Redux," one must spend some time reading all the printed matter. Better yet, read the catalog essay by Davis; it's artful and provocative. But whether "Modern Redux" really does provide (in the words of the press release) "a major reinterpretation of 20th-century Modernism" is another question. After a long look at the New Moderns all around us, it's tempting to conclude that what this show does best is prove that the good, honest architects of today continue, as always, with a healthy disregard for "critical alternatives," doing exactly what they feel is necessary to create good, honest buildings. *Julie Iovine*



Erie County Community College Cannon Design, Architect

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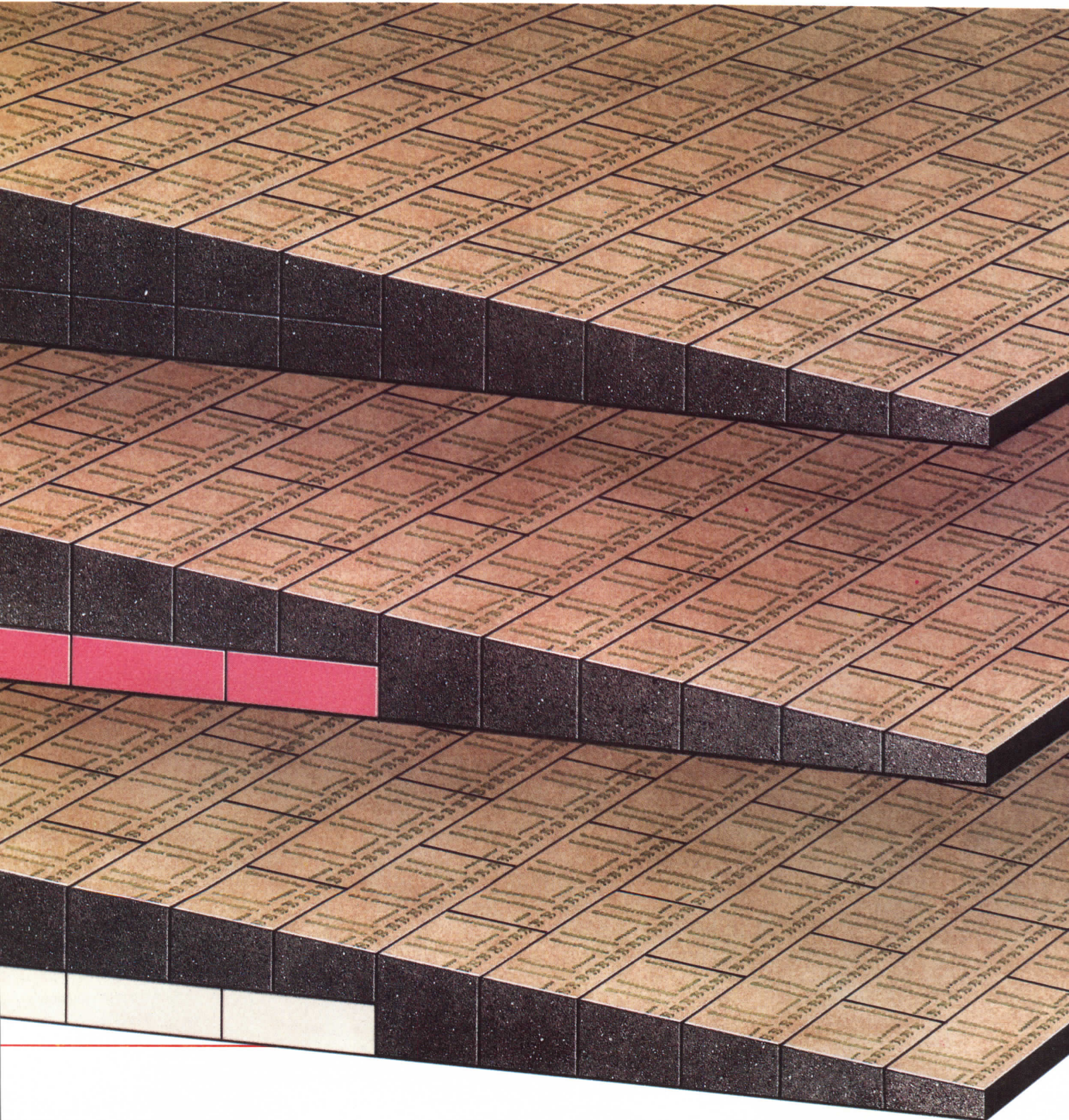
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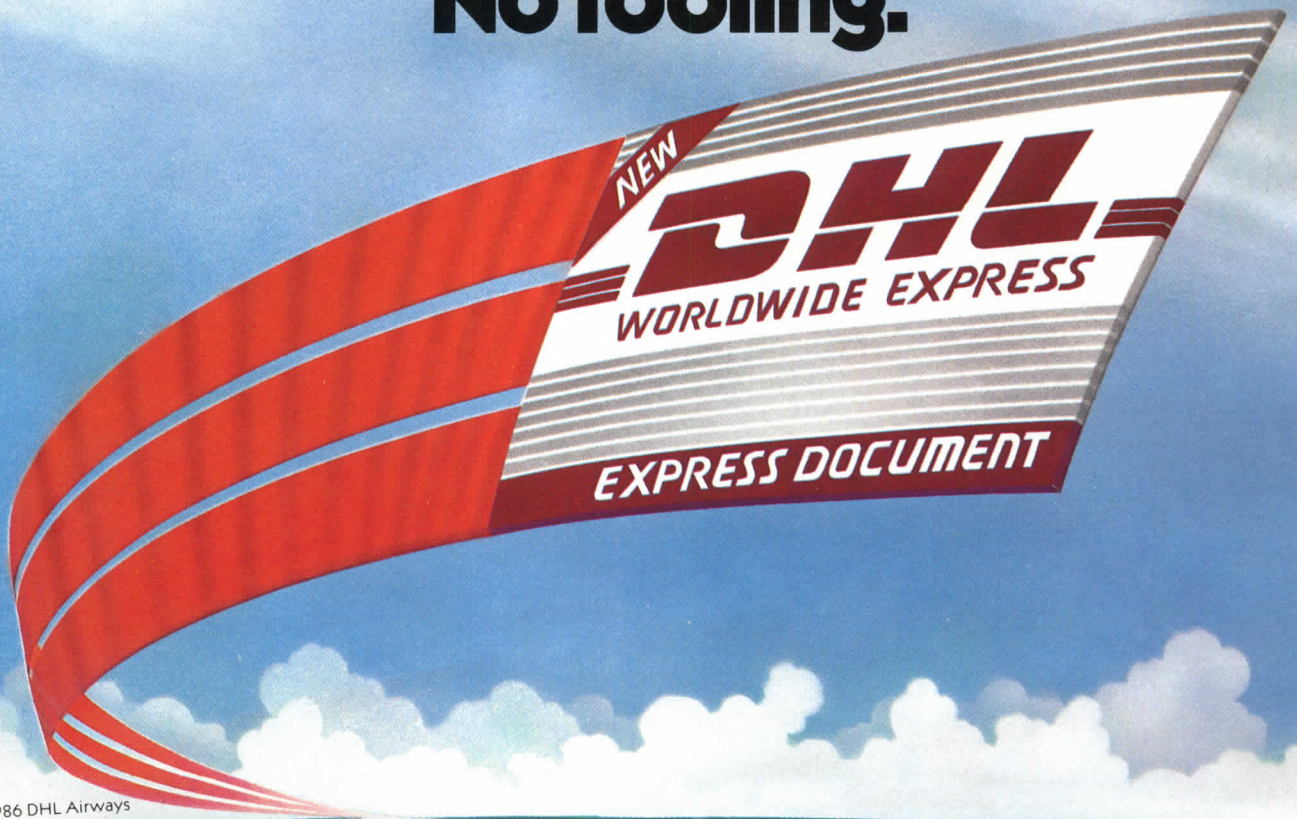
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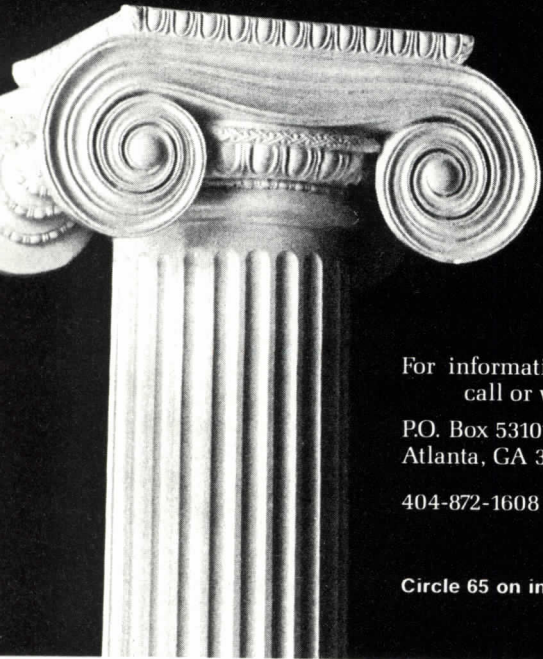


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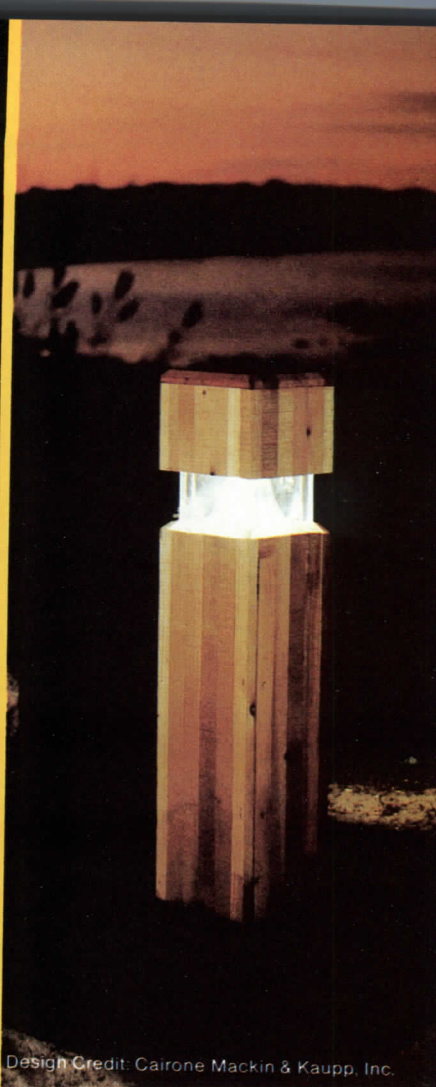
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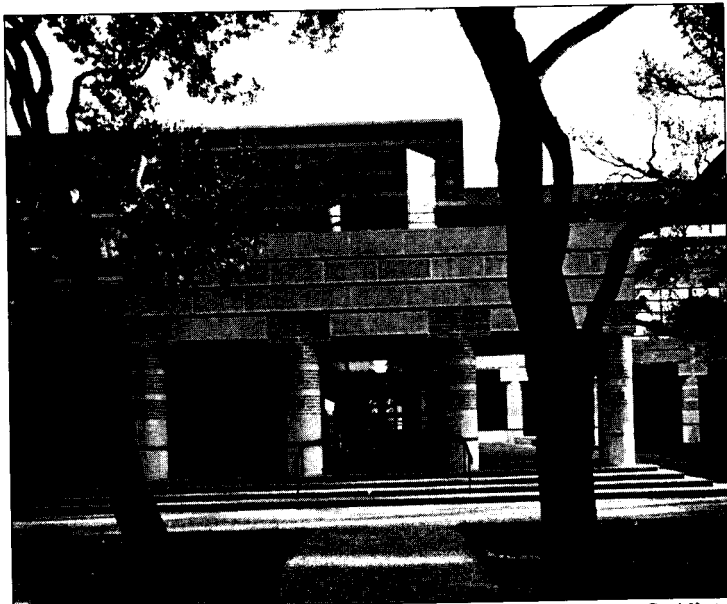
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## Design awards/competitions: 1986 AIA Honor Awards



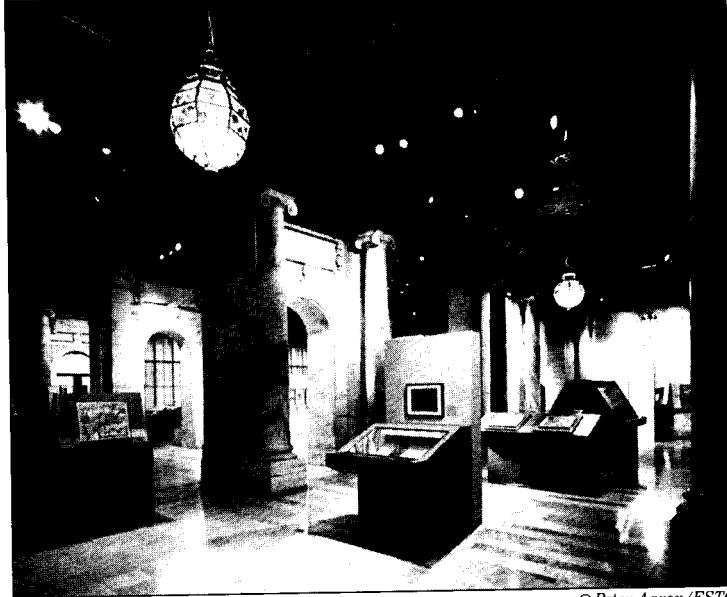
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**1. Herring Hall, Rice University, Houston, Texas; Cesar Pelli & Associates, Architects.** This 50,000-square-foot building housing a new graduate school of business consists of three building groups placed around an open court. Shifted, parallel blocks skewed by arcades and corridors recall the composition, organization, and massing of Rice's original Mediterranean Romanesque buildings, designed by Ralph Adams Cram in 1910. The jury admired the architects for "respecting the strong visual tradition of the existing campus plan and buildings, while simultaneously reinvigorating that tradition with a contemporary interpretation of the forms of nearby structures. [Herring Hall] is a building that works—mature, well organized, finely crafted, and fully integrated with its surroundings."

**2. IBM Corporate Office Building, Purchase, New York; I. M. Pei & Partners, Architects.** Set on a 46-acre suburban site, a new 450,000-square-foot office facility for IBM is, according to the jury, "a finely crafted, dignified expression of Modern architecture whose contrasting curved and offset shapes, varied forms, and organic relationship to the land give it extraordinary freshness and life. The architects have created a structure that presents an appropriately monumental corporate image, but with grace, lyricism, and full appreciation for employee needs. The atrium lobby and other grand public spaces are exquisite—typical of a building where care was lavished on every aspect of the design. The calm, richly elegant interiors are superbly organized and are energized by the infusion of sun-drenched light."

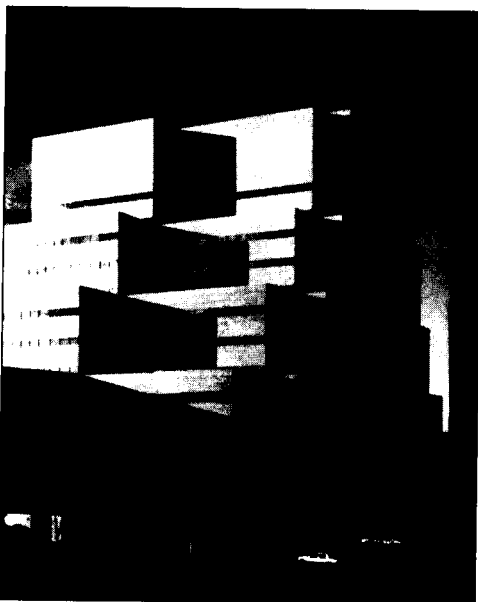
**3. Scattered-Site Infill Public Housing, Charleston, South Carolina; Bradfield Associates, Architects.** The time-honored Charleston sidehouse was the prototype for a 47-unit, federally funded housing project, located on several noncontiguous sites in the city's National Register Historic District. "Shelter not just for the body, but for the human spirit" was the jury's characterization of the 16-building complex, whose lapboard siding, wood shutters, side-porch entries, and iron grillwork belie a modest construction cost of \$27 per square foot. "The architects drew from a 200-year-old vernacular to create low-cost public housing that at once serves its residents and its community. Their skill has knit the neighborhood together—physically and socially—and they have adapted designs that are completely compatible with existing buildings."

**4. D. Samuel and Jeane H. Gottesman Exhibition Hall, New York Public Library, New York City; Davis, Brody & Associates and Giorgio Cavaglieri, Architects.** The architects' challenge was to restore the main exhibition hall of the New York Public Library, designed by Carrère and Hastings in 1911 and unceremoniously subdivided into office space after World War II. The jury praised the results as "a model of craft and the regenerative potential of sensitively applied architectural skill and restraint. The architects have successfully added modern lighting and other essential systems without disturbing the integrity of the original carved wood ceiling. The rebirth of the hall has satisfied one of architecture's most important functions—bringing beauty and delight where it had once been snuffed out."



If the 14 buildings recently cited by the American Institute of Architects in its annual honor awards program are an accurate barometer of the state of contemporary architecture in the United States, it is apparent that the best buildings erected over the past several years defy any strict stylistic categorization. This year's jury, according to chairman N. M. McKinnell, was "refreshingly free of ideological dogmatism, [and] it became clear at an early stage that style was not an issue, but that quality and craft were necessary attributes for any submission to be retained for

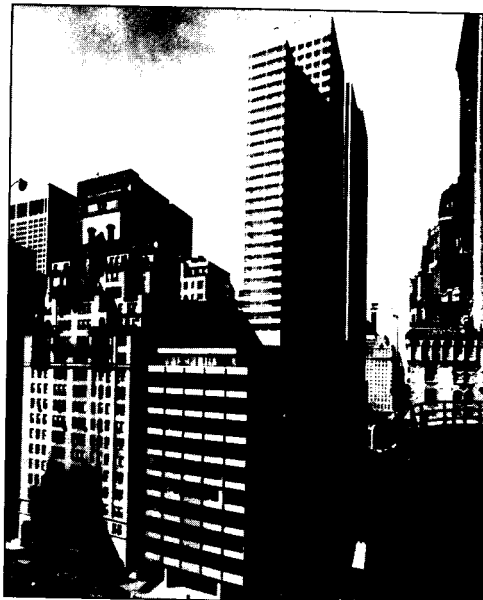
consideration." After sifting through some 600 entries by 350 architects, the jury tapped an unusually high number of private dwellings for awards—a result, perhaps, of residential architecture's traditional responsiveness to context and thoughtful application of materials, two qualities that the jury noted were primary concerns in its deliberations. In addition to McKinnell, the 1986 jury consisted of Charles F. Davis, Merrill Lynn Elam, Dan Kiley, William C. Muchow, John Pastier, Robert Tremonti, William D. Warner, and Frank D. Welch.



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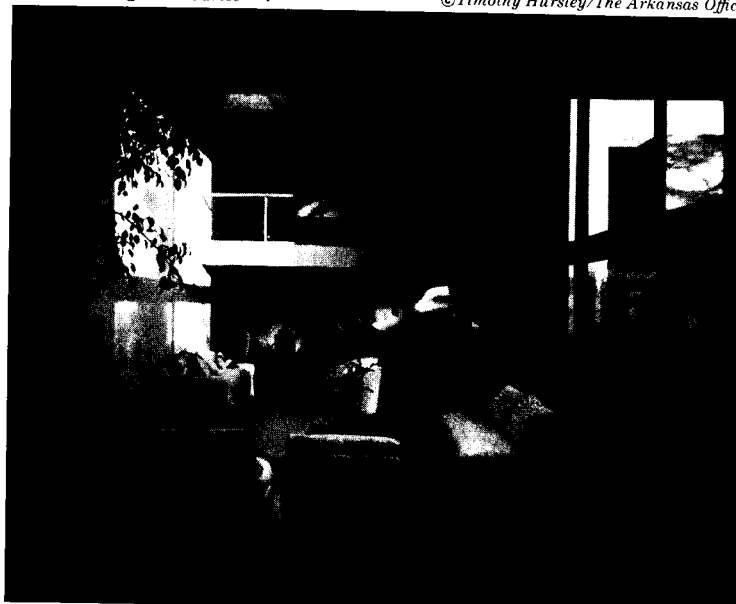
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**5. Outpatient Building, The Cleveland Clinic, Cleveland, Ohio;** Cesar Pelli & Associates, Architects. This 621,000-square-foot, 12-story outpatient facility houses 16 clinical departments for a large nonprofit medical complex. The jurors singled out the way the structure successfully reconciles esthetic concerns with the intricate programmatic and technical needs of a large health-care facility. "The building's organization is brilliant," they observed, "and its elegant pyramidal form and window design reflect the efficient arrangement of departmental functions housed within—a standard-setting clinic that advances both architecture and urban design."

**6. Kaskel Library, Hackley School, Tarrytown, New York;** Keith Kroeger Associates, Architects. The jury remarked that the conversion of a barrel-vaulted

assembly hall into a 20,000-volume private-school library "is so harmonious, it looks as though the building has always been just as it is now." A new balcony, bookcases, and reading areas were carefully inserted into the existing shell, and lighting was custom-designed to blend in with the original architecture. The jurors called the project "a revitalization of what is seemingly obsolete—an important lesson for the young people who find themselves in this reborn building's welcoming embrace."

**7. 500 Park Tower, New York City;** James Stewart Polshek & Partners, Architects (RECORD, July 1984, pages 86-95). Clad in green granite, aluminum, and glass, a mixed-use tower in midtown Manhattan utilizes the air rights of the adjacent Pepsi-Cola Building, a Modern landmark designed by Skidmore, Owings & Merrill in 1960. The jury

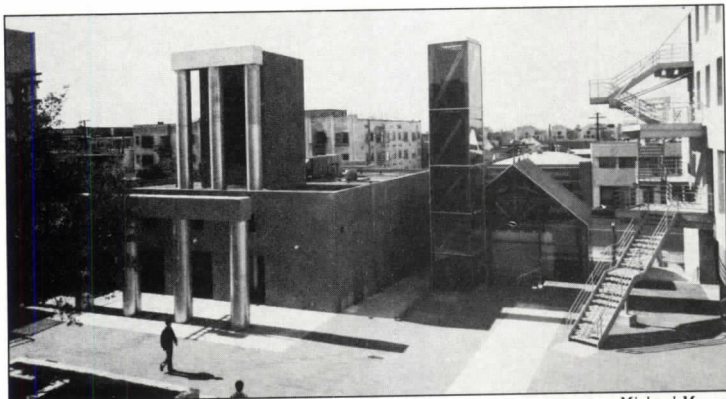
called the 40-story structure "one of the most refreshing and intelligent buildings to be built in New York City in recent years. It is solid without being ponderous, elegant without detracting from its important neighbor—a building whose presence is as much a product of its own handsome grace as its concern for the quality of the urban environment."

**8. Bergren Residence, Venice, California;** Mayne & Rotondi Architects. An 850-square-foot seaside writer's retreat "offers a sense of liberating openness through the use of natural light and skillfully arranged layers of vertical spaces," said the jury. "The design sensitively and honorably incorporates the humblest of materials, lending a clarity to the elements of construction that elevates them to the level of sculpture. This inventive and droll

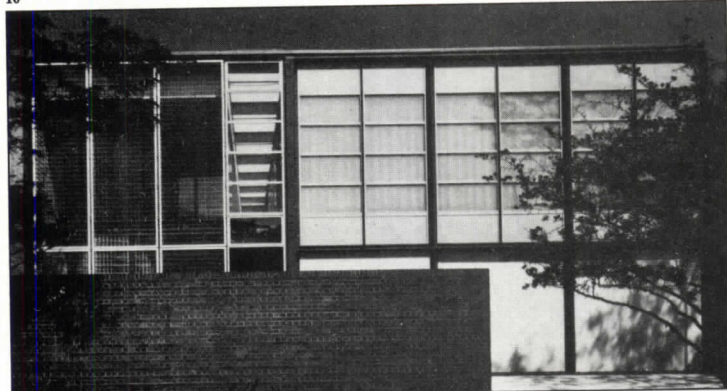
house is a masterful exploration of the imaginative possibilities of Modern architecture, as unfettered and free as the ocean breezes that caress it."

**9. Private Residence, Dallas, Texas;** Edward Larrabee Barnes Associates, Architects (RECORD, mid-April 1984, pages 112-121). The jury called this generously proportioned house in suburban Dallas "a thoroughly romantic architectural vision, functioning effectively within the Modernist vocabulary while borrowing significantly from the traditions of Southwestern architecture. The architects have created extraordinarily rich, dynamic spaces using simple forms and subtle, yet sophisticated, details. The serene, minimalist pool, surrounded by a veranda, sits like a giant window to the sky, offering a place of quiet contemplation."





10 Michael Moran



11 Abby Sadin



12 ©Paul Ferrino/VISION

**10. Loyola Law School, Los Angeles, California;** Frank O. Gehry & Associates, Architects. The jury called a 1,000-student law school in downtown Los Angeles "fresh, original, and joyful—an engagingly provocative project built with a limited budget and unlimited imagination. The architect has created a unique experience through the placement of buildings, the stimulating application of color, and the unprecedented use in a professional school setting of prosaic materials. The construction of separate buildings for classrooms, courtrooms, and a chapel creates a campuslike environment within a restricted space, animating student life."  
**11. Steel and Glass House, Chicago, Illinois;** Krueck & Olsen, Architects. A 5,000-square-foot house on Chicago's Near North Side is, according to the jury, "a

thoughtful reinvigoration of the tradition established in that city by Mies van der Rohe. It is a place of discovery, where one rich detail after another is revealed. The house is spartan yet luxurious, austere yet filled with dramatic spaces and rich textures. The stunning verticality of the two-story central living area and the exquisite shifting patterns of light that fill the house are marks of an architectural vision brought to life without compromise."

**12. Wenglowski House, Deer Isle, Maine;** Peter Forbes & Associates, Architects (RECORD, mid-April 1986, pages 140-145). Conceived as the centerpiece of a family vacation compound on Maine's Penobscot Bay, this house divides various domestic functions among three separate pavilions. The project, noted the jury, "avoids quaintness or staged rusticity, employing such modern materials as glass, tubular



13 ©Norman McGrath



14 Art Grice

roof trusses, and metal roofs, yet it successfully retains the imagery of its rugged location, particularly through rough-hewn granite chimneys and floors. The interiors are simple, restrained, and open, allowing the surrounding beauty to envelop the residents."

**13. Battell Chapel, Yale University, New Haven, Connecticut;** Herbert S. Newman Associates, Architects. The project called for the rehabilitation of Yale's main chapel, a Victorian Gothic structure erected in 1876. The restoration involved reproducing original stenciling that had been painted over during the 1920s, cleaning the ceiling and remaining stenciling, and refinishing wood paneling. Noted the jury: "The architects have uncovered a treasure and restored it to its proper place as one of Yale's great architectural resources. The

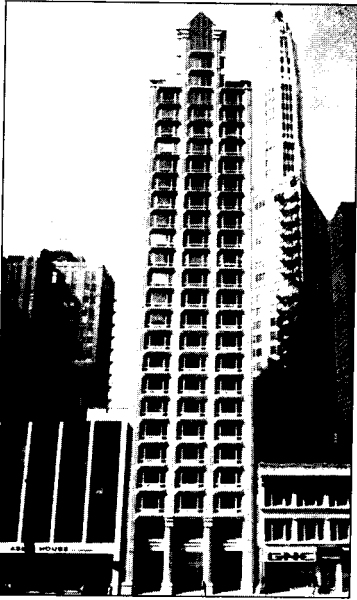
chapel's newly vibrant colors and painstakingly reproduced detail are an inspiration not only for the community, but for all who believe that what once was gone can, with sufficient commitment and talent, be brought back to life."

**14. Parker Residence, Bainbridge Island, Washington;** James Cutler Architects. The jurors called a small house near Seattle, built within the shell of an existing net-drying shed, "a model of architectural restraint and ingenuity [that] evokes a low-key richness through the use of vernacular forms and traditional materials—a virtual case study on how to transform apparent liabilities into virtues. The remarkably inventive design functions as a processional route from a hillside garage/shop, across a connecting bridge, through a beautifully simple house, and down to the water."

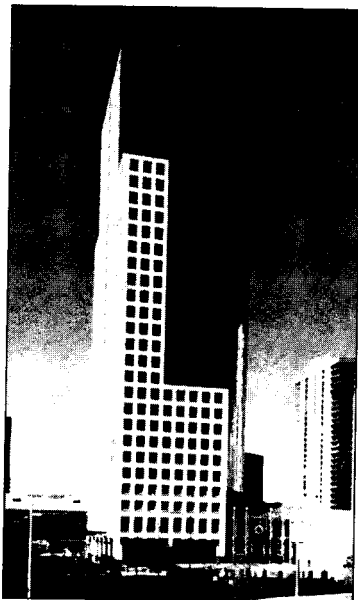


# Concrete Reinforcing Steel Institute 1985 Design Awards

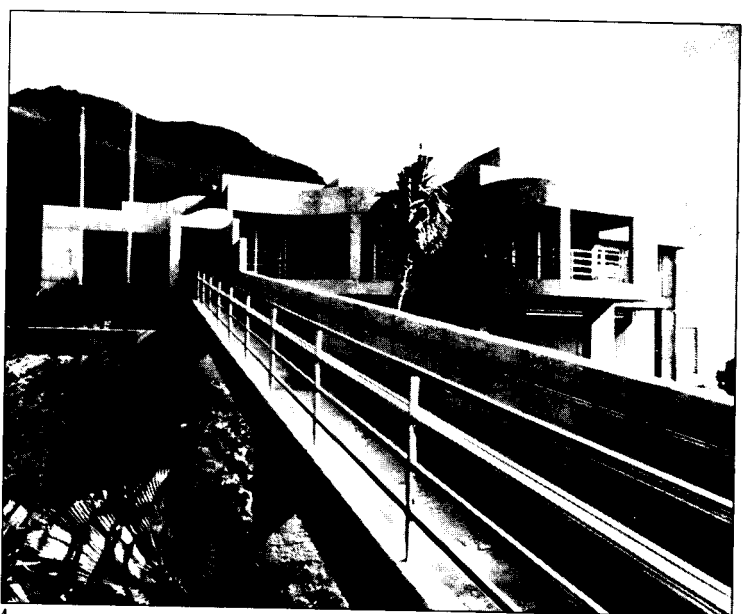
Seven completed buildings have been cited for their esthetic, functional, technical, and economical use of cast-in-place concrete in the eighth biennial awards program sponsored by the Concrete Reinforcing Steel Institute. Jurors for this year's program were R. Bruce Patty, FAIA, of Patty, Berkebile, Nelson and Associates in Kansas City, Mo. (jury chairman); Harold Roth, FAIA, of Roth & Moore, Architects in New Haven; John A. Martin of John A. Martin and Associates in Los Angeles; and Maria F. Murray, director of the awards program at the American Institute of Architects.



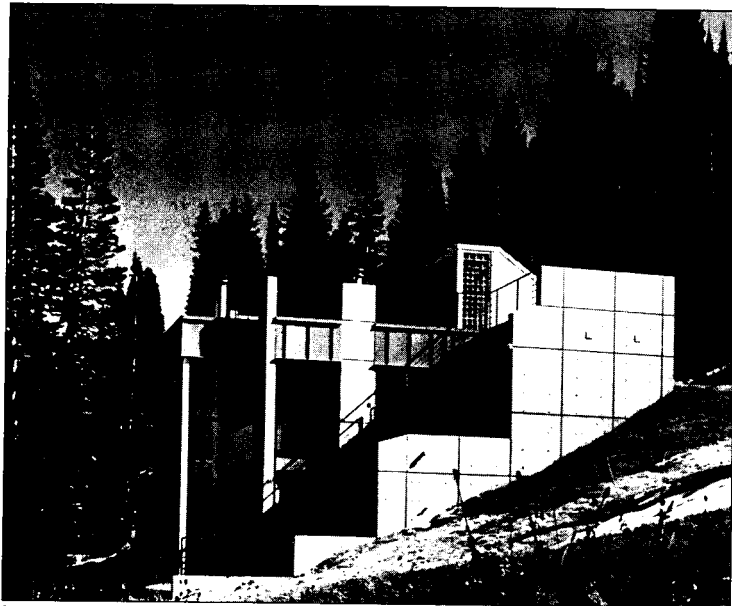
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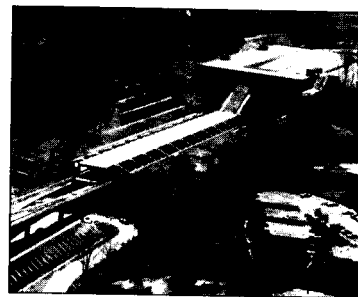
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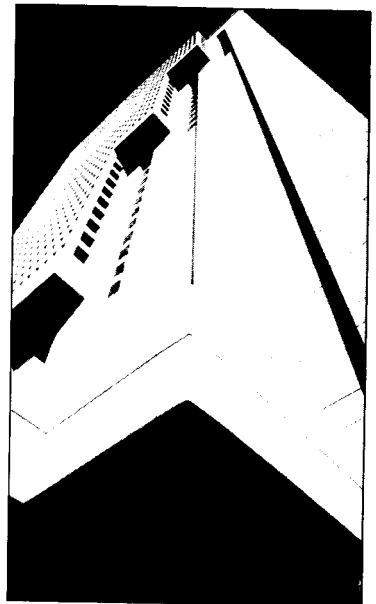
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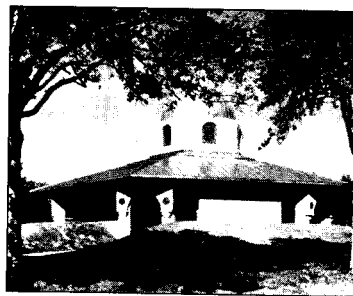
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detailed," and singled out the interplay of concrete and mirror-glass facades as "well-handled."

**3. Lawson House, Alta, Utah;** Margaretta L. Woolley, Architect. Located on the northern face of a steep mountain, this house was constructed of reinforced, site-cast concrete bearing walls, retaining walls, and on-grade floors. Concrete was selected for its granitelike coloration, ability to support heavy snow loads, and sculptural plasticity. The jury praised the architect for "creating powerful forms that could only have been achieved with concrete."

**4. Teleglobe Canada Cable Station, Honolulu, Hawaii;** Johnson Reese Luersen Lowery, Architects. This shorefront cable station is a terminus and relay facility housing electronic communications equipment, mechanical and electrical services,

and administrative offices for underseas telephone and telegraph cables. The jury praised the cast-in-place concrete structure for its "nautical expression, . . . well integrated to the site."

**5. Huntington Station, Fairfax County, Virginia;** Harry Weese & Associates, Architects. A rapid transit terminal in suburban Washington, D. C., comprises an above-grade passenger station, a parking garage, and below-grade tracks for train storage—all constructed of conventionally reinforced concrete. The jury especially liked the way battered walls allow natural light to enter the station while still providing protection from the weather.

**6. Kagan-Rudy Chapel, Emanu El Memorial Park, Houston, Texas;** Clovis Heimsath Associates, Architects. The design of a 3,840-square-foot open-air chapel exhibits

ancient Judaic architectural forms, reinterpreted in poured-in-place reinforced concrete. The architects elected concrete construction due to the material's permanence and its ability to adapt to humid climatic conditions without special finishes or preservatives. The jury praised the building as "a particularly poetic use of concrete, both in its expression and form."

**7. InterFirst Tower, Fort Worth, Texas;** Geren Associates and Sikes Jennings Kelly, Joint Venture Architects. This 40-story, one-million-square-foot office building is one of the tallest reinforced concrete structures in the country. In addition to its exposed poured-in-place structural system, the building's facade is sheathed in lightly sandblasted concrete. "The expression of the core and elevator banks forms a powerful image," observed the jury.

**1. 320 North Michigan Avenue, Chicago, Illinois;** Booth/Hansen & Associates, Architects. The jury called this 26-story mixed-use office and condominium tower "very expressive of the Chicago School," a result of the architects' decision to articulate the facade with poured-in-place concrete ornamentation reminiscent of the city's late 19th-century skyscrapers. A rigid concrete structural system was specified as a cost-effective way of coping with wind conditions along Lake Michigan.

**2. Tabor Center, Denver, Colorado;** Kohn Pedersen Fox Associates, Architects (RECORD, September 1985, pages 126-135). A major mixed-use project in downtown Denver is clad partially in buff-colored concrete, chosen to harmonize with the landmark Daniels & Fisher clock tower. The jurors called the complex "carefully



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# Conference report: A symposium at the University of Michigan celebrates Frank Lloyd Wright

By Roger Kimball

In mid-April, the University of Michigan College of Architecture, together with Domino's Pizza, Inc., sponsored "The Wright Hand," a symposium on Frank Lloyd Wright that drew some 1,200 people to Ann Arbor. The inspiration, at least the financial inspiration, for the symposium would seem to have been Thomas S. Monaghan, president of Domino's Pizza, who has been a Wright enthusiast since childhood. Monaghan has been an avid collector of Wright's work—especially his furniture, architectural models and drawings, and decorative glass—for some years now, and he has lately purchased an entire Wright interior, which he plans to reconstruct, and two Wright houses.

Monaghan's enthusiasm for Wright has found its most conspicuous expression in his new corporate headquarters, currently under construction on a 300-acre farm in Ann Arbor. Christened "Prairie House" and designed by Gunnar Birkerts, the complex features low-lying, copper-roofed buildings distinctly reminiscent of Wright's Prairie School designs. Monaghan's other plans for the site call for the construction of a modified, 30-story version of Wright's unbuilt skyscraper "The Golden Beacon" and, in conjunction with the University of Michigan, the institution of a Frank Lloyd Wright study center. (Monaghan, by the way, is a university benefactor, and he confided that he hopes to help make Michigan's College of Architecture the preeminent school of architecture in the country.)

The symposium itself included a reception at the new Domino's Pizza headquarters, a banquet at the university for symposium participants, and some dozen talks and papers on various aspects of Wright's achievement and legacy. The presentations ranged from Monaghan's ad-libbed introductory remarks on his involvement with Wright to specialized papers on Wright's decorative designs, the sources and tenets of his esthetic, and his relevance for contemporary architectural practice.

Papers in the morning session tended to focus on fairly technical issues. David Hanks, former curator of decorative art at the Philadelphia Museum and author of *The Decorative Designs of Frank Lloyd Wright*, gave a survey of Wright's furniture and interiors, and provided hints for the responsible use and exhibition of both by corporations interested in Wright's work. Timothy Rub, a graduate student in art history at New York University, spoke about

Wright's leaded-glass work, concentrating on the glass-fabricating process and Wright's efforts to fuse glass and structure into an esthetic whole. Wilbert Hasbrouck, a restoration architect in Chicago, gave an exceedingly detailed talk on the problems of his firm's ongoing restoration of Wright's Dana House.

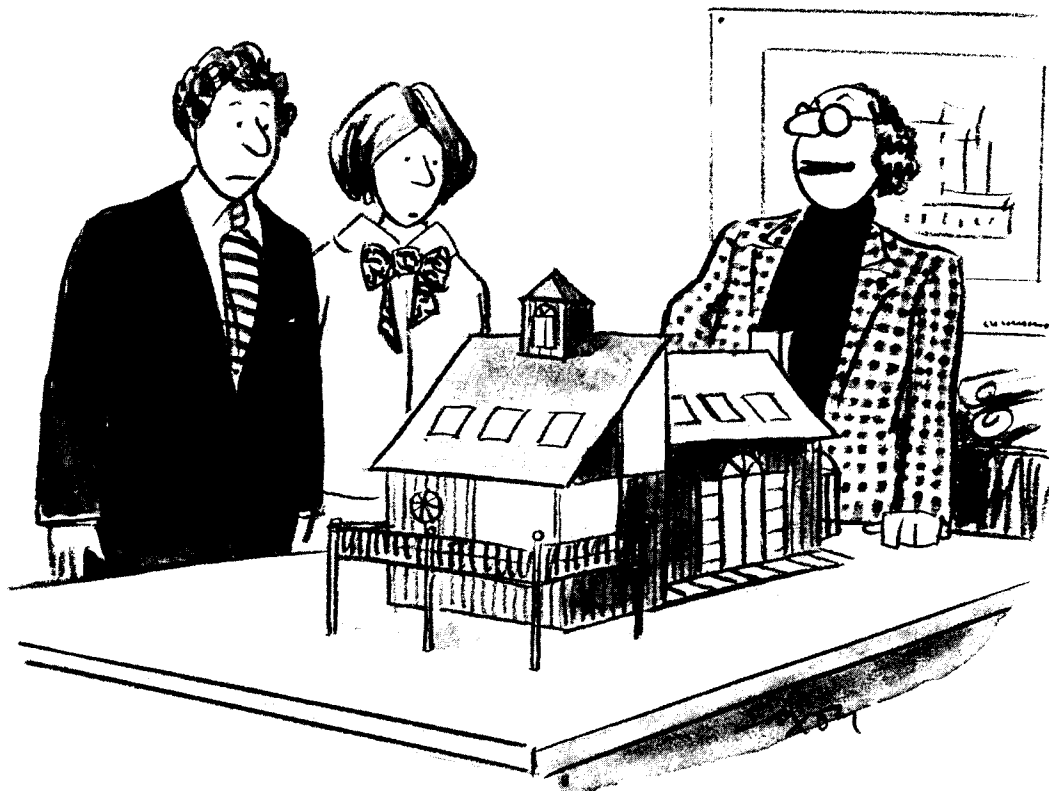
Among the papers delivered in the morning session, perhaps the liveliest was R. Craig Miller's discussion of the Metropolitan Museum's installation of a Frank Lloyd Wright living room in its American Wing. Miller, associate curator in the department of American decorative art at the Met, gave an engaging account of the entire process of reconstructing a house interior in a museum setting, from the dismantling of the original space to the painstaking reassembly of seemingly innumerable boards, fixtures, windows, and furnishings that make up a Wright interior.

The afternoon session was devoted to three presentations. Narciso Menocal of the University of Wisconsin and Grant Hildebrand of the University of Washington gave illuminating presentations on the esthetic substance of Wright's often idiosyncratic architectural vision. Menocal spent a good deal of time discussing Wright's use of ornament and tracing its sources. In

passing, he also found occasion to criticize the jargon-laden habits of much contemporary architectural writing; and while this is certainly a laudable enterprise, I doubt whether the term "oxymoron"—Menocal's chief example of verbal obscurity—is quite as recondite as he seems to believe. For his part, Hildebrand offered a patiently argued reflection on the psychological and existential dimensions of Wright's "ways of composing spaces." The afternoon concluded with some remarks by Edgar Tafel, the New York architect who knew Wright and worked with him as a member of the Taliesin Fellowship from 1933-42. Unlike the other speakers, Tafel did not come with a prepared talk, but merely shared reminiscences about the master with the audience. Along the way, he found ample opportunity to disparage the achievements of other architects, notably Le Corbusier and Mies van der Rohe, and it was clear that he was interested not in architectural analysis but in some species of hagiography or ancestor worship.

Things were not, alas, destined to improve at "The Wright Hand." The symposium concluded that evening with a formal lecture by Bruno Zevi, the well-known Italian architect and critic who was described in the

European exponent of Wright's work." Be that as it may, his paper on "Frank Lloyd Wright and Contemporary Architecture" certainly was a partisan performance. Essentially, he was concerned with rescuing Wright and other devotees of what he lovingly called "the organic trend" from Modernism on one side and Postmodernism on the other. There is not space to detail the many extraordinary things found in Zevi's talk. Among much else, we learned that the Seagram Building "does not show any artistic consciousness of modern technics and technology. . . . It is self-centered, totally indifferent to its environment. It is a Classicist building, a Beaux-Arts work." The Seagram Building a "Beaux-Arts" work? Yes, and more. Zevi also suggested that an interest in symmetry—which he described as perhaps the "most dangerous" of the seven "bacilli" of Beaux-Arts architecture—is essentially "pathological," being "particularly characteristic of narcissistic individuals." All this is simply ridiculous, of course, and it made one wonder exactly what Zevi might have meant when he described the symposium as "a milestone in architectural culture." Milestones, it is worth noting, can be used to mark decline as well as progress.



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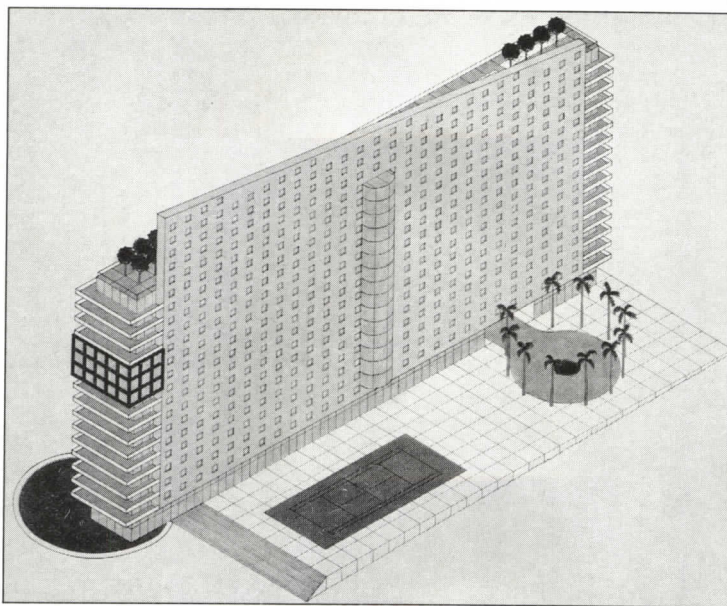
## At home in the city: Reviving the urban apartment house

By Roy Strickland

Throughout the history of American urban housing, there has been cross-fertilization of ideas among low-, middle-, and upper-income residential types. The 19th-century middle-class row house, for example, was a model for modest working-class dwellings in new industrial towns; 19th- and early 20th-century tenement laws, developed in response to slum conditions, also shaped upper-class apartment buildings; after World War II, public housing's towers-in-the-park served as precedents for upper-middle-class Title I urban renewal projects; and during the 1960s architects such as Davis Brody, Hodne/Stageburg, and Robert A. M. Stern explored the traditional apartment building in projects and proposals that addressed the social needs and aspirations of low-income groups.

Even though construction for low-income families has been at a virtual standstill since the Nixon administration, American urban housing continues to evolve. A select group of new fair-market projects expands on themes of the past by exhibiting the imagery, domestic symbolism, and spatial hierarchy that one traditionally associates with apartment houses built during the late 19th and early 20th centuries. Because the developers of these structures are building for the upper end of the residential market, they can frequently afford to translate historic architectural typologies more literally than builders of the recent past.

That the architecture of the apartment house has returned is a welcome event. After World War I, the middle-class apartment building was little discussed: by the 1920s, American architects had largely resolved the building type's organizational and servicing problems, and it ceased to be a subject of sustained analysis. During the Depression, critical attention focused on mass housing for the poor, and issues of large-scale urban renewal superseded those of the individual apartment building. After the Second World War, the building type suffered attrition that further reduced its interest. The character of middle-class urban life changed from large families requiring spacious housing and servants' rooms to smaller families with few, if any, servants. Moreover, expediency in postwar construction reduced room sizes, ceiling heights, and amenities, and a conveniently adopted, much-diluted



Modernism, acceptable to economy-minded builders, eliminated architectural ornamentation—and its accompanying domestic symbolism. Now, in the private-market economy of the 1980s and during architecture's Postmodern phase, the building type has re-emerged with style, variety, and fresh exploration of its potential as domestic and urban architecture. From Boston to San Diego, the projects shown here express a renewed appreciation for the potential of multifamily housing in cities. With housing's tradition of cross-fertilization, these buildings form a small portfolio that might offer lessons to architects designing multiple dwellings for all income groups.

### The romanticization of the slab block

Laurinda Spear's evocative drawings of sweeping terraces under the stars recall the cinematic imagery of apartment-house life during the 1930s. Art Deco was then in vogue, and for a public familiarized with the style through Depression-era films, it was associated with sophisticated urban life and ocean liners named *Ile de France* and *Normandie*. With allusions to ships and the sea and with broad strokes of color, Arquitectonica's Imperial (RECORD, July 1983, pages 92-95) recalls the great Art Deco buildings of the 1920s, although it is pressed thin and made a slab—as at home among Miami's high-rise architecture as the Century is among its twin-towered sisters on Manhattan's Central Park West.

Here are the elements of high-rise living (the duplexes, swimming pools, penthouses, and balconies) given exuberance and wit. The apartment block itself becomes an

abstract diving board to the circular pool beneath it, and the penthouse is shaped like a happy blue whale with a plate-glass grin. Shallow balconies sweep around three sides of living rooms, bathrooms serve up Roman tubs and travertine walls, and glass is measured by the mile. The facade of the single-loaded corridor is the building's billboard—a trapezoidal red wall that shields the Imperial's apartments from nearby high rises. Halfway up the facade, special blue-paneled solarium break the balconies' relentless run in an homage to Le Corbusier's Marseilles Block. At the Imperial, imagery is as important as form, the polemical architecture of the 1920s made romantic and approachable.

Inside, apartments are both elegant and shrewd. The bathrooms and windowed kitchens—selling points in condominiums—are large, most of the apartments are floor-throughs with 35-foot-long living rooms, and one unit on each story is isolated from the rest to give it the old-fashioned feeling of being on a private floor. But ceilings are only eight feet high, concrete floor slabs are unfinished, and drywalls are merely primed in anticipation that buyers spending \$250,000 to \$1 million for "raw space" will complete the units. (Such economizing gestures, one should note, are not new to luxury housing: William Boring and J. E. R. Carpenter, two architects who established many principles of apartment planning in New York before World War I, advised their client-builders against heavily decorated interiors. Their advice: concentrate on the utility and graciousness of the apartment plan, where space is the greatest luxury, since wealthy tenants and buyers prefer to decorate to their own

1. *The Imperial, Miami,*  
by Arquitectonica.

tastes.) At the Imperial, apartment plans are distinctly modern and open, the formalizing devices of separate foyers and dining rooms discarded in favor of general-purpose spaces. Here in Miami, it is a quick turn from apartment entrance to living room—and to views of Biscayne Bay, the community's most valued asset.

### Courtyard contextualism

The Greenhouse condominium in Denver, proposed by Robert A. M. Stern, is another variation of the slab block. Of the architects represented in this portfolio, Stern has been the most outspoken about the value of the apartment building as a mass-housing prototype, his 1975 entry to the Roosevelt Island competition featuring three riverside apartment buildings offering desirable residential symbolism to low-, moderate-, and high-income families. In Denver, Stern combines the slab block with regional allusions and a courtyard to create a project whose planning roots in the 1920s are as strong as Arquitectonica's—though the stylistic roots are conspicuously different.

In Denver, slab blocks are deformed by small wings at their ends which help to define the court at the project's center. The Greenhouse project's buildings are freestanding, but their wings and additional projections and setbacks give them less the character of objects set in space than walls that create space. Here the slab block becomes a perimeter block, a form of housing Stern admires and one whose sources go back to 19th- and early 20th-century American apartment-house design. The type was particularly important after World War I, when such housing reformers as Clarence Stein, Henry Wright, and A. J. Thomas advocated "garden apartments" for the middle class. By the 1920s they were building such projects, as dependent on landscape as on architecture to define their quality. The time period of the Stern project's philosophical underpinnings reinforces the Greenhouse apartments' architectural expression, which is derived from the Denver of the '20s, when tile roofs, sleeping porches, and boxy massing were conspicuous in the city's residential areas.

These are thick buildings—thicker than the Imperial—and their lack of floor-through apartments is compensated by stepped facades that accommodate corner rooms and balconies. The apartments are a blend of the open plan and the formal room. Foyers and stairhalls are provided, and although separate dining rooms have disappeared, living-room dimensions as generous

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2. *The Greenhouse, Denver, by Robert A. M. Stern Architects.*
3. *The Park Regency, Houston, by Venturi, Rauch and Scott Brown; elevation and entrance perspective.*

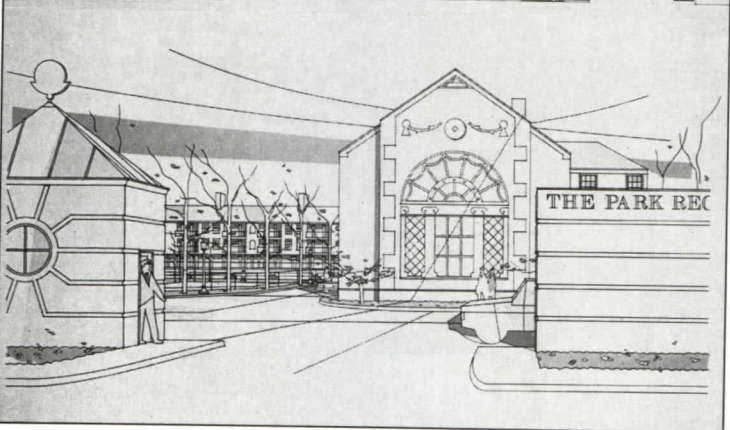
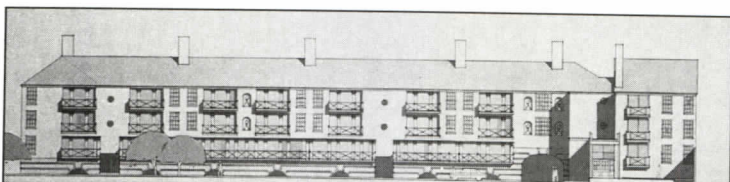
as 18-by-24 feet reflect prewar standards. With the structure's setbacks, apartments have the comfortable feeling of being at once on the building surface and nestled into the facade. The building elevations are tripartite, rising from a rusticated base enclosing parking, to a muted field of wall, window, and recessed balconies, to a capital of columns that support tile roofs and define double-height penthouse porches. The effect of these seven-story buildings is a pleasing 20th-century Classicism, domesticated by expansive hipped roofs, trellises, and, at the court's center, a "greenhouse" enclosing a swimming pool.

**Garden apartments in Houston**

Venturi, Rauch and Scott Brown has completed a courtyard scheme in Houston, called the Park Regency, which is far more modest in scale than the projects discussed above. On a narrow L-shaped lot the architects have attempted to provide insulation and identity for 80 condominium apartments whose new neighbors may be built only five feet away—a factor of Houston's laissez-faire zoning.

Although apartments here are comparatively small—12 1/2- by 16-foot living rooms, for example, and 14-foot-square bedrooms—separate dining rooms and foyers laid in marble provide the units with an air of luxury. Within the apartments' limited size, moreover, are addressed several of the esthetic and social concerns found in the firm's other projects: foyers are large enough to accommodate a console, bedrooms are situated as far as possible from the entry for privacy, and the open plan is given spatial definition by fireplaces (which are deliberately oversized and embellished with custom-designed mantels) and by faux-columns with Ionic capitals.

This is a moderately priced condominium by Houston's standards—units averaged \$125,000 at the project's opening—and financial limitations resulted not just in modest-size interiors but also, when the architects attempted to formalize spaces and create distinct rooms, in situations where dining areas are at the crossroads of circulation. But in Venturi, Rauch and Scott Brown's original plans, especially for the larger units, the architects' themes of complexity and contradiction are apparent: the informal relationship between interior columns and the cut-out columns of the facade, the widening treads of duplex stairs, and the generous fenestration are familiar elements of a firm known for ingeniously combining modern and historic precedents. The project's site planning and overall



expression, moreover, reflect the architects' appreciation of American urban highway culture: a Regency-style cut-out just inside the gate is the project's billboard, and the drive and parking lot threading through the complex are an integral part of the site strategy. Finally, the Neocolonial design of the courtyard, juxtaposed against the Regency facade along the project's periphery, is a telling comment on the stylistic incongruities of Houston's residential neighborhoods.

**Infill in Boston**

On the edge of Boston's densely built Back Bay section, a new condominium has been erected that combines two aspects of that city's residential tradition: the row house and the apartment house. Dubbed Church Court and designed by Graham Gund, who also was its developer, the project is located in one of the strongest urban architectural contexts in America—indeed, in and around the very shell of a venerable burned-out church.

Architecturally, Gund's building is less conservative than Stern's, yet in its deference to historic Back Bay, less Modern than Arquitectonica's. The structure is small and polychromatic, and it features bow windows, a dashing curve along the Charles River, and

a garden courtyard partially defined by the remaining walls of the church. Brick walls are red-orange, pivot windows have green sashes, and blue-and-white tiles make checkerboard and dash-dot patterns across the facade. It is a gently humorous architecture that seems to respond happily to the divergent conditions of the site—the press of row houses along Beacon Street, the embrace of the church, the openness of the river. From the Charles the project appears as an overblown, swell-fronted row house, one of the building types that define the city; by contrast, the building's long, narrow apartment plans are similar to those of the older apartment houses of Back Bay.

The dwelling units at Church Court most clearly recall the early days of the apartment house, during the 1880s and '90s, when American architects, before they had learned the advantages of the central foyer, strung rooms along lengthy corridors. In Boston, where the luxury apartment house never became as prevalent as it did in New York and was never quite as refined a building type, such plans characterize the Back Bay buildings that are now being converted into condominiums. In Gund's building the distinctly shaped rooms are at once modern and traditional: living

and dining rooms are combined into a general-purpose space, and the kitchen is reduced to a galley. A corridor, however, spatially elongates each unit, and the bedrooms, parallel to it, are buffered from the hall by a string of bathrooms and closets—an effective balance of procession and privacy. One floor-through has the character of an apartment carved from a row house, with bay windows and bows enhancing modest room sizes. More than most buildings, Church Court offers markedly different apartments. The structure is much less a "system" than, say, Arquitectonica's buildings, and nothing makes that feeling clearer than the public halls, with their niches and windows twisting and turning between the units. Only one thing seems subsumed in a building with so much personality: the entrance, to the side of the church's front steps, is tucked modestly between a stair tower and one of the building's living-room bows.

**The Park Avenue apartment**

Another, but very different, infill project is James Stewart Polshek's 500 Park Tower in New York—a 40-story mixed-use structure with a shimmering aluminum-and-glass curtain wall poised above the Modern landmark Pepsi-Cola Building (RECORD, July 1984, pages 86-95). In a narrow mid-block site constrained by large buildings, 500 Park emerges as one of New York's most successful apartment houses. Here, Polshek achieves the synthesis of Modernist expression with traditional concerns for spatial sequence and definition. Apartments are entered from commodious central foyers that both connect and separate living and bedroom areas. Expansive living rooms face Park Avenue, and bedrooms are arranged to the rear. Kitchens are large enough to eat in, and some have denoted breakfast areas. Although living rooms must also serve as dining areas, libraries in the apartments may be converted easily into formal dining rooms.

Critical to the building's success is each unit's spatial hierarchy of entertainment, sleeping, and service areas. Even without servants' rooms and extensive pantries—which architects earlier in this century learned to use as "poché" between family living and sleeping quarters—the units at 500 Park come remarkably close to the feeling of large, older apartments. The elongation of the apartments on an east-west axis helps induce that feeling; so does the strategic location and generous size of kitchens. While there is no literal poché in a Polshek apartment, there is a strong sense of the



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4. Church Court, Boston, by Graham Gund Associates; Massachusetts Avenue view and ground-floor plan.

5. 500 Park Tower, New York, by James Stewart Polshek and Partners.

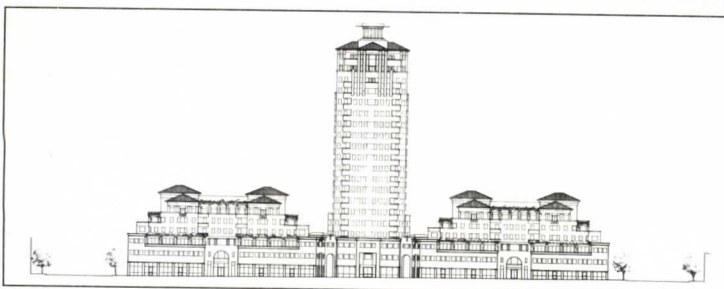
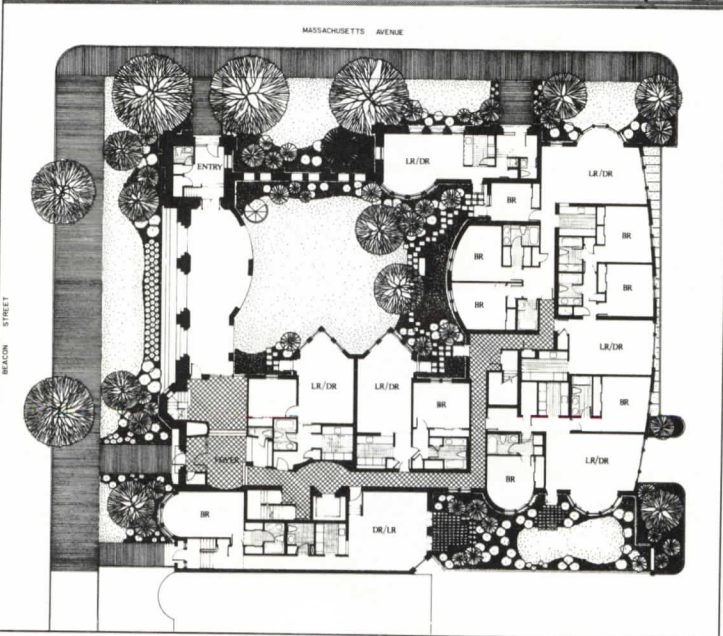
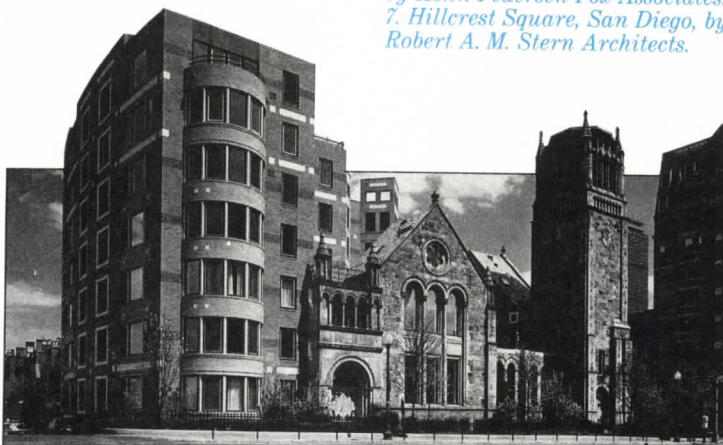
6. 180 East 70th Street, New York, by Kohn Pedersen Fox Associates.  
7. Hillcrest Square, San Diego, by Robert A. M. Stern Architects.

processional—and of light, which enhances and differentiates space. Corner glazing in living rooms and floor-to-ceiling doors lend the apartments fluidity. The structure's lobby is small, but it exhibits qualities of material and finish that establish the building as luxurious. Any impulse to aggrandize the space (which could be justified by some designers for a building this high) has been fastidiously avoided, as it has by New York's best apartment-house architects, who recognize that residents dislike the feeling of living in buildings as publicly scaled as hotels—and by connotation as transient. Within a Modern idiom, Polshek successfully recalls the prewar design principles that effectively domesticated tall buildings.

**The apartment building as "house"**

The last project in the portfolio, also in New York, is perhaps the clearest expression of the apartment building as "house." This structure, far more literal in its interpretation of the grand old New York apartment building than Polshek's project, is 180 East 70th Street, designed by Kohn Pedersen Fox. Thirty-three stories tall, this condominium project stands on the edge of the Upper East Side Historic District, where many of the city's most desirable apartments are located and with which the developers were anxious to identify. Here are the Classical balustrades, rusticated base, stone quoins, setbacks, and decorated water tower that define the landscape of much of residential New York. Here, too, are 24 different apartment plans that provide buyers with a range of choices and opportunities for individual identification, very much like buildings erected around the First World War which, although they were "mass" housing, did not replicate a prototypical unit in the Modern manner.

The apartment plans range from the familiar to the exceptional and may be divided into three classes of architectural interest: standard studio, one-, and two-bedroom units in which galley kitchens are windowless, living rooms and dining areas are combined into a single space, and rooms are arranged in a line off a corridor (all typical of high-rise construction during the post-World War II period); better units of one and two bedrooms with central foyers, separate dining rooms, and, at the building's setbacks, generous terraces; and distinctive apartments, including duplexes with winding stairs and an apartment with a double-height ceiling over the living room. Because the building's site is small,



there are generally no more than four apartments per floor, and most units have corner or double exposures, which increase privacy, light, and ventilation. The better and distinctive units share with apartments in Polshek's building a highly developed hierarchy of spaces. Central foyers separate living and sleeping quarters, and privacy is reinforced by a ring of closets and bathrooms. Missing, however, is the enfilade of older apartments—and the grand dimensions. These are economical plans, with living rooms a little over 20 feet long, dining rooms about 12 feet square, and modest-size bedrooms. It is the plan, then, rather than the dimensions, that conveys the sense of the urban house. More interesting than the penthouses (where living and dining rooms are placed axially and the stair creates a reception hall) is a two-bedroom duplex with double-height ceiling located in the middle of the building. This plan recalls the studio apartments of New York architect Charles Platt, but with an added bonus: a circular stair at the apartment's center has an oculus overlooking the street. On the facade the apartment is articulated with setbacks and quoins that create an elevation similar to a small Georgian house, complete with chimneys. Overall, the building's facade is somewhere between Ledoux and Venturi—a distinctive interpretation of Classical elements that reveals the architects' originality only upon close scrutiny.

**Summing up the regeneration of a building type**

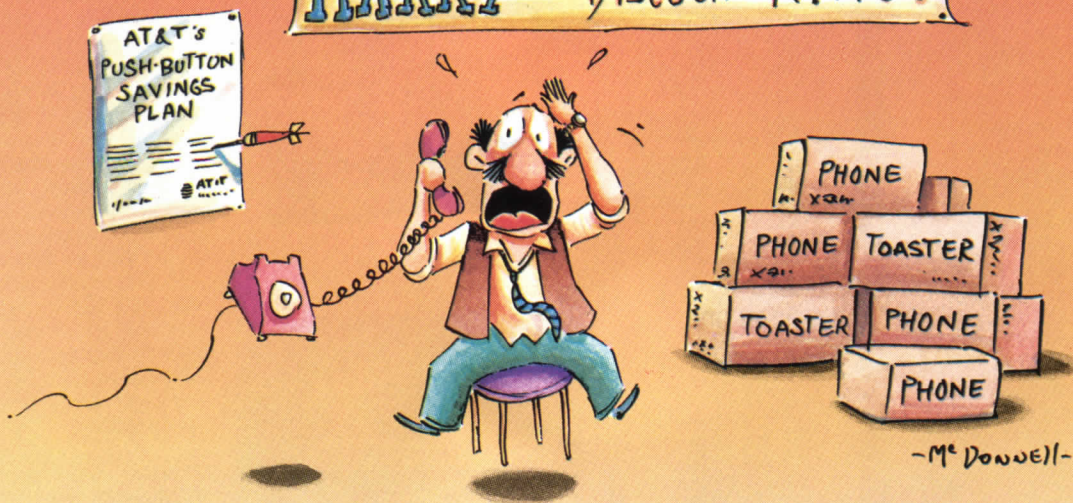
As this group of buildings illustrates, the architecture of the apartment house has been revived. From the portfolio, several general observations can be made:

- Like other building types, apartment houses now exhibit architecture's current stylistic diversity. Modernism, Postmodernism, Contextualism, and Regionalism are evident in apartment-building design.
- Architects have revitalized apartment-house design by exploring existing prototypes rather than inventing new building forms. The slab and point block, garden apartment, perimeter block, and street-corner apartment house, all represented in the portfolio, are familiar to students of housing.
- The exploration of existing prototypes has been accompanied by a renewed concern for domestic imagery and symbolism, whether "sleeping porches" (the Greenhouse), colorful abstract references to locally desirable multi-family housing (the Imperial), or overt decoration (the Park Regency



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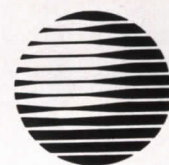


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*Observations continued*  
and 180 East 70th Street). Pre-World War II concepts of apartment planning, moreover, are re-emerging: enclosed rooms are replacing the "open plan" of the recent past. The foyer, dining room, living room, and study are often found where there was once a single, multipurpose space.

• Accompanying the re-emergence of the room is the recapturing of a hierarchical balance between the apartment's "public" and "private" spaces. Even stylistically Modern buildings (500 Park Avenue) reflect the trend toward using the precedents that were established in the early 20th century.

• While pre-Modern notions of room, axis, and enfilade have returned to apartments, they frequently do so under post-World War II attritions of space standards, and with the low ceilings and galley kitchens that reflect budgetary limitations and express the postwar public's reduced housing expectations.

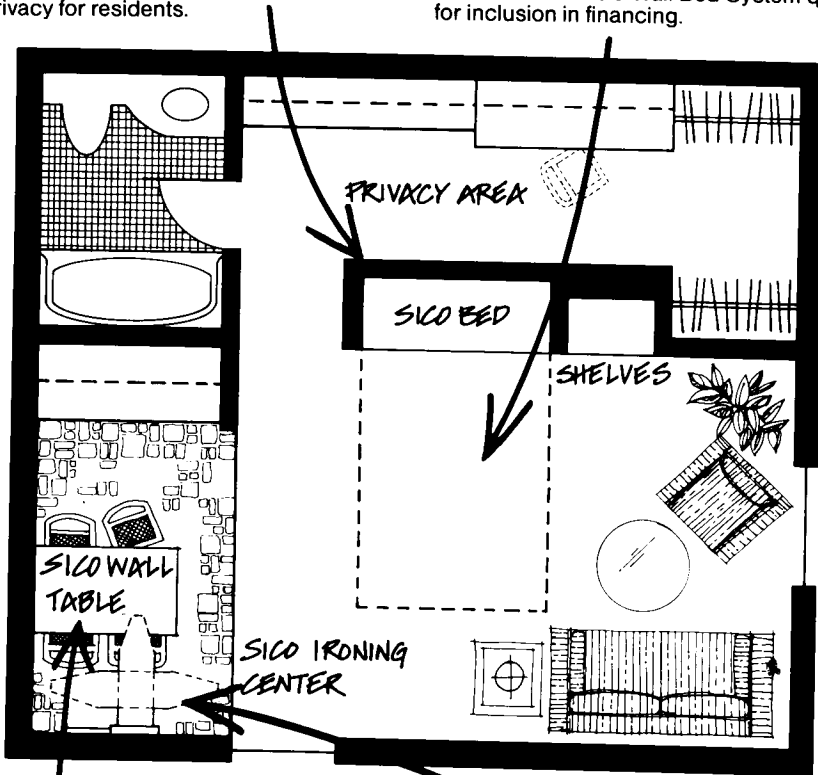
By exploring local housing traditions, the architects of these projects are successors to designers of revisionist urban renewal projects of the 1960s. As fair-market housing, these buildings can afford to be more literal in their translation of programmatic and stylistic precedents; they are not, however, without lessons for subsidized housing. Using time-tested prototypes (especially the garden apartment and the perimeter block), incorporating domestic decoration and symbolism, alluding to community context, and restoring the room within the apartment's resolved sequence of public and private spaces should be concerns of subsidized housing, whenever it resumes. That private-market housing now embodies decoration and color should also encourage architects of subsidized housing to do the same, if they seek parity for low- and moderate-income people.

In the end, the future of urban multifamily housing is perhaps best exemplified by an addendum—a project proposed for San Diego called Hillcrest Square, designed by Robert Stern in association with Wheeler Wimer Architects. This complex will rise from the city's highest point and will consist of modified point and slab blocks, arranged in a series of courts. The tile-roofed buildings will step back in terraces, while pergolas, string courses, and corner glazing will refer to sources both Modern and regional. Inside, duplex apartments with stairhalls and flats with formal rooms will evoke the apartment as "house." Stripped of its ornament, Hillcrest Square's powerfully modeled form is reminiscent of the best revisionist housing of the 1960s. With ornament, it provides the satisfying domestic imagery that urban renewal approached but never fulfilled. If built, it may outline the steps subsidized housing should take if it is to catch up with the newly revived tradition of American apartment-house architecture.

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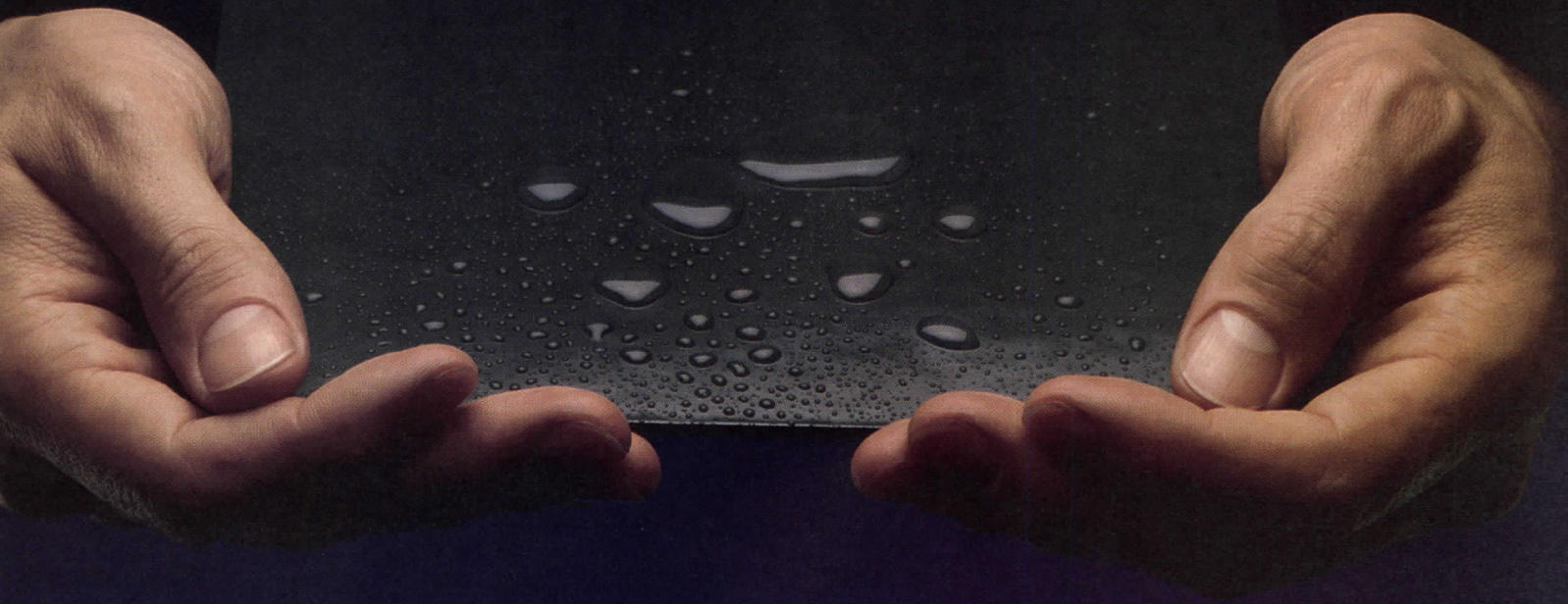
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The Marvin Magnum Authentic Double-Hung may look like it belongs in the Nineteenth Century. But the truth is the technology we build into this window will be more at home in the Twenty-first.

---

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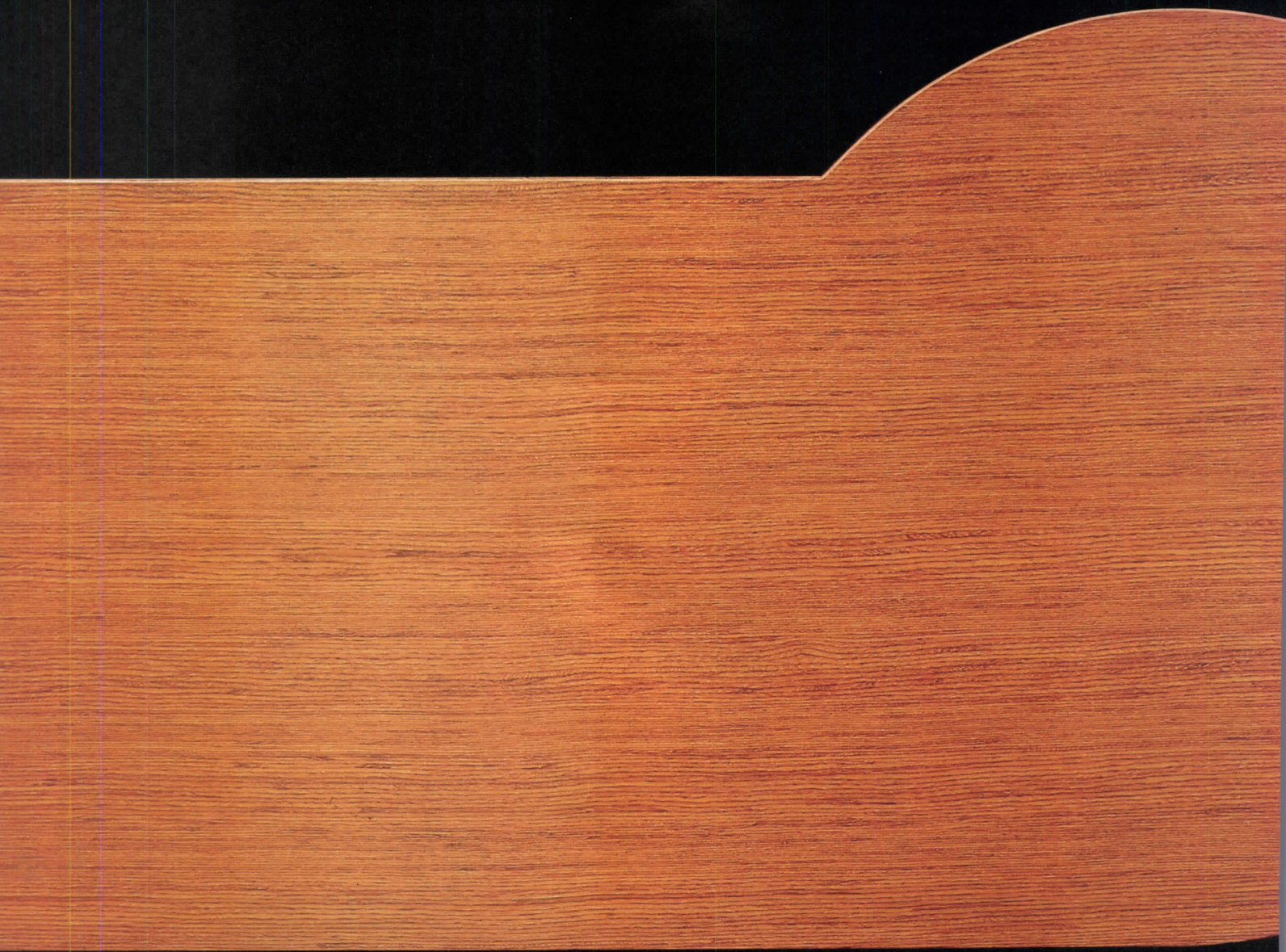
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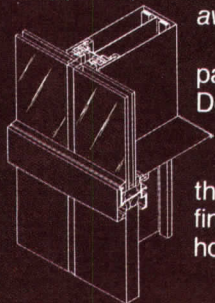




## Kawneer 3200 DesignWall. Its strength is its beauty.

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*The Designer's Element*

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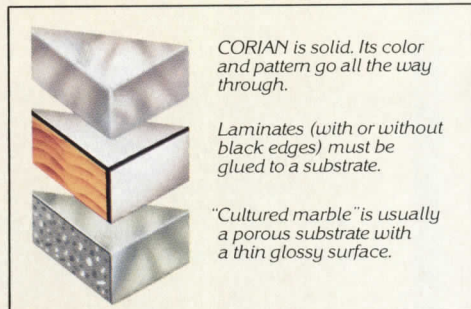
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Fireman's Fund Employers Insurance Company, De Pere, WI, shows how CORIAN custom-fits a wide variety of creative designs. Champ Parish Raasch & Associates, architects.



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CORIAN solidity and impermeable seams allow for maximum hygiene at Guy's Dental School, London. Derrick Graham, architect.

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# or problem areas.

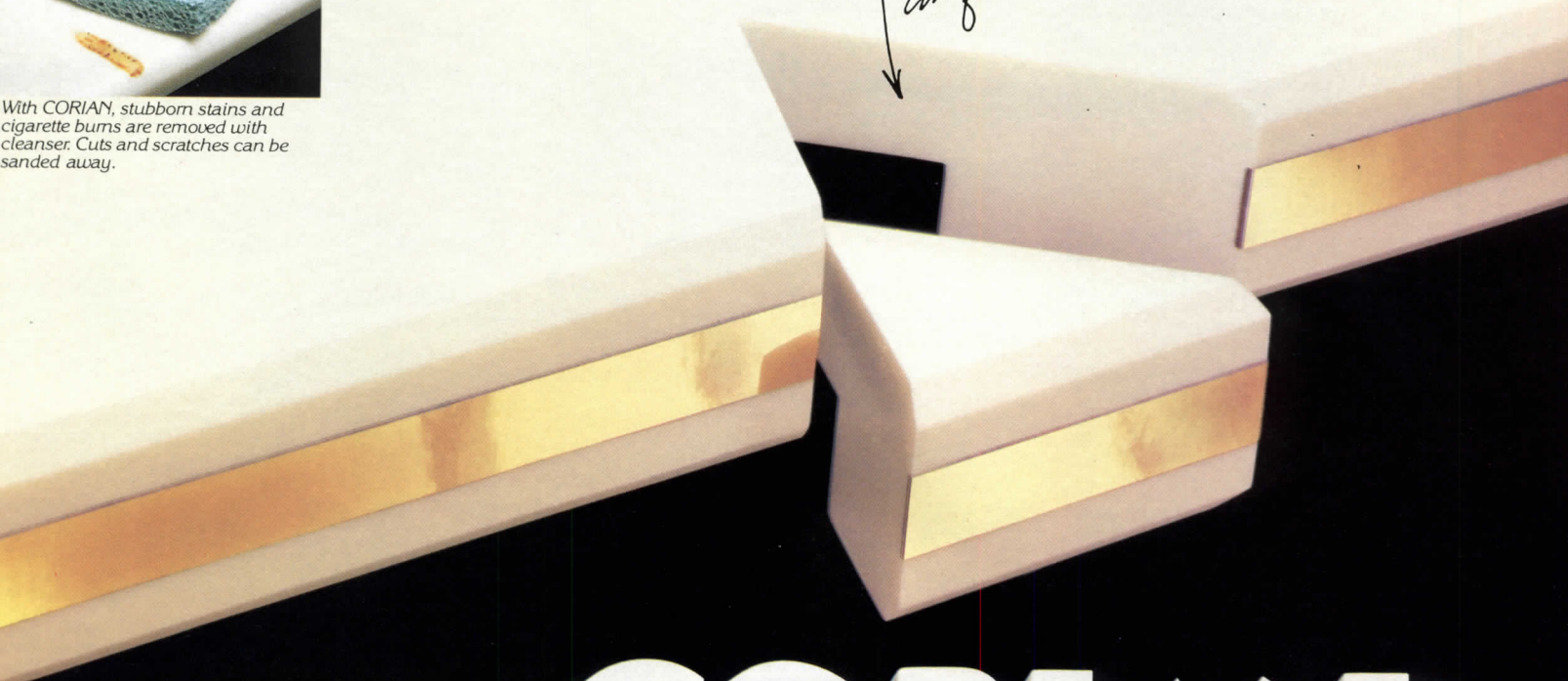


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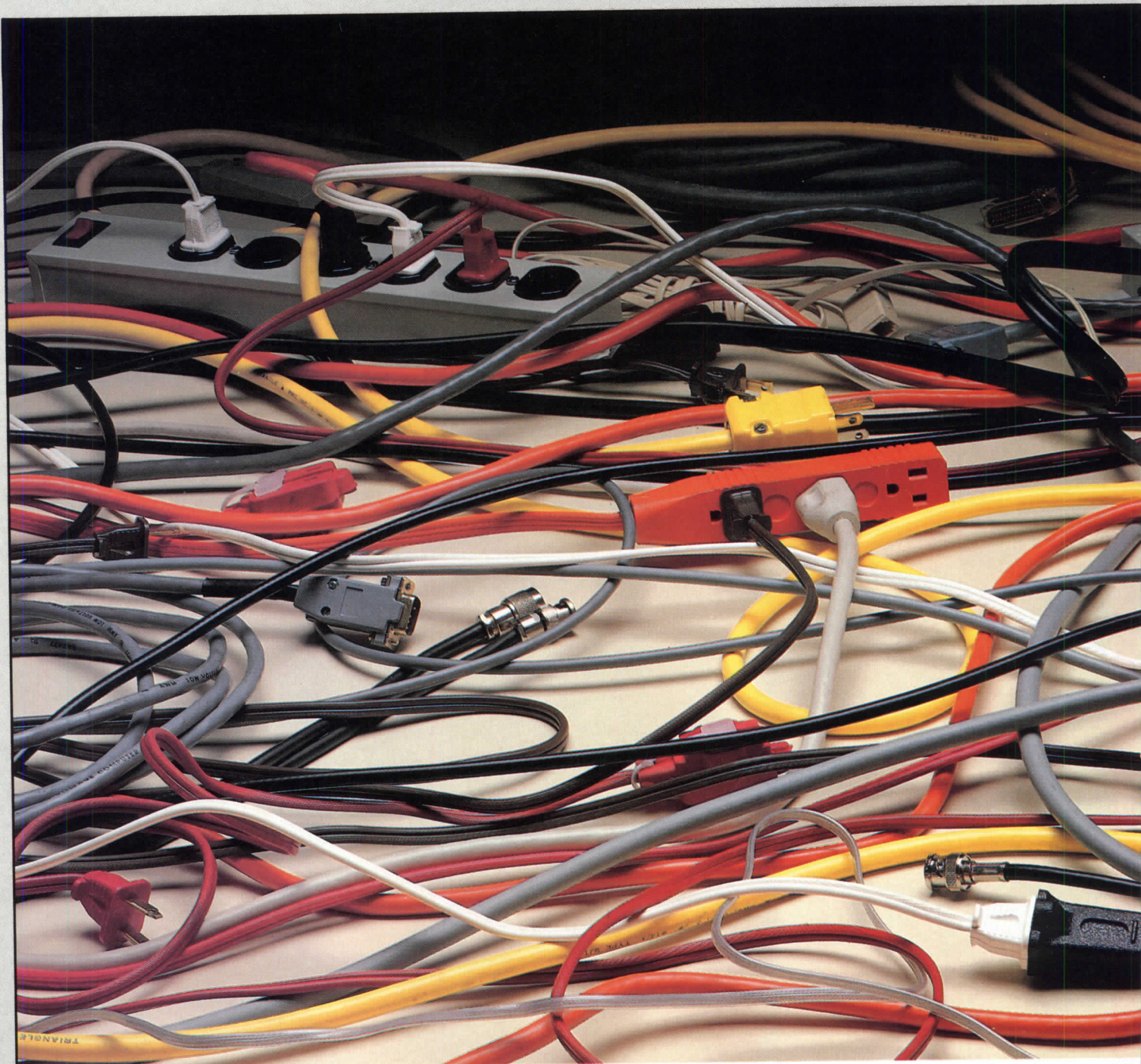
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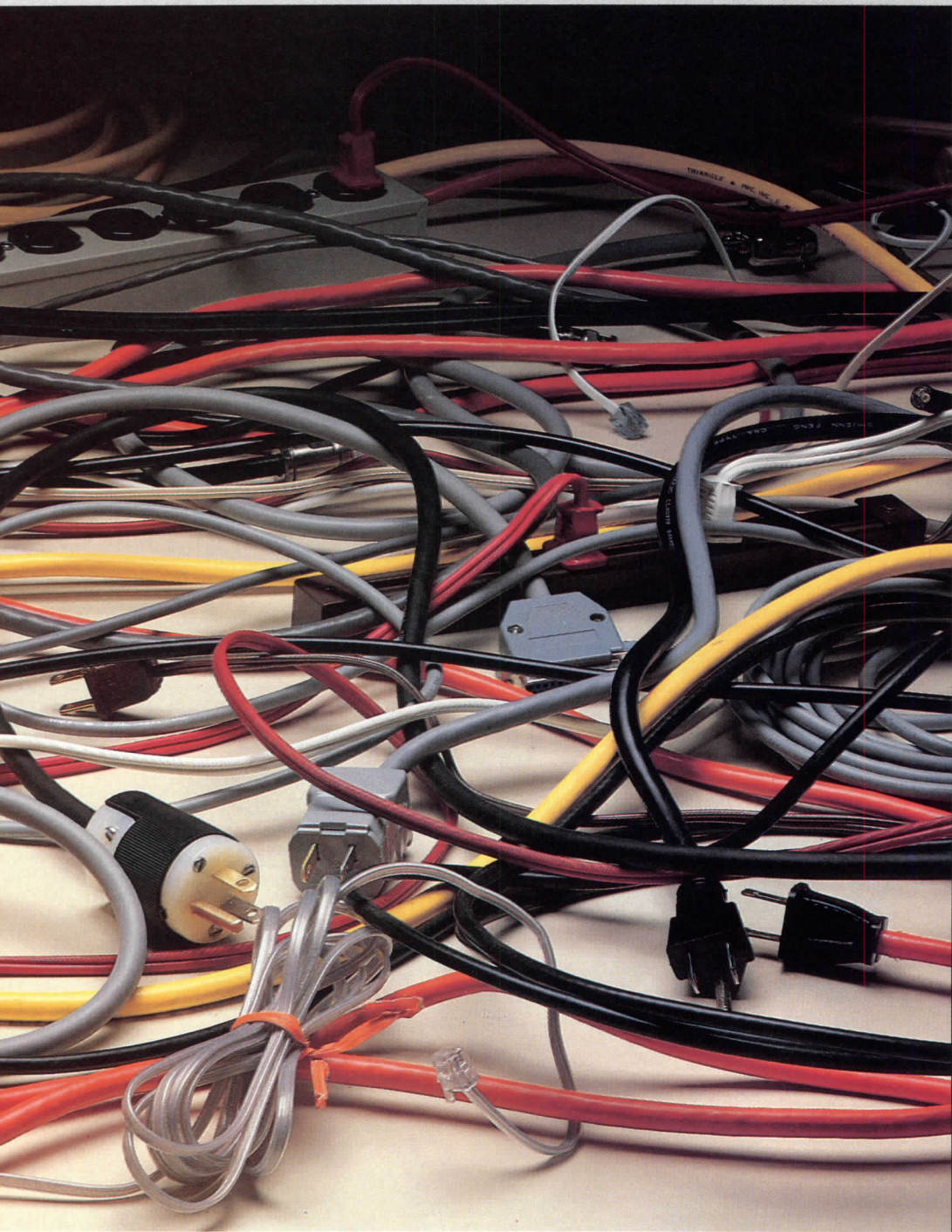
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# OF WIRE AND CABLE OR THE FLOOR.

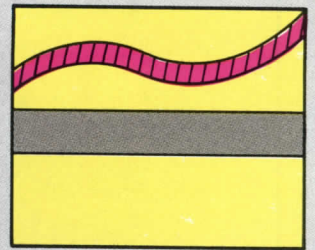
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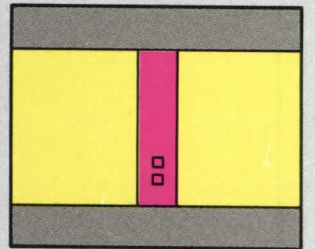
AWS has something very special to offer anyone involved in specifying or purchasing wiring systems.

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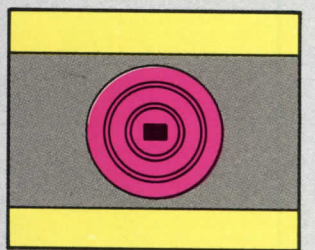
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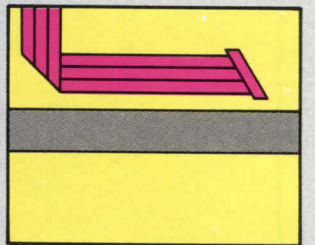
Flexible Wiring



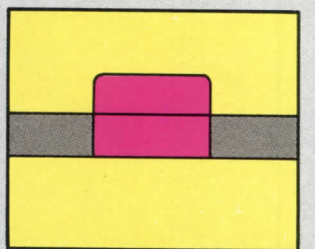
Power Poles



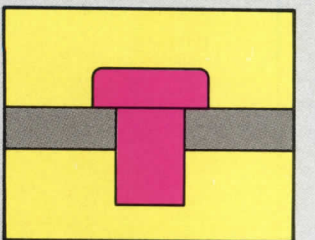
Motion Sensing Systems



Undercarpet Cable



Floor Boxes

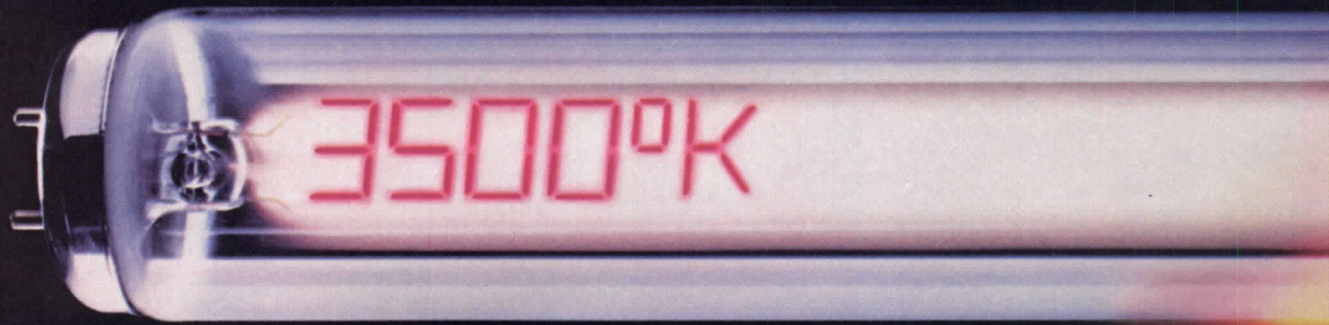
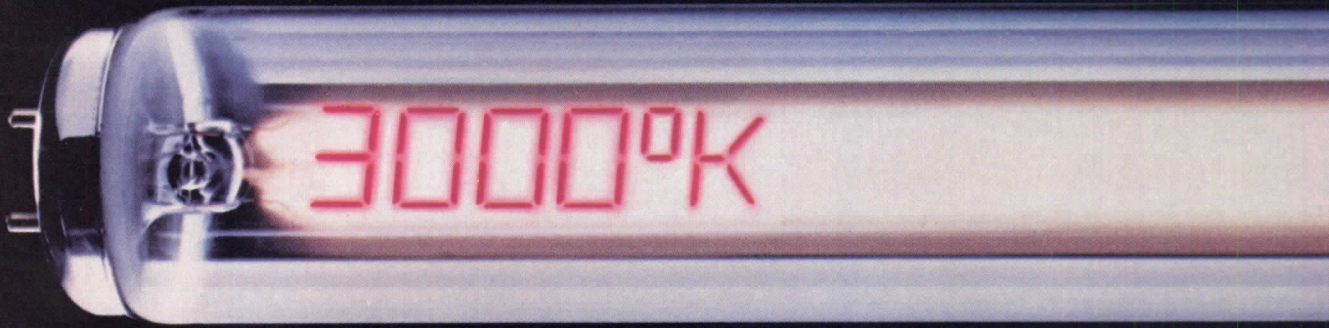


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# Architecture: Rx for health care

Perhaps in self-fulfilling prophecy, the health-care trends that appeared on the doorstep of the '80s, when the health-care industry began the reforms and reappraisals demanded by impending federal cost-control measures, have crossed the threshold and taken possession. As expected (and feared), prospective reimbursement—originated for Medicare and Medicaid but since eagerly seized on by state and local governments and increasingly by private health insurers as well—has reduced inpatient hospital stays, in the process shrinking the patient census of many hospitals to unhealthy lows. Alternate delivery methods—ambulatory and emergency treatment centers, freestanding diagnostic units, health maintenance organizations, wellness centers, residential care for the chronically ill and the elderly—have proliferated. And the advent of private, profit-sniffing purveyors has magnified competitive pressures on traditional health-care providers.

As the dust begins to settle, however, some less predictable side effects can be glimpsed. Notably, a field once comfortably aloof from the hurly-burly of the marketplace is now borrowing freely from what it has come to call “other service industries” such unaccustomed notions as “market-share,” “image,” and even “consumer.” For decades medical facilities were planned for the convenience of doctors and staff, which by the '60s and '70s meant also accommodating the burgeoning technologies they increasingly relied on: function ruled. Now, as attractiveness to patients (read consumers) moves toward the top of the planning agenda, architecture is also being called on not only to fashion a marketable image but to back it with environmental substance.

Meanwhile, changes in the field encourage participation by many architects who formerly shied from the technical and functional complexities of the once-unchallenged stand-alone general hospital, willingly ceding the territory to large specialist firms whose practices such facilities dominated. With unbundling, buildings for health care are not only becoming smaller but, because they focus on only one or a few services with their accompanying technologies, are becoming more straightforward in function and, often, less restricted by codes. Most are well within the organizational and design capabilities of the nonspecialist practitioner. The roster of potential clients is also broadening. As proprietary chains and private developers join the traditional clientele made up of hospitals and doctors, the latter too are becoming more accessible, more sophisticated, and more open to innovative—even adventurous—design, if only as a market ploy.

Yet having discovered the patient as a customer to be wooed and welcomed (this season's buzzword is the “we-care message”), health-care vendors convinced that “humanizing” the treatment environment is essential to their success (and sometimes survival) remain unsure how to do so. Help is at hand in the form of a new wave of user research, not least the University of Michigan's no-stone-untuned “pre-occupancy evaluation” of the recently built university hospital, discussed on the following pages. But facilities truly expressive of health care's recent metamorphosis await architects who bring to their design eyes unblinkered by too-intimate acquaintance with the status quo ante and hands accustomed to balancing commodity and firmness with delight. *Margaret Gaskie*



# Prescribing places for people

The 100 percent of us who have been, are, or will be patients—people who are under medical treatment or, according to a secondary but subjectively more apt definition, “people to whom something is done”—can only applaud the rumors from the realm of health care that, in response to new incentives of cost containment and competition, the patient is being elevated to the status of consumer. The suggestion that those who offer treatment are shifting those who receive it from the periphery of their attention to its focus is welcome. So are indications that they begin to see the treatment environment as an essential component in signaling and abetting that shift—supposing, of course, the aim is sensitive planning as well as image building.

But however welcome, these much-heralded trends are not really new, save for the shopkeeper language in which they are prone to be couched. Dedicated health professionals have always stressed the primacy of the patient, and few are more distressed than they by the growing realization that the places in which they practice their arts convey so stridently and unmistakably a message quite opposite. That the treatment milieu too often reduces the objects of its care to just that is a failure more of imagination and empathy than intent. Nor is it either surprising or reprehensible that recent attempts to provide more attractive, patient-oriented health-care facilities should draw on such consumer models as hotels, shopping malls, or uneasy crosses between McDonald's and the neighborhood drive-in bank.

It is one thing to determine on providing an environment expressive of sensitivity to patients and responsive to their needs and concerns; another to translate resolve into physical reality. With the best of will, those who determine the program and make or influence design decisions (usually, if the project is a hospital or other facility more complex than a two-doctor urgicenter, a Hydra-headed composite of administrators, physicians, and staff) necessarily come to the task laden with their own biases, wish lists, and accustomed ways of doing things—none easily susceptible to change. The architect brings his own baggage, the heavier if it includes the specialist's too-ready acceptance of the shibboleths of conventional hospital design or the neophyte's over-reliance on the experience (and prejudices) of the client, but in any case weighty with the preoccupations of resolving functional and technical issues and “making a building.” Neither a client comfortably familiar with, and therefore unlikely to question, accepted practice nor an architect who shares the familiarity or comes to it through second-hand experience can easily step into the patient's shoes to examine their joint creation from his perspective.

Planners who acknowledge their own blinders and attempt to go beyond intuition and observation to gain a patient's-eye view of health-care facilities are frustrated by the paucity of reliable and relevant resources. Absent demand for it, meaningful environmental research in the area is also near absent. Objective documentation of how the therapeutic setting contributes to, or detracts from, the ease which is the opponent of disease is sparse, and the available literature overwhelmingly anecdotal, consisting in the main of uncritical descriptions of existing facilities. Not only is the patient's eye missing, so is the patient's voice.

This realization came early to the trio of researchers at the University of Michigan whose just-published work\* offers the most comprehensive blueprint yet drawn for tailoring the design of health-care facilities, in macro and micro, to the measure of the people they most intimately affect. When in 1980 the university's medical center embarked on an ambitious overhaul of its physical plant, entailing the design and construction of a large general hospital (pages 118-123), an ambulatory clinic, a parking structure, and assorted replacement and renovation projects, the research team embarked on the scarcely less ambitious user studies on which their book is based.

The underlying mission of the “patient and visitor participation project” (PVP for short) was unblushing advocacy: to speak for these

“forgotten” users in the councils of planning and so incline the design process toward consideration of their needs and wishes. Recognizing, however, that advocacy unfortified by information was not enough—What precisely are these needs? How practically can they be accommodated?—the team adopted a number of interlocking strategies for ferreting out the answers.

Though found wanting (and largely discounted by the study authors as “not research-based”), the literature of the field was nonetheless meticulously searched and digested into both the study findings and the book's extensive bibliographies. The meat of the text, though, is drawn instead from the PVP project's direct and often ingenious solicitation of users' opinions and suggestions. For example, instead of simply asking the staff of each department about their requirements and filing their “non-negotiable” demands for later negotiation by fiat, the architects engaged the respective staffs in “gaming” to determine relationships and adjacencies, using plan representations of spaces and equipment as boards and counters. Moving the pieces about, the players quickly revealed conflicts, and themselves worked out needed accommodations.

Similarly, interviews with more than 3,000 patients and visitors, on subjects ranging from the design of patient rooms to the location of signs, were conducted not in the abstract but with such real-world stand-ins as video simulation and models. In the case of patient rooms, models were expanded to full-scale mockups and fine-tuned with the aid of treatment scenarios, from assistance in showering to the extreme of cardiac arrest, enacted by former patients as well as staff.

In an area where research tends to be soft and its findings wispy, the sophisticated methodology adopted for the PVP project, more rigorous and reality-based than the usual run of participant-observer and preference studies, gives reassuring credence to its outcomes—and so to the conclusions described in the resulting book and distilled in its detailed design guidelines.

Apart from its thoroughness, though, perhaps the most remarkable aspect of the project was its concern not only with the patient's often-neglected non-medical needs but with the comfort and convenience of visiting family and friends. While the inpatient is whisked from admitting to the cocoon of his room, his illness, and his treatment, it is his companions or visitors who brave the confusions and complexities of the establishment to find the patient's room, the nearest telephone, restroom, or cup of coffee, or a place to await medical verdicts. Moreover, attention to such needs of the occasional user becomes more pressing with the growing emphasis on treating all but the most severely ill as outpatients, whose plight is essentially similar to that of the visitor to a health-care facility.

With this in view, the study is predicated on the further insight that patients and visitors alike are “vulnerable user groups . . . virtually powerless in what they often perceive as an intimidating environment,” and that their vulnerability is both the cause and effect of stress, compounded for the patient by physical debility. Accordingly, the underlying theme is the relationship between design-related factors and stress, and its plot how facilities can be made more supportive.

The dual focus on patients and visitors, as well as the nature of the massive building enterprise that sparked the PVP project's research, led naturally to organizing the voluminous information assembled in the form of a journey—a “flow scenario” of activities and spaces that parallels the experience of moving through a large and complex hospital. It also, though more loosely, parallels the space-by-space progress of design and, because functional units are examined separately and generically, presents the research results in a form readily applicable to health-care settings of various size and purpose. The focus, however, is on the aspects of each space that are common to a range of uses, omitting considerations peculiar to isolated specialties: A waiting room is thus considered a waiting room, whether in a radiology clinic or a private physician's office.



The journey begins with arrival at the facility: access, parking, entry areas, and such immediate destinations as information and admitting. Discussions of what the patient or visitor finds at his intermediate and final destinations—waiting and reception areas, clinics for diagnosis and treatment, the inpatient's room and bath—are postponed for a scrupulous interim look at the paramount issues of circulation and "wayfinding": in the often mazelike innards of a large institution, and frequently in smaller ones, simply deciphering how to get from here to there can be the most difficult and frustrating aspect of its use. The places where the user ultimately finds himself, however, are also examined as the journey continues, with a detour for the therapeutic magic of outdoor spaces, whether accessible or only seen, plus side-trips into design for "special" places and services from cafeterias to grieving rooms, and such "special" users as the elderly or disabled.

Save for wayfinding, the overriding considerations that determine how people experience the environment and so pervade all other aspects of planning—physical comfort, the ability to control interaction with other patients and visitors, the images one's surroundings evoke and the messages they send—are discussed *in situ* as qualities integral to each space rather than *in vacuo* as abstract concepts. By the same token, generalized discussion of planning parameters is minimized in favor of detailed information on the issues at hand, supported by specific design suggestions drawn from the research findings and even by design review checklists based on recommendations from designers.

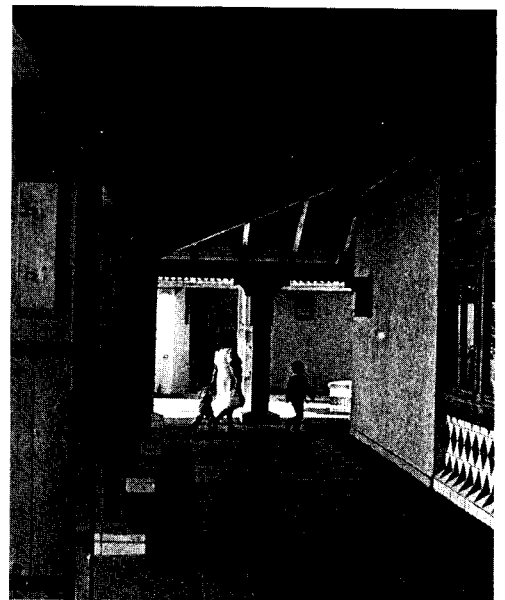
If these indications of exhaustive detail call to mind the apocryphal third-grader who reported "This book tells more about penguins than I want to know," well, yes, the detail is also exhausting. The book, however, is meant less to be read than used, and should prove eminently usable precisely because of the piling up of detail, which as in architecture adds up to spaces and the perception of them. The precise location of a grab-bar is not trivial to a person on the edge of a fall.

Again, the design professional perusing this tome may become impatient with its seemingly innumerable instances of discovering the obvious. But the obvious to designers is not always obvious to all. The patient made late to an important doctors' appointment because the labeling of levels on elevator buttons was ambiguous will not be grateful for the architects' assurances that *LL2* "obviously" means the second level down. (This potential for ambiguity in fact was among the morsels of "trivia" the research uncovered: of several options for designating floors, *sub 1*, *sub 2* was clearest to users, despite its subterranean connotations and the researchers' contrary expectation.) The imaginary journey is not without surprises.

The sad surprise this volume holds is the unavoidable realization of how prevalent and deeply ingrained in the fiber of medical facilities insensitive design really is. If, as one cannot but read between its lines, common-sense common courtesies—seating arranged so people can converse comfortably rather than like crows on a fence; acoustical and visual privacy when being admitted or conferring with one's physicians or grieving; or patient-room windows low enough to see out of from one's bed—are indeed so uncommon in common practice as to seem remarkable departures, the book comes not a moment too soon.

It is written, the introduction says, "for design decision makers . . . those who fashion what a health care facility will be through policy-making, management, or planning . . . whether embarking on the construction of a multimillion-dollar facility or simply planning to make a private clinic's waiting room more comfortable." Design professionals in or entering the health-care field will certainly be quick to seize, apply, and improve on the information base it provides. One can only hope that their clients, who hold ultimate control through the powers of veto and the purse, will be as quick to hear and act on its message. *M. F. G.*

Balthazar Korab Ltd.

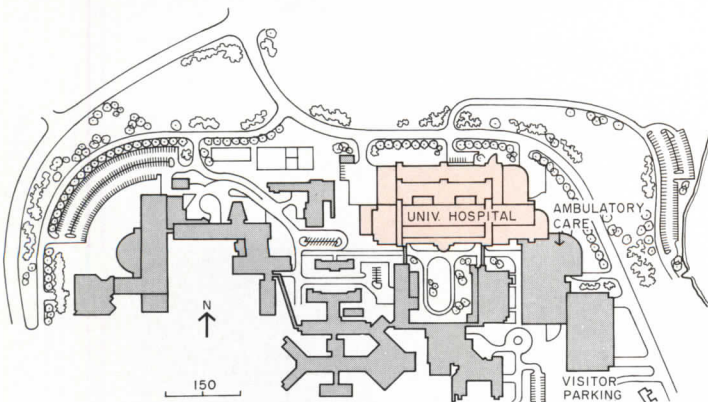




University Hospital  
The University of Michigan  
Ann Arbor, Michigan  
Albert Kahn Associates,  
Architects

## Bridging past and future

© Balthazar Korab Ltd. photos

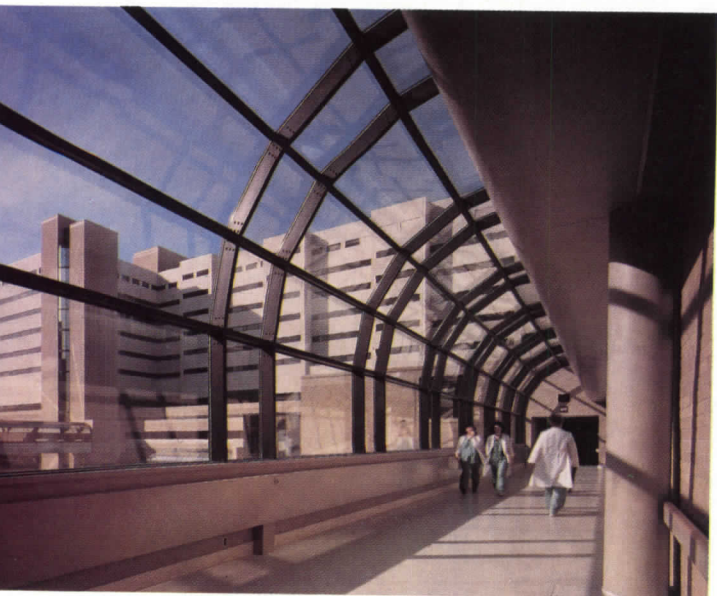
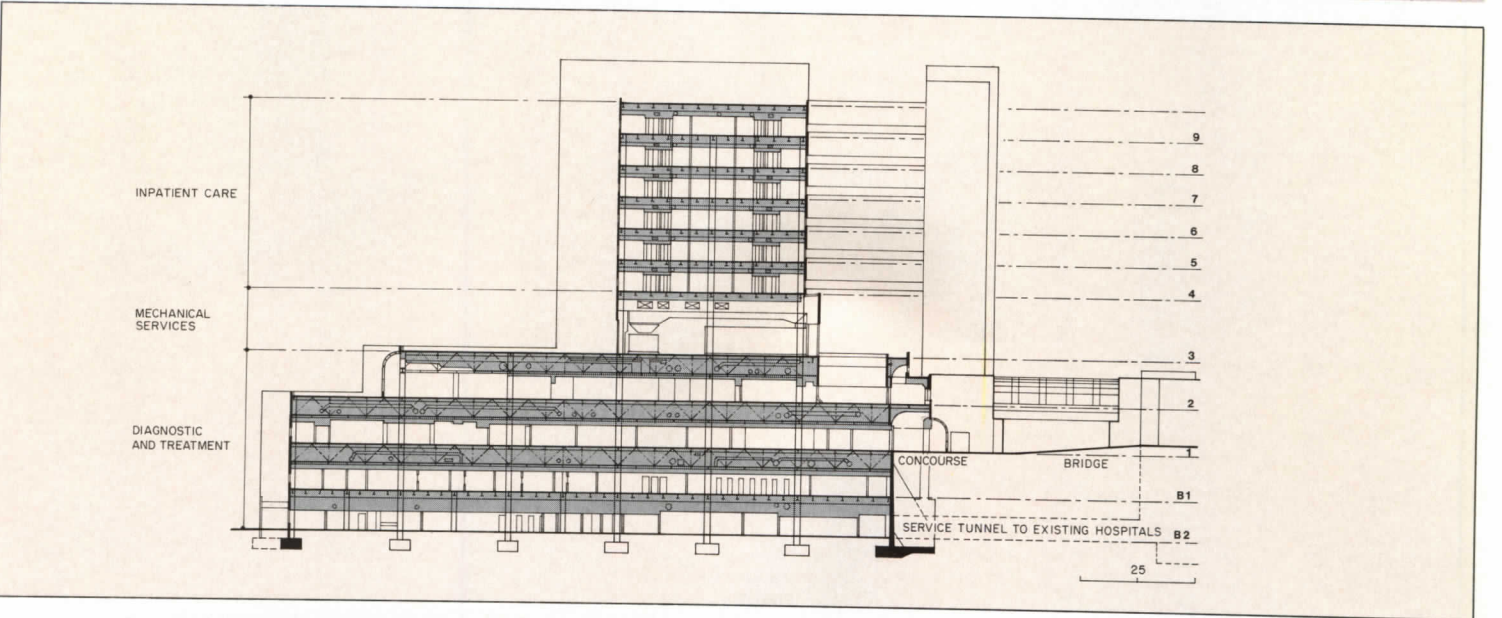


Despite widespread speculation that the day of the new-built, full-service hospital is fast passing, reports of its demise may prove exaggerated. The University of Michigan, for example, has completed a from-scratch tertiary-care hospital that not only replaces two-thirds of the center's beds but consolidates all of its major diagnostic and treatment spaces and most support areas. This stand against the unbundling tide was prompted by the incurable obsolescence of the old University Hospital, for half a century the system's treatment and teaching core, combined with the desire to centralize clinical facilities that are the prime training ground for fledgling MDs, RNs, and other health professionals from pharmacists to social workers. The 1-million-square-foot building resolves the dichotomy between diagnostic and treatment areas, which require large clear spans for flexibility, and patient floors, where perimeter footage is at a premium, by wedging the massive D&T element into the sloped ridge-top site, forming a pedestal for the articulated profile of the surmounting patient tower. Beyond formal considerations, a client bent on "covering all the bases" spurred the architects to meticulous analyses of the building's systems and functional relationships, and their subsequent integration in the finely honed medical machine that supports the human concerns illuminated by the university's extensive user research.



Adding its height to an escarpment above the Huron River valley, the new University Hospital edges on north and east the densely developed medical complex it adjoins. The two-way sloping site allowed the ungainly bulk of the 660,000-square-foot D&T core to be stepped and burrowed into the hillside, and softened by a succession of curved elements that follow the rise of the site toward the main entrance.

Within the base, four levels of medical and support facilities, linked to nearby buildings by tunnel and bridge (bottom), are served by overhead interstitial spaces (section) for ease in changing department layouts. A 27-foot-high mechanical level rises between the base and the six-story patient tower, where 720-foot-long precast-paneled facades are broken by bays and brick-clad vertical circulation shafts.





*A large population of students in addition to staff, patients, and visitors prompted a high priority on clear, conflict-free circulation patterns. Providing them, however, was complicated by both the sheer size of the building and the location of the main entrance at its east end, where it shares vehicular access with the adjacent ambulatory clinic and visitor parking garage, instead of in a more central position. The basic*

*solution was a separate internal corridor system for patients and staff, with public routes at the building perimeter where outdoor views aid orientation. Making virtue of necessity, such amenities as dining and patient services, as well as major teaching spaces, were also clustered on the east around the two-story lobby (bottom), and a pedestrian "main street" (right opposite) extended from this node*





along the south side of the building. The two-level concourse provides a simple, direct path to major medical departments, visitor elevator lobbies, and glass-vaulted bridges to nearby buildings. To lessen the tunnel effect, the 700-foot passage (also broken with required fire doors) is interrupted by recessed department entries and windowed lounges, changes in ceiling height and configuration, and carefully directed lighting

enhanced with daylight from clerestories and barrel-vault greenhouses overlooking a south courtyard. Though not charged with interior design, the architects provided for public areas—e. g., the main entrance lobby and the private lobby for the radiation therapy unit (top opposite)—serene enclosures of subtly patterned exposed brick and view-capturing expanses of glass.



Escalators  
 Cafeteria, Auditorium  
 Bridges on 2

↑ East Elevators to  
 Patient Areas A & B

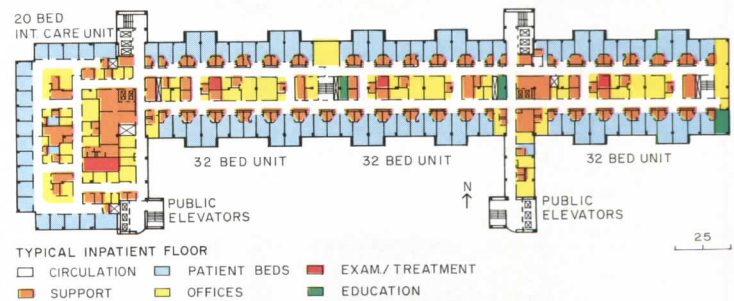
↑ West Elevators to  
 Patient Areas C





*Fittingly, inpatient areas benefited most from the university's user research and mock-up studies, in which patient rooms were evaluated in treatment scenarios from routine nursing care to cardiac arrest. The resulting large and small design adjustments included widening semiprivate rooms by two feet, lowering window sills for better views from patient beds, custom-designing lighting and dual-supply service*

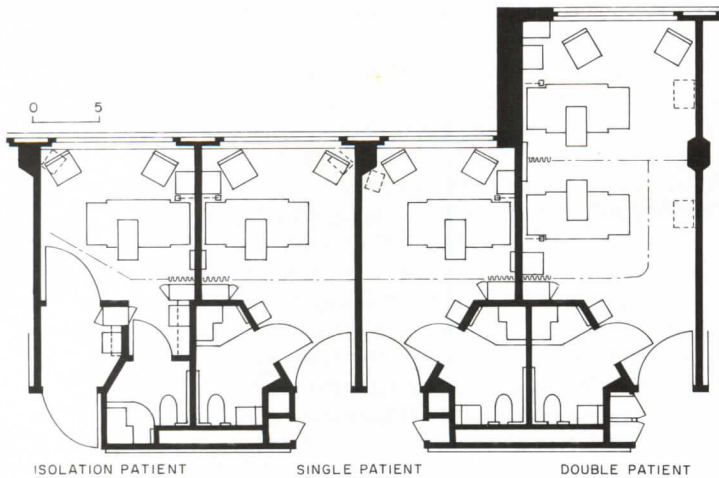
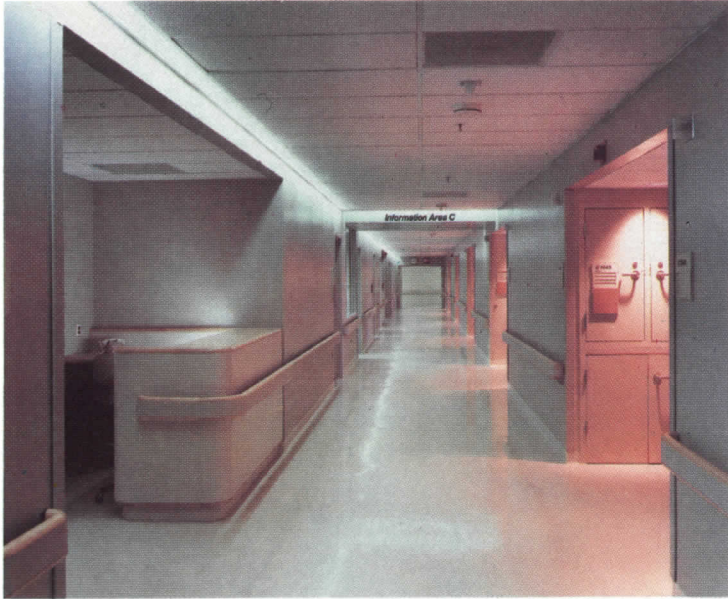
*modules at head walls, and equipping lavatories with roll-in showers to accommodate wheelchairs and angled inner walls for elbow room. The hospital's nursing strategy of a flexible continuum of intensive, intermediate, and acute care required continuously adjacent patient rooms, which are organized in 12 eight-bed units plus a 20-bed ICU. Command nursing stations for*





every 32 beds (top right) provide convenient centers for staff interaction and coordination, supplemented at each eight-bed module by satellite nursing stations (top left and opposite) that encourage close patient contact by minimizing nurses' travel distances. Nursing time is also saved by placing at the entrance to each room nurse-server storage units for clean and soiled supplies, stocked and emptied

by central stores. In addition to comfortable visitor lounges near the elevators, inpatient floors include private lounges (lower right) where non-bedridden patients can socialize or enjoy a change of scene. The long parallel corridors are enlivened by more subtle variations on the devices used in public passages: recessed room entries, broken ceiling heights, and lighting and signage geared to ease of orientation.



*University Hospital  
The University of Michigan  
Ann Arbor, Michigan*

**Owner:**

*The University of Michigan*

**Architects and engineers:**

*Albert Kahn Associates, Inc.—Jay Pettit, principal for administration; John C. Haro, principal for design; Roger Boe, project manager; Eugene Tanke, project designer; Steven Whitney, project architect; Charles*

*Robinson, structural engineer; Gordon V. R. Holness, mechanical engineer; Gilbert Boersma, electrical engineer; Zoran Guberinich, civil engineer; Robert Meske, Norbert Olind, field services*

**Consultants:**

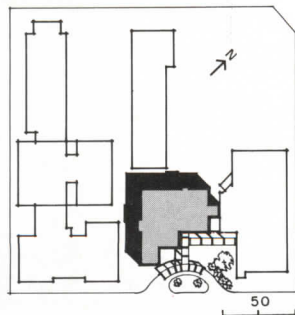
*Romano-Gatland (food service); Lerch-Bates & Associates (vertical transportation/pneumatic tube)  
**Construction manager:**  
Barton-Malow/CM Inc.*



Hughes Spalding Medical Center  
Addition  
Atlanta, Georgia  
Nix Mann and Associates,  
Architects

## Doctors on call

© E. Alan McGee photos

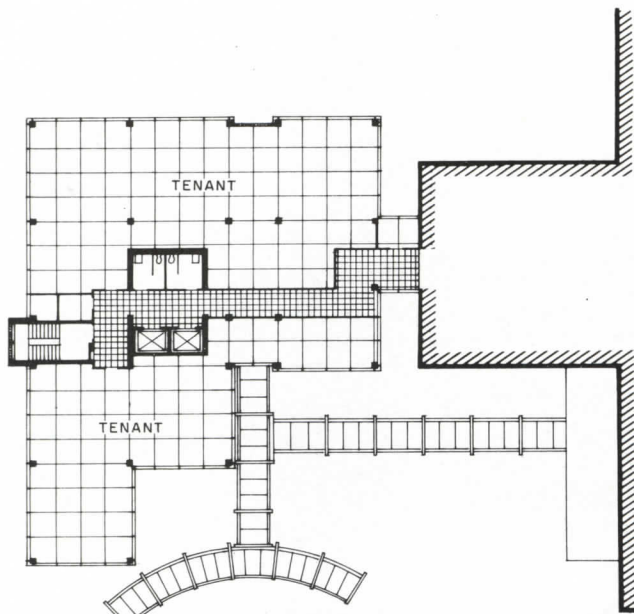


Like many middle-aged inner-city hospitals facing competition from newer, better-heeled suburban cousins, Atlanta's Hughes Spalding Medical Center confronted a steadily declining patient census that eventually dipped to the intolerable nadir of 30 percent occupancy. And like many such hospitals, Hughes Spalding resolved to reverse the slide by offering new services tuned to community needs and taking advantage of the necessary new construction and renovation to polish its fusty image. Both goals have been accomplished in this 30,000-square-foot addition combining 24-hour emergency and walk-in care with two floors of doctors' office space designed to lure a new cadre of attending physicians. Finding scant inspiration in the watered-down Bauhaus of the 1940s original, the designers of the new wing instead moved to a sleek interpretation of the International Style—not forgetting the often-omitted bold primaries. Although the wing was first conceived as a simple cube projecting from the parent hospital building, its evolution to the final stepped shape allowed more efficient layout of both the treatment and tenant floors (which acquired added corner office suites) and opened the site to a courtyard whose frame is completed by the loggia at the main approach to the adjoining hospital. Covered access to both buildings is provided by a steel-and-glass pergola that connects the old and new entrances to a curved drop-off.

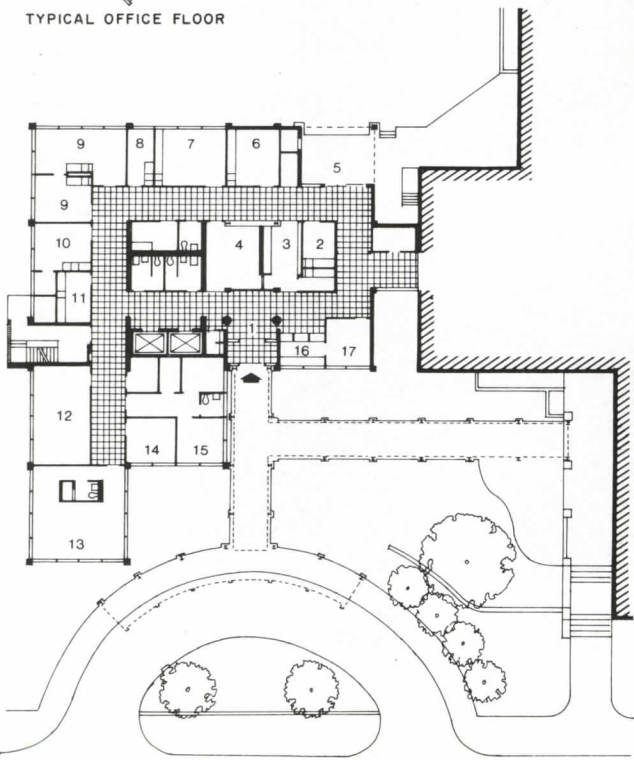


The ground-floor diagnostic and treatment component of the Hughes Spalding addition, treated as an extension of the base of the original building, is sheathed in sober black-granite, strip-windowed panels framed by flame-red exposed-steel columns and spandrel beams. The two upper floors are also outlined in red, but the curtain wall is anything but sober: shimmering silver reflective glass to front the street

(opposite); gleaming hospital-white aluminum to sheathe less-prominent elevations (upper right). A glass-block stripe over the entrance is repeated on axis at the rear of the addition and at the side stair tower. Inside, the entry lobby (lower right) is signaled by flanking red columns and a glass-block wall that screens the waiting room from a corridor where black Pirelli-tile floors play against a polished-metal ceiling.



TYPICAL OFFICE FLOOR



FIRST FLOOR

- |                    |                            |
|--------------------|----------------------------|
| 1. Lobby           | 10. Cast                   |
| 2. Triage          | 11. Laboratory             |
| 3. Nurses' station | 12. EKG                    |
| 4. Waiting         | 13. Physicians' facilities |
| 5. Ambulance dock  | 14. Clean                  |
| 6. Trauma          | 15. Quiet                  |
| 7. Cardiac         | 16. Registrar              |
| 8. Suture          | 17. Business               |
| 9. Examination     |                            |



*Hughes Spalding Medical Center  
Addition  
Atlanta, Georgia*  
**Owner:**  
*Fulton-DeKalb Hospital Authority*  
**Architects:**  
*Nix Mann and Associates, Inc.*  
**Associate architects:**  
*Millkey Brown Associates*  
**Engineers:**  
*Sedki and Russ, Inc. (structural);  
McLendon and Holbrook  
(mechanical); Bush, May and  
Williams (electrical)*  
**General contractor:**  
*Van Winkle and Company*



© M. Elizabeth Ernst



If you can't lick 'em . . . Better health care for both communities is the happy outcome of a state-ordered merger of the aging and ailing, but gamely competing, hospitals operated independently by two small towns on opposite banks of Michigan's St. Joseph River. One now offers outpatient and long-term care; the other consolidates acute-care services via this 110-bed addition containing a new patient-care wing and supporting diagnostic and treatment unit. In deference to its parklike setting in a residential area, the addition assumes a low, detached profile—made lower by digging two levels of the support building into the sloping site—and reorients the main hospital entrance and parking lot to a major highway, avoiding traffic intrusion on neighborhood streets. The new components converge at a vertical circulation node linked to the existing building by a tri-level, glass-sheathed spine that sorts service, public, and patient/staff traffic. In the nursing wing, three patient floors rise above a peek-a-boo base penetrated by a drive circling beneath a negative pediment and by the spatial voids that surround an inner capsule housing the lobby, giftshop, and admitting and business offices. In addition to opening views to courts and landscaped areas, the triangular plan encloses patient floors with maximum area in minimum perimeter and reduces distances between the nursing/utility core and patient rooms.

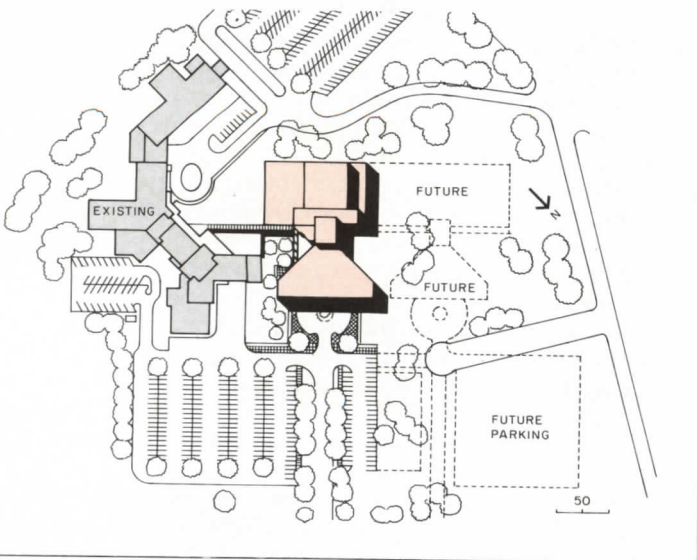
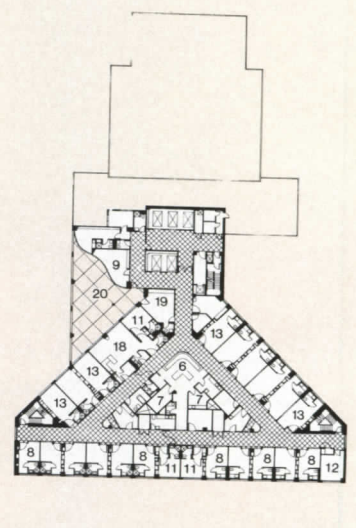
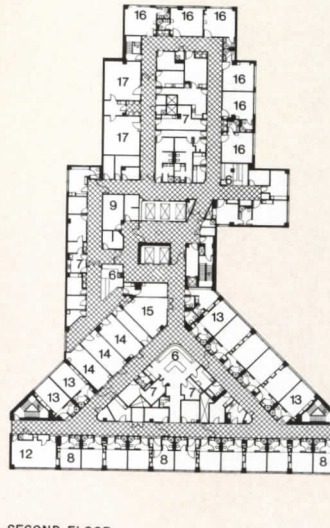
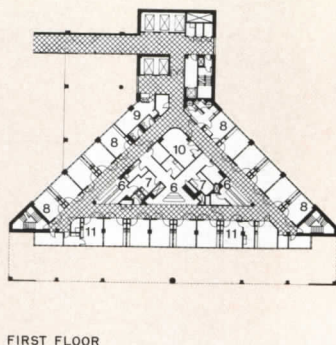
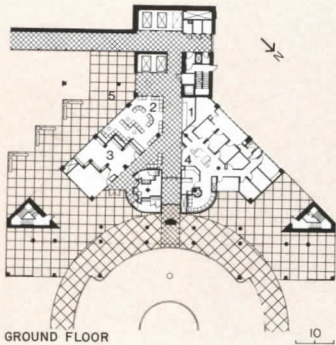


To complement the original beige-brick and limestone hospital, the addition is clad in warm precast panels with punched windows expanded to glazed grids at significant outlook points—among them a ground-floor lobby (below) open to a two-story-high covered porch and a formal court framed on one side by the circulation spine (lower right opposite). For expansion flexibility, the building provided

shell space on three levels of the D&T center, including a first-floor reserved for surgery and critical care, and on the topmost level of the patient-care pod, which now houses a 35-bed pediatric unit (below right). The small-scale village of patient rooms in the guise of gaily painted little houses—complete with gables, windows, and even mailboxes—includes a playroom with an adjoining outdoor terrace.



- |                       |                    |                             |
|-----------------------|--------------------|-----------------------------|
| 1. Reception          | 8. Private patient | 15. I/C nursery             |
| 2. Waiting            | 9. Waiting         | 16. Labor/delivery/recovery |
| 3. Gift shop          | 10. Classroom      | 17. Delivery/operating      |
| 4. Business/admitting | 11. Isolation      | 18. Special care            |
| 5. Courtyard          | 12. Conference     | 19. Playroom                |
| 6. Nurses' station    | 13. Semi-private   | 20. Terrace                 |
| 7. Support core       | 14. Normal nursery |                             |



*Mercy-Memorial Medical Center Addition*  
*St. Joseph, Michigan*  
**Owner:**  
*Southwestern Michigan Health Care Association*  
**Architects and engineers:**  
*Hansen Lind Meyer—Roderic Thomson, project director; Richard Potokar, project designer; Ed Kestin, project architect; Jack Lesniak, construction administration;*

*John Bertrand, project engineer; Kimberly Mikuta, interior design*  
**Consultants:**  
*Tribrook Group, Inc. (management); John Nuveen & Company, Inc. (financial)*  
**Construction manager:**  
*McCarthy Construction*



U. S. Navy Branch Medical Clinic  
Port Hueneme, California  
Bobrow/Thomas and Associates,  
Architects

## Military preparedness

Marvin Rand photos

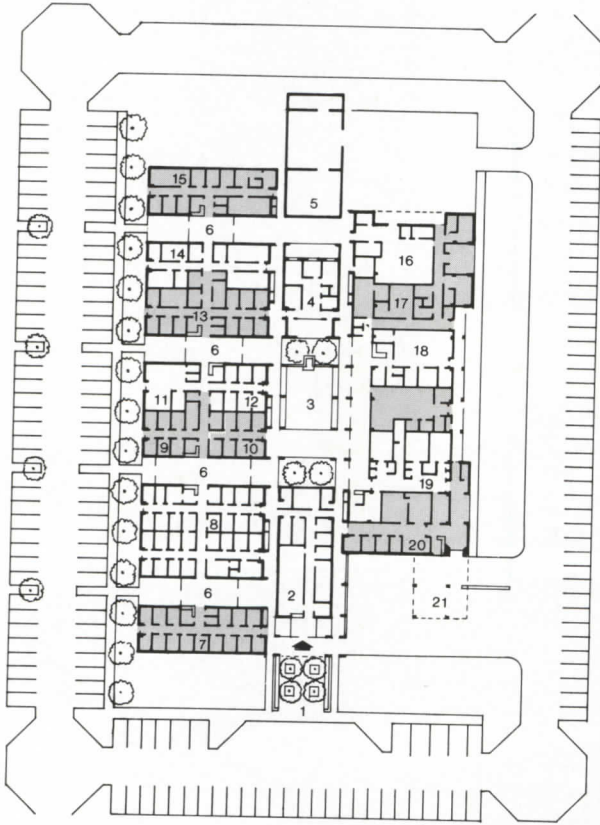


In the best service tradition, this shipshape clinic for naval personnel and their dependents set its sights on the primary targets of efficiency and flexibility. Though perched on a site near the southern California coast, the building turns inward to a hierarchy of courtyards dominated by the large open space (above left) at the core of a circulation spine that also includes outpatient services and administrative offices. Trellised pop-up pavilions announce entry to the central reception area and the emergency unit, but the “main” entrances for most patients are the smaller courtyards, each with a glassed-in waiting room (above right and opposite), that link an open-ended series of individual clinic modules. Within this framework, medical departments can expand or contract as patient loads dictate, as can the enclosed segments of the adjoining waiting courts. The modules’ flexibility is further increased by “universal rooms,” 9-foot by 12-foot building blocks that with only minor alterations can serve as examining rooms, doctors’ offices, or utility rooms. (The clinic’s more permanent elements—emergency and temporary acute care, radiology, labs, and other ancillary services—occupy a separate “hard” wing to the south.) In addition to assuring the livability of outdoor space, the benign climate encourages the use of solar energy and natural lighting and ventilation, and will soon embower with vines the crisp metal trellises shading the courts.



For energy conservation, the clinic's functional areas are positioned to capitalize on California sun and steady sea breezes. Ancillary areas requiring constant climate control are grouped in a compact wing with south exposure for optimum orientation of roof-mounted solar collectors, and heated and cooled mechanically; the clinic modules, which rely heavily on natural ventilation, capture prevailing

winds with large louvers on east and west and turn near-windowless walls interspersed with shaded courtyards toward the north (lower right opposite). The east-facing sawtooth skylights that roof the clinic's north-south corridors (below right) include continuous louvers to provide air movement as well as abundant natural light, which penetrates from the corridors to interior spaces through clerestories.



- |                       |                          |
|-----------------------|--------------------------|
| 1. Main entrance      | 12. Optometry            |
| 2. Outpatient service | 13. Pediatrics           |
| 3. Courtyard          | 14. Environmental health |
| 4. Administration     | 15. Occupational health  |
| 5. Mechanical         | 16. Supply               |
| 6. Waiting lobby      | 17. Duty watch           |
| 7. Military sick call | 18. Laboratory           |
| 8. Primary care       | 19. Radiology            |
| 9. Specialty clinic   | 20. Acute care           |
| 10. Internal medicine | 21. Emergency entrance   |
| 11. Physical therapy  |                          |



*U. S. Navy Branch Medical Clinic  
Port Hueneme, California*

**Owner:**  
*Naval Facilities Engineering  
Command, WESTDIV*

**Architects:**  
*Bobrow/Thomas and Associates—  
Michael L. Bobrow, partner for  
design; Erich Burkhart, principal-  
in-charge; David Rinehart, senior  
designer; Robert Wielage,  
construction administration;*

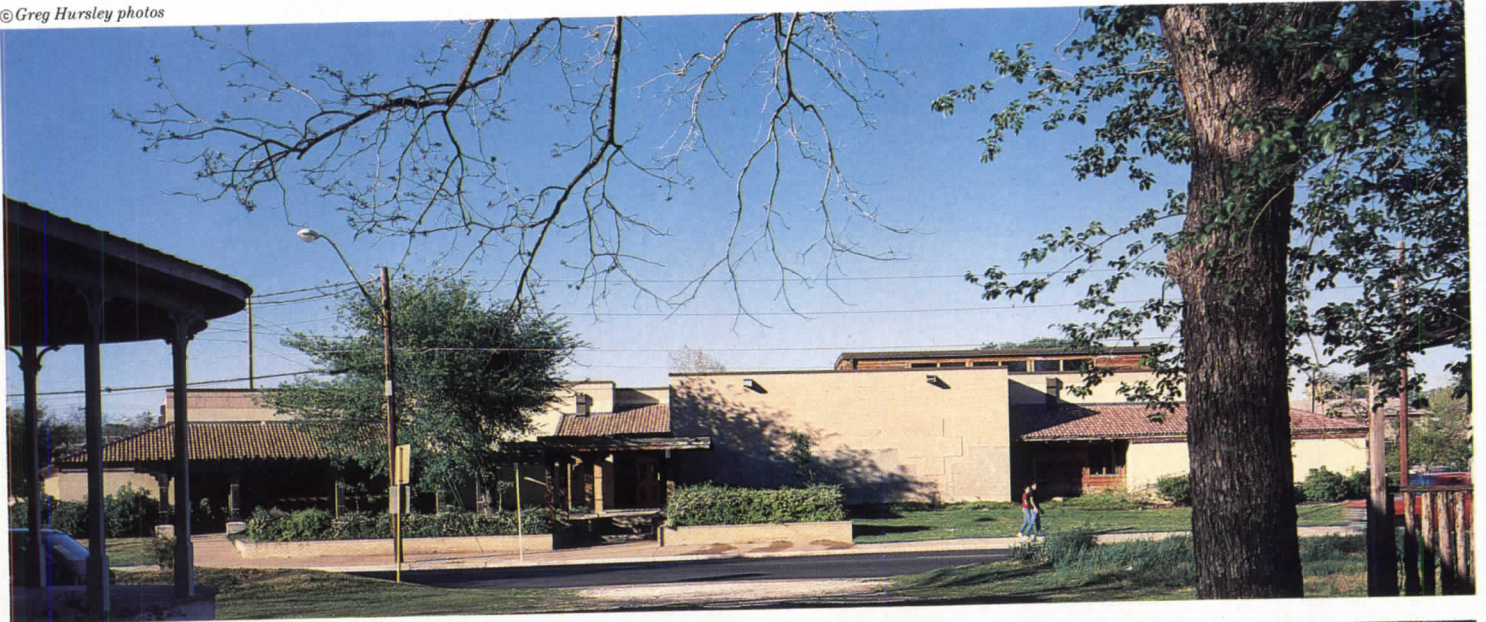
*Andrzej Siobowicz, job captain;  
Patricia Ford, interiors; Suzanne  
Dvells, signage*

**Engineers:**  
*Albert L. Presky Associates  
(structural); Hayakawa Associates  
(mechanical/electrical); Sikand  
Engineering (civil)*

**General contractor:**  
*Harold J. Younger & Associates*



© Greg Hursley photos



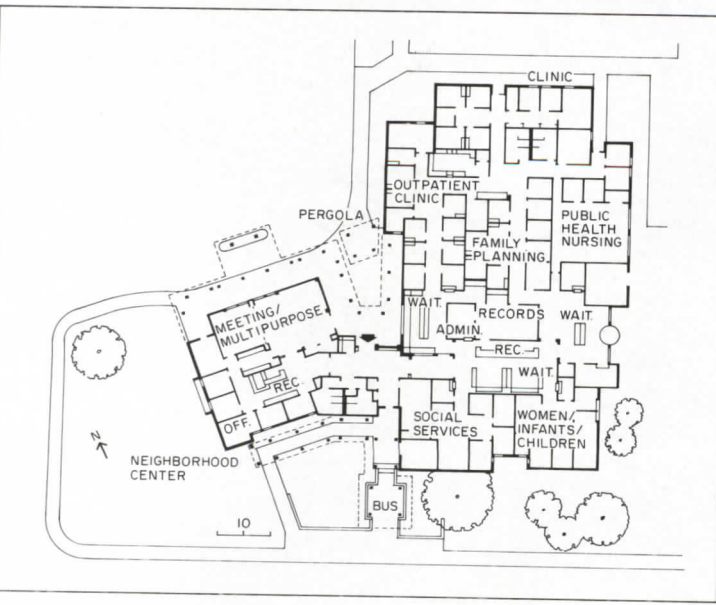
Though the small community-oriented health-care unit has become commonplace, few are so warmly welcomed as this newcomer to a long-established Chicano section of East Austin. In addition to an outpatient clinic, the project includes a neighborhood center that, as anticipated, hosts gatherings from community meetings to bridal showers, and provides office space for local service groups. Not anticipated was the attraction of the clinic itself, whose public areas and sheltered outdoor spaces draw neighborhood women as to a “café-klatsch,” architect Bob Coffee reports with bemusement, “even when the baby doesn’t have a sore throat.” Their proprietary attitude may stem from the community’s active role in the design of a complex it insisted reflect its Mexican heritage—an ambiguous charge translated, Coffee says, into a “CC&S Colonial” style that eclectically draws familiar elements and detail from throughout the Southwest. Underlying it are two light-steel-framed boxes, with the multipurpose neighborhood center splayed from the larger clinic to form an entry court that gives onto a connecting loggia. Clad in brick and stippled stucco, and roofed with long-span joists to allow the insertion of skylights and clerestories, the simple shells are elaborated with vigas and latillas, colorful ceramics, and tile-roofed, rough-carpentered wood porticoes and pergolas—symbols to the community of a mythic Meso-American past.



A bus-stop pavilion on the street fronting the East Austin center (top opposite) introduces the portico and intersecting arcaded wheelchair ramp that lead to the central loggia connecting the clinic with the neighborhood center. On the north a similar scale-reducing arcade domesticates the multipurpose element and wraps around the wedge-shaped rear-entry court (below) giving onto the common

loggia with its flanking waiting/reception rooms. Smaller waiting areas serve each of the four major functional subdivisions within the clinic, which offers counseling and social services as well as medical care and also includes office space for public health service visiting nurses. In the public areas the architects' deft variations on traditional Hispanic woodcraft, exemplified by the detailing of outer porticoes

carried on bolted and strapped, two-piece cedar columns bracketed in a hint of arches, adopt the folksy refinement of exposed fir beams and trusses, wooden latillas, and fittings and trim of pale basswood. Bright, lofty interiors, lit by the glow of skylights and clerestories against high saffron-painted ceilings, are spiced with vivid accent walls, ceramic signage, and ornate lighting fixtures.



**East Austin Multipurpose Center**  
Austin, Texas

**Owner:**  
Austin Departments of Health and Human Services

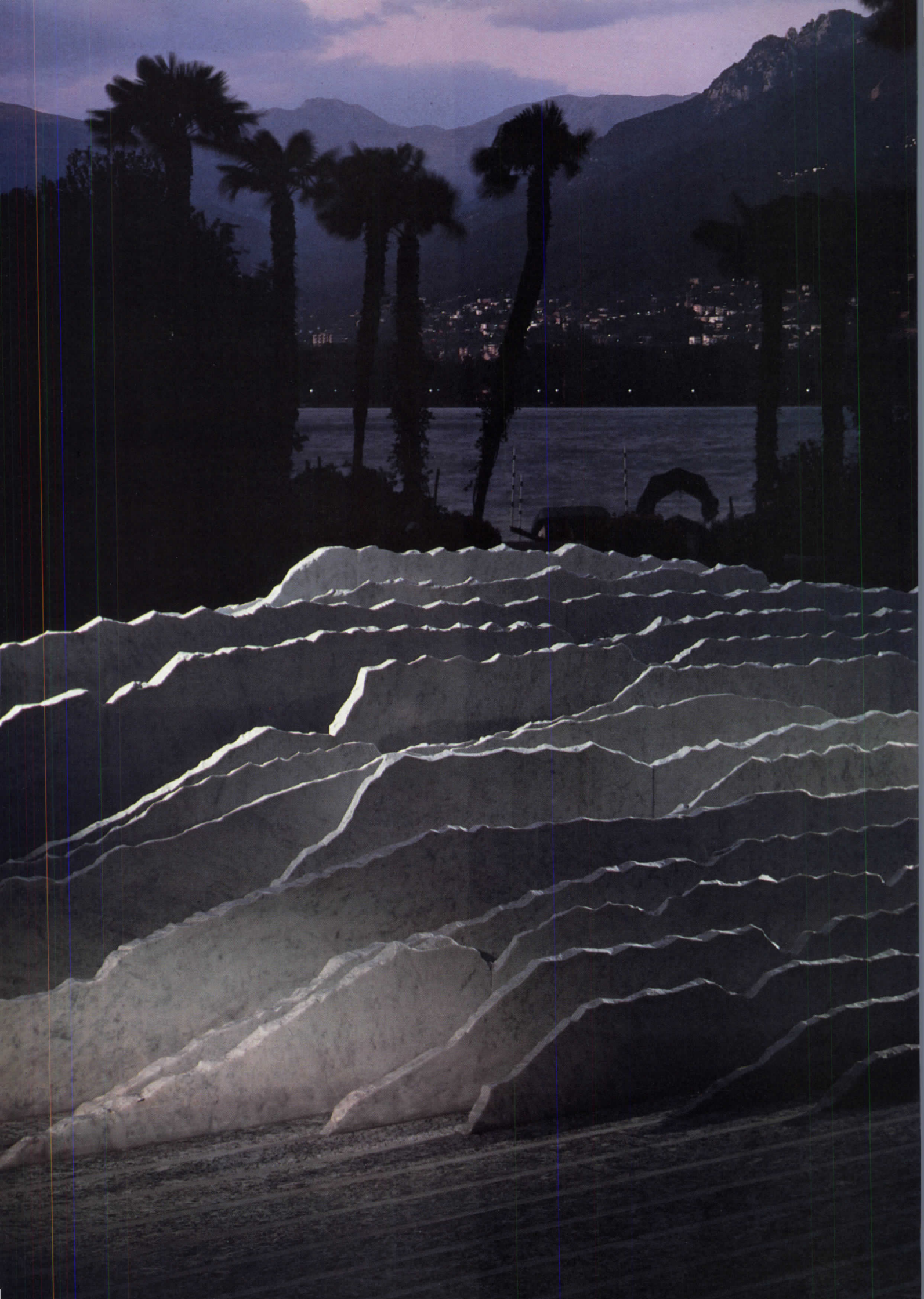
**Architects:**  
Coffee Crier & Schenck—Bob Coffee, Jack Crier, Bill Schenck, principals; George Hammond, Doug Johnson, Judy Cook, project team

**Engineers:**  
Jose I. Guerra (structural); George Maxwell Engineers, Inc. (mechanical/electrical/plumbing); S. A. Garza (civil)

**Consultant:**  
Daphne Ripple (landscape)

**General contractor:**  
Jim Akin Construction Company





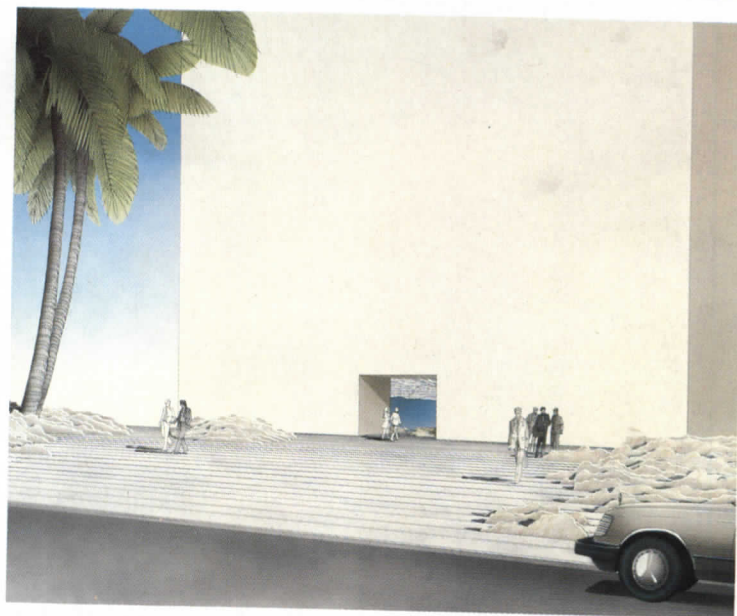


# Magic mountains

Terrace and lobby of  
Residence-au-Lac  
Lugano, Switzerland  
Emilio Ambasz, Designer

An incongruous bit of Miami Beach modernism on the shore of Lake Lugano, the Residence-au-Lac was originally built as a resort hotel in the 1950s. After the present owner, a Swiss developer and collector of modern art, converted the Residence into luxury apartments several years ago, he called upon New York designer Emilio Ambasz to endow at least the most public part of the remodeled structure with a measure of esthetic distinction and local appropriateness that, in their eyes, it still patently lacked. From a more personal vantage point, the owner (for whom Ambasz is also designing a new apartment block next door) regarded this conspicuously sited enterprise as a sort of three-dimensional carte de visite he could present to the elegant city of Lugano. Logistical and budgetary constraints limited the scope of Ambasz's intervention to the 1,290-square-foot lobby and an outdoor terrace that adjoins the sidewalk entrance, bar, and shops. An agreeable place to stroll or sit in any season, thanks to Lugano's almost Mediterranean climate, the 46-foot-wide terrace extends over 100 feet along the principal lakeside avenue, and commands an Alpine panorama beyond the palm trees and subtropical flowers of municipal gardens across the street. Though one can discern elements of this picture-postcard view in the sculptural ensemble Ambasz inserted into his given frame—a microcosmic vista of mountains, blue sky, and passing clouds—there is nothing tritely picturesque about the emblematic landscape that now links the frontispiece of the Residence-au-Lac to its natural environs and penetrates the building's interior (overleaf).

Ambasz paved both exterior and interior spaces with four-inch-wide slabs of Italian granite, rough-finished to prevent slippage. Between these diagonal gray bands, 4/5-inch-wide strips of polished white Carrara marble delineate a rhythmic ground whose regularity only emphasizes the visual drama where the pale striation rises into jagged outcroppings. Looking out toward the lake, these stylized mountain ranges could almost be foothills of the great peaks on the horizon. Inside the lobby, the uncanny effect of miniaturized geology intensifies with hidden floor-lighting and the glow of translucent silk "clouds," wafting at four-inch intervals through slits in a top-lit, blue plexiglass ceiling. Artisans cut the seemingly random curves of the textile panels, and the chipped contours of the marble ridges, to stencils magnified from Ambasz's models. Walls were spray-painted to grade from dark to light blue, as in a theatrical backdrop representing sky. Architecture, sculpture, and painting come together on this little stage to suggest a dreamlike landscape of infinite extension. As reminders of a more prosaic reality, passages just visible in the wings lead to stairs, an elevator, and parking. *Douglas Brenner*

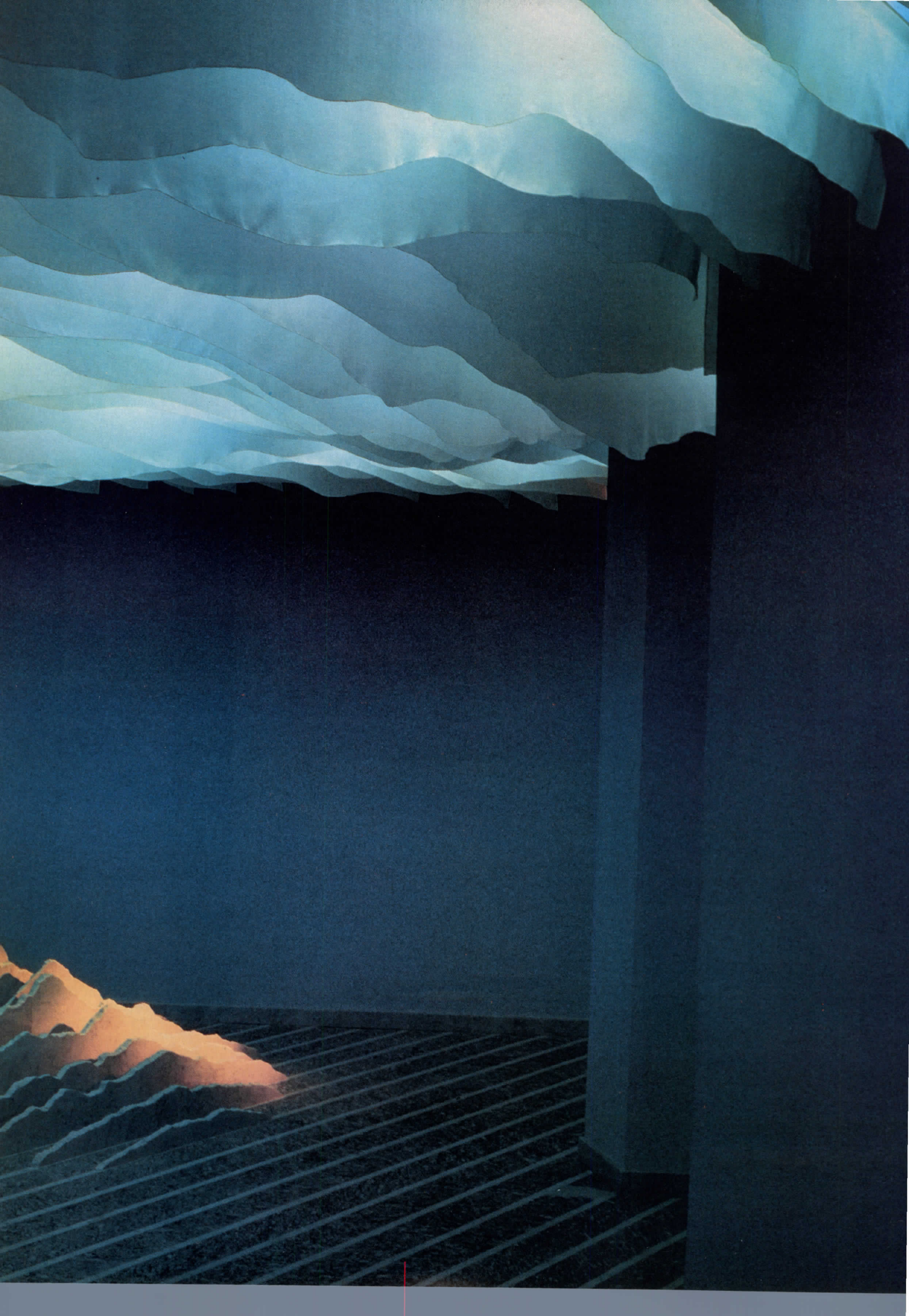


*Terrace and lobby paving echoes the grisaille coloration of many Lugano buildings (the same scheme will later extend in front of an apartment house proposed for an adjacent lot). The granite and marble bands also recall veins of rock that break through the soil of the surrounding Ticino canton, a region renowned for expert stonemasons. General contractor for the Residence-au-Lac was Colla Costruzione.*











# Shelter from the storm

You see them slumped in doorways, passed out on park benches, huddled over steaming sidewalk grates. Some determinedly beg for money, others aimlessly wander from place to place, carrying on animated conversations with themselves. As a group, they inhabit both city and suburb, growing in numbers to represent a surprisingly wide cross-section of American society. "They" are the homeless, a nationwide population that ranges from 250,000 by conservative HUD estimates, to 4 million, according to their advocates. Stereotyped as bums, bag ladies, and boozers, who remain unhoused "by choice," according to a 1984 speech by President Reagan, many take refuge in abandoned buildings, seedy flophouses, or crime-ridden welfare hotels to escape the hardships of the street. Of those seeking shelter, over half exhibit chronic mental illness, the tragically ironic result of social reforms which began in the mid-1960s to "deinstitutionalize" patients from the "snake pits" of state-run asylums to community half-way houses that never materialized. More recently, statistics reveal that the street "crazies" and alcoholic men, who typify large, urban shelters, are being joined by women and children, who now account for the fastest growing homeless population; families, who comprise 21 percent; and teenage runaways and jobless, young adults, who have contributed to the decreasing average age of the homeless, now 34 years old.

"Homelessness is a massive epidemic," reported a congressional committee last April, "so overwhelming that the problem must be treated as a national emergency." In agreement with this conclusion, the American Institute of Architects' housing committee has sponsored three symposia on the subject over the past two years, and will issue a 135-page resource guide to shelter design at its convention in San Antonio this month. "Our role is not to offer ourselves as white knights or crusaders with all the answers," stated AIA executive vice president, Louis Marines, in his keynote address to a symposium held in Washington, D.C. last October, "but as a catalyst, as a necessary and continuing part of that nationwide chain of people who are committed to making a difference about this issue." While this last forum on the homeless was well-attended, two-thirds of its participants were government officials and shelter "providers," leaving many in the audience to doubt the purported commitment by the design profession.

Architects, however, are being pressed into service by increasing numbers of local community, religious, and charitable organizations in search of small-scale, humane solutions to the makeshift warehousing of the homeless in cot-filled church basements, armories, and gymnasiums. The firms commissioned by these groups are not corporate offices with dollars to spare for pro bono services, but tenacious professionals with track records in designing housing for the elderly and poor, familiar with the red tape of funding, agency reviews, "not in my neighborhood" opposition, and no-frills budgets. Without the benefit of existing models, they have looked to hospitals, military barracks, dormitories, and single-room occupancy (SRO) residential hotels to devise new strategies for combining communal and private residential spaces with medical treatment and social services. Some have feigned homelessness themselves in order to fully understand the needs of their clients. "Statistics don't tell us how to design a shelter; life on the street does," maintains Fred Karnas, program director of Phoenix's Community Council. "You need to know about waiting in line for meals, waiting to go to the bathroom or to bed, waiting for health care and employment; about dirty clothes, a dirty body, and hours of time with nothing to do."

As an emerging building type, shelters vary according to the financial resources and programs of their sponsoring organizations, to the diverse populations that they serve, and to the anticipated duration of their use: overnight, emergency shelters; interim or transitional housing for three to six months; and permanent residential facilities for a particular population such as the elderly or the mentally ill. Within emergency shelters, men and women, and in some cases, families, are

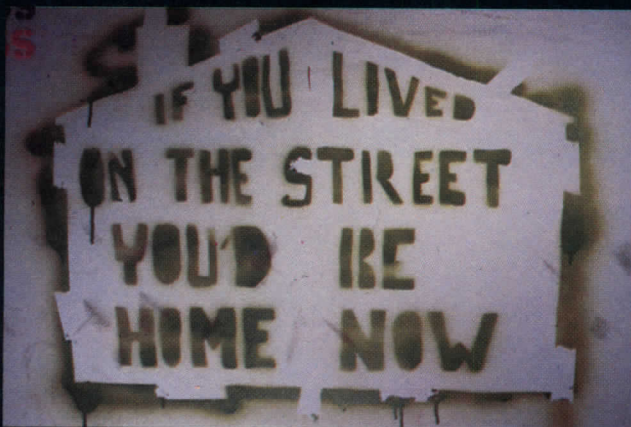
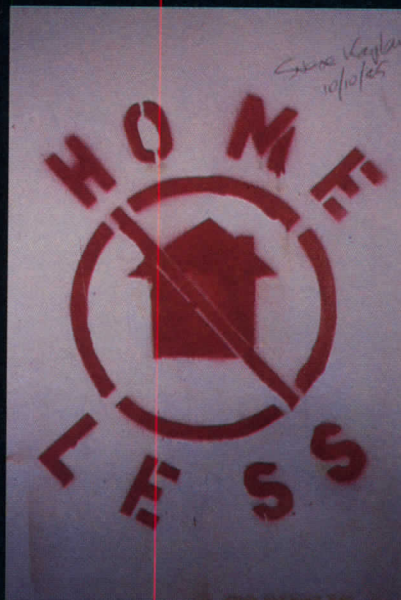
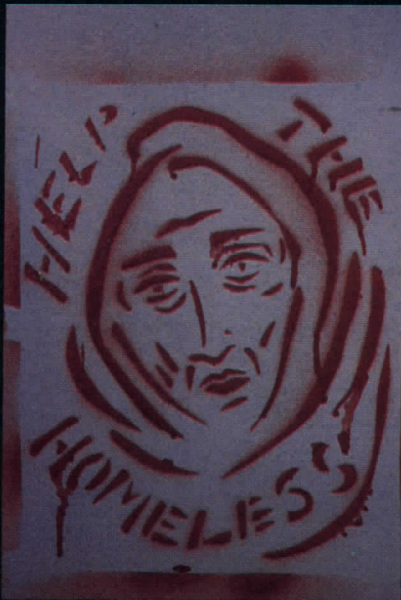
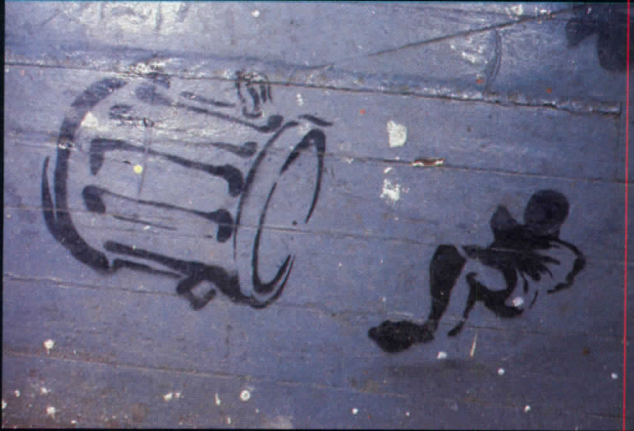
separated by independent entrances, sleeping dormitories and communal facilities to reduce the threat of violence and abuse carried over from life on the street. Transitional and permanent facilities are more hotel-like in character with shared kitchens, lounges, and more private bedrooms, and bathrooms. In discussing their designs, the architects of these shelters stress the importance of hygiene, security, and maintenance within non-institutional and residential settings. Translating these qualities into physical reality isn't easy, given the shoestring budgets of most sponsors and their unfamiliarity with the time-consuming intricacies of architectural design and the high cost of construction. "The danger in designing a shelter is that the program becomes all-important," points out Mark McCormick of Barker Rinker Seacat & Partners. "A lot of architects who design for the disenfranchised feel that it's irresponsible to think in terms of art. But a well-designed building can help rebuild the self-image of its residents and be a positive contribution to a neighborhood." Sponsors agree that housing for the homeless should reach beyond the mere necessities of food and shelter. "We try to achieve a balance between providing a bed and a meal, and giving something more in order to end the cycle of homelessness," explains Father William Kraus, the executive director of Samaritan House, an emergency shelter in Denver. The "something more" may range from a medical clinic run by volunteer doctors, to offices for psychiatric and job counseling, to a "groom room," in which lice and scabies are removed and clothes are fumigated. Amenities are kept to a bare minimum, "because if a shelter is too private, too comfortable, too nice, the homeless will get used to it, and want to stay," asserts Randy Bailey, assistant director of Boston's Pine Street Inn shelter, speaking for many other sponsors and architects. But the need for permanent shelter is precisely at the root of the problem. As Robert Hayes, founder and legal counsel of the National Coalition for the Homeless rhetorically asks, "What is the solution to homelessness? Housing, housing, housing!" Affordable and low-cost housing, however, is fast disappearing with the spread of urban gentrification and the sharp decline in federal housing assistance. By radically reducing and eliminating HUD programs to subsidize public housing, the Reagan administration has placed the financial burden of both permanent and temporary housing for the poor on state and local governments. A federal interagency task force, established under the Department of Health and Human Services three years ago, has made an attempt to identify spare clothes, food, and vacant, government-owned property for the homeless, but it, too, views homelessness as a local problem. In response, only 23 states have taken up the cause by legislating programs aimed at providing emergency shelter. Meanwhile, Congress has managed to appropriate a small amount of aid under the administration of the Federal Emergency Management Agency; the \$70 million set aside for this year is hardly a drop in the homeless bucket, given that New York City alone spent over \$200 million on the problem last year. Concludes a 1984 report from the House of Representatives intergovernmental and human resources subcommittee: "The national response to homelessness has done nothing more than provide scant and insufficient amounts of temporary shelter." Despite the valiant efforts of coalitions between architects and non-profit organizations across the country that have managed to raise enough private capital to construct various facilities for the homeless (following pages), the question of whether temporary shelters are an effective, long-term solution to a widening social crisis remains. Warns architect Cindy Harden of the Pratt Institute Center for Community and Environmental Development, "By collecting people in shelters, we are in danger of institutionalizing the poorhouse all over again." Until a consensus is reached between the public and private sectors as to the form and financing of housing for the homeless, architects are destined to play the role of a passive pawn in a game in which there can be no winners. *Deborah K. Dietsch*



The Manhattan-based Storefront for Art and Architecture has drawn attention to the issue of homelessness by staging events, demonstrations, and gallery shows of shelter proposals over the past year. During October 1985, the non-profit group sponsored an exhibition of 200 stencils designed by local artists on the theme "homeless at home," including those by Conrad Vogel (below left), Anson Seeno

(below right), Carolyn Moskowitz (middle left), Steve Kaplan (middle), Thomas Burich and Maria Bonomo (middle right), and Caleb Crawford (bottom right). In the days following the show, the artists took to the streets, spray-painting their designs over the sidewalks to arouse blasé New Yorkers to the epidemic proportions of homelessness in their city.

Glenn Weiss photos





# Pine Street Inn

## Boston, Massachusetts

Founded in 1916 as a hotel for indigent men, the Pine Street Inn has continued to operate under the principle of "decency, comfort, and gentlemanly treatment" for its overnight "guests." Its latest home is a complex of three warehouses and a former fire department headquarters, located in a light industrial area of Boston's South End. Designed by Childs Bertman Tseckares & Casendino, and completed in 1979, the 70,000-square-foot renovation is an early example of a shelter containing both sleeping accommodations, and social and medical services.

In juggling the program within the constraints of the four existing structures, the architects adhered to the shelter's first-come-first-served policy and strict routine for its visitors, which consists of an evening meal, shower, nightshirt, bed, and breakfast, with no provision for daytime activities except on the coldest of winter days. Segregated communal facilities for men and women are housed on the ground floor, with separate sleeping areas for 300 men and 50 women on the floors above. Staff offices and housing are sequestered within the upper floors of the tower (plans). Ground-floor lounges (bottom right) are used for dining and as dormitories for 200 to 300 additional "guests" on cold nights. "To get a bed, you have to climb the stairs to the showers," explains assistant director, Randy Bailey, who points out that Pine Street is a "wet" shelter and will admit anyone, including alcoholics who comprise 40 percent of the shelter's homeless male population, and the mentally ill, who make up another 40 percent. He feels that the building's tower, designed in 1892 by Edmond Wheelwright and modeled after the town halls of Florence and Siena, gives the Pine Street Inn a visual symbol that it has long needed (top right). Once used for ladder practice and as a lookout for fires, it now is illuminated at night to serve as Boston's beacon of hope.

#### Owner/Sponsor:

*Pine Street Inn, Inc.*

#### Architects:

*CBT/Childs Bertman Tseckares & Casendino Inc.—Charles N. Tseckares, Anthony Casendino, principals-in-charge; Leslie Brown, project manager; Douglas Fisher, job captain*

#### Engineers:

*Tsoumas Associates (mechanical); Leonard S. Phillips (electrical)*

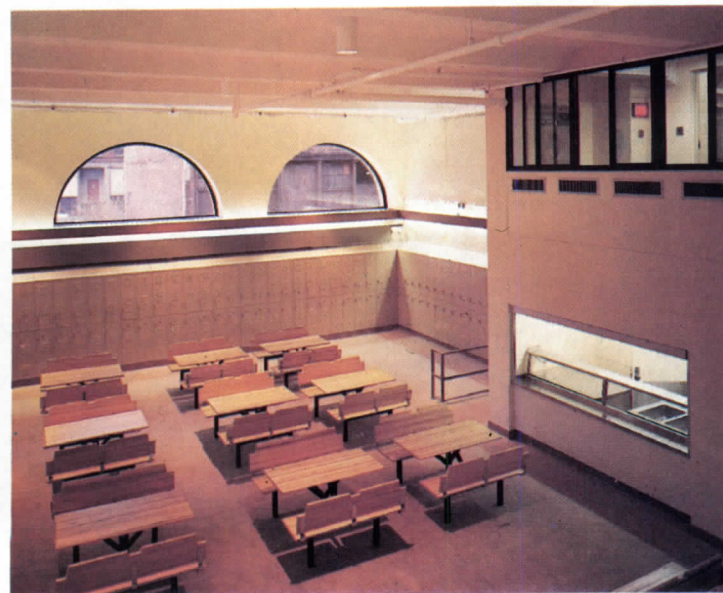
#### General contractor:

*W. T. Rich & Co. Inc.*

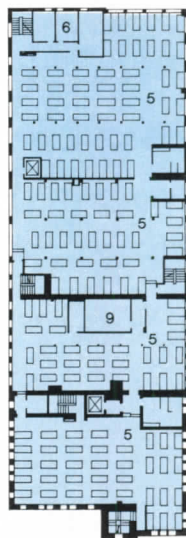
#### Consultant:

*A.M. Fogarty Associates (estimating)*

*Hutchins Photography Inc. photos*



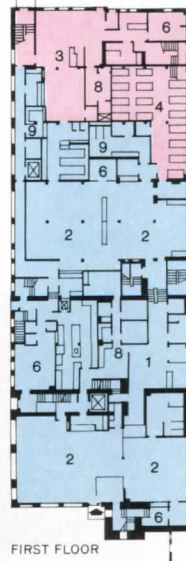
1. Entrance lobby
2. Men's lounge/dining
3. Women's lounge/dining
4. Women's dormitory
5. Men's dormitory
6. Staff
7. Showers/dressing
8. Medical
9. Storage/support



THIRD FLOOR



SECOND FLOOR



FIRST FLOOR

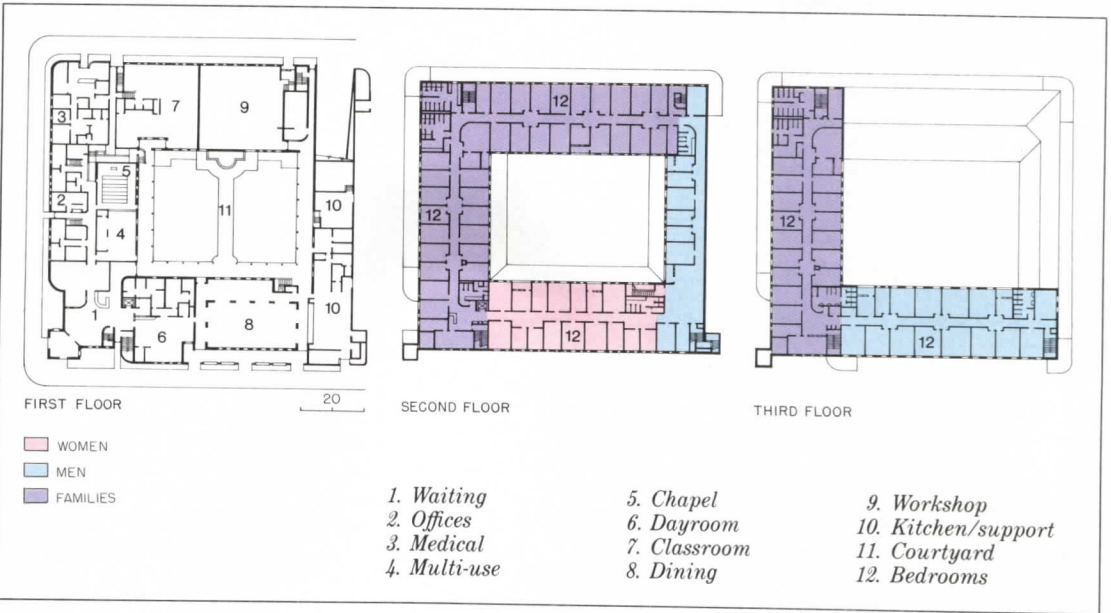
WOMEN  
MEN



# St. Vincent De Paul Center San Diego, California

Sandra Williams

"I'm a conservative Republican doing the work of a liberal Democrat," says Father Joe Carroll, whose \$6.8 million St. Vincent De Paul Center will be completed one year from now, thanks to personal donations and corporate charity. Unhindered by the strings attached to government funding and HUD standards, the wisecracking Catholic priest claims that he has been able to create *the* model shelter from scratch, a peach stuccoed, Spanish-style mission that occupies an entire city block on the outskirts of downtown San Diego. The center's comprehensive program for accommodating 350 people, and feeding 700 to 800 more, was conceived by Mark Bucon, a young architect who spent several nights on the street in order to comprehend firsthand the problems of homelessness. In collaboration with Krommenhoek/McKeown & Associates, he and project architect, Fred De Santo, cloistered the center's activities around a meditative, colonnaded courtyard (model). All communal functions are relegated to the ground floor (plans), and include day facilities such as a medical clinic, a public school for the children of the residents, a dining hall, chapel, and a jobs-skills workshop. Residences on the upper floors will be assigned as needed for the shelter's shifting population of runaways, battered women, families, and single adults. An underground garage provides parking for the volunteer staff, a practical consideration given the desolate site. "What volunteer doctor will want to park his Mercedes on these streets at night?" asks Carroll. Besides evoking the image of a traditional mission, the center's twin bell towers are designed by De Santo and a team of energy engineers to capture the city's breezes and efficiently cool the building.



## Owner/Sponsor:

Catholic Diocese of San Diego

## Architects:

Krommenhoek/McKeown & Associates (initial design);  
F.A.D. Architecture & Planning  
Inc.—Fred A. De Santo, principal-in-charge; James J. Homberg, project architect; Susan L. Crook, job captain; Mark Bucon, design concept/programmer

## Engineers:

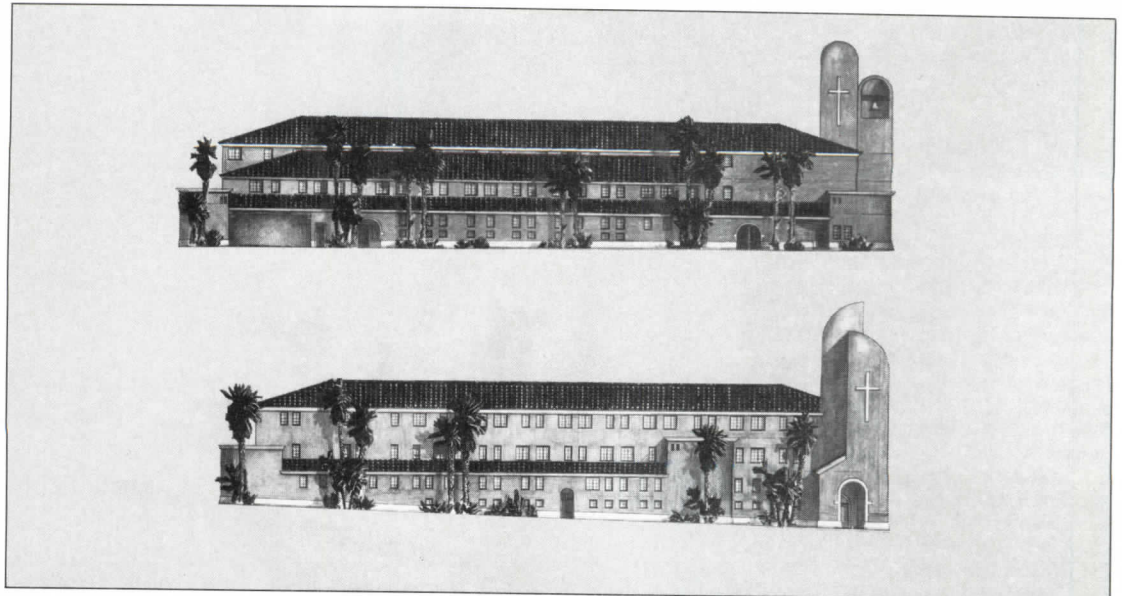
Burkett & Wong (structural);  
Krommenhoek/McKeown & Associates (mechanical); M. L. Electrical Systems; Association of Energy Engineers

## General contractor:

Kvass Construction

## Consultants:

Gillespie de Lorenzo (landscape);  
Scarlett Taylor (interior design);  
Con-Tech (security)





# Samaritan House Denver, Colorado

With its blue tiled roof, rusticated base, arched windows, and corner tower, Samaritan House hardly looks the part of a mission for the down and out. But when completed this fall, the new 43,000 square-foot complex by Barker Rinker Seacat & Partners will serve 284 homeless adults, families, and teenage runaways, enabling the city's Catholic archdiocese to expand its emergency shelter, now confined to a vacant high school. In researching related housing models, including the St. Vincent De Paul center in San Diego (preceding page), design principal Mark McCormick discovered that the requisite open dormitory spaces for single men and women on the ground floor (left plan) could be based on the design of military barracks to reinforce a sense of order, and to maximize light and ventilation. For the families and teenagers on the third floor, a series of private rooms and a communal lounge were developed based on residential hotel prototypes. Between these floors, the second level was reserved for staff offices and "public" rooms, including a multipurpose room used as a daycare center during the day and a recreational lounge at night. Like San Diego's new shelter, Samaritan House promotes an introspective character protected from the street. The ground-floor sleeping quarters are set back behind an arcade to isolate them from noisy traffic (models), and an L-shaped outdoor space on the second floor provides a secure play area for the daycare center. In designing the massing of the building, however, the architect looked outward to the neighboring brick warehouses for inspiration. "A shelter doesn't have to be shoehorned into a substandard space," he points out. "A new building not only communicates a positive identity to its users but to the outside community as to who the homeless really are."

**Owner/Sponsor:**

Catholic Archdiocese of Denver

**Architects:**

Barker Rinker Seacat & Partners, Architects—R. Russell Seacat, Mark McCormick, partners-in-charge; Duane Craumer, project architect; Charles Kessler, job captain; Tim Brewer, Jack Mousseau, DeEtta Ewing, Cherie Stewart, Ken Berendt, project team

**Engineers:**

Richard Weingardt (structural); Osbaugh/Miller Associates (mechanical); Torgerson/Yingling Associates (electrical)

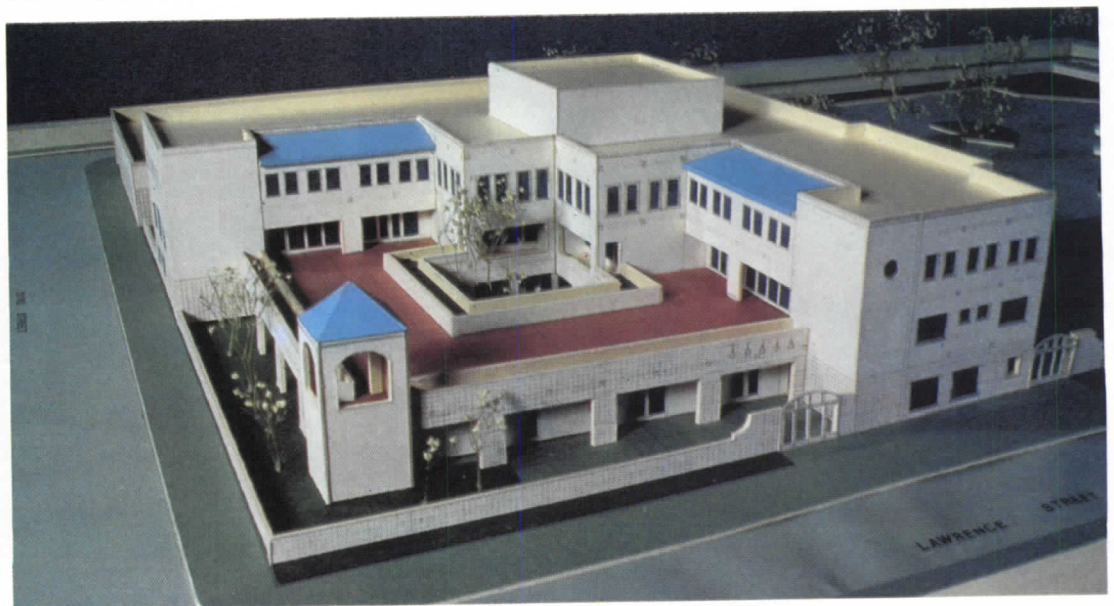
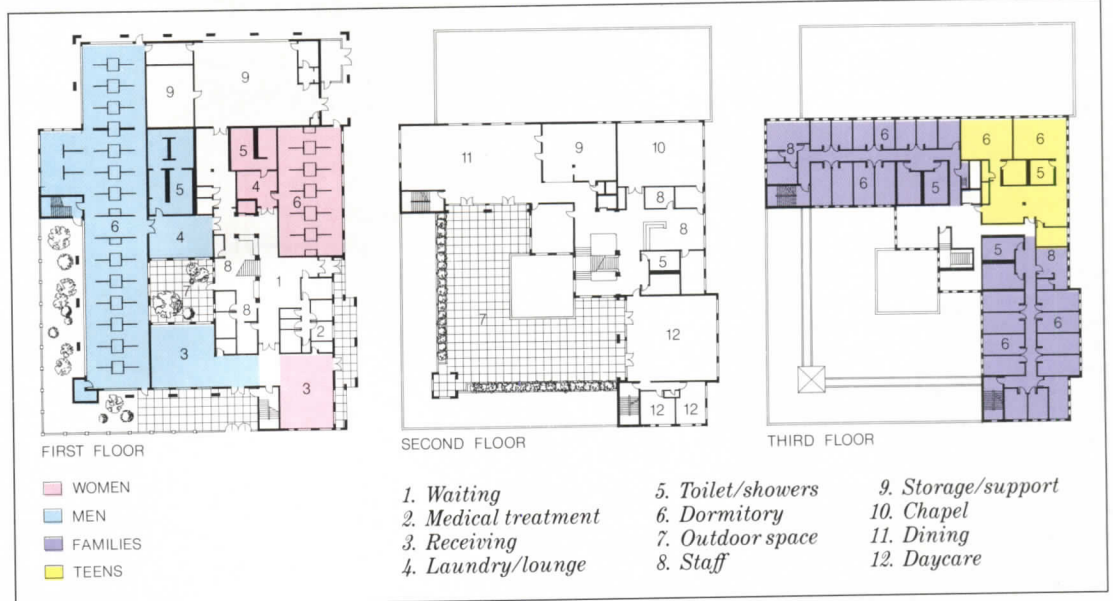
**General contractor:**

G.H. Phipps, Inc.

**Consultants:**

D.H.M. (landscape); A.S.C.S. (specifications)

Mark Read photos





# Brooklyn Gardens Brooklyn, New York

Cindy Harden



The 23-year-old Pratt Institute Center for Community and Environmental Development has a long tradition of designing low-income housing for New York City. Over the past four years, the scope of its advocacy and technical expertise has grown to include housing for the homeless through the development of 55 proposals for a variety of emergency shelters, transitional and permanent facilities. The largest, most functionally complex of these projects is Brooklyn Gardens, an abandoned, five-story apartment block located across the street from a public-housing complex in the Fort Greene area of Brooklyn (right). Sponsored by a local nonprofit group, Pastoral and Educational Services (PAES), its renovation will provide housing and social services for the most needy homeless: a community residence for 18 mentally ill men and women; transitional housing for 44 families of single mothers with children under 6 years old; and permanent accommodations for 74 elderly single adults. Each population will be separated within the U-shaped brick building in three, self-contained residences that are entered from a landscaped central courtyard (plans).

In developing this hybrid building type, architect Cindy Harden adapted the long, double-loaded corridors of typical SRO hotels into wings of clustered bedrooms and living areas which were carefully programmed to cater to each clientele. For the families, the bedrooms can be interconnected depending on the number of children, and bathrooms are detailed with vanities wide enough for changing diapers. In the elderly adults' wing, a lobby provides a place to pick up mail and meet visitors, and four rooms on the ground floor have been designated for the handicapped. A multi-purpose hall for use by all the occupants and the community is intended to promote neighborhood acceptance of the project. States PAES executive director, Doris Clark: "At the very least, we expect our residents to be invited to join the community block association."

**Owner/Sponsor:**

*Pastoral and Educational Services*

**Architects:**

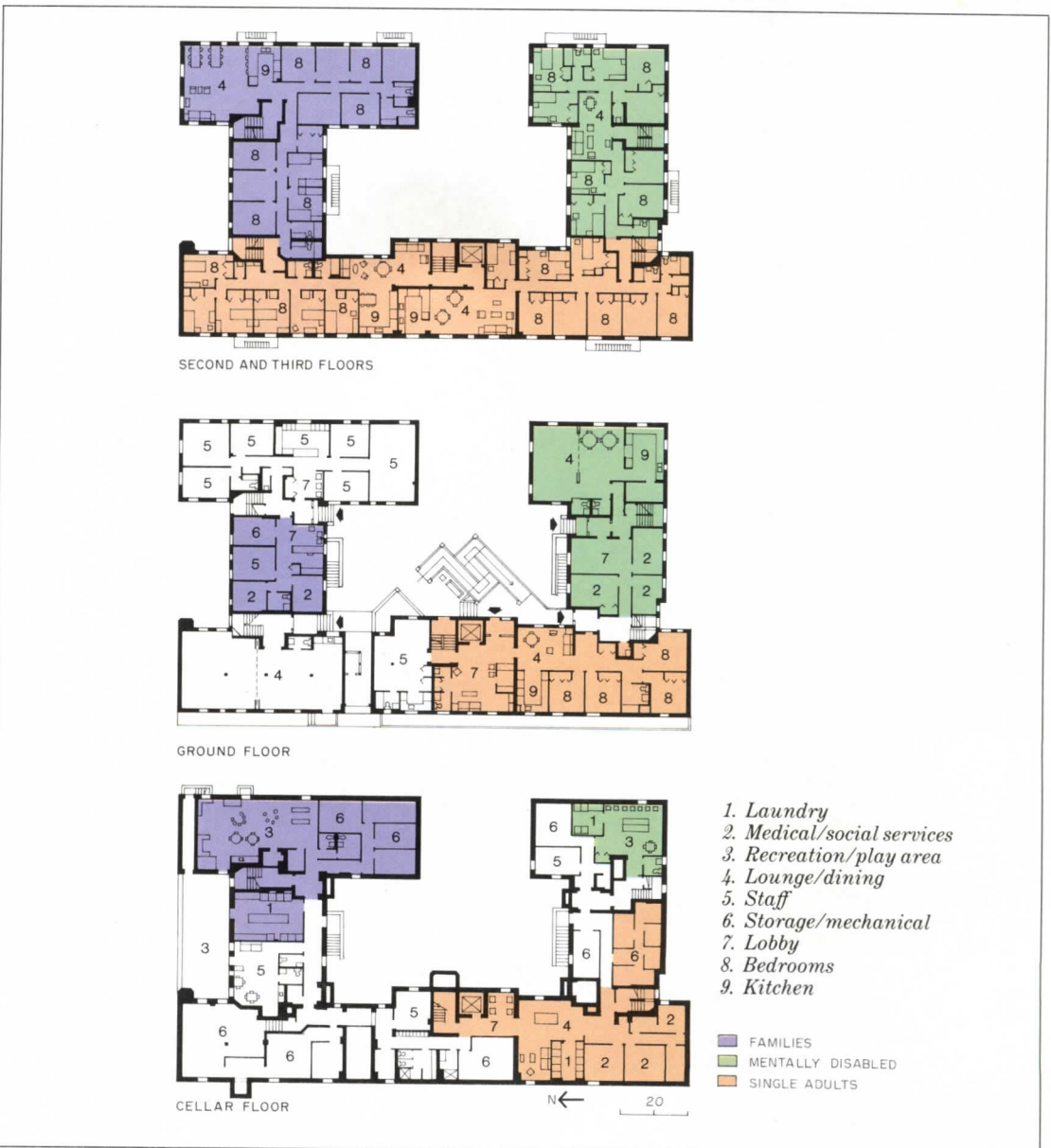
*Pratt Institute Center for Community and Environmental Development—Cindy L. Harden, project architect; Chuck Brome, job captain; Richard Choy, Janet Covert, project team*

**Associate architects:**

*Peter Woll Architects*

**Consultant:**

*Project for Public Spaces, Inc. (landscape)*





# El Rey Hotel Seattle, Washington

ARC Architects

Without follow-up care in half-way houses or community treatment facilities, thousands of deinstitutionalized mental patients sadly end up as the muttering, homeless "crazies" that wander our city streets. To address this problem, Seattle's Community Psychiatric Clinic commissioned ARC Architects to turn a former single room-occupancy hotel built in 1909 (top right) into a residential setting for medical treatment. Located in the city's seedy Belltown section, the El Rey is organized according to the degree of health care needed for its 60 residents, from continuous staff supervision of single rooms on the lower floors, to independent, apartment living on the top floor. A ground-floor thrift store, kitchen, communal dining room, and laundry will be run by the facility's "members" as a job-training program intended to foster a sense of self-esteem and belonging for this hard-to-treat population.

"The greatest design challenge of this facility was the elimination of symbols and spaces associated with mental institutions," states ARC's partner-in-charge, Dave Rutherford. It was met by pairing private bedrooms with shared bathrooms as "suites," and placing lounges and rooms for staff counseling at the front and back of the building to eliminate the need for a separate surveillance station (axometrics). In addition to specifying double-hung windows, wood trim, paneled doors, and carpet tiles to achieve a residential effect, Rutherford and interior design consultant, Susan Okamoto, researched color psychology to avoid agitating patterns and tones. Public spaces will be painted in a warm palette to encourage social interaction, and private rooms in soothing, cool pastels. Outside, the former hotel's facade will be rejuvenated with new bay windows, parapet, shopfronts, and entrance marquee (bottom right). To breathe some decorative life into their tight budget, the architects have commissioned a local artist to investigate ways of ornamenting the building under a grant from the state's public arts program.

**Owner:**

City of Seattle, Department of Community Development

**Sponsor:**

Community Psychiatric Clinic

**Architects:**

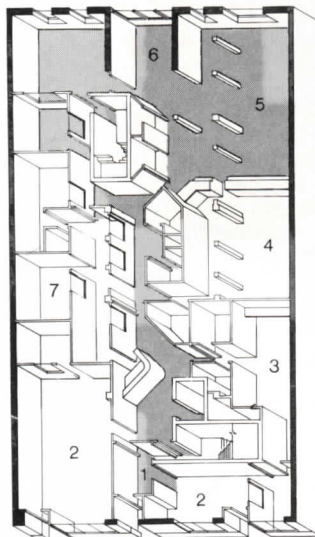
ARC Architects—David Rutherford, partner-in-charge; Rex Bond, project architect

**Engineers:**

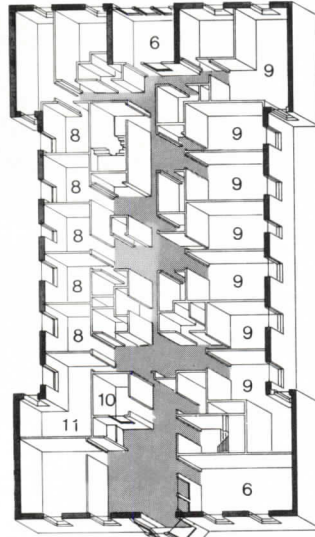
Swenson Engineers (structural); Lee & Atkinson (mechanical/electrical)

**Consultant:**

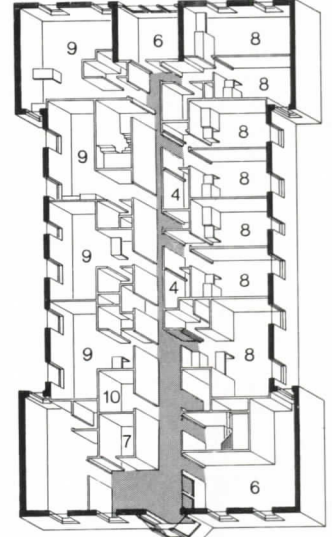
Susan Okamoto (interior design)



FIRST FLOOR



SECOND AND THIRD FLOORS



FOURTH FLOOR

1. Entrance
2. Retail
3. Grooming
4. Kitchen
5. Dining
6. Dayroom/lounge
7. Staff
8. Single room
9. Double room
10. Laundry
11. Medical





# CCNV Shelter Washington, D. C.

After two hunger strikes, a lawsuit against President Reagan, national media attention and a made-for-TV movie based on his experiences, Mitch Snyder finally has come close to realizing his dream. As the head of the Community for Creative Non-Violence (CCNV) and a vocal advocate for the homeless since the early 1970s, Snyder has operated an emergency shelter for men and women since 1984 in a block-long behemoth near the Capitol (right). Plans for the former government office building's rehabilitation were begun two years ago when the White House promised to transform the decaying structure into a model project for the homeless. In search of technical advice, CCNV contacted Conrad Levenson, an architect who specializes in low-income housing and a professor at the City College of New York. Armed with an initial NEA grant of \$17,500 and five graduate students, Levenson held a design charrette in the building during January 1985 to devise a scheme that would "respect an individual's territory and rights, and also respond to collective requirements." The resulting plans organize the three-story building into five self-contained shelters, one for 150 women and four for 800 men. Each is treated as a "village" of clustered sleeping cubicles (model), rather than as a cot-filled barracks, flanked by dining and lounge areas, a warm-up kitchen, and bathrooms (plans). Communal spaces such as "drop-in centers" for daytime activities, a central kitchen, medical and social services, are contained within the basement.

The design was presented in March 1985 to federal government officials, who responded by dubbing it a "homeless Holiday Inn," suggesting that the "lavish" scheme should be reduced to four warehouse-like rooms. Following a legal battle which CCNV lost last fall, and a hunger strike by Snyder earlier this year, both sides have agreed upon a sum of \$5 million from the White House to fund the first phase of construction, pending Congressional approval. At least \$2.5 million more is needed to carry out the renovation as proposed.

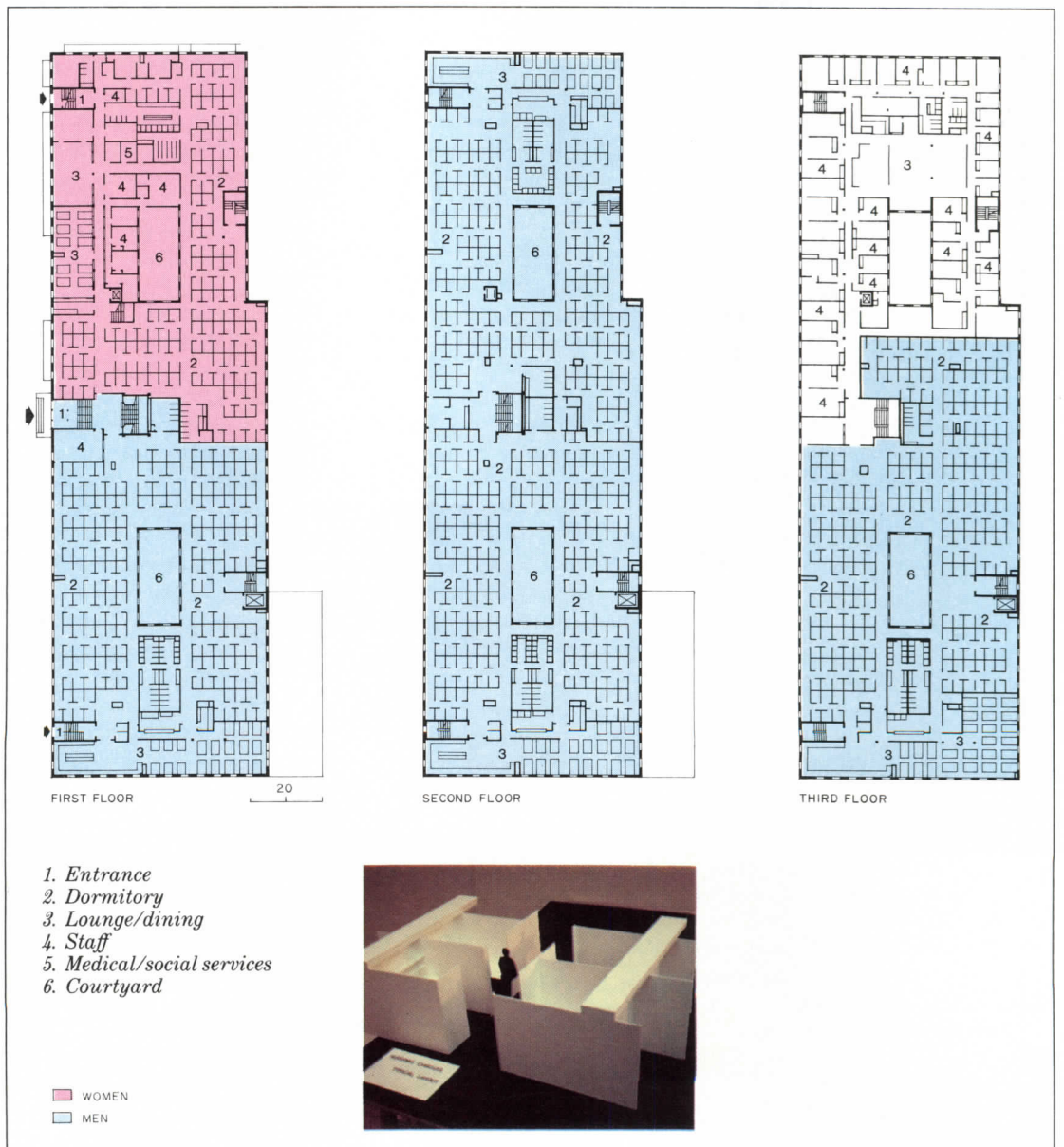
**Sponsor:**  
*Community for Creative Non-Violence*

**Architects:**  
*Conrad Levenson, Architects and Planners—Conrad Levenson, principal-in-charge; Constance Bloomfield, project architect; Helen Chung, Sergio Ghiano, Daniel Kamel, Cecilia Lopez, Domenick Schinco, designers*

**General contractor:**  
*Beiro Construction*

**Consultant:**  
*Alan Feigenberg (design)*

Conrad Levenson photos





# A bridge too far?

On April 18, 1983, some 500 members of New York's contract and residential furnishings industry responded to an invitation from Harvey Schulweis, president of Lazard Realty, by donning their tuxedos and heading for the Rainbow Room atop Rockefeller Center. The *raison d'être* for the evening (bluntly stated) was the announcement that no one need renew their Manhattan showroom leases, since everyone was moving to The International Design Center, New York. Indulging in a bit of well-choreographed showmanship, Schulweis then directed the group to look out the window for a bird's-eye view of its new home—a motley quartet of ramshackle buildings in an industrial wasteland, suddenly illuminated by floodlights trucked in from three states for the occasion. Though the Hollywood-style unveiling of IDCNY elicited the obligatory oohs and aahs, the response was more polite than sincere. For not only was the spectacle less than visually alluring (even from the 65th floor of the RCA Building), it was 1.7 miles *across* the East River in Long Island City (aerial photo opposite). Pat Hoffman, executive vice president of International Contract Furnishings, stated the collective response most eloquently: "When I was a young girl growing up in the Midwest, I read *Marjorie Morningstar* and dreamed of moving to New York. Manhattan is New York . . . Long Island City is Queens." "And who," Hoffman might have added, "dreams of moving to Queens?"

Though Lazard anticipated some resistance to its proposal, one can never fully appreciate the infamous provincialism of Manhattanites until you try to get them off the island, and they react as if they had been summoned to Siberia. The interiors industry was especially prone to such snobbery three years ago, as Schulweis and company quickly discovered, when, after the inaugural fête, the "Hell no, we won't go!" chant rose up to greet their leasing efforts. It is to Schulweis's credit that Lazard persevered through those dark days of telephone calls never returned, of contracts gathering dust on the shelf, of rumored design centers being planned for Manhattan by competitors, . . . of sitting, holding a tattered 10-acre bag containing 2 million square feet of unrented (and unrenovated) space. But the company didn't amass a billion-dollar real estate empire since 1978 without tenacity; so it took a deep breath and rallied to the challenge of its obstinate constituency by unleashing a promotional campaign that can be conservatively termed a blitz. A monthly newsletter went out to 15,000 "friends" of the project, weekly press releases littered the desks of editors from New York to Milan, and the design magazines were rarely allowed to go to press without an eye-catching IDCNY advertisement. "There was such a high degree of skepticism," confesses Schulweis, "that we may have over-reacted." Perhaps. But thanks in no small part to graphic designer Massimo Vignelli, the esthetic mastermind behind the image-making, and Fern Mallis, the whirlwind public-relations maven at the helm, the cost-withheld-at-client-request campaign began to slowly chip away at the wall of resistance. Assisting in the cause, of course, was the all-star line-up of designers enlisted for the project. The charismatic charm of Ieoh Ming Pei, for example, was not under-utilized. Pei, whose firm assumed responsibility for the master plan, stumped for the IDCNY cause like a politician running behind in the polls: he compared bleak Long Island City to the Manhattan slaughterhouses before the United Nations moved in, and even employed the time-honored, pebble-in-the-pond simile to emphasize IDCNY's catalytic role in the area's impending "renaissance." "The thrust of our effort was to develop an honest case that this was a *logical development*," reports Harold Fredenburgh, Pei's associate partner in charge: "They wanted us to provide a basis for helping them market their design center."

The resulting 65-page document that I.M. Pei & Partners submitted charts a most ambitious course of development. In addition to establishing guidelines for transforming the four existing structures into one cohesive 2-million-square-foot mass (site plan opposite), the plan recommends the acquisition of adjacent properties, and the

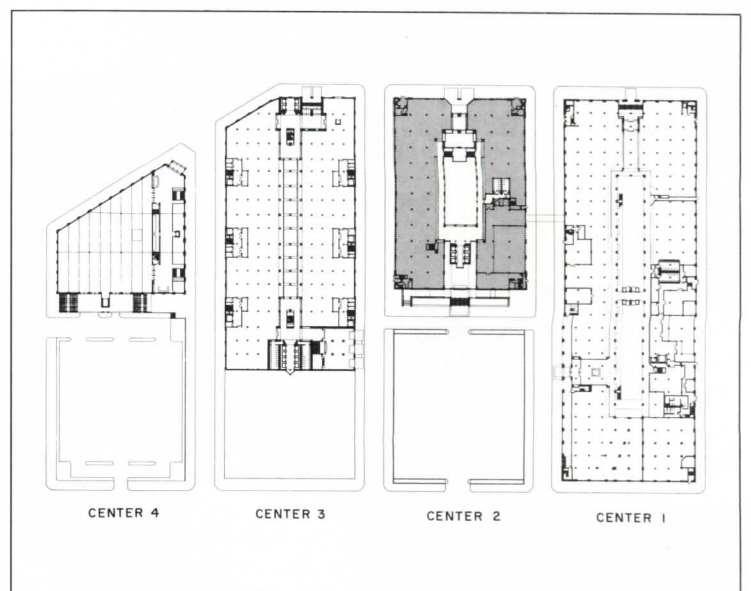
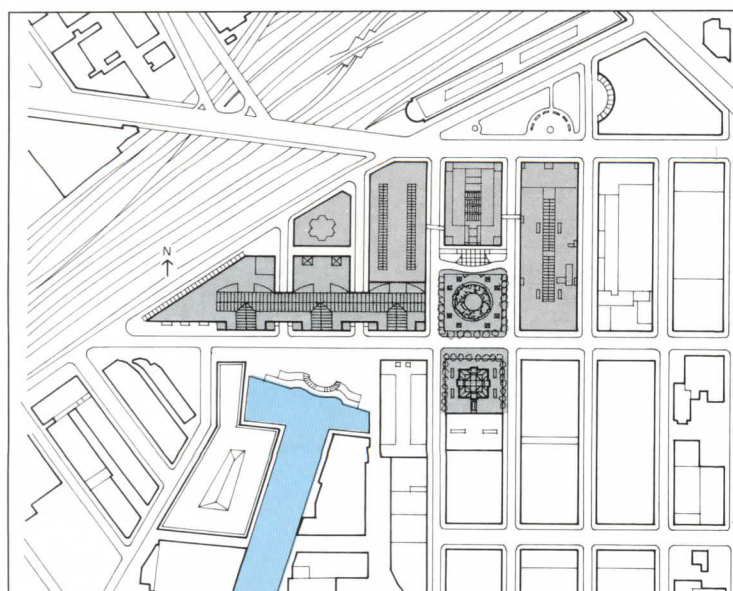
construction of 1.7 million square feet of new space for additional showrooms, conference and exhibition facilities, and a hotel. (It goes on to open the door for adding another 4.3 million square feet to the complex, but wisely qualifies the "suggestion" by stating that this is "not critical in the initial stages.") Carrying an intimidating \$500-million price tag (even without the 4.3-million-square-foot "suggestion"), the grand master plan is decidedly more of the future than of the present. Visionary though its scope may be, however, the scrupulous research, exhaustive documentation, pep-rally tone, and seductive pastel drawings contained within conspired to supply a much-needed note of optimism to the project, at a point when there seemed little to be optimistic about. The master plan also implied, not incidentally, that New York has the potential to eclipse the Merchandise Mart—the 4-million-square-foot, Kennedy-owned behemoth in Chicago through which 1.4 million customers passed last year—as the kingpin of marts. The competitive angle should not be underestimated, as there is considerable embarrassment in New York concerning the front-runner status of the "second city" when it comes to playing host to the contract and residential furnishings industry. Without a design center, the Big Apple had to plead no contest, while other cities—Boston, Philadelphia, Washington, Houston, Denver, and Los Angeles, to name but six—were energetically vying for a bigger piece of the \$36-billion contract interior furnishings pie with their respective entries in the burgeoning portfolio of U. S. design centers. IDCNY would put New York in the running, argued supporters, by offering the convenience of one-stop-shopping to architects and interior designers who currently must fight their way through traffic-congested Manhattan, as they tortuously wend from the upper reaches of the East Side to the lower reaches of the West Side in an Easter-egg-style hunt for furniture and fabrics. The advantage of having all the showrooms under one roof, of course, is not only convenience but synergy—a house united, to rephrase the saying, is always stronger than a house divided. IDCNY boosters also reminded anyone who would listen to what soon became the project's all-too-familiar refrain, that the center "is a mere 10-minute cab ride over the Queensboro Bridge [in *very good traffic*]." And as further enticement, Lazard dangled \$16-per-square-foot leases in front of customers who were feeling the excruciating pinch of quickly escalating Manhattan rents.

Bolstered by an encouraging number of intrepid manufacturers and distributors willing to sign on the dotted line, IDCNY broke ground in May of 1984. Phase I called for the transformation of former chewing gum and battery factories into Centers One and Two, respectively (plan opposite right). Center Two is now substantially complete (following pages), a host of showrooms are scheduled to open for Designer's Saturday—the New York market's annual Oktoberfest—and Center One is following close behind. The two first-phase buildings offer 1 million square feet of space. Architects Gwathmey Siegel & Associates assumed design responsibility for the metamorphosis of both structures, and the firm of Stephen Lepp Associates (the "unsung hero of the project," according to Schulweis) assumed responsibility for making their design a three-dimensional reality. With the completion of Phase I, Lazard's investment tips the scales at \$150 million. That number will grow substantially next year, when the Phase II renovation of the 900,000-square-foot Executone Building and its adjacent garage begins (Centers Three and Four). At a "preview opening" of IDCNY last October, merrymakers were invited to suggest a name for the soon-to-be-opened restaurant in Center Two. One rude attendee scrawled "A Bridge Too Far" on the blank wall allocated for the purpose. Schulweis duly noted the written wisecrack, but rather than flinch at the irksome reminder of IDCNY's uphill battle, he smiled. With 600,000 square feet of showroom space now officially leased, IDCNY may be a long way from its ultimate destination, but it's definitely not "too far" away. *Charles K. Gandee*

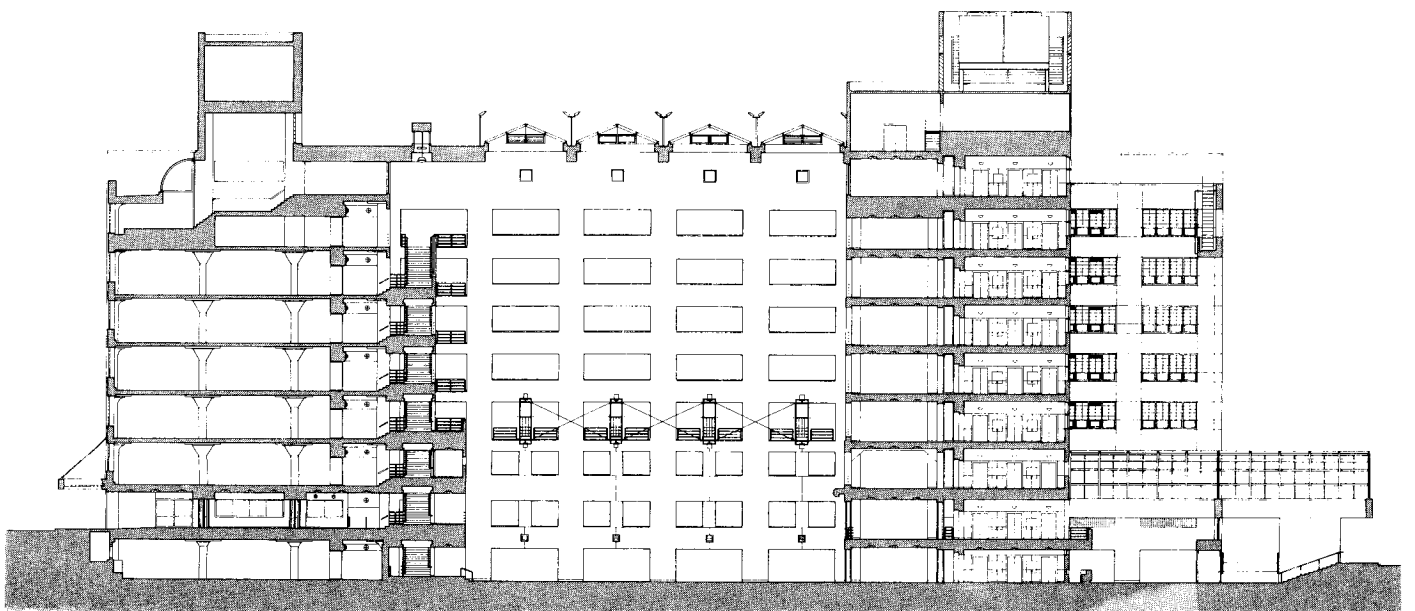
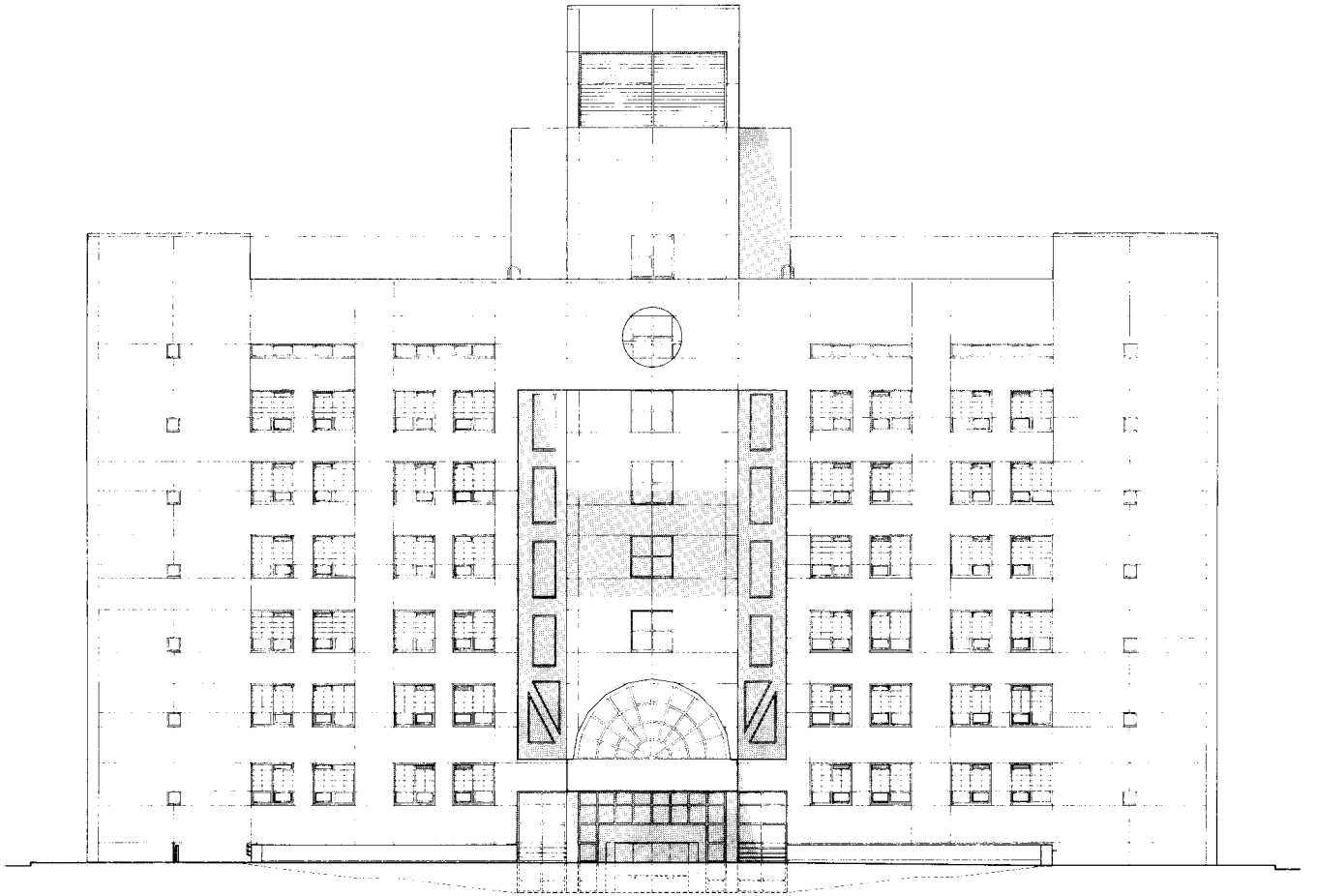


The International Design Center, New York  
Long Island City, New York  
Gwathmey Siegel & Associates, Architects in association with  
Stephen Lepp Associates, P.C. Architects

©Aerial photo by Skyviews

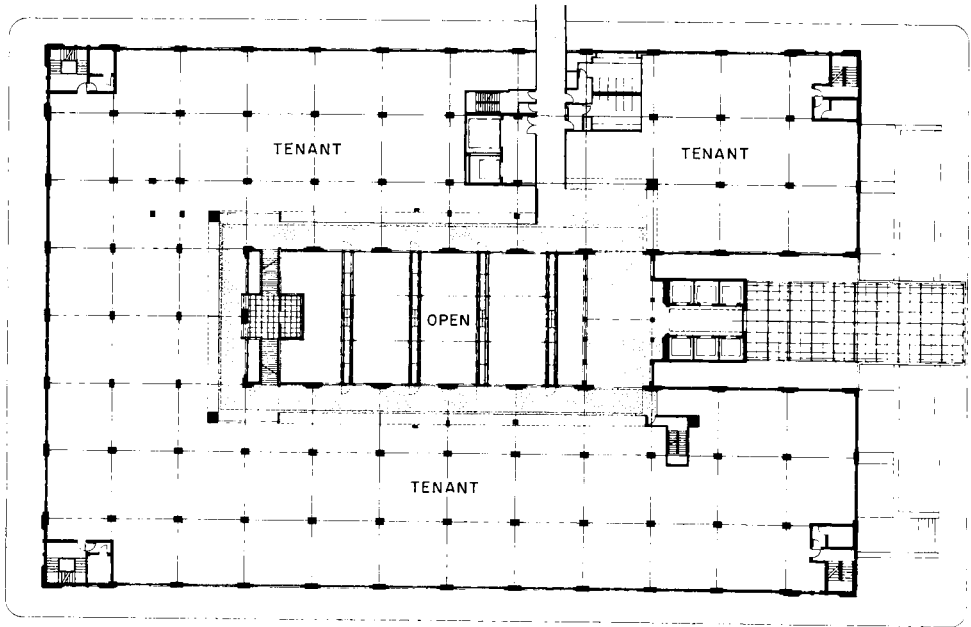




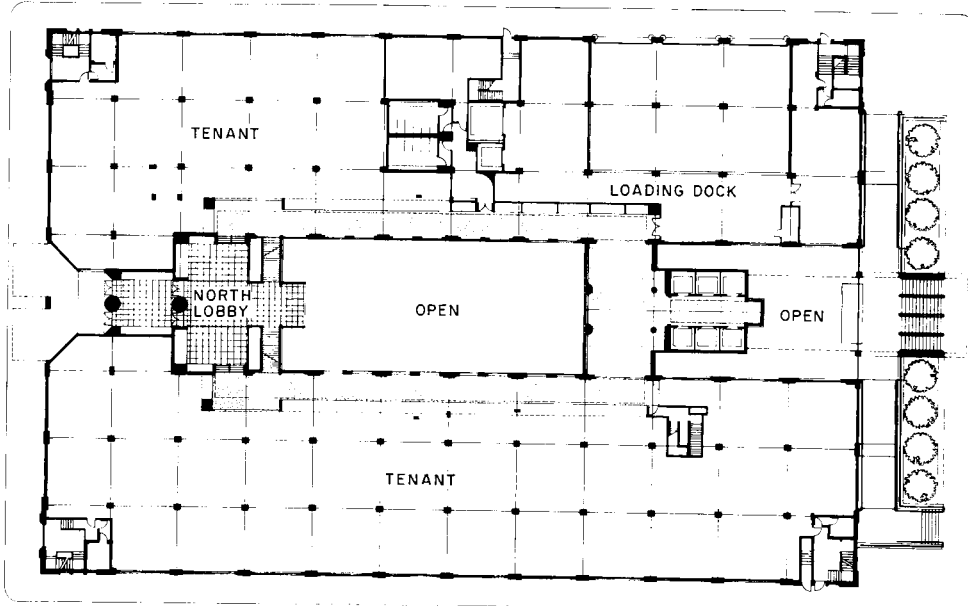




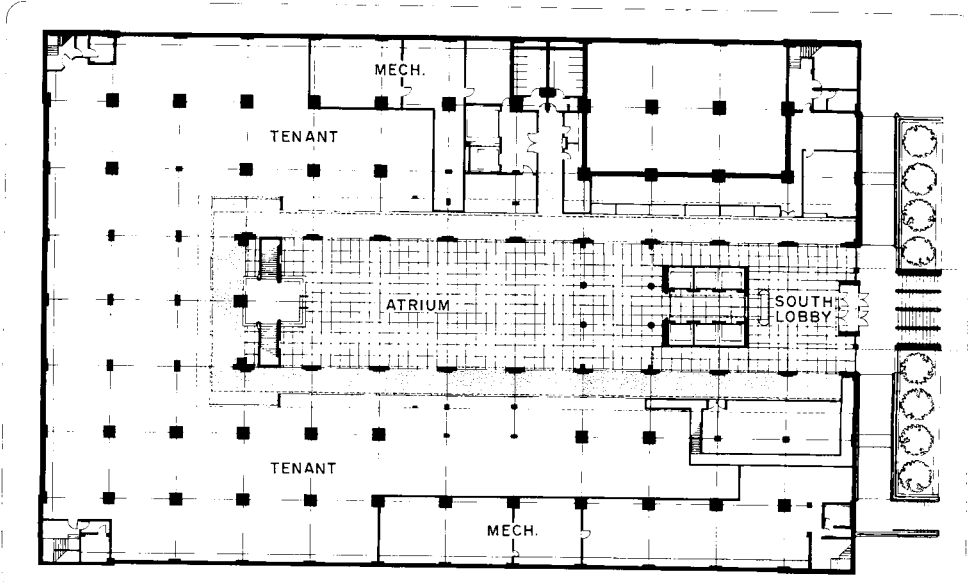
One generation's castoffs are another generation's windfall, according to architects Charles Gwathmey and Robert Siegel, who speculate—with regard to the early 20th-century industrial building they were asked to transform into Center Two of The International Design Center, New York—"that if we had been starting from scratch, we would have come up with a similar parti." Though we will have to take them at their word on the matter, Gwathmey and Siegel, working in association with architect Stephen Lepp, put forth a persuasive argument for the appropriateness of the courtyard-plan they inherited to the design center building type. For whereas many design centers and merchandise marts seem to have been inexplicably (and somewhat perversely) modeled on a combination Skinner Box/casino—i. e., once you're inside it's hard to know whether it's day or night, and harder still to find your way out—IDCNY's Center Two has a clear organizational order that keeps visitors constantly abreast of even the subtlest change in the weather, and, no less importantly, keeps elevators and stairs within no less constant visual reach (plans right). Both attributes come courtesy of the building's great central courtyard, where an earlier era's trains trundled in to unload cargo for the multistory manufacturing facility. With the insertion of an elevator tower, which links the two arms of the building, the original U-shaped plan was transformed into a square doughnut that is remarkably well-suited to its showroom task. After glazing over the open-air core, replacing the railroad tracks 120 feet below with terrazzo, and removing the industrial sash from the courtyard-facing windows, the architects introduced a 10-foot-wide promenade between the neat grid encircling the sun-filled interior and the glass-fronted, perimeter-hugging tenant spaces (plans right, section left). Somewhat ironically, considering the controversy over Gwathmey Siegel & Associates' planned addition to the Guggenheim Museum, the firm's principals liken the circulation path they have plotted to the one Frank Lloyd Wright devised for his masterpiece: take the elevators up, then walk down. Escalators were at one point considered, but ultimately rejected—not only because of cost, but because the almost independent stair element the architects attached to the north wall of the courtyard (on axis with the elevator tower) required less space and saved the construction crew the heartache of cutting into the building's slab and meddling with the structural system. Except for the completely revamped south facade (elevation left, photos overleaf), the masonry exterior of the 72-year-old building was essentially cleaned and left as found. The windows, of course, were replaced with an energy-conscious mix of laminated fiberglass and glass. The change in grade between Thomson Avenue to the north and the parking lot to the south is responsible for the descending entry sequence (section). The barrel-vaulted canopy, however, adds a bit of uplifting grandeur.



THIRD FLOOR



FIRST FLOOR



CONCOURSE FLOOR

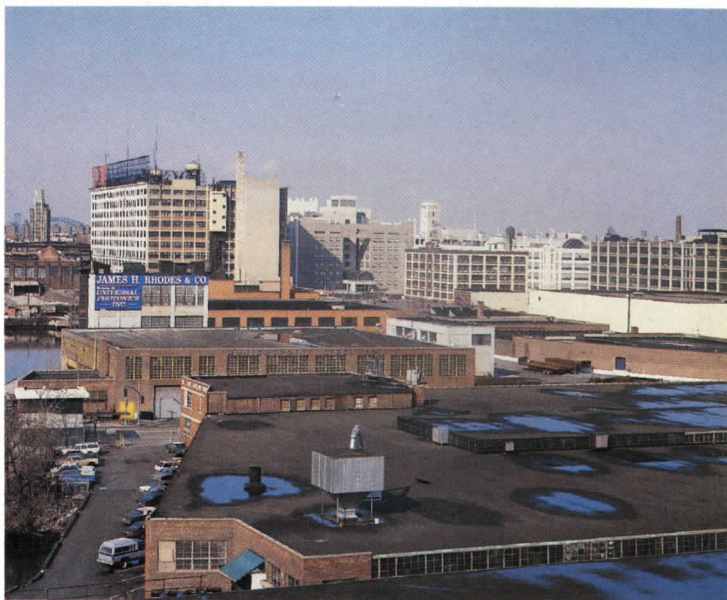




**International Design Center New York**



The smallest of the three showroom buildings in The International Design Center, New York, the 1914 American Ever Ready Building, was selected to be the first completed because of its central location in the complex (right). Named Center Two, somewhat confusingly, the former battery factory will serve as the formal gateway to IDCNY, welcoming visitors through a barrel-vaulted portal (opposite), and then, after they have made the tour of its 460,000 square feet of showrooms, ushering them on through upper-level bridges that will feed into Center One to the east (the 540,000-square-foot, 1919 American Chiclé Company Building) and Phase II's Center Three to the west (the 900,000-square-foot, 1913 Executone Building). IDCNY's great entrance is not quite as great as intended, however, owing to the uninviting asphalt parking lot (complete with rickety attendant's shed) spread out like an unwelcome mat in front of the building's front door (right). The Pei master plan envisioned a festive arrival plaza for the 60,000-square-foot site—replete with spewing fountains and lush landscaping, beneath which a subterranean garage for 450 cars would be built on two levels—but the plaza cum parking structure's \$6.5-million price tag and the uncertainty of precisely how much parking space would be required conspired against the sorely missed amenity. Architects Gwathmey Siegel & Associates are no less eager to design something visually uplifting for the site, which, in partner Gwathmey's eyes, should be a Long Island City hybrid of Gramercy Park and an English garden. But the architects, like the rest of us, will have to wait. In the meantime, the completely refurbished south facade of Center Two does the best it can to herald the arrival of the ambitious design center. A massive beam punctuated with an axial oculus ties the two wings of the building together and forms a sort of minor variation on the triumphal arch theme below which the glass barrel-vault invites visitors into a luminous "forecourt" (below right). Here an information desk set at the base of a new elevator tower directs them on to the grand courtyard at the building's heart.



© Timothy Hurstey photos except as noted





Though highly specialized in the product lines it offers, IDCNY is not unlike a multilevel, suburban shopping mall, wherein customers stroll to and fro, from store to store (or in this case, from showroom to showroom) in search of the ideal ergonomic chair or just the right open office system. To facilitate that process, and to encourage architects and interior designers to fully explore the building's contents (rather than leave in confused disgust), Gwathmey Siegel & Associates worked hard to make the journey through Center Two as inviting, and clear, as possible. The architects took full advantage of the pre-existing courtyard, and the natural light it channeled into the building's core, by situating the circulation corridors adjacent to the luminous well (opposite above). The sunny result is all too rare in design centers, which are notorious for never letting visitors catch sight of even a fleeting ray of natural light, lest they be distracted from the business at hand. Vertical travel is either by a bank of elevators (which open onto a bright lobby with views of the barrel-vaulted entry to the south, and of the courtyard to the north) or by the stair tower (which, again, is flooded with light and offers enticing views to the courtyard). Either way, the frequently beleaguered shopper is not disoriented as he moves up or down. "Most showroom buildings tend to be confusing," adds architect Gwathmey. "There was a real attempt made here to always refer people to the outside, to the main space, and to where they happened to be at any given moment by the use of the stair element, the elevator element, and the catwalk bridges, which all establish orientation [overleaf]." To encourage tenants to make their own visual contribution to the cause, the architects established a three-foot zone between corridor and showroom in which anything, visually speaking, goes. The only rule is that 50 percent of a showroom's public face remain in transparent glass. Also assisting in the orientation, as well as visual-enrichment, cause is the riveting red signage by Massimo Vignelli (left). "Lively but elegant," concludes the justifiably proud designer.











"Don't call it an atrium, call it a covered courtyard," requests architect Charles Gwathmey, who will be offended if you liken the great void at the core of Center Two to the trite architectural cure-all for obese suburban office buildings and urban hotels. But the architect needn't concern himself with invidious comparisons, as the 120-foot-deep well is more likely to be compared to the great superstructure Japanese architect Arata Isozaki inserted into Manhattan's Palladium nightclub (RECORD, mid-September 1985) or the also great superstructure German architect O.M. Ungers inserted into Frankfurt's Deutsches Architekturmuseum (RECORD, August 1984). Unlike their colleagues, however, Gwathmey and partner Robert Siegel inherited a set of taut, gridded walls already in place (left and opposite). But justifiably concerned that the covered courtyard's somewhat daunting verticality might cause vertigo in visitors to the concourse-level retail shops, the architects introduced a series of steel catwalks at the fourth floor to "imply a lowered ceiling plane" that creates a more "human-scale room" within the superhuman-scale room. Though the source of some controversy—the lacy bridges have alternately been viewed as unpleasant reminders of New York's Attica prison and as pleasant reminders of Russian Constructivism—the catwalks also function as supports for suspending lighting, sound equipment, and, for IDCNY's frequent parties, decorative banners. The "room within a room" concept is reinforced by a change in fenestration below the fourth-floor bridges: with the insertion of a mullion, the pre-existing rectilinear openings are transformed into double cubes. But whether square or rectilinear, the framed openings provide a rigorous architectural counterpoint to the colorful patchwork quilt of showrooms that will soon enliven the interior view of IDCNY's Center Two.

*The International Design Center,  
New York, Center Two  
Long Island City, New York*

**Owner:**

Lazard Realty, Inc., a wholly owned subsidiary of Lazard Freres & Co.

**Architects:**

Gwathmey Siegel & Associates, Architects in association with Stephen Lepp Associates, P.C. Architects—Bruce Donnally, associate in charge (Gwathmey Siegel & Associates); Kevin Ruehle, project manager, David Miller, project captain (Stephen Lepp Associates)

**Engineers:**

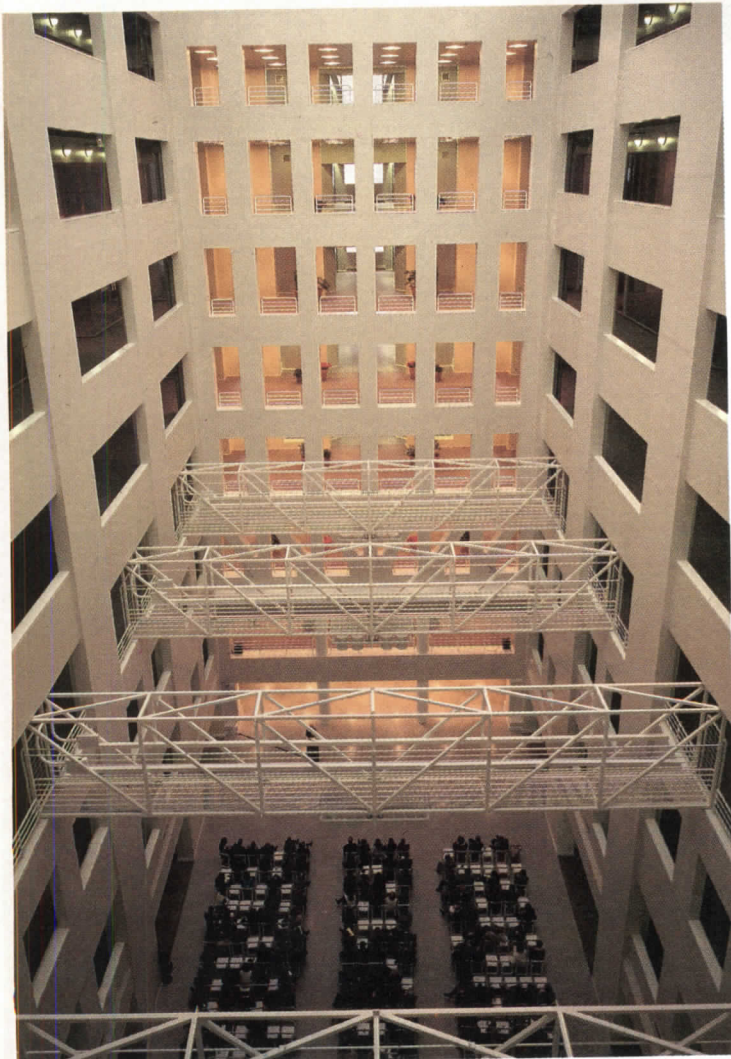
Berkenfeld-Getz Associates (structural); Syska & Hennessy, Inc. (mechanical)

**Consultants:**

I.M. Pei & Partners—Harold Fredenburgh, associate partner in charge, August Nakagawa, senior associate in charge of planning (master plan); Vignelli Associates—Massimo Vignelli, principal in charge, Michael Bierut, Rebecca Rose (graphics); CHA Design, Inc. (lighting); DeSimone, Chaplin and Associates (facade restoration)

**Construction manager:**

George A. Fuller Company









West Wing  
The Virginia Museum of Fine Arts  
Richmond, Virginia  
Hardy Holzman Pfeiffer  
Associates, Architects

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# Putting it all together

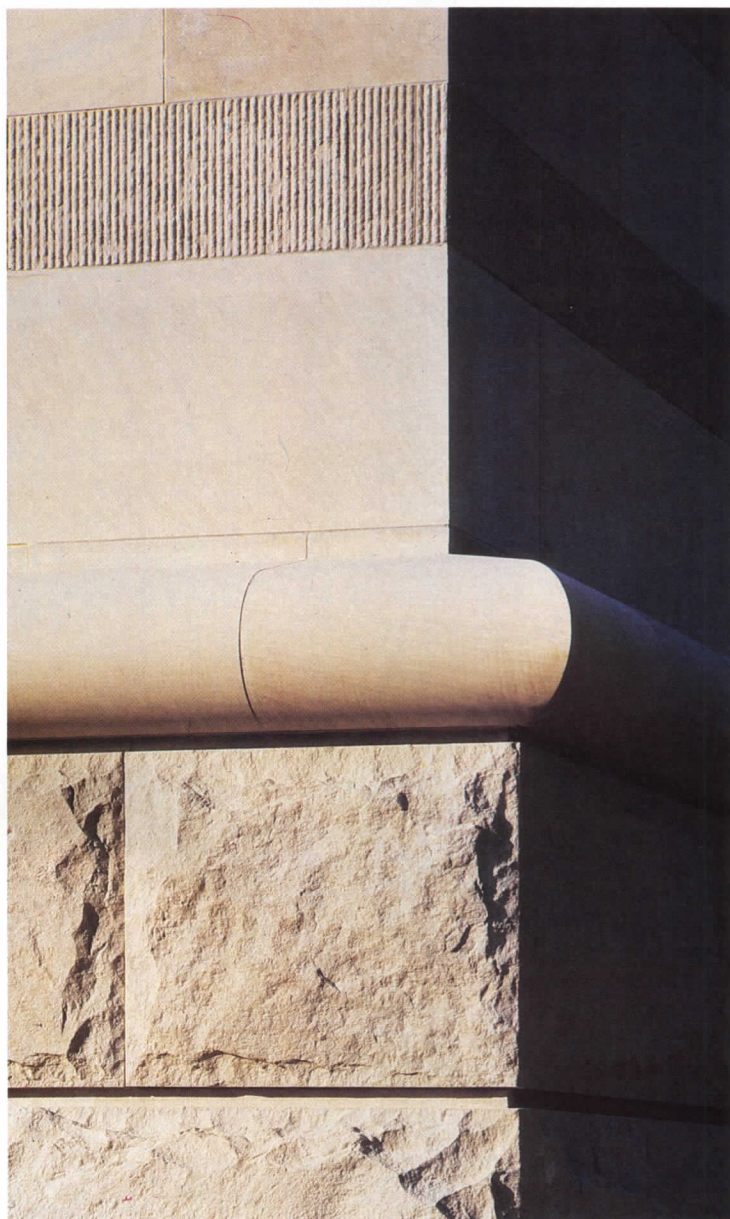
Adolf Loos wrote a brief essay in 1898 entitled, "Building Materials." In it, he argued that materials themselves are worthless. Accordingly, he stated that the Venus of Milo would be equally valuable, in artistic terms, whether chiseled from the rubble used to pave streets, or cast in solid gold. Loos went on to point to a semantic inaccuracy revolving around building materials: people confuse the word *material* with *work* (human labor, technical skill, and artistry). As he stated: "Granite demands much work to wrest it from the mountain, much work to bring it to the designated location, work to give it the correct form and to endow it with pleasing appearance by cutting and polishing. Our hearts beat with reverential awe at the sight of a polished granite wall. Awe for the material? No, awe for the human work." However, Loos cautioned against too facile an evaluation of work. To equate greatness of work with quantity of work performed is erroneous. Whether working in the most humble or most luxurious materials, whether the work can be executed quickly or requires the sustained effort of decades, the quality engendered by the skilled eye and special knowledge of the artist and craftsman alone accords enduring value. In short, a commanding architect does not rely on materials per se, or to having unlimited man-hours at his disposal to make himself understood. The art of a building is a measure of manipulative skill.

Malcolm Holzman, partner in the firm Hardy Holzman Pfeiffer Associates (HHPA), has recently completed an addition to the Virginia Museum of Fine Arts. This 1985 project goes a long way in substantiating the legitimacy of Loos' point of view. Not surprisingly. During its 19 years of practice, HHPA has consistently concerned itself with investigations into the materials and methods of building construction that individually and collectively, embody a freshness of approach that originates from an almost childlike wonderment toward the making of things. As Holzman stated when reflecting on past work, "Whether a building program suggested wood, metal, or glass, the questions were always the same: how do you put it together; what are you trying to represent with it; and what is its final appearance?" The firm has also demonstrated remarkable dexterity in the choreography of pedestrian circulation, the assembly of building systems, and the manipulation of light. Taken together, all these disciplines contribute to the rich, simple form of the Virginia Museum's new West Wing.

The West Wing is the fourth major addition since the original Virginia Museum was erected in 1936. Its construction was undertaken to provide space for the art donated from the renowned collections of Sidney and Frances Lewis, the founders of the Richmond-based Best Products Company, and Mr. and Mrs. Paul Mellon, one of the nation's leading philanthropic couples. Of the two very different collections, the Lewis gift encompasses more than 1,200 works from a broad selection of contemporary artists as well as numerous Art Nouveau and Art Deco design objects. The Mellon collection includes outstanding works by 19th- and early 20th-century French and English masters, major examples of English sporting paintings dating from the 18th and 19th centuries, and a selection of 20th-century *objets d'art*.

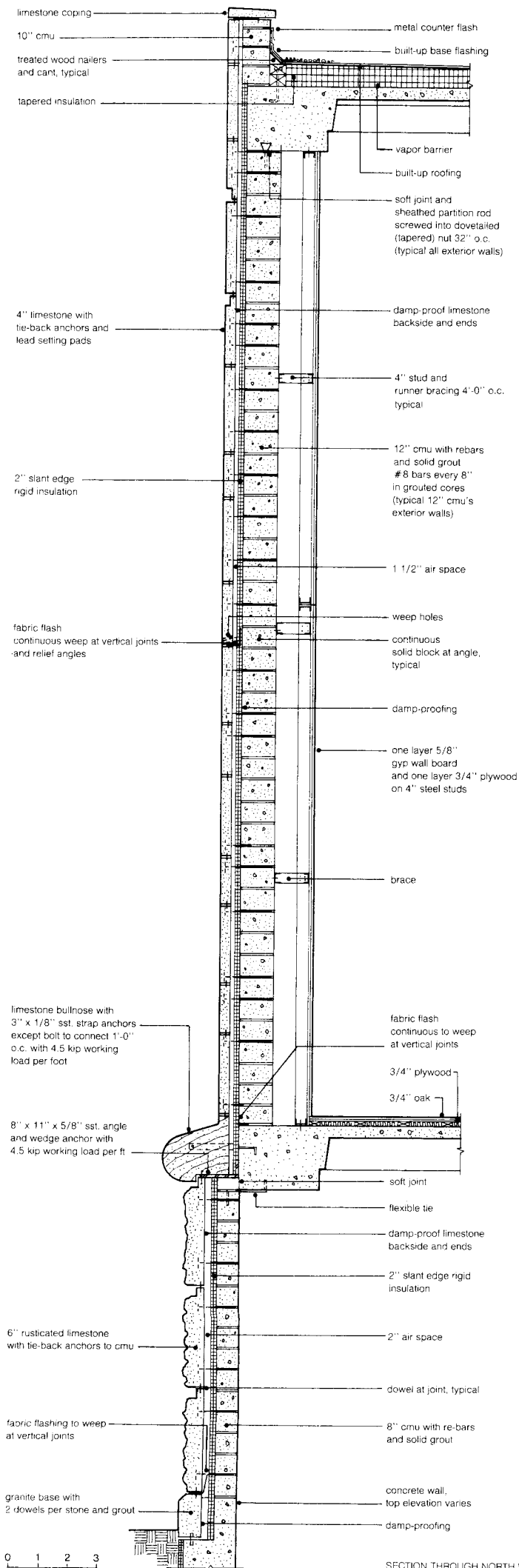
Since earlier Museum additions did not follow the details or locations of materials of the original neo-Georgian structure, a strict continuation of these to the west was not possible. Rather than develop a new set of design parameters for the new addition, however, the architects returned to the general composition principles and detailing of the 1936 building. In selecting materials with which to develop the facade (opposite page), the architects examined the original building and discovered that approximately 70 percent of the 1936 facade is limestone with a handsome limestone base, large cornice, and pediment to the building. The base has reveals and many different dimensional details which provide an animated surface of highlight and shadow in the strong Virginia sun. The cornice of the original building also contains traditional details (dentils, triglyphs, metopes).

Echoing its antecedent, the West Wing has a base which is composed



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of large, rusticated limestone blocks topped by a smooth-sectioned coping stone (wall section at left and photo overleaf). Most of the block rustication is shot sawn; however, around service entrance openings, a roughback finish was specified, as indicated by the rendered, partial elevation (opposite page). Above the coping of the base is the major surface area of the facade with its alternating smooth and ribbed Bedford limestones. The textures were chosen to enliven the expansive wall and to reduce its apparent size. (In strong light, the facade almost appears to be made of different colors and tones). Finally, at the top of the wall a cornice is detailed to correspond to the 1936 building: two polished granite bands set off by a course of rusticated limestone.

To enter the new addition, visitors pass through the previously existing Tapestry Hall and into the West Wing's airy central hall (pages 162-163). Commenting on the architectural intentions that motivated its design, Holzman states: "The central hall's primary purpose is to serve as a point of orientation. Our task was to ensure that people felt comfortable, and we therefore selected materials which give us a sense of warmth and richness. At the same time, the materials provide subtle texture and coloring which complements adjacent gallery areas. We used what is essentially a neutral palette. Of all the pink marble that could be chosen from Verona, the one we selected, Breccia Pernice, is probably the most subtle. We have graded the shades of the stones from top to bottom, using lighter stones at the top of the walls near the skylights and darker at the floor. The marble is like a stone carpet that climbs up the walls. Oak flooring with walnut banding leads to the adjacent galleries." The columns are covered with Texas shellstone, a sedimentary rock that is embedded with fossils.

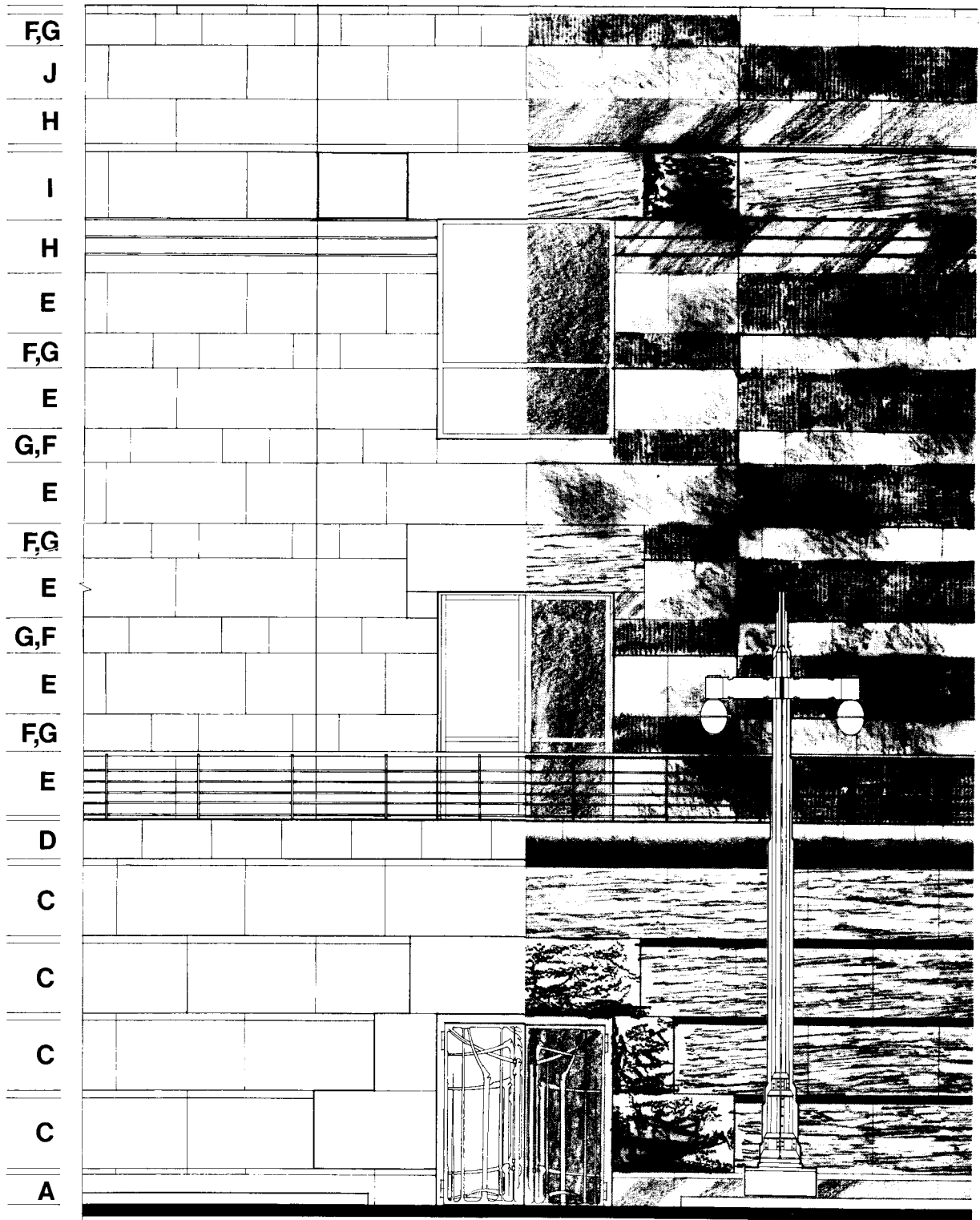
The column grid marks the division of space throughout the West Wing as it supports coffered, reinforced concrete slabs. At first glance the grid may appear unexceptional (plan with partial reflected ceiling on pages 160-161). However, column spacing has been enriched in two ways. First, the grid was compressed to make two longitudinal bands of narrow intercolumnation, which intensify the structural dynamic of the plan. This arrangement gives a spatial grain to the building, a grain that is reinforced by the elongated coffering in the ceiling. A second structural enrichment is nothing short of a tour de force. In two of the ten Mellon galleries (the central gallery for each floor) the grid was interrupted by the removal of two columns. As a result, the rooms are distinctly "chambered" in feeling, testifying to the strength of the column rhythm, so strongly sensed elsewhere.

Since a considerable amount of fatigue can set in when there are no external points of orientation, the architects introduced natural light. The windows at the end of the axis provide views to the landscape. Then, there are two glass-enclosed stairways that lead to the second-level galleries. Here a special frit glass was developed with PPG, Inc., which reduces light transmission by 80 per cent while appearing virtually transparent from the inside (photo, page 161). The West Wing has two different kinds of skylights. The skylights of the central hall are used to describe the volume of the room. The skylight in the large Lewis gallery is used similarly since that too is a two-level room. The skylights in the Mellon galleries are used to light the works of art: it is a top-lighting system appropriate to the type of art in this collection.

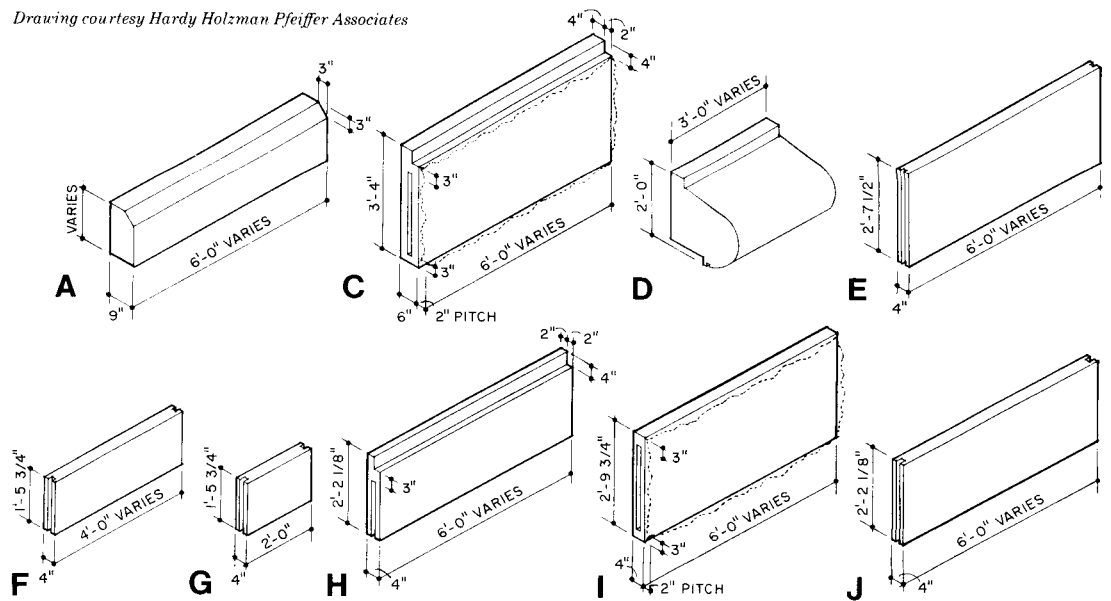
When considering the technics that raise an almost loft-like building into a work of art in its own right, the details developed to distinguish the Lewis galleries from the Mellon most fully reveal the architect's skill. In the Mellon galleries, the structural sections are refined with quarter-circle coves at the ceiling that turn the rooms in on themselves, making the space intimate and smaller in scale (sections and photos, pages 158-159). Wall surfaces are covered with linen and wood; floors in many of the areas are carpeted. A sense of wealth, permanence, and restraint prevades. On the other hand, in the eight Lewis galleries, the major space extends the full height of the building and can be divided with movable partitions easily adapted to changing displays. Walls are painted in neutral colors, providing a background on which contemporary art can be shown to its best advantage. Unlike the Mellon rooms, the structural sections are clearly articulated to bold effect.

But back to Adolph Loos. Given the criteria he proposed in "Building Materials" for a proper work of architectural art, would he have approved HHPA's West Wing? We'll never know for certain; however, given the building materials selected by the architects, the manner in which they are composed, and the skill employed in their installation, all realized within comfortable, though not exorbitant economic parameters, I think Loos would offer an approving nod. *Darl Rastorfer*

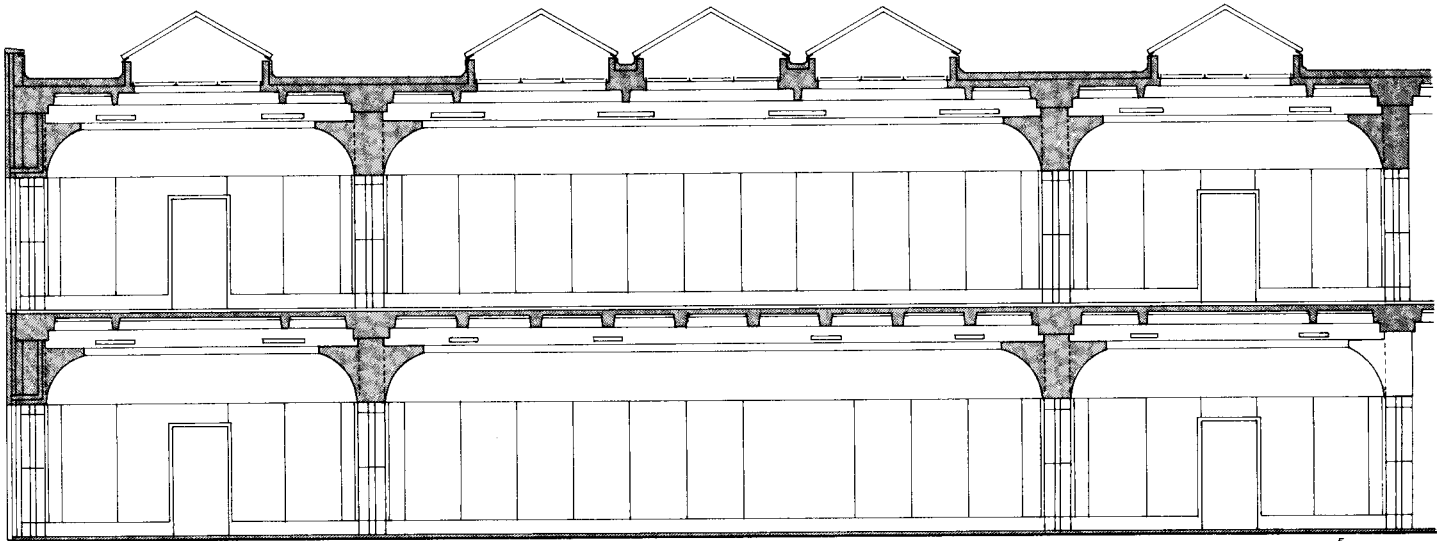




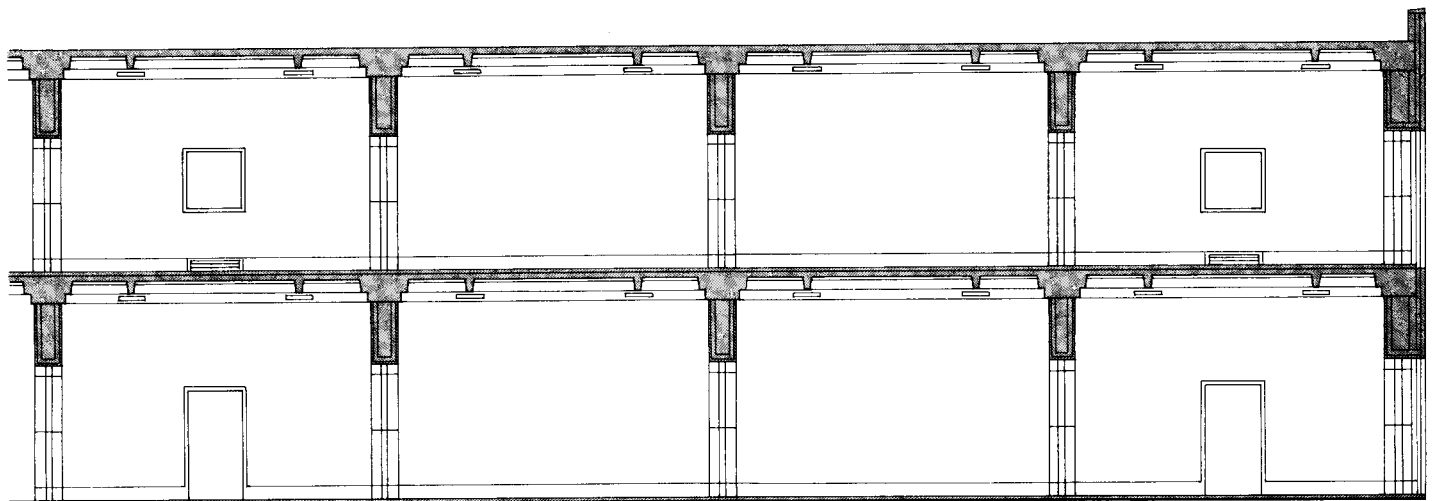
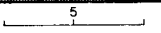
Drawing courtesy Hardy Holzman Pfeiffer Associates







WEST SECTION THROUGH MELLON GALLERY

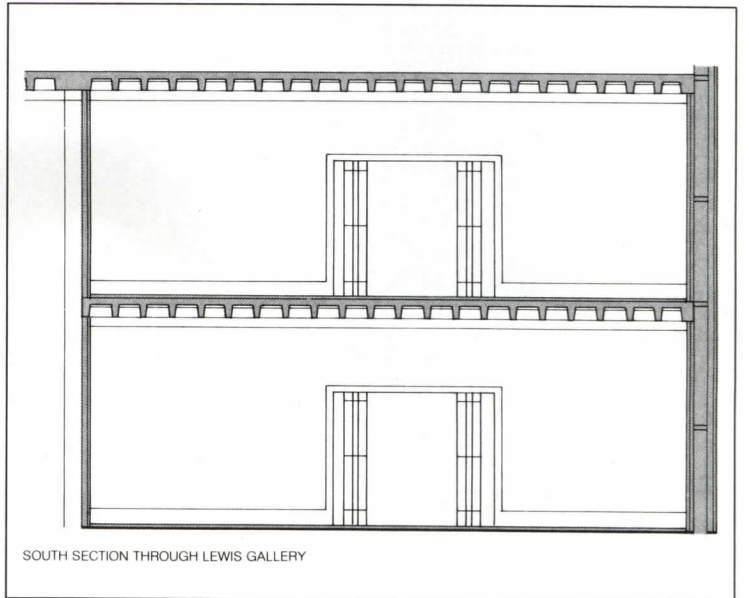
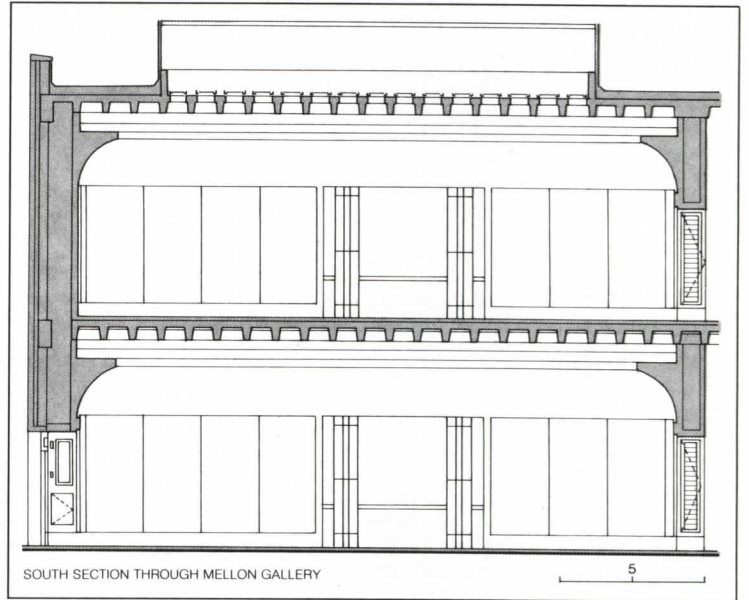


WEST SECTION THROUGH LEWIS GALLERY

*If you were to peel away and patch over the architectural details that enrich and embellish the West Wing, you'd find a straightforward, loft-like structure both in plan and section. The details that transform the near-generic divide themselves into two vocabularies. In the Mellon galleries, to the south of the central entrance court, the structural sections are refined with quarter-circle coves at the ceiling, rich wall*



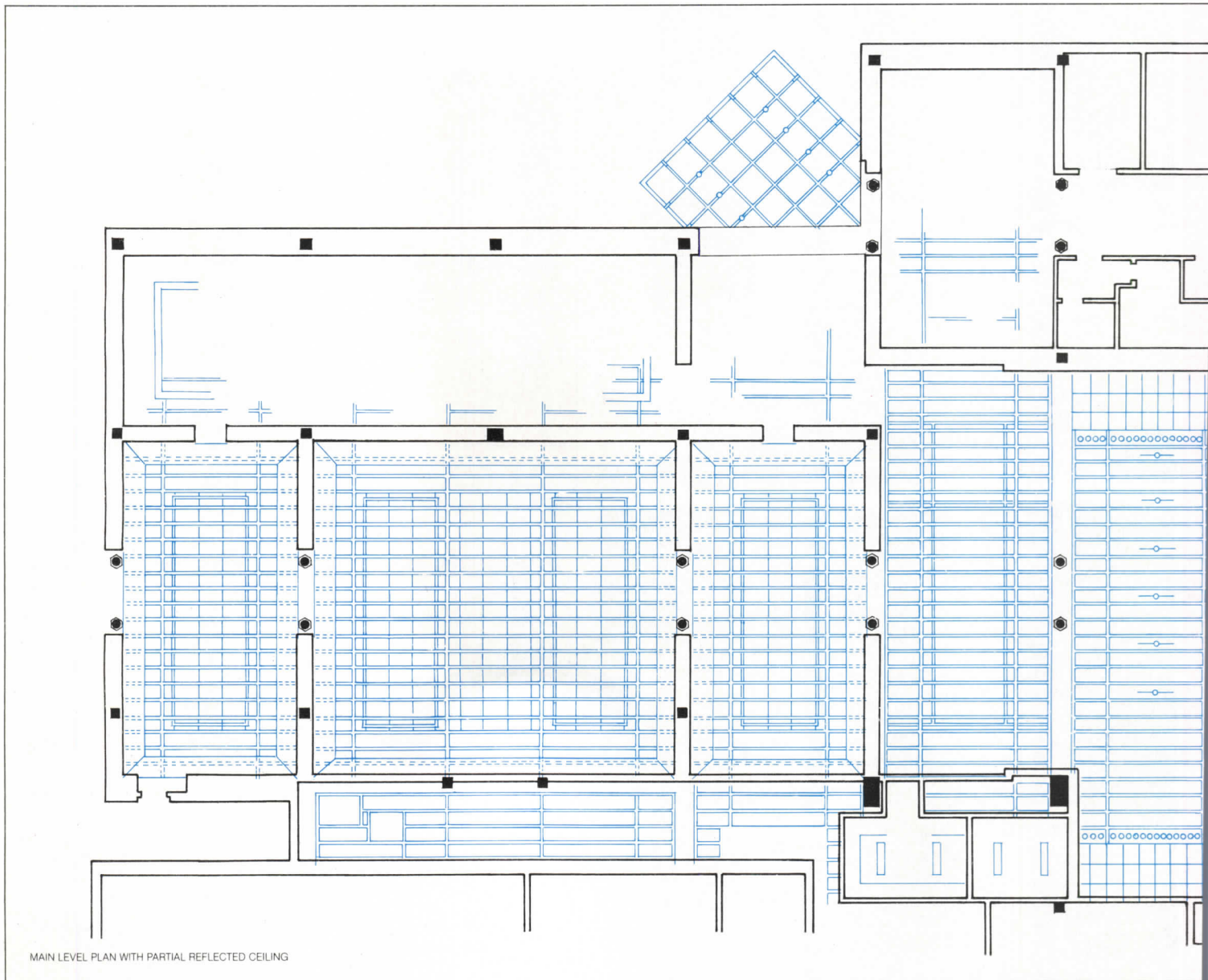
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surfaces (linen, wood), carpeted floors, and, in the upper rooms, centrally positioned skylights (top photo, transverse and lateral sections). The composition of these elements and their detailing create a proper ambiance for the small easel paintings and sculptural objects comprising the collection. The Lewis galleries, to the north of the entrance, more nearly articulate the structural sections (lower drawings

and photo). Gypsum-board walls, a double-height space, and ribboned skylights at the juncture of wall and ceiling, give the dimensions, quality of light, and architectural spirit appropriate to the late 20th-century art housed therein.



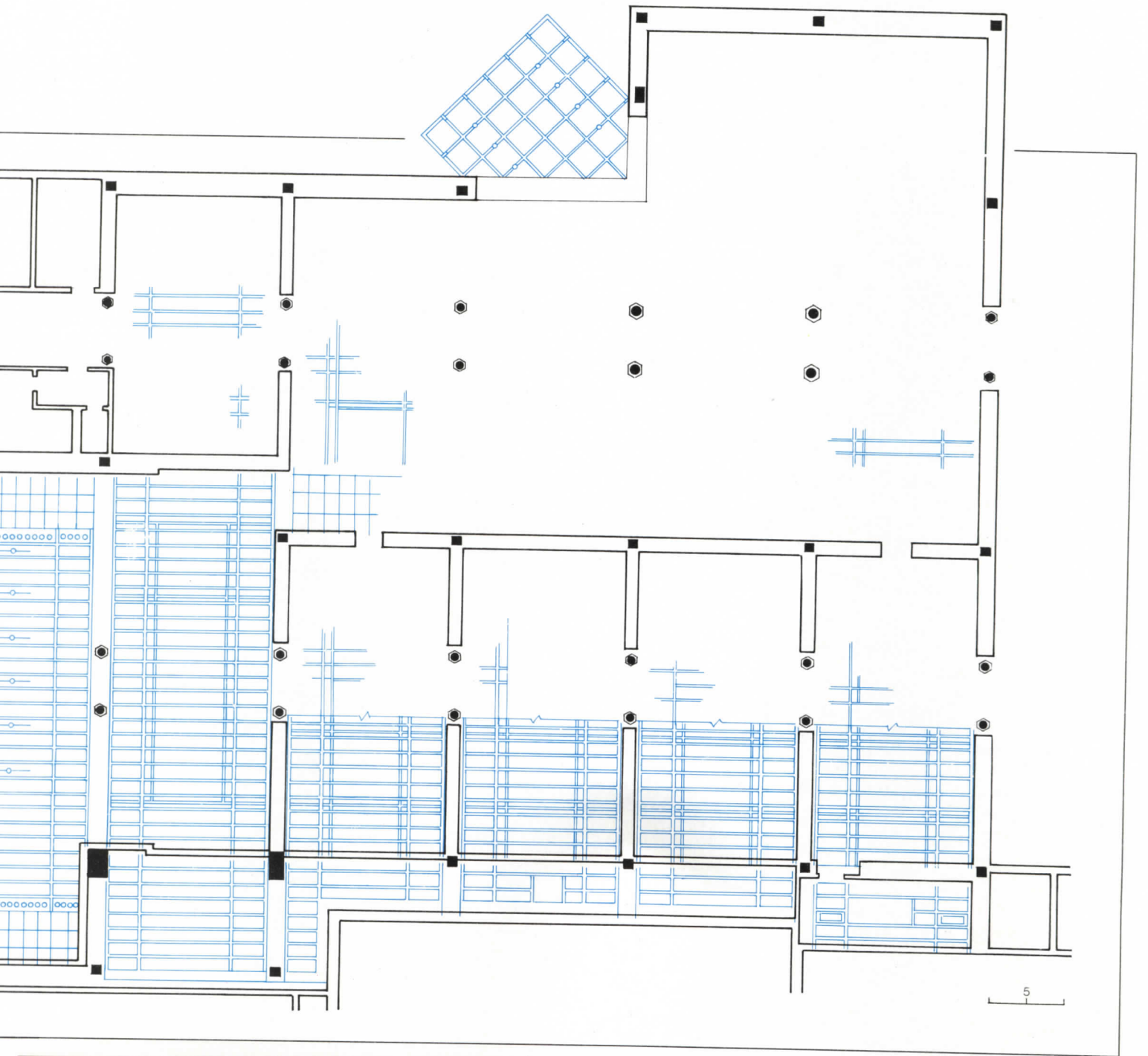


MAIN LEVEL PLAN WITH PARTIAL REFLECTED CEILING

*The column grid marks the division of space. One can imagine that the column arrangement began as an uniform grid. Then that grid was compressed to make two longitudinal bands of narrow intercolumnation that intensify the structural dynamic of the plan, and serve to define portals (opposite and top photo, previous page). The arrangement of the columns gives a spatial grain to the building, a grain*

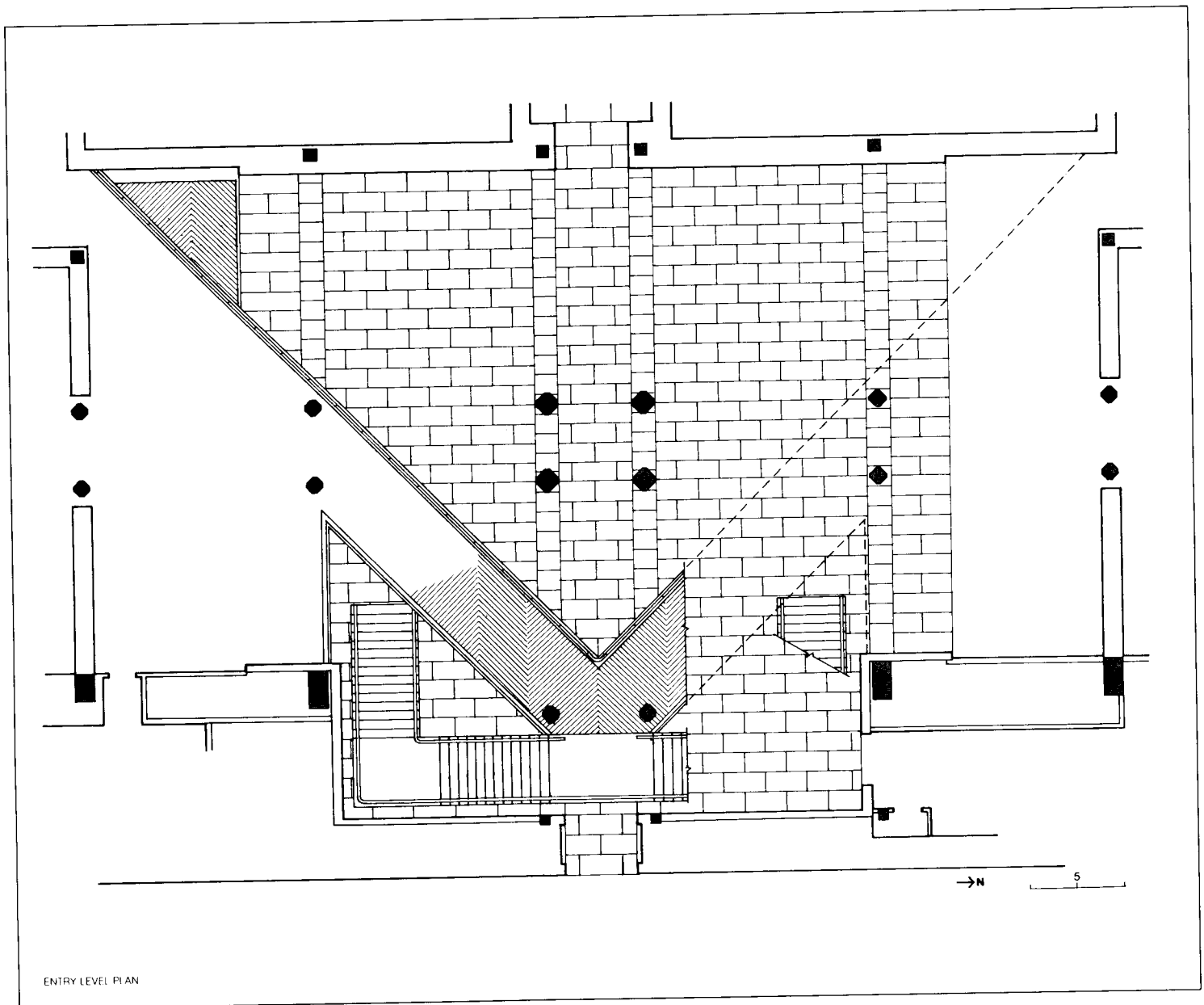
*that is reinforced by the elongated coffering in the reinforced concrete ceiling (partial reflected ceiling shown in blue above). A structural tour de force is introduced in the central Mellon gallery on both the lower and upper levels: columns are subtracted. These rooms are distinctly "chambered" in feeling simply because the rhythm of the columns, so strongly sensed elsewhere, has been silenced.*





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*The West Wing's entrance hall presented the most difficult challenge with regard to resolving the intersection of materials and architectural elements (plan above with partially superimposed walkway). Does this resolution exhibit architectural art? Paul N. Perrot, director of the Museum thinks so: "Upon entering the central hall, one gets the feeling that one is entering a 'people space,' a*

*space that soars, that is light, that has a variegated texture from the marble, accented by the white columns of shellstone. There is an elegance and chasteness about the space at the same time that there is a richness of materials. Then, on either side of this soaring central hall, one discovers that this is really the antechamber to the delights of two very different types of gallery spaces."*





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*West Wing  
The Virginia Museum of Fine Arts  
Richmond, Virginia*  
**Client:**  
*The Virginia Museum of Fine Arts*  
**Architects:**  
*Hardy Holzman Pfeiffer  
Associates—Malcolm Holzman,  
partner-in-charge;  
Victor H. Gong, administrative  
partner; Neil Dixon, project  
architect;  
Raoul Lowenberg, construction  
architect*

**Engineers:**  
*LeMessurier Associates (structural);  
Joseph Loring Associates  
(mechanical)*  
**Consultants:**  
*Jules Fisher/Paul Marantz, Inc.  
(architectural lighting); Jaffe  
Acoustics, Inc. (acoustical); Kelly-  
Hough, Inc. (concrete)*  
**Contractors:**  
*Universal Construction Co.  
(general); Shenandoah Masonry  
(stone contractor)*



# New products

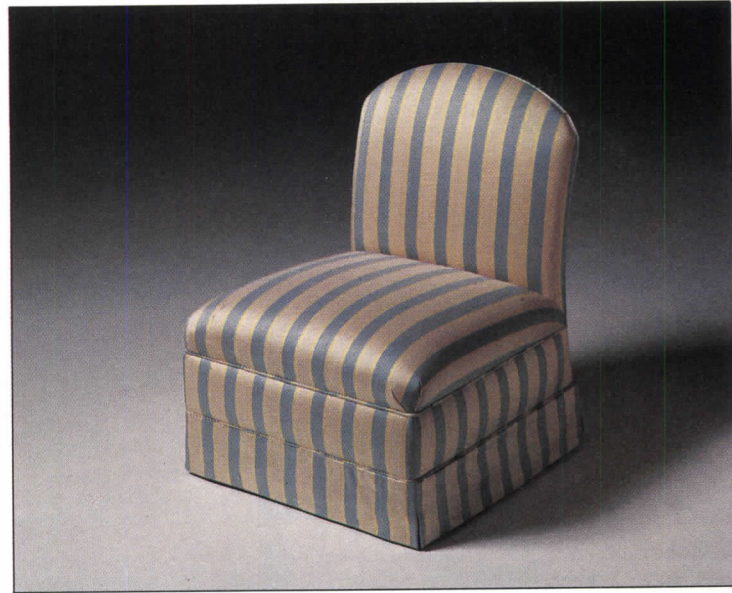
For more information,  
circle item numbers on  
Reader Service Card

## New direction

Soon after entrepreneur Richard Perlman purchased the 30-year-old Luten Clarey Stern company last year he asked the New York architectural firm of Shelton, Mindel & Associates to develop a line of furniture and lighting that would add new vigor to the company's well-established but, nonetheless, languishing product line. Partners Peter Shelton and Lee Mindel eagerly responded to the challenge, and with their associate Randy Ridless designed, for starters, an eclectic nine-piece collection that includes upholstered sofas and chairs; dining, occasional, and cigarette tables; different size lamps; and, as a final flourish, a foot stool. Although the furniture is intended, according to Mindel, to compose a "neutral background" in both contract and residential applications, the meticulous craftsmanship and the semi-precious finishes of several pieces do not, in fact, go unnoticed: The contract version of the collection features a palette of white rubbed ash, untreated steel, limestone, and sterling silver, and the residential version is realized in an enriched range of materials that includes inlaid wood veneers and marquetry, bronzed steel, Siena marble, and 14 karat gold. Plans for future additions include dining chairs and a line of upholstery fabric. Luten Clarey Stern, Inc., New York City. K. D. S.

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1. Upholstered sofa with cherry wood legs.
2. Cigarette tables, constructed of bronzed steel and Siena marble.
3. Table lamp, available with a brass, chrome, or bronze finish or gold-plated.
4. Upholstered slipper chair.





# INNOVATIVE BANK STORES ICE FOR SAVINGS AT LIVERMORE FACILITY



**Conventional exterior of Bank of America's Livermore branch uses novel cooling system based on ice bank storage.**

What comes to mind when you think of a bank? Savings, investments, financing are typical responses. So it may

come as a surprise to find a bank leading the way in the field of energy efficiency innovation.

Yet that is precisely the case in Livermore, California, at a newly-constructed branch office of the Bank of America. In this San Francisco bay-area bedroom community, the modern facade of a suburban financial institution hides advanced energy engineering more associated with its neighbor, the nearby Lawrence Livermore Laboratories. Instead of traditional mechanical processes, the bank uses a large, automatic ice bank latent storage process to provide its cooling needs.

The Bank of America in Livermore, one of more than 1,085 branches of the Bank of America in California, is a fixture in the community. The surprising fact is that the Bank of America has a long history of innovation. Its move into ice bank latent storage fits into the company's historical overall pattern of progressive yet economically sound management.

*Blazing Trails.* As with many of its banking programs, the Bank of America is blazing new trails in energy installations where others may follow in coming years. In 1904 a small neighborhood bank opened for business, under the name of the "Banca d'Italia," in the North Beach area of San Francisco. In less than 80

years, as a result of strong management and continuing innovation, that bank had grown to become the world's largest

bank in terms of deposits and resources, with assets of over \$119 billion.

The Bank of America's innovations have included pioneering work in customer deposit services, installment lending as well as in research which resulted in the development of the magnetic ink character recognition process now used on checks. The Bank of America has led in development of an interbranch check clearing system and was the first bank to license other banks to issue credit cards.

The attitude of the bank's management toward new concepts and technology is not limited to the bank's own development, but covers its financial policies as well. Construction of the Golden Gate bridge and the creation of the first full-length animated film are just two projects where the Bank of America provided financial assistance.

**The bank of America is blazing new trails in energy installations where others may follow.**

*A Modern Pioneer.* In more recent years the bank has again pioneered in financing developments in air transportation, satellite communications and geothermal energy. With such a background, the use of ice bank storage for cooling by the Bank of America seems less a curiosity than it does an inevitability.



The Livermore branch is located about 40 miles southeast of San Francisco in the Livermore Valley, sandwiched between the hills which surround San Francisco Bay to the West and the hills which border California's central San Joaquin Valley to the east. While not on the bay itself, Livermore is affected by bay weather patterns and generally has more moderate temperatures than those registered in the San Joaquin Valley.

The bank's history in the community dates back to 1885. The current structure on historic Railroad Avenue, was completed in late 1982. The new building is the first major improvement in a central business district redevelopment plan located in the historic heart of the community.

The Livermore Bank of America contains about 20,000 square feet of floorspace, and utilizes an open-space concept for interior customer services and office areas. According to project architect Randall Schlientz of Associated Professions, Inc, Livermore California, the Bank of America has a fairly well standardized pattern in its branch bank design. Within this framework, the Livermore facility is unusual in its emphasis on a very large centralized main branch instead of more smaller decentralized branches.

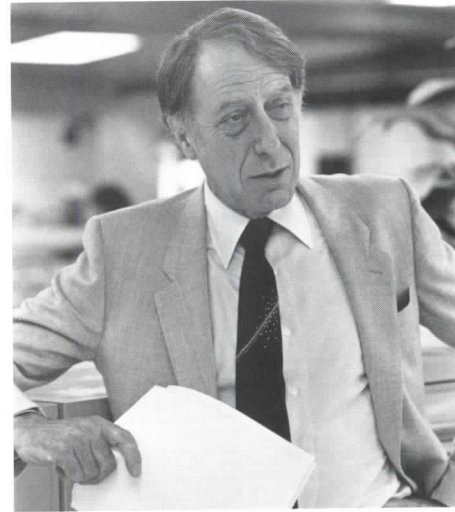
Associated Professions is a local firm which has a background in bank building design. It had worked previously with the Bank of America on other projects. The size and overall design was intended to meld into other development plans in the redevelopment area, including the use of a Spanish character to the design. The building is of wood frame construction with stucco and cement plaster exterior.

*An icy concept.* The weather pattern for the vicinity is generally very hot days and relatively cool nights. The ice bank latent storage design was selected as a pilot for possible future Bank of America energy cost-cutting installations. The building design was run on the Department of Energy DOE-2 computer program to determine probable energy usage. According to the consulting engineer, James G. Taylor of TK & Associates, Hayward, California, that prediction has been remarkably accurate.



**William Manis, Branch Manager and project architect Randall Schlientz are pleased with operation of the ice bank latent storage system filling cooling needs.**

Although at the time of construction the local utility, Pacific Gas and Electric, did not offer time of day rates, it was hoped that this pilot project using ice bank storage to move peak cooling loads to off-peak periods



**Donald Rodger, Manager of Engineering, Bank of America, notes that time-of-day rates will significantly improve the economics of the already successful ice bank storage system.**

might encourage such a rate structure, Taylor stated. Such a rate structure benefits consumers who schedule their peak loads during the utility's off-peak hours. Since ice bank storage achieves this goal, it is a major benefit to an electric utility in balancing its loads. A proposal was submitted to the California Public Utility Commission

to give the Bank of America building a time-of-use rate which will encourage further development of such systems.

"It is turning out that the system is not using any more energy than would be expected using conventional cooling equipment, and the entire system was constructed within the budget for a conventional air conditioning system," Taylor said.

The building encloses a volume of 190,000 cubic feet. This includes a ground floor area of about 15,000 square feet and a partial mezzanine of a little more than 4,000 square feet, all of open floor plan. Over 1200 square feet of solar bronze glass is used on the exterior walls. All glass has a minimum 4 foot overhang to provide solar shading.

*Reserve capacity built in.* There are between 50 and 60 regular bank employees occupying the interior area. At peak business

hours there may be an additional 70 to 80 customers in the building. This is well below the design occupancy of the building eventually projected by the Bank of America. The result is a reserve capacity for the building cooling system.



Based upon the Bank of America's history of innovative thinking, and on the growing potential for cost savings from off-peak energy utilization, the project's mechanical engineers, TK & Associates was selected to implement the use of ice bank latent storage as a pilot project for small to mid-sized buildings.

**"The system is not using any more energy than would be expected using conventional cooling equipment."**

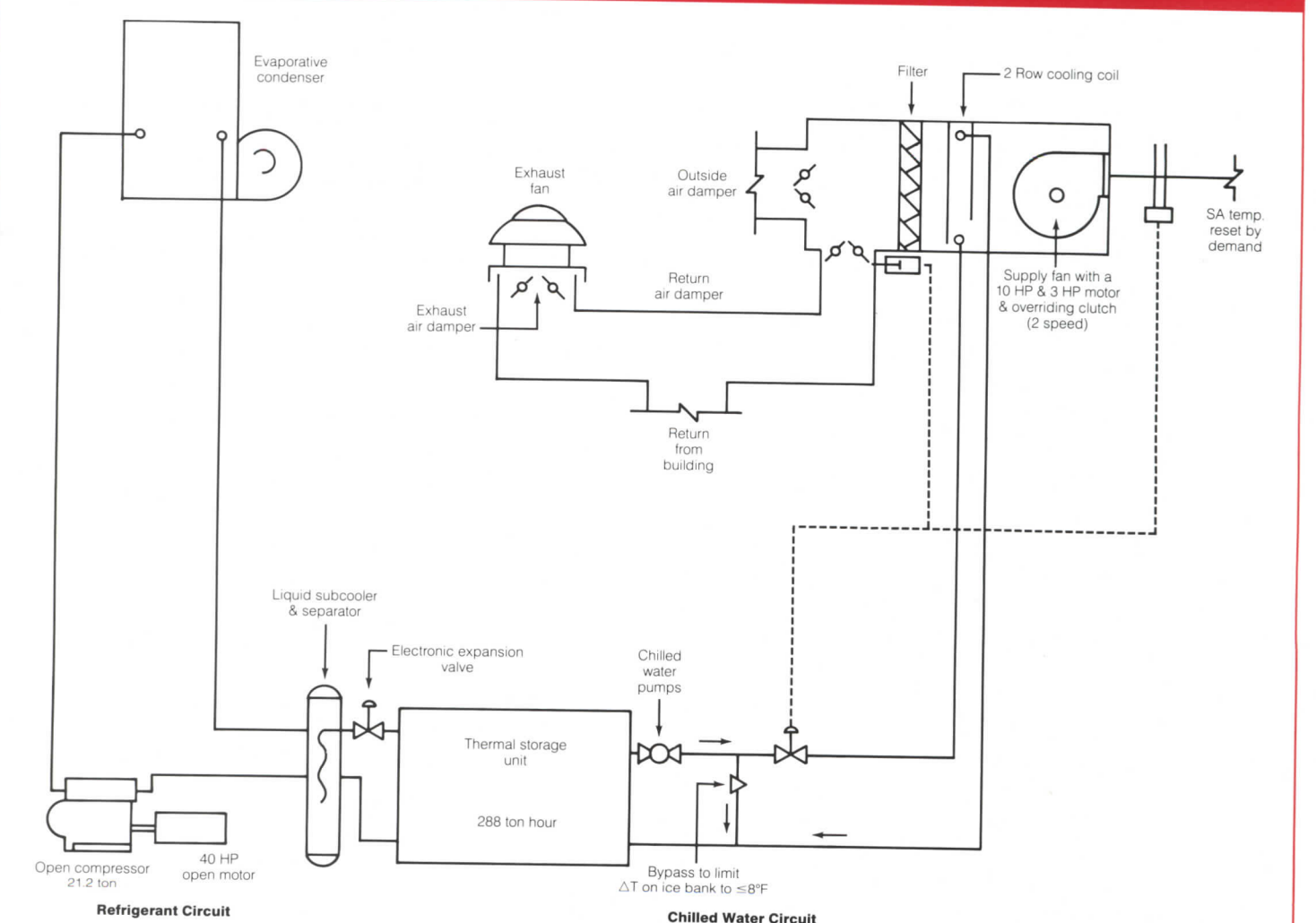
The experience of the engineering firm was also integral to the concept. As a combination consulting, engineering, manufacturing and contracting operation, TK & Associates was able to design and manufacture the ice

storage unit critical to effective system operation. In addition, the firm was responsible for the integration of the unit into the complete heating, ventilating and air conditioning system which they also designed.

The building relies on a variable air volume mechanical system with hot water reheating in the perimeter. This allows precise control of temperature. The single air handler utilizes two fan motors for a two-speed capability. The motors are ten horsepower and three horsepower respectively, and are controlled by supply duct static pressure. A full dry bulb economizer cycle is used. However, it is set up for supply-exhaust instead of the more conventional supply-return operation.

The air handler is located on the roof and has a two-

**REFRIGERATION PLANT OPERATION**



The refrigeration plant operation is completely automatic. Electronic time controls allow the plant to operate, at maximum, eighteen hours a day during off-peak and mid-peak hours of 6 p.m. to 12 noon, Sunday night through Friday morning.

The chilled water system is an open tank, flat plate ice builder. In this design inch-and-a-quarter steel pipe is fastened to heavy metal plate, and ice is built on the plate and pipes alike. A full load of ice runs about three inches thick on the coils. Two resistance-type sensors measure ice thickness and stop the

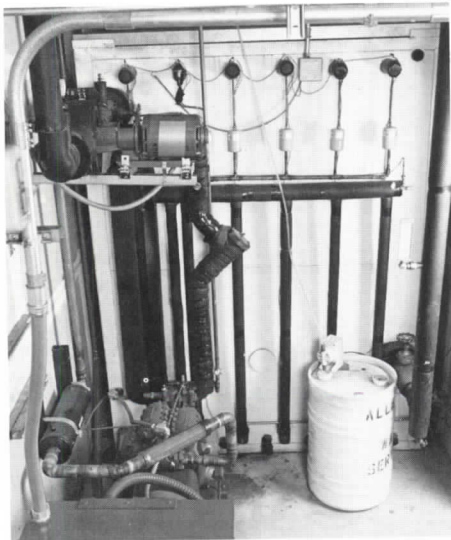
plant when the desired amount of ice has been formed. The only change between summer and winter operation is the thickness of ice required on the plates.

The chilled water is circulated to the air handling unit by a 1.5 horsepower pump with a capacity of 103 gallons-per-minute. A bypass valve is provided across the chilled water supply and return lines to limit the temperature difference on the ice bank to 8F or less. The only system equipment in operation during peak demand hours is the pump and air handling unit fan.



row, 12-fin-per-inch cooling coil. The coil is supplied with chilled water from an open tank plate-type ice latent storage unit. The storage unit has a capacity of 288 ton hours.

Other major components of the refrigeration plant include a suction line accumulator, an open-type compressor with a 40 horsepower motor producing, on average, 21.9 tons refrigeration, and an evaporative condenser to keep head pressure very low. All equipment, including fans, boiler, pumps and refrigeration plant are operated on schedules stored in a 32-program electronic time clock. The fan schedules are set to coincide with bank occupancy. A warm-up cycle is allowed one hour before occupancy each morning, and operates only on demand. The main cooling coil, chilled water pumps and economizer operation control discharge air temperature reset from zone demand. The reset temperature ranges from 55F to 70F. When the refrigeration system is operating it always runs at 100% capacity.



**Ice bank and associated mechanical equipment operate with significant reserve capacity in Bank of America installation.**

Although the system is capable of producing ice from 6 p.m. in the evening through noon of the next day, current conditions do not require full utilization. Actual utilization, to date, has required running the system only from 6 p.m. until between 4 a.m. and 8 a.m.

The system has performed up to expectations mechanically and beyond expectations in electrical efficiency. Bank personnel notice no difference between the ice bank storage system for cooling and any other kind of cooling.

*Easy Maintenance.* Maintenance has also been comparable to a standard system. The only special consideration is that care must be taken not to put a conductive water treatment in the tank which feeds the ice bank. Since the ice thickness is controlled by electrical resistance, based on the fact that water has a resistance of less than 45K ohms as a liquid and greater than 85K ohms as ice, an artificial change in the conductivity of the medium would confuse the control system and alter the freezing point of the water.

According to the bank's branch manager, Mr. William Manis, "The bank is very happy with the system, and it has been working well . . . and this special energy-

efficient system did not exceed the costs for installation of a standard system."

Even though current electrical use is below that anticipated by the engineering consultant, full cost savings have not yet been realized because of the pioneering nature of the project. With the adoption of time-of-use rates, the advantages of the system becomes even more obvious.

"The economics of this installation will improve significantly when time-of-day rates are made available to this size facility" states Mr. Donald Rodger, Manager of Engineering for Bank of America. "Even without the advantage of time-of-day rates the Livermore Branch is using less energy than would be anticipated from use of a conventional air-cooled refrigerant plant most commonly used in the area."

With this analysis, it looks like the merger of branch bank and ice bank has been a successful one for all parties, and the pilot program will point the way to further similar installations in the future.

**DESIGN SUMMARY**

**GENERAL DESCRIPTION:**

Area: 18,831 sq. ft.  
Volume: 190,000 cu. ft.  
Number of Floors: 2  
Types of Areas: Open banking space

**CONSTRUCTION DETAILS:**

Glass: Solar Bronze  
Exterior Walls: Wood & steel frame with wood truss—stucco walls; U-value, .079.  
Roof and Ceiling: Built-up (no gravel) over plywood; suspended acoustical tile; U-value .047.  
Floor: Concrete slab on grade  
Gross Exposed Wall Area: 9,300 sq. ft.  
Glass Area: 1,275 sq. ft.

**ENVIRONMENTAL DESIGN CONDITIONS:**

Heating:  
Heat Loss Btuh: 360,000 Btuh  
Normal Degree Days: 3012  
Ventilation Requirements:  
Design Conditions: 22F outdoors; 70F indoors  
Cooling:  
Heat Gain Btuh: 4,572,906 Btuh  
Ventilation Requirements:  
Design Conditions: 100F dbt, 69F wbt outdoors; 72F, 50% rh indoors.

**THERMAL STORAGE SYSTEM:**

Type: Open tank plate type storage unit  
Tons: 288 ton/hours latent storage  
Volume: 816 cu. ft.  
Shipping Weight: 17,500 lb.  
Operating Weight: 61,000 lb.

**LIGHTING:**

Levels in Footcandles: 29-67  
Levels in Watts/Square Foot: .8 to 2.54  
Type: fluorescent

**CONNECTED LOADS:**

Heating and Cooling: 26.6 kW  
Lighting: 34.1 kW  
Air Handling: 9.8 kW  
Pumps: 1.6 kW  
Other: 70.0 kW

**PERSONNEL:**

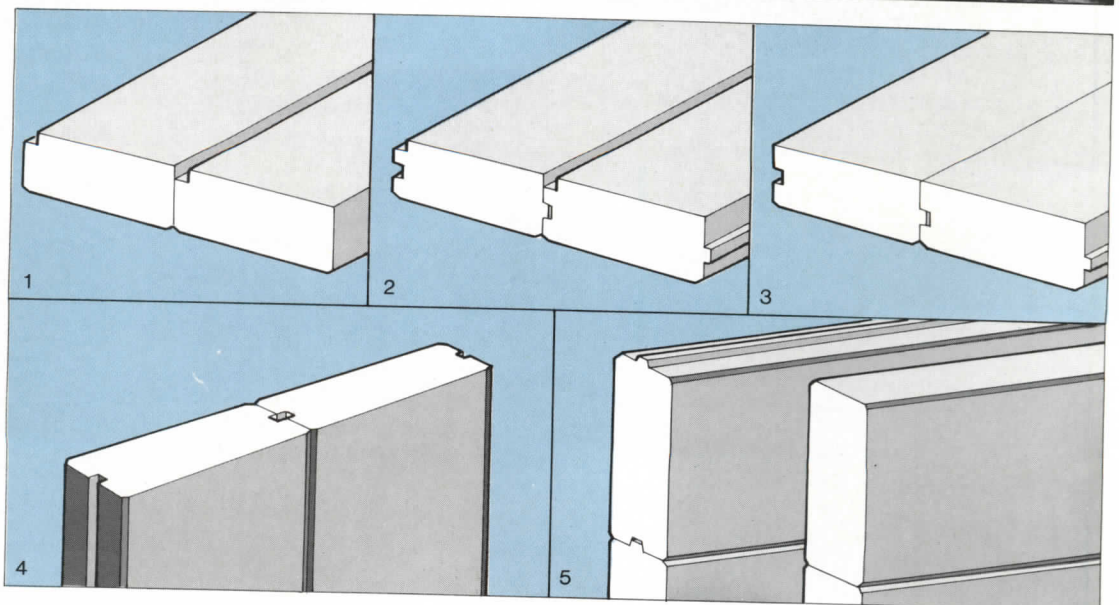
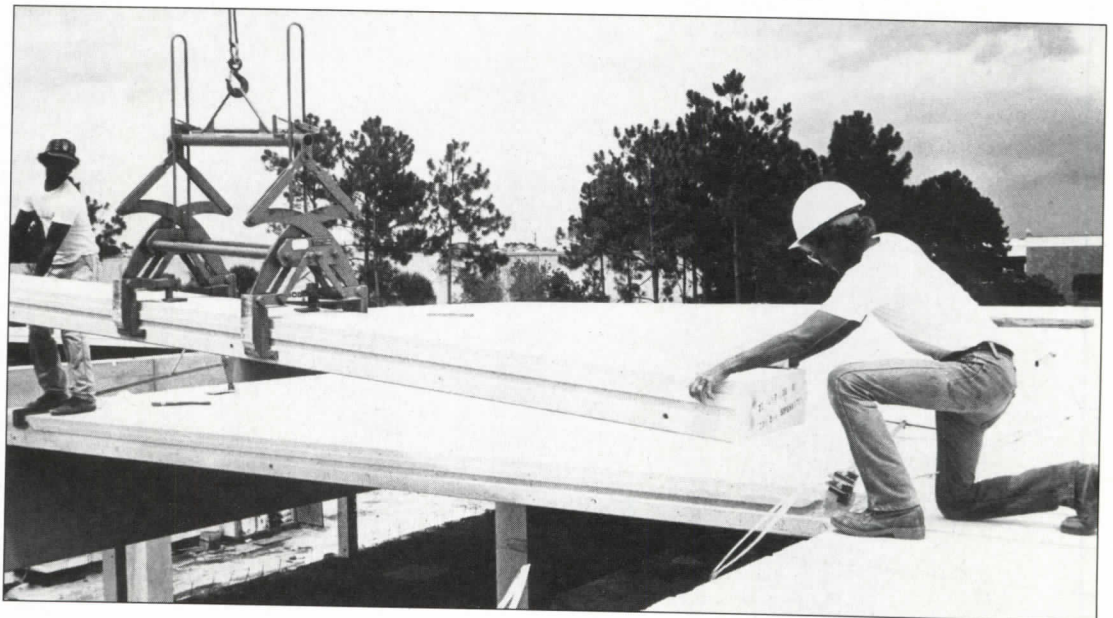
Owner: Bank of America N.T. & S.A.  
Consulting Engineers: TK & Associates, Inc.  
Architect: Associated Professions, Inc.  
Utility: Pacific Gas & Electric Company

**Edison Electric Institute**  
The association of electric companies  
1111 19th Street, N.W., Washington, D.C. 20036-3691

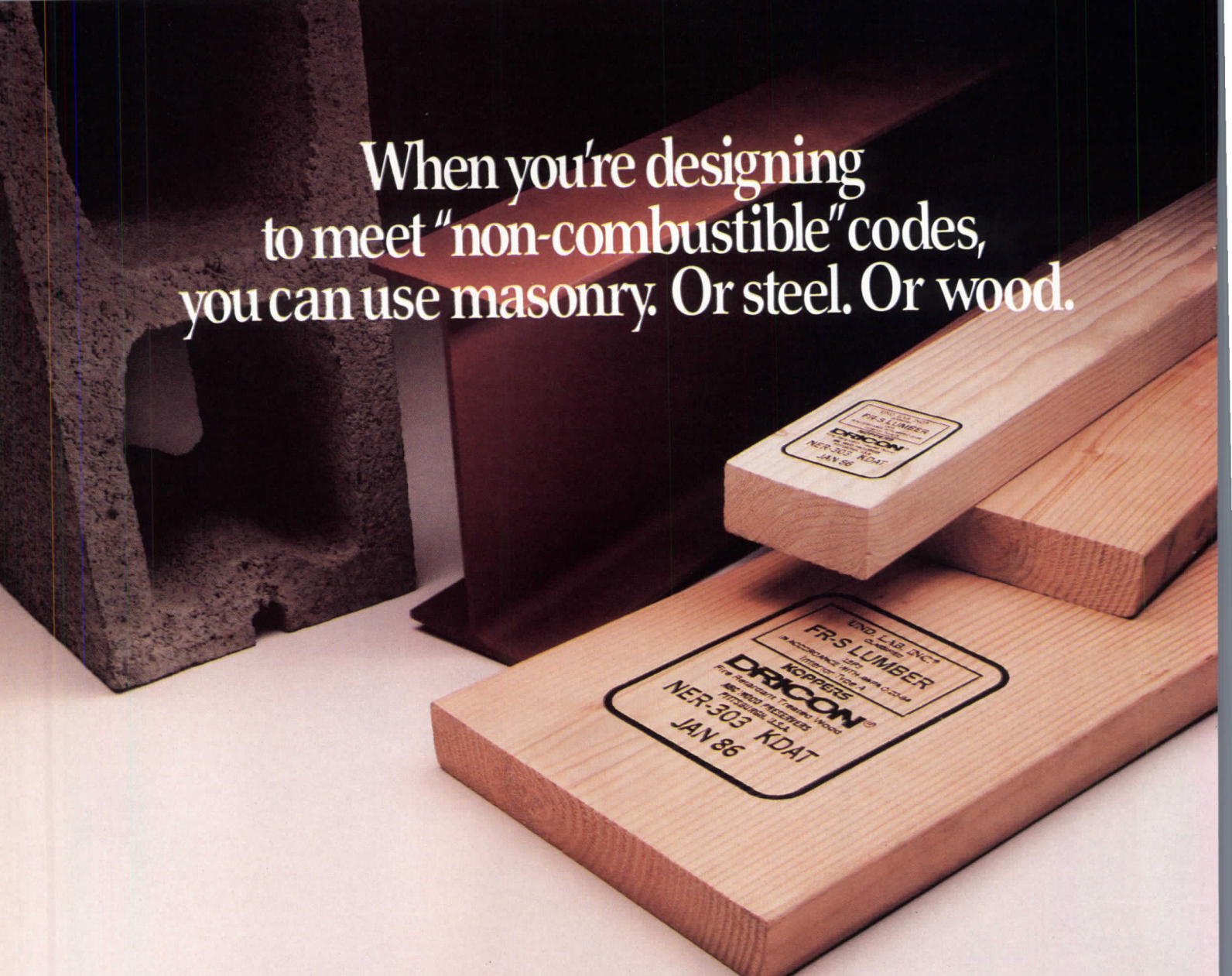


**Lightweight concrete**

A new concrete building system, designed to require less machinery and fewer labor hours to install, has the added advantage of being one quarter less in weight than comparable concrete products, according to the manufacturer. Siporex panels can be placed into position using only a small crane (top right), and a crew of three persons, says the Swedish concern that manufactures the product. As a result, the crew can install about 5,000 sq ft of roofing panels in a single day. The system includes floor, wall and roof slabs, lintels, building blocks, and additional jointing accessories. These pre-fabricated, load-bearing panels are composed of cement, sand, water, and an aluminum powder that is liberated with hydrogen gas, which in turn, causes the mass to expand and form evenly distributed air-enclosed spherical cells. The density and compressive strength of this mixture can be adjusted to meet specific structural requirements. The panels also feature dimensional stability, and a high insulation value that may reduce or eliminate the need for insulation. Horizontal wall sections are available in standard sizes of 20 ft long and 10 in. thick, and vertical panels are typically 10 ft long and 10 in. thick, although larger sized units may be specially ordered. The roof and floor slabs can be joined by either filling the grooves with cement mortar (bottom right, 1) or with tongue and groove joints (2,3). The vertical wall slabs have grooves filled with cement (4) and the horizontal slabs have plain or tongued longitudinal joints (5). Although at present Siporex is only being produced abroad, the manufacturer is currently considering plans to open a production facility in the U. S., motivated, perhaps, by the construction of a 40,000 sq ft building in Orlando, Florida (right middle)—the first application of the system in the U. S. Internationella Siporex AB, Malmö, Sweden. *E. G.*  
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More products on page 175







When you're designing  
to meet "non-combustible" codes,  
you can use masonry. Or steel. Or wood.

## As long as it's Dricon® Fire Retardant Treated Wood.

Because for weather-protected applications, Dricon fire-retardant treated wood from Koppers' licensees offers a number of advantages you just can't get using any other fire-protected construction material.

### Greater Versatility And Economy.

With Dricon wood products, building to meet "non-combustible" code requirements doesn't have to snuff out your design freedom or burn up your budget. Since it *is* wood, Dricon FRTW's in-place costs are often lower. It installs faster and can be easily fabricated to almost any configuration you can imagine—during original construction or later remodeling. Dricon wood requires less maintenance than many other construction materials. And in most "non-combustible" construction, Dricon FRTW will not alter insurance rates.

### FR-S Designations Across-The-Board

Unlike most fire-retardant treated wood, Dricon FRTW carries an Under-

writers Laboratories, Inc. FR-S designation for *all* softwood species of lumber and plywood. It has a rating of 25 or less for flame spread and smoke developed. It actually exceeds the requirements of the model building codes, and can even qualify for use in FM Class 1 roof systems. In fact, it's so special that the formula and process for making it are patented.

### Dricon Won't "Eat" Metal. And Termites Won't Eat Dricon.

Even in sustained 95% humidity, metal in contact with low-hygroscopic Dricon FRTW shows less than 2% of the corrosion allowed by applicable federal standards. And Dricon wood can be painted and stained without unsightly blooming. What's more, it's the only interior fire-retardant chemical that's registered with the EPA as a preservative for wood treating. Dricon treatment provides safe and effective protection against termites and decay for above-ground interior applications.

### Put Our Reputation Behind Your Reputation.

Best of all, the Dricon process was developed by Koppers Company, Inc., the same people who bring you world-famous Wolmanized® pressure-treated lumber. So with Dricon FRTW, you're always assured of quality products backed by experienced technical and service personnel.

Protect your reputation as a designer by specifying Dricon fire-retardant treated wood products. They can help you build more economically, creatively, and safely. For more information and the name of your nearest Dricon dealer or distributor contact: Koppers Company, Inc., 1900 Koppers Building, Pittsburgh, PA 15219. 412/227-2460.

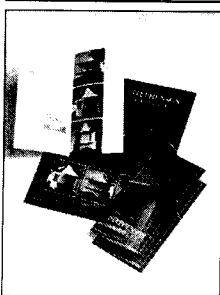
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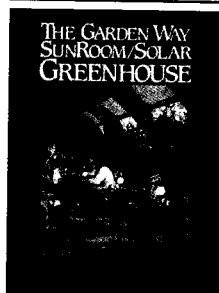




### Cupolas

A 6-page color brochure features the manufacturer's line of cupolas including the *Standard*, *Governor*, and *President* styles. Also included in the literature is a chart that describes the styles and sizes appropriate for specific applications. Webb Manufacturing, Inc., Conneaut, Ohio.

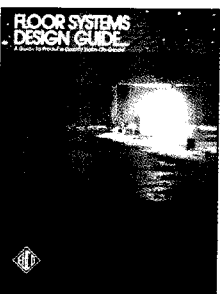
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### Sun rooms

A 12-page color brochure details the manufacturer's ventilation and heat transfer systems in its line of sun rooms and solar greenhouses. Descriptions of the thermal storage, night insulation, and summer shading systems; technical drawings; and specifications are also included. Garden Way, Inc., Waterford, N. Y.

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### Floor systems

The manufacturer's 20-page floor systems design guide includes detailed tables outlining floor classifications and material selection. A series of product usage charts for dry shakes, curing and sealing compounds, and floor and pavement treatments is also included. The Euclid Chemical Co., Cleveland.

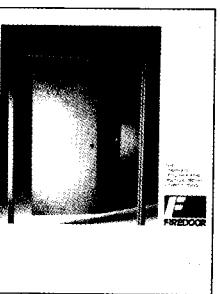
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### Space frames

An 8-page color brochure features the manufacturer's line of space-frame systems. The brochure includes site photographs, technical specifications, feasibility charts, and cross-sectional diagrams of support methods, perimeter profiles, and drainage methods. Elcen Space Frame Division, Franklin Park, Ill.

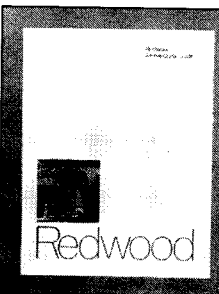
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### Metal doors and frames

A 48-page technical manual features the manufacturer's fire-rated hollow metal doors and frames. The manual provides information on fire protection requirements and product specifications. The doors and frames are available in a variety of sizes and styles. Firedoor Corp. of Florida, Miami.

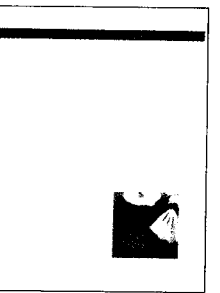
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### Redwood

Information necessary to specify redwood for residential, commercial, and institutional applications is available in an 8-page technical booklet. The booklet describes redwood properties, grades, textures, and grains and includes pattern profiles and charts. California Redwood Association, Mill Valley, Calif.

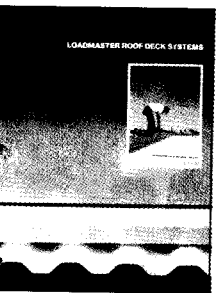
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### Decorative metals

Etched and polished decorative metals are featured in a 4-page brochure. Application examples including walls, countertops, door panels, columns, fireplace hearths and mantels, and trim pieces are reviewed. Also included in the brochure are ordering specifications and a price list. Lunstead Metals, Bellevue, Wash.

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### Roof deck systems

A 12-page color brochure reviews the manufacturer's roof deck systems. The literature reviews component descriptions, system advantages and qualifications, economic advantages, and design limitations. Insulation properties are also discussed. Loadmaster Systems, Inc., Dallas.

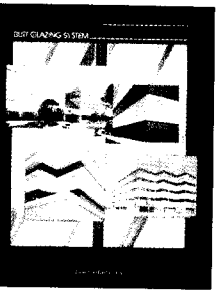
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### Roof insulation

The manufacturer's *Styrofoam Lightguard* single-ply roofing insulation is described in a 6-page color brochure. Included in the brochure are close-up photographs of the 2- by 4-ft panels, a chart listing the product's physical characteristics, and information on sample applications. The Dow Chemical Co., Midland, Mich.

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### Window glazing

The *Polarpane I/ST* butt glazing window system is featured in a 4-page brochure. Included in the literature are detailed product diagrams, product photographs with accompanying descriptions, and data on acoustical insulation, thermal insulation, and air filtration. Hordis Brothers, Inc., Pennsauken, N. J.

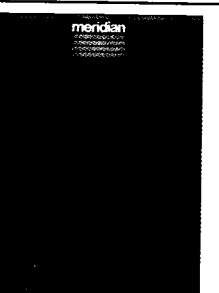
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### Concrete formwork

A 26-page booklet provides a detailed description of concrete buildings and their components. Included are an economic overview of concrete buildings, a budget analysis of concrete frames, a discussion of design techniques and strategies, and a 10-step approach to cost reduction. Ceco Industries, Inc., Oak Brook, Ill.

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### Stackable storage system

The manufacturer's stackable storage system is highlighted in an 8-page color pamphlet. The pamphlet contains diagrams and descriptions of several possible configurations and reviews the size specifications and storage potential of each arrangement. Meridian, Inc., Spring Lake, Mich.

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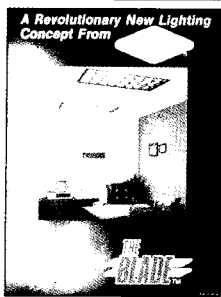
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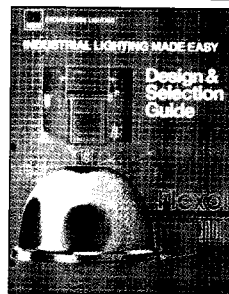
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**Lighting system**

A 4-page foldout color brochure features *The Blade* lighting system, designed for use in offices, especially those with CRTs. The brochure illustrates 15 different color combinations of louver and fluorescent bulb combinations. H. E. Williams, Inc., Carthage, Mo.  
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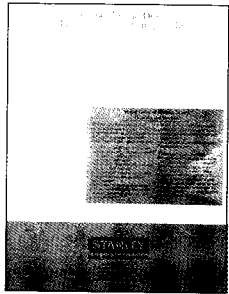
**Industrial lighting**

A 24-page brochure entitled "Industrial Lighting Made Easy" features the manufacturer's industrial lighting systems. The brochure includes instructions on how to calculate the number of fixtures needed, comparison data on lamp ballast performance, and cost analysis worksheets. Crouse-Hinds Lighting, Vicksburg, Miss.  
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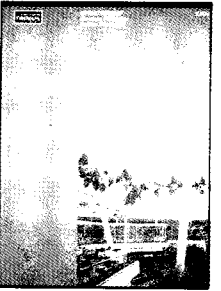
**Patio doors**

The manufacturer's aluminum-clad and wood hinged patio doors are featured in a 6-page color brochure. The literature contains detailed product descriptions along with dimensional data and operational information. Caradco Corp., Rantoul, Ill.  
*Circle 413 on reader service card*



**Automated doors**

A 4-page brochure features the *Sentrex* swing door system with infrared sensors. The literature explains how the sensors on each side of the door frame emit infrared light beams and detect presence as opposed to movement. Also included are photographs of the doors in place. Stanley Magic-Door, Farmington, Conn.  
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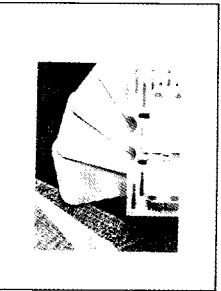
**Fabric skylights**

*Structo-Fab Fiberglass* fabric skylights are featured in a 10-page color booklet. Detailed descriptions of the products are included in addition to information on interior lighting; code compliance; thermal properties; and fabric strength, translucency, and life expectancy. Owens-Corning Fiberglass Corp., Toledo, Ohio.  
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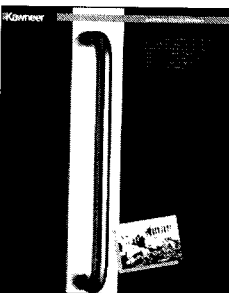
**Table system**

The *Alliance* connecting table system is featured in a 12-page color brochure. Photographs, diagrams, and product descriptions explain how the units may be arranged to form large conference tables and workstations. Howe Furniture Corp., Trumbull, Conn.  
*Circle 420 on reader service card*



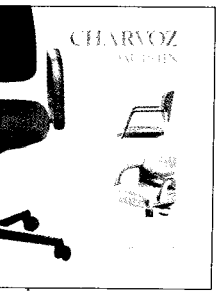
**Movable wall system**

An 18-page color brochure highlights the *GB 350* movable wall system. The brochure is divided into several sections each focusing on a different feature of the system. Descriptions of the system's practicality, versatility, and affordability are reviewed. Gold Bond Building Products, Charlotte, N. C.  
*Circle 415 on reader service card*



**Hardware**

A 6-page foldout color brochure highlights the manufacturer's line of hardware for building entrances. The brochure describes the hardware's concealed fastening system as well as the variety of available styles, sizes, colors, and finishes. Kawneer Co., Inc., Norcross, Ga.  
*Circle 421 on reader service card*



**Contract seating**

A line of ergonomic chairs is featured in a 28-page color catalog. The catalog contains information on 38 different styles including managerial, task, executive, and conference chairs. Fabric options and ordering specifications are also included. Charvoz-Carsen Corp., Fairfield, N. J.  
*Circle 416 on reader service card*



**Construction products**

An 18-page color brochure features the manufacturer's materials and systems for roofing, waterproofing, fireproofing, thermal insulation, and air-infiltration sealing. A section on horticultural products including water-soluble fertilizers, vermiculite, and perlite soil conditioners is also included. W. R. Grace & Co., Cambridge, Mass.  
*Circle 422 on reader service card*



**Air-conditioning system**

The components of the *Cascade System* multistage evaporative air-conditioning system are described in a 6-page brochure. Included in the literature are detailed diagrams, a psychrometric chart, and explanations of typical system configurations. Norsaire Systems, Englewood, Colo.  
*Circle 417 on reader service card*



**Plumbing fixtures**

The manufacturer's line of heavy-gauge stainless-steel plumbing fixtures and accessories is reviewed in a 12-page catalog. The *Bradmax* line includes sinks, toilets, and washroom accessories especially designed for rest rooms that are prone to vandalism. Bradley Corp., Menomonee Falls, Wis.  
*Circle 423 on reader service card*



# CHECK LIST.

The logo for 'draw' features a 4x4 grid of dots to the left of the word 'draw' written in a blue, cursive script.

3-D CADD with a relational DBMS

The logo for 'image' features a 4x4 grid of dots to the left of the word 'image' written in a red, cursive script.

Realistic image generation

The logo for 'duct' features a 4x4 grid of dots to the left of the word 'duct' written in a blue, cursive script.

HVAC layout and design

The logo for 'structure' features a 4x4 grid of dots to the left of the word 'structure' written in an orange, cursive script.

Structural analysis and design

The logo for 'space' features a 4x4 grid of dots to the left of the word 'space' written in a pink, cursive script.

Space requirements analysis

The logo for 'inventory' features a 4x4 grid of dots to the left of the word 'inventory' written in a purple, cursive script.

Space inventory analysis

The logo for 'allocate' features a 4x4 grid of dots to the left of the word 'allocate' written in a red, cursive script.

Occupancy scenario analysis

The logo for 'translate' features a 4x4 grid of dots to the left of the word 'translate' written in a purple, cursive script.

Data translation between systems

**C**heck out these systems at AIA '86, June 8-11 in San Antonio and  
A/E/C Systems '86, June 23-25 in Chicago.

For more information call or write us at  
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Circle 83 on inquiry card

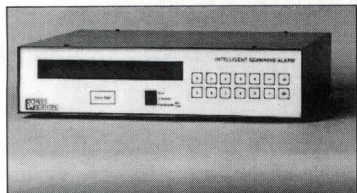




**Table**

Designed for contract applications, the manufacturer's eight table-base designs can be specified in 120 custom colors. In addition to stainless steel and bronze, the table tops are also available in carbon steel. Scope Furniture Ltd., New York City.

Circle 302 on reader service card

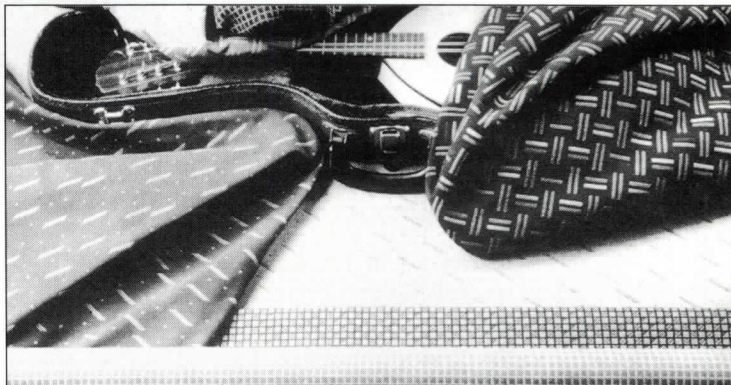


**Alarm system**

The IA15 Intelligent Scanning Alarm is a computerized device that can monitor a variety of sensors, log data, activate alarms, and report probe readings and alarm conditions over the phone with a computer-synthesized voice.

Rees Scientific, Corp., Lambertville, N. J.

Circle 305 on reader service card



**Contract upholstery**

The Elements collection of jacquard contract upholstery and wallcovering fabrics is woven from 75 percent modacrylic and 25 percent nylon fibers. The weaves include Harmony, a double bar

pattern; Melody and Tonal, grid patterns; and Rhythm, a dot and dash pattern. All weaves are 54 in. wide. Adam James Textiles, Inc., Hauppauge, N. Y.

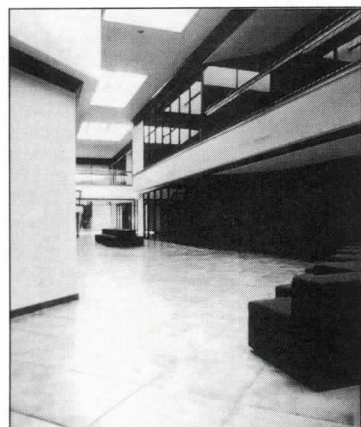
Circle 306 on reader service card  
Continued on page 177



**Acrylic finish**

The manufacturer's Gemtone 100 percent acrylic finishes are said to be nonabrasive, and resistant to stains and scratches. The finishes are available in 12 colors and may be used to create logos and graphic designs as well as customized frieze and panel effects. Dryvit System, Inc., West Warwick, R. I.

Circle 303 on reader service card



**Ceramic tile**

The Spazio series of Italian ceramic tile, designed for both commercial and residential applications, is available in six neutral colors. The tiles are said to be frost-proof, and impact- and abrasion-resistant. The tiles can be used for interior flooring and exterior cladding. Marazzi Ceramiche, Italian Tile Center, New York City.

Circle 304 on reader service card



## Enhance the beauty of your landscape with the elegance of superbly crafted lighting posts by Spring City




You will be in good company when you light the way with our historically accurate, heavy duty, Cast Iron lighting posts. Independence Hall in Philadelphia, for example; the U.S. Military Academy at West Point; Boston Common and William and Mary College in Williamsburg to name just a few of the thousands of locations where these lighting posts are prominent.

The light sources available are: incandescent, mercury vapor, metal halide or high pressure sodium.

Write or call for further information and literature that will illustrate and describe why we are the leading manufacturer of ornamental lighting posts in the United States.

**WASHINGTON-TWIN**  
- Capitol Area, Washington, D.C.  
10'8" to 17'8" heights (excluding luminaires), 17" O.D. to 25" octagonal bases. Available with four luminaires.

**HANCOCK** - Boston, Mass.  
9' to 13' heights (excluding luminaire) with 10 1/2" O.D. base. Available as a 46" high bollard.

See Us In Sweets  
And LA File

### Spring City ELECTRICAL MFG. CO.

P.O. Drawer A, Spring City, PA 19475  
Phone: (215) 948-4000



Circle 84 on inquiry card





Helios Modular Shelter

# “Come rain or come shine”

Time to cover up with Helios. Your designs for grounds, gardens and recreation areas take on a spirited, sprightly glow with the Helios Modular Shelter. More than just a shelter, the module is festive, colorful, translucent. With interior lighting, it's nighttime excitement.

It may stand alone in a key location, or two or more can be nested to cover large areas. A variety of colors, color combinations, umbrella or tulip shapes and square or hexagonal configurations are available.

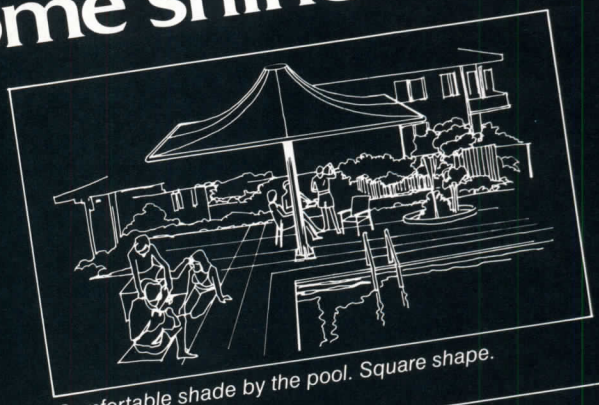
The pre-engineered steel frame and membrane are shipped ready to install in less than a day. The membrane is warranted for ten years; snow and wind loading statistics are impressive, meeting many model building code requirements.

The shelter pays off in visual enhancement and the comfort of visitors to your property in all kinds of weather. Say the word and we'll provide all the details.

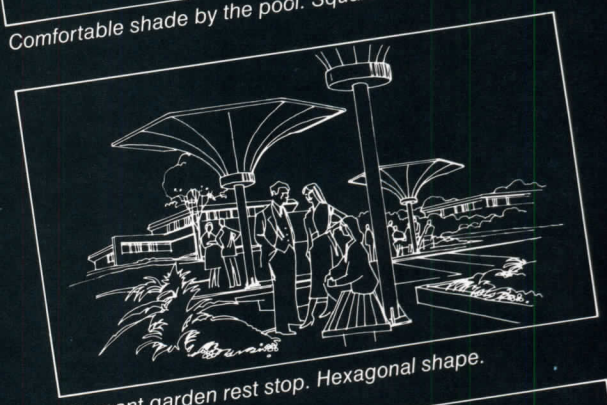
Helios Industries, Inc.  
 20303 Mack Street  
 Hayward, California 94545, U.S.A.  
 Tel. (415) 887-4800 Telex 176226

**HELIOS INDUSTRIES, INC.**  
 Soft Shell Structures

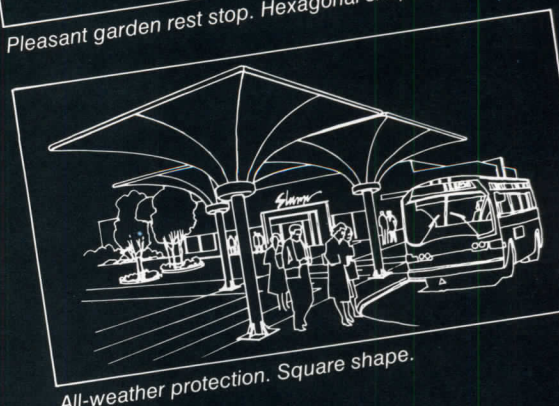
Helios is a leading fabricator of custom designed soft shell structures used around the world for their flamboyant, curvilinear shapes, light weight and long life. Send us your idea sketch, we'll help you turn it into reality.



Comfortable shade by the pool. Square shape.



Pleasant garden rest stop. Hexagonal shape.



All-weather protection. Square shape.





**Pleated shades**

The *Veropaque* collection of pleated window shades features an ultrathin layer of aluminum that is vacuum-bonded to the back of the fabric. The collection includes *Paisley*, *Marble*, and *Palma* designs; each available in at least five color combinations. Verosol USA, Inc., Pittsburgh.

Circle 307 on reader service card



**Filing system**

The *Sigma 2000* modular storage and filing system is available in eight preconfigured models. The system features standard full-pull handles and a variety of drawer, door, and shelf options may be specified. Borroughs, Div. of Lear Siegler, Inc., Kalamazoo, Mich.

Circle 310 on reader service card

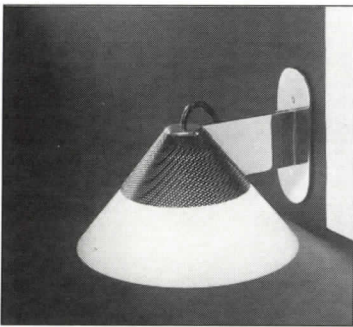


**Bench**

The *Grid Frame* modular bench, designed for contract and residential applications, is available in two- or three-seat units and can be specified with upholstered cushions or inserts of marble, wood,

or veneer. Made of solid ash or mahogany, the units are available in 16 high-gloss colors. Intrex Furniture, Div. of Habitat International, Ltd., New York City.

Circle 311 on reader service card  
Continued on page 179



**Wall sconce**

The manufacturer's wall sconce is made from a combination of polished brass and perforated metal, and has a 10-in. diameter cased-glass shade. The fixture uses a standard 60-watt bulb but may be modified to accommodate different bulb sizes or types. A polished stainless base and custom color finishes are also available. Harry Gitlin Lighting, Inc., New York City.

Circle 308 on reader service card



**Ceiling system**

The *U* series metal ceiling system is said to feature "fingertip" panel removal made possible by an integral spring mechanism. The mechanism is part of the 4-, 6-, and 8-in. panel models that are available in more than 100 colors. The system is intended for use in commercial, industrial, and institutional interiors. Levelor Lorentzen, Inc., Lyndhurst, N. J.

Circle 309 on reader service card

**Architectural Sealants**

NEW CATALOG FROM THE SOURCE  
SEALANTS SERVICE TECHNICAL INFORMATION

PTI's NEW Architectural Sealants catalog introduces NEW 626 glazing tape and provides complete information for all PTI sealants used in construction glazing. The new catalog is in SWEETS. PTI is the source for fresh reliable sealants. For more information or technical service call, toll free, 1-800-543-7570. Protective Treatments, Inc., P.O. Box 14116, Dayton, Ohio 45414.

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**pti Sealants**

738  
737  
757  
707  
707





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The space invaders are here.  
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The new equipment you've bought.  
The new service you've introduced.

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Williams single and multiple story modular buildings help businesses save money by saving time. So cost effective, you'll have your building installed and your people inside before most conventionally

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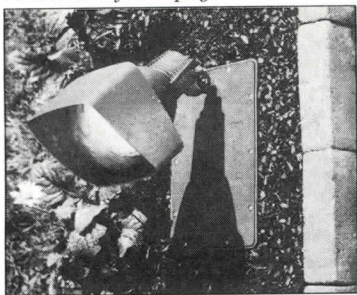
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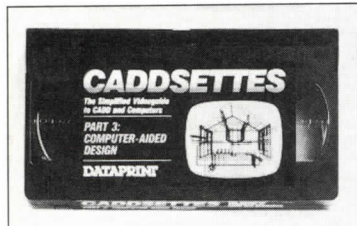




**Landscape lighting**

The manufacturer's *FL-5000* series of in-ground landscape lights can be specified for incandescent, mercury vapor, or high-pressure sodium lamps. The lights feature a fiberglass-reinforced polyester ballast enclosure with an aluminum top plate. The units are available with a textured bronze finish. Imperial Bronzelite, San Marcos, Tex.

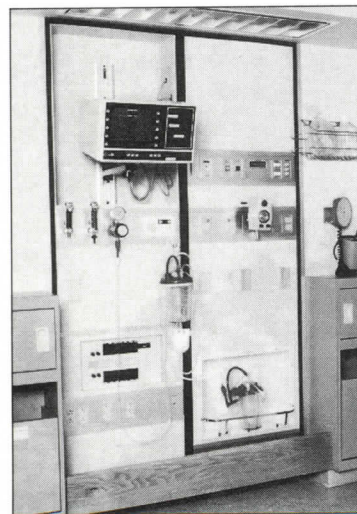
Circle 312 on reader service card



**Training tapes**

The *Caddsettes* three-part video program on computer-aided design, drafting, and office management is intended to train architects, engineers, designers, and their office personnel. The program covers CADD fundamentals, fast-track drafting, and the creation of 3-D designs. Dataprint, Corp., San Mateo, Calif.

Circle 313 on reader service card

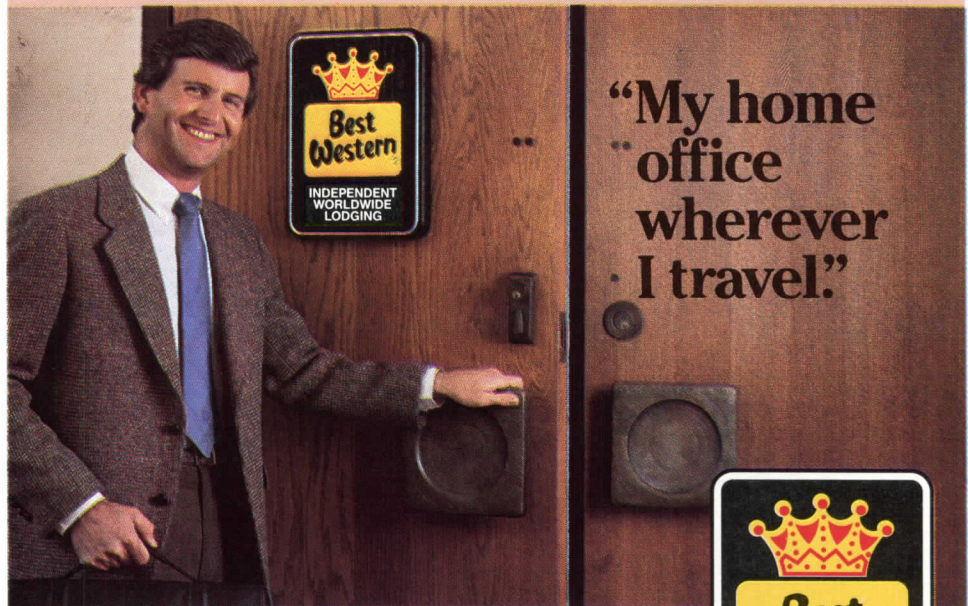


**Medical headwalls**

The manufacturer's medical headwalls can be customized for a variety of applications including intensive-care rooms and neonatal-care units. The modular-component system allows the headwalls to accommodate suspended columns for medical gas, electrical, monitoring, and communication equipment. Post Glover Electrical Systems, Inc., Erlanger, Ky.

Circle 314 on reader service card

# What is a Best Western?



"My home office wherever I travel."

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If it's a marketing research problem, we probably pioneered the solution.



# Walker's new Triple-Service Afterset cuts the initial cost of an infloor system by up to 20%\*

\*Percentage shown is the average share of total roughing-in cost for cellular raceway, in Walker's experience.

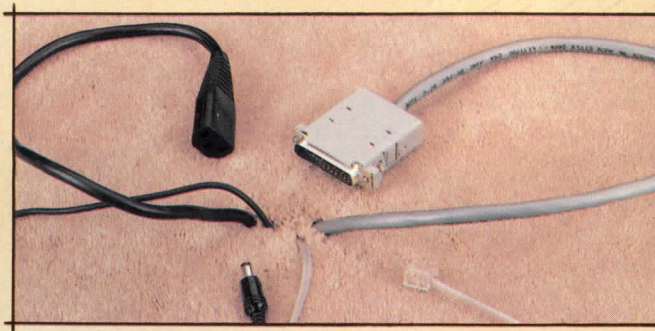
A Walker infloor system for PLE (power, lighting, electronics, communications) distribution can be the key to providing the wiring capacity, flexibility and aesthetic appeal which business owners expect from today's "intelligent" buildings. Until now, approximately 20% of the initial cost of these systems was taken by a network of preset inserts (installed prior to the concrete pour to allow for services at specific points). The development of our unique Service Afterset offers a way for building developers and owner-occupants to save on initial costs and still maintain the inherent advantages of both the

*3-service access in a single recessed unit - a Walker exclusive.*

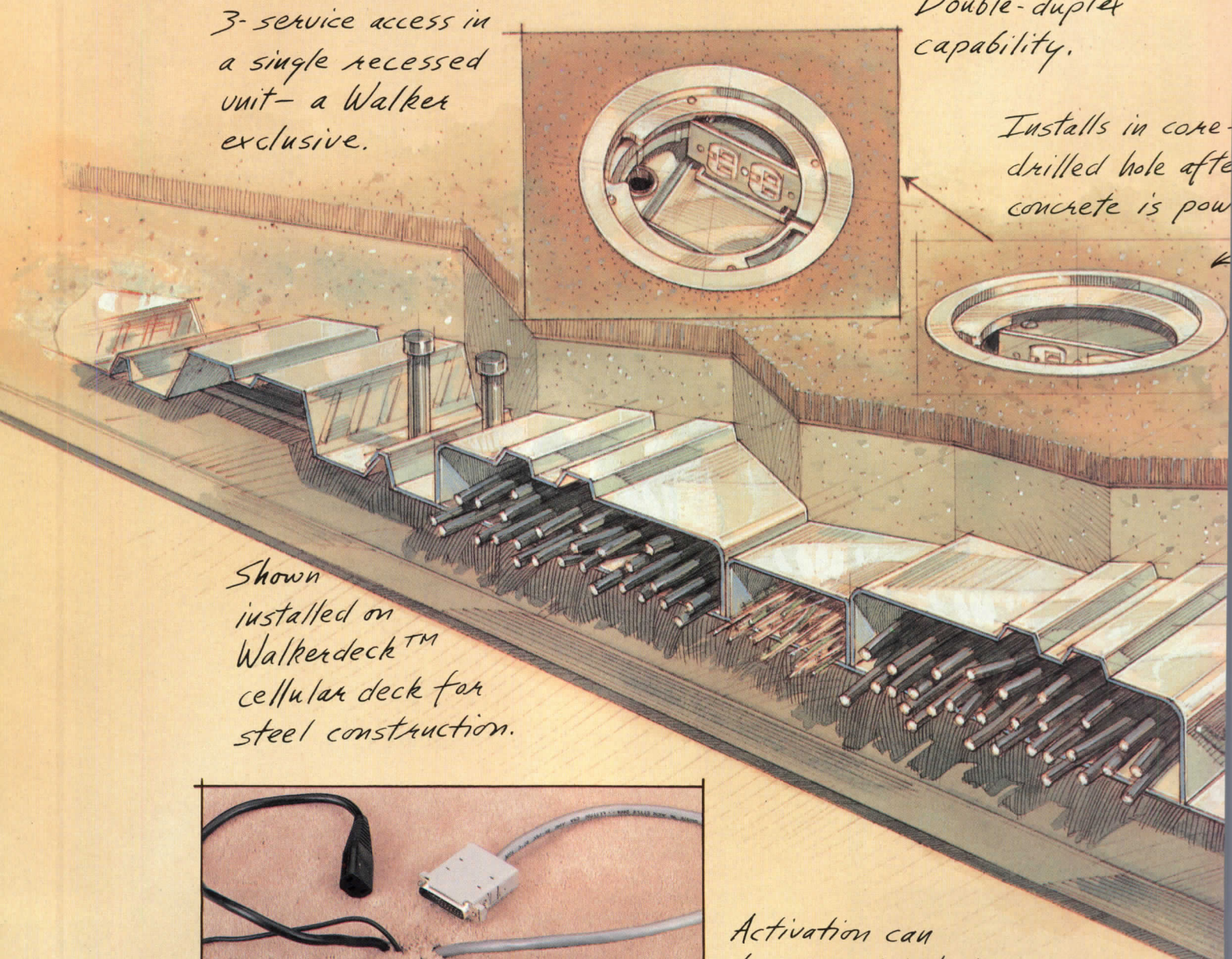
*Double-duplex capability.*

*Installs in core-drilled hole after concrete is poured.*

*Shown installed on Walkerdeck™ cellular deck for steel construction.*



*Activation can be completely hidden, with only wires showing.*





cell and Walkerdeck systems. Triple-Service Afterset is installed in concrete before it is poured, even after it is laid. **Cost savings are realized by installing aftersets only when there are service activations are needed.** Instead of making the larger investment for a complete system of conduits. This option allows you to plan your building's PLEC distribution with a complete preset system, complete with a system, or a combination of both. **After afterset offers recessed service activation in a single unit.** Walker's Triple-Service Afterset is designed to bring services out of the floor

from a recessed activation which can be completely hidden under carpet or fitted with flange rings which are flush with carpet or tile. So installing or relocating service activations has no adverse effect on interior aesthetics. All three services (power, data, telephone) are accessed from the same unit — a major advantage when compared with other products which require separate above-floor fittings for each service.

If initial cost has stood in the way of giving your building the most capacity and the greatest flexibility any PLEC distribution system can offer, find out more about the new Walker Triple-Service

Afterset. Our infloor systems are already matching the complex needs of the "intelligent" building. Now they can also offer a more attractive match with your bottom line.

Call or write: Mike McLain, P.O. Box 1828, Parkersburg, WV 26102. (304) 485-1611.

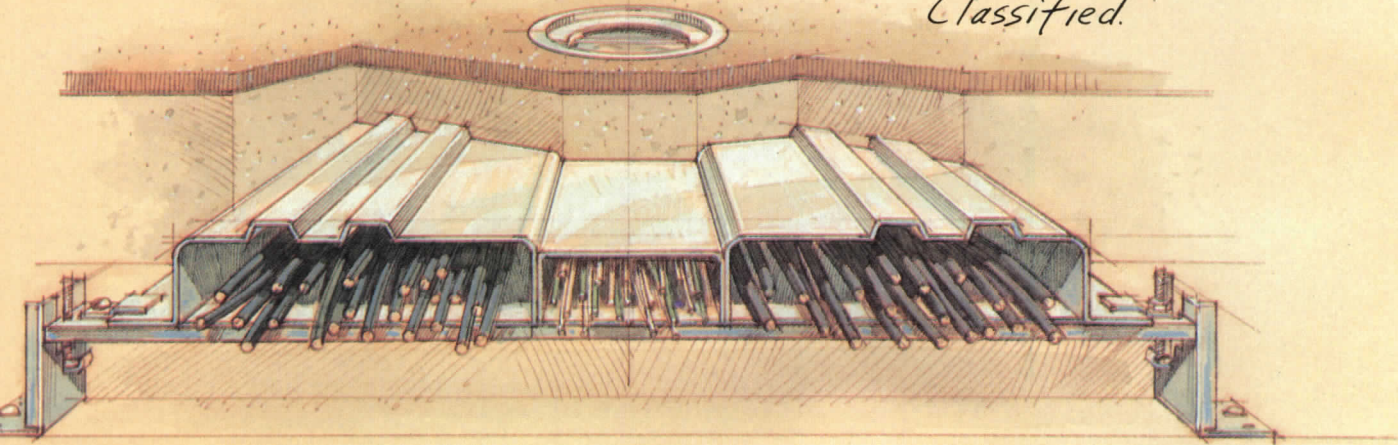


Patent Pending © Walker 1986

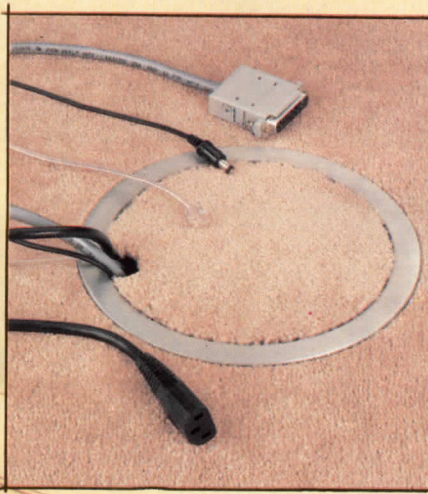
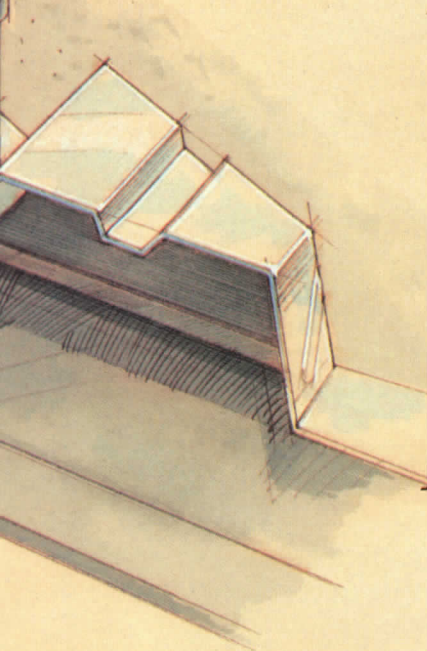
Circle 88 on inquiry card

*Also compatible with Walkercell™ cellular raceway for slab-on-grade or reinforced concrete construction.*

*U.L. Listed and Classified.*

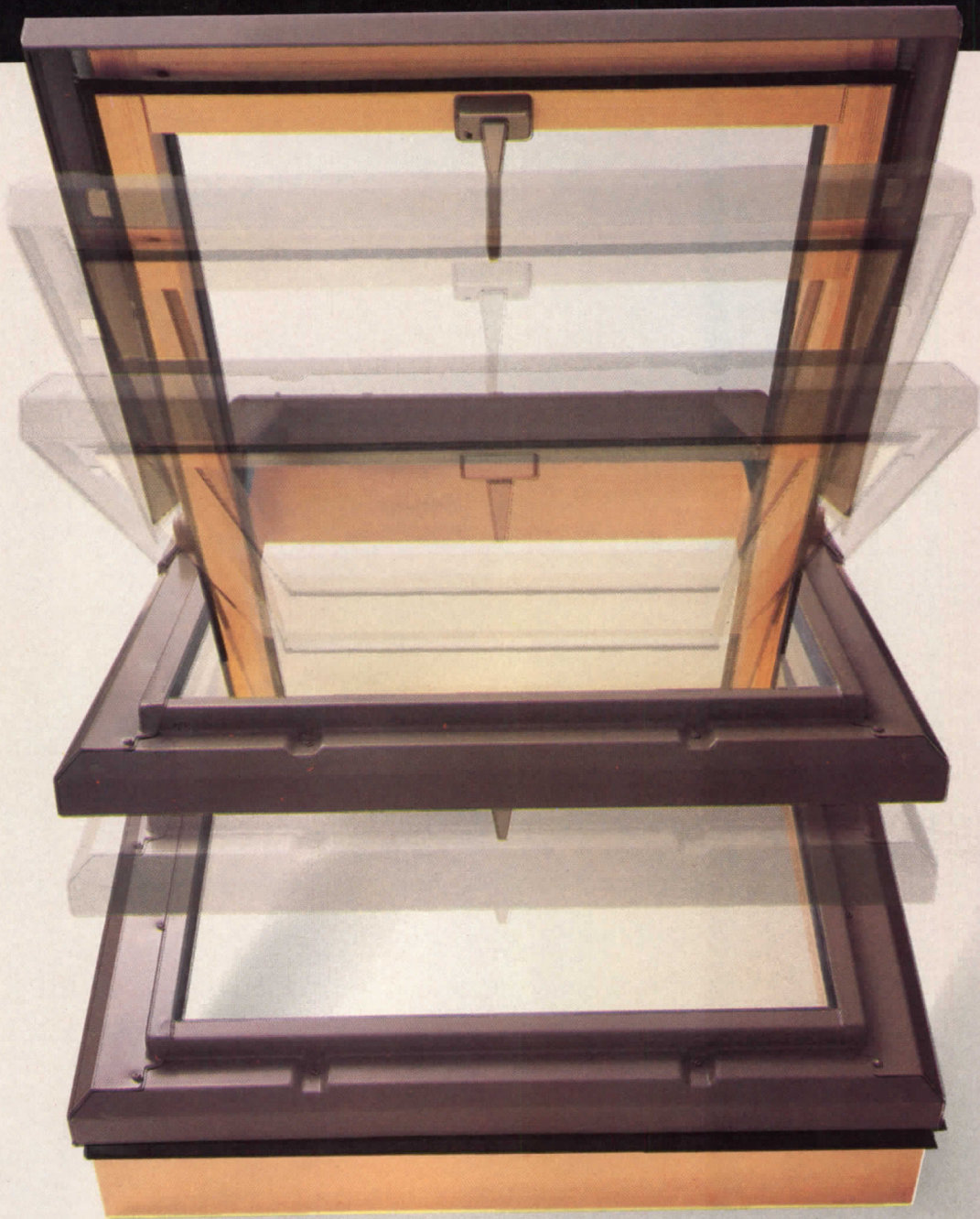


*Flange ring may also be used, fitting flush with carpet or tile.*





# AFTER MAKING ROOF WINDOWS THAT OPEN, CLOSE AND TILT,



Three years ago Andersen introduced a line of venting roof windows that were fully operating—with awning, pivoting and cleaning positions that locked securely. So weathertight they are virtually weatherproof. So advanced there are over 200 patents on the operating hardware.

Now Andersen introduces a line of stationary roof windows. Most folks say the first part was the hard part.

---

## MATCHING PERFORMANCE AND SIZES.

---

The new line of stationary windows matches the six sizes of venting units. The rough opening, frame dimensions and step flashing system are identical.

You can readily see the Andersen “family” resemblance. The same pleasing design lines and basic materials. The same Terratone-color

finish, and beautiful wood interior. Now stationary and venting units used together will ensure continuity of architectural design.

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## INSULATING GLASS THAT TOPS EVERYTHING.

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Standard on all Andersen® roof windows is our super-efficient High-Performance insulating glass.



# THIS NEW ONE MAY SEEM A TRIFLE BORING.



A microscopically thin coating permanently bonded to the glass surface between panes makes it even more energy efficient than triple-pane glazing and filters out 99% of the ultraviolet rays.

Optional High-Performance Sun is the ultimate for hot-climate efficiency.



## SOME EASY CHOICES.

An electric window opener includes a rain sensor which automatically closes window when first drops hit. Or choose a telescoping operating pole for high-up windows.

To find out more about our complete line of roof

windows, consult Sweet's File 8.16/An. Or call your nearby Andersen window distributor. Or write Andersen Corp., Box 12, Bayport, MN 55003.

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Come home to quality.

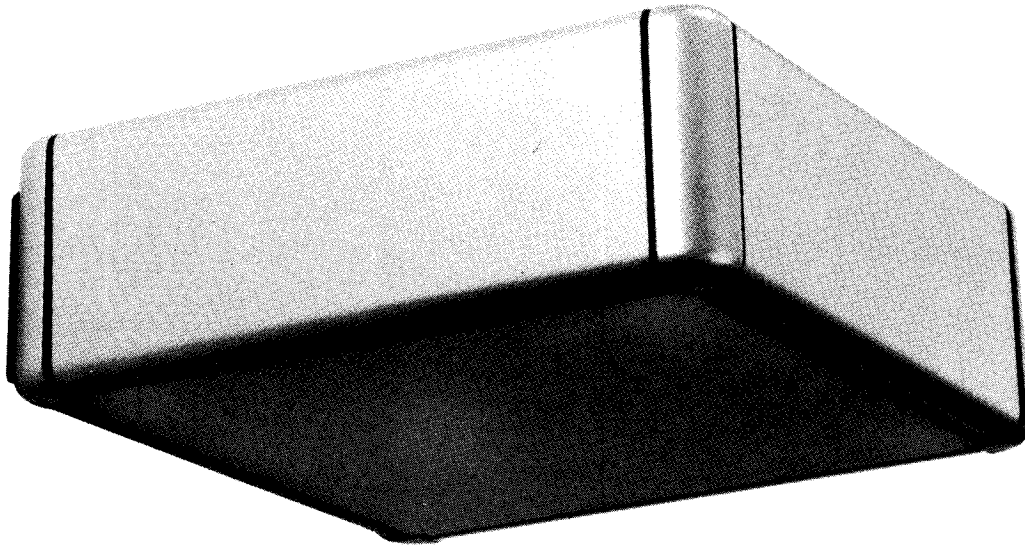


# Andersen

Circle 89 on inquiry card



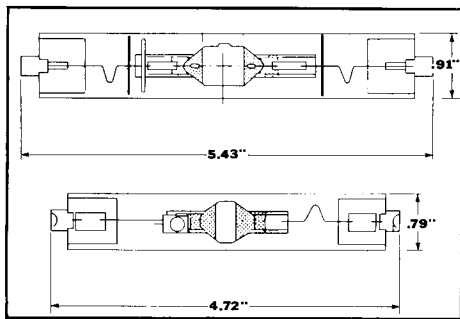
# New Lamp Technology By OSRAM



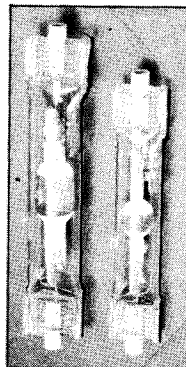
Color rendering is exceptional —and its stability greatly improved over earlier metal halide sources.

## The OSRAM Advantage

New, more compact, high efficiency, and excellent color rendering lamps are now available from OSRAM. In the new products shown here they are combined with the



HQI-TS 150 W & 70 W Lamps



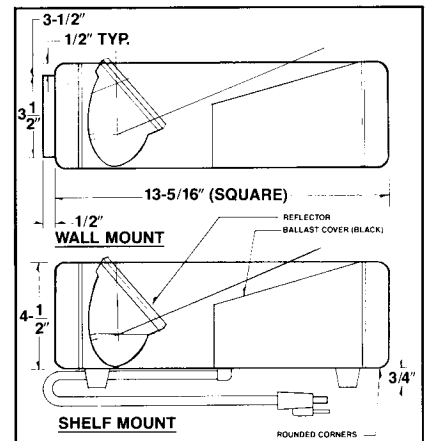
unique patented Elliptipar reflector that shapes the light into a broad asymmetrical pattern. This distribution is ideal for projecting light evenly across a large plane from a location on one side of that plane.

For the first time, this combination of lamp and reflector makes the efficiency of the metal halide source available for scores of applications limited until now to incandescent sources.

HQI-METAL HALIDE LAMPS						
Lamp #	Nominal Lamp Wattage	Input Wattage (Inc. Ballast)	Light Output (Initial Lumens)	Color Temperature	Color Rendering Index	Avg. Rated Life (Hours)
HQI-TS-70-WDL	70	94	5,000	3000°K	81	15,000
HQI-TS-70-NDL	70	94	5,500	4300°K	85	15,000
HQI-TS-150-NDL	150	185	11,250	4300°K	85	15,000
FOR REFERENCE, SINGLE ENDED TUNGSTEN HALOGEN LAMP						
Lamp #	Nominal Wattage	Input Wattage	Light Output (Initial Lumens)	Color Temperature	Color Rendering Index	Avg. Rated Life (Hours)
Q250/DC	250	250	4,850	2950°K	100	2,000
Q500/DC	500	500	10,100	2950°K	100	2,000

Elliptipar has been preparing for the introduction of these sources for three years and has available, for prompt response to your needs, an entire family of recessed and surface mounted units.

**LePak**<sup>TM</sup> incorporates Elliptipar's reflector and the new OSRAM metal halide lamps in a compact, low profile indirect lighting form with radiused edges and rounded corners. There



are four standard colors (with others available on special order). Construction is of extruded aluminum. The asymmetric reflector is adjustable. The ballast is integral. Two models are available: wall mounted (on a 1/2" reveal mounting plate) or shelf mounted (with cord, plug, and illuminated rocker switch).

**LePak**<sup>TM</sup> is an excellent choice for lobbies, reception areas, corridors, and offices.



# With Innovations By Elliptipar

SYLVAN R. SHEMITZ® DESIGNS

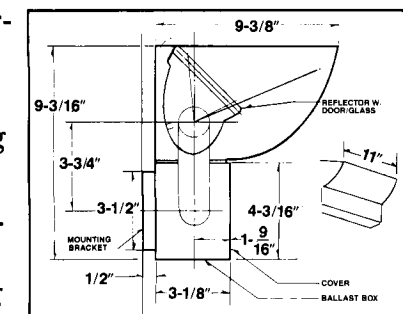
**Ensconce™** is a self-contained, compact lighting module designed to be concealed in an infinite variety of decorative enclosures. These can be made by Elliptipar (some are pictured), created by the designer, or provided by the architecture. The asymmetric reflector

is mounted to a ballast compartment by adjustable brackets.

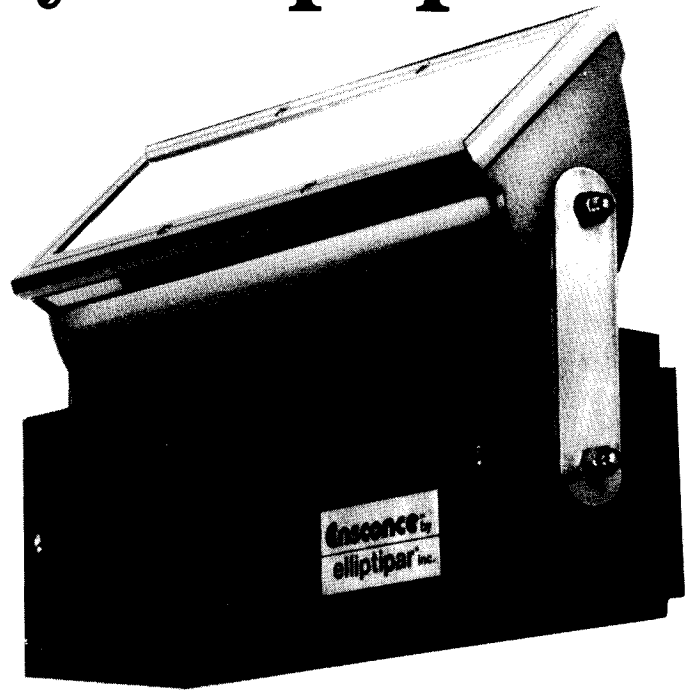
With new OSRAM lamps in Elliptipar's asymmetric reflector, the wall sconce can now be a high performance, indirect lighting instrument. The space is opened up physically and psychologically. Where applicable, period appearance or historic allusion can be maintained.

**Ensconce™** offers the designer flexibility; a high-powered light

source is available for virtually any sconce enclosure the designer can envision. Instructions regarding suitable dimensions to ensure proper performance are on Elliptipar's **Ensconce™** catalog sheet available to you upon request. (Also, see the Elliptipar catalog



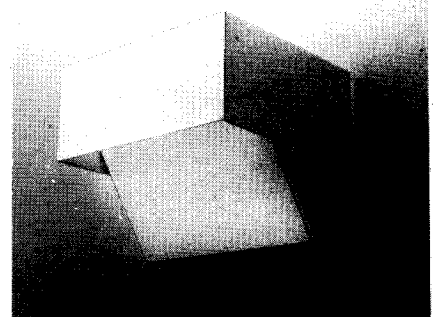
Schematic of ENSCONCE™



for other "Ensconce-able" light sources in the metal halide and tungsten halogen families.)

Where the decorative effects of wall sconces need to be matched by efficiency and performance—

hallways, lobbies, stairways, reception areas, theatres, educational, institutional, and office spaces, specify Ensconce™ with Elliptipar and OSRAM for dramatic results.



## OSRAM

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# Advanced design ROTO Roof Windows let in a lot more light

— while exceeding the energy efficiency  
of triple glazing!

Consider the facts: ROTO's world-famous slim profile design significantly increases the amount of glass area in relation to the overall roof window size, letting in up to a remarkable 80% more sunlight and passive solar energy than any other roof window available . . . and all new high-efficiency Low "E" glass comes as standard — *not an extra.*



*Install flatter, neater, trimmer*

Installation is surprisingly fast and easy. 3 models are available in 8 popular sizes, with a full range of options and accessories. Check Sweet's File 7.8/ROT and send or call for our 8-page color brochure.

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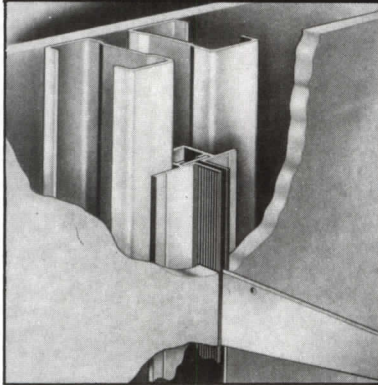
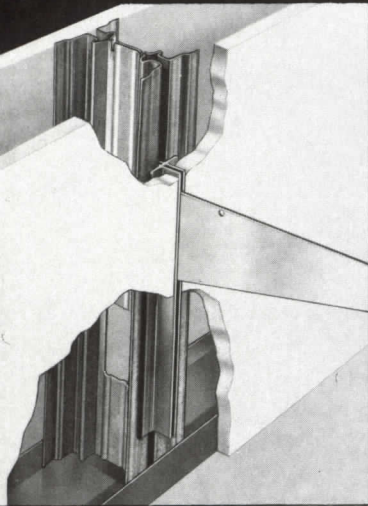


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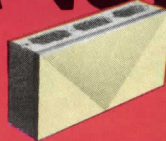
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**Crown METAL MFG. CO.**

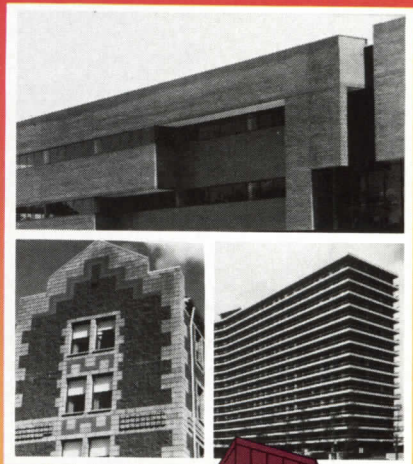
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\* Exciting interior beauty too!

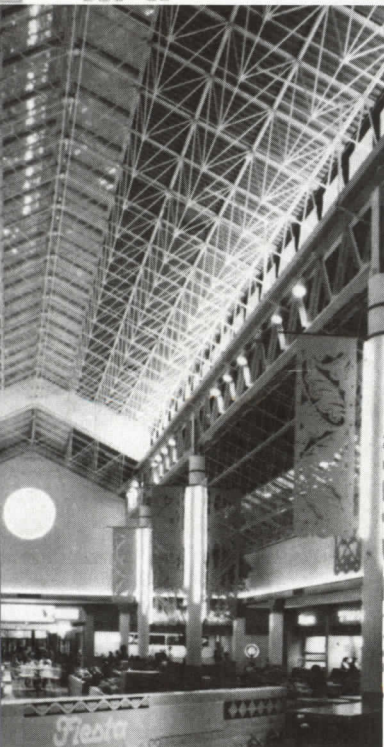
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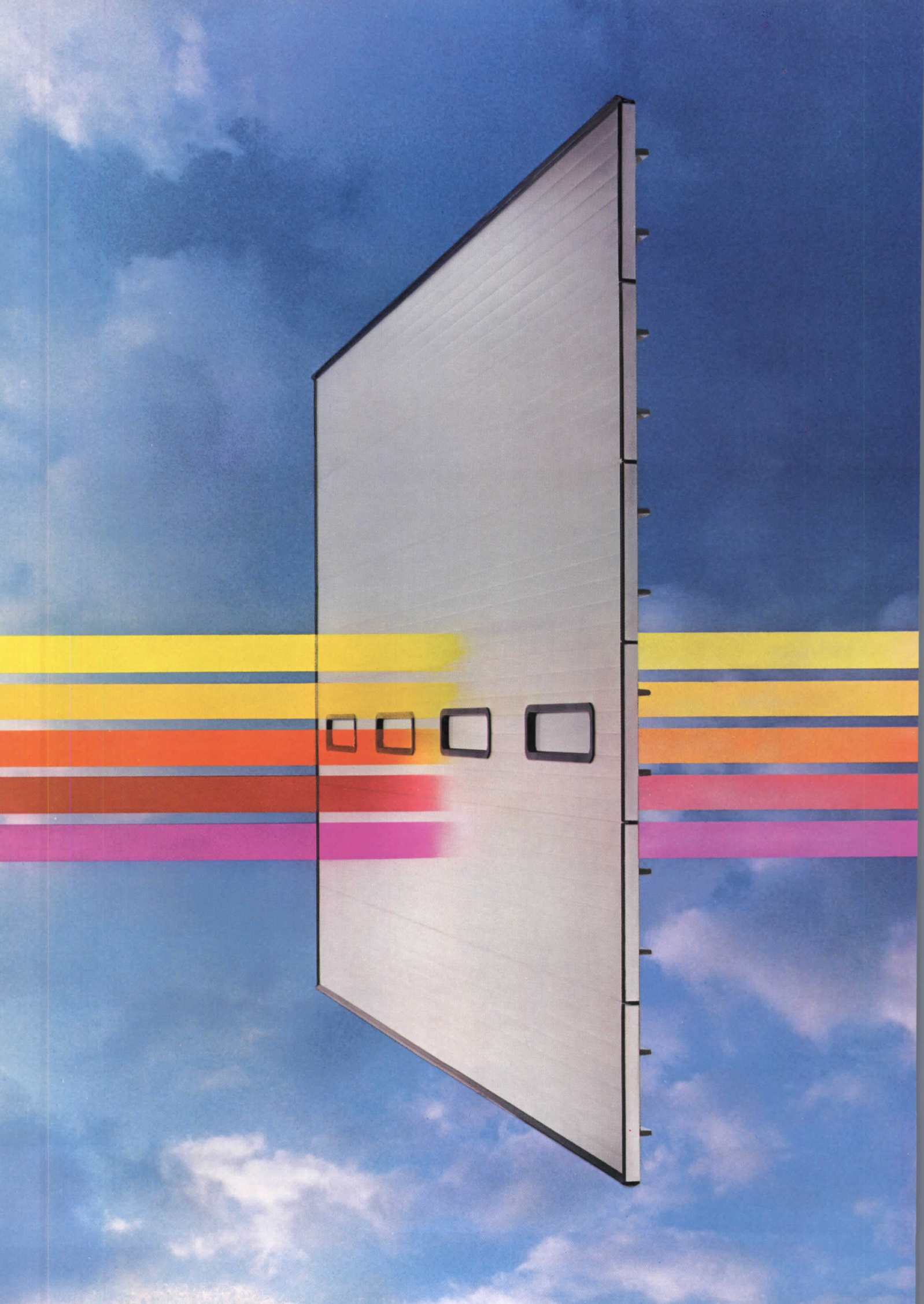
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AMERICAN INSTITUTE OF STEEL CONSTRUCTION  
FOUNDED 1921







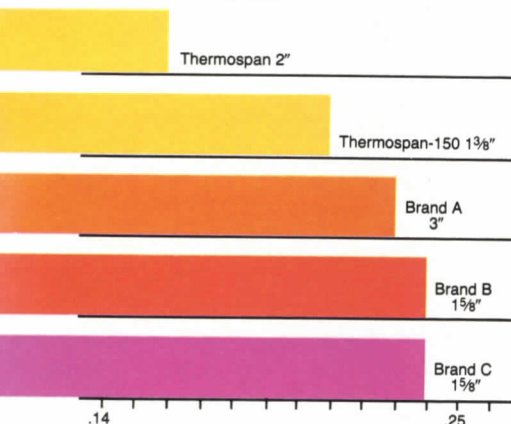
# It's what your door stops that counts.

Lots of traffic through your doors is generally a good sign in the world of business. But when heat and cold come to call, your doors – especially your insulated overhead sectional doors – shouldn't let them in.

When your building specs call for minimum heat transfer through overhead sectional doors, you should specify Thermospan™ insulated doors.

In a series of head-to-head installed-door tests conducted by Architectural Testing, Inc., the Thermospan 2" door proved to be significantly more energy efficient than other leading insulated doors.

## Thermal (U<sub>C</sub>) Test Results



All doors tested were 10'-2" x 10'-0" no-glass doors installed to manufacturer's specifications.

The independent testing service and the test procedure were recommended by the National Association of Garage Door Manufacturers.

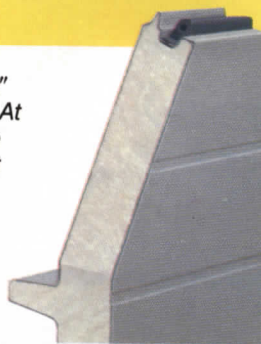
The Wayne-Dalton Thermospan-150 1 3/8" door also allowed less heat transfer than the competitive doors, including one 3" door.

It's the total door that determines heat transfer, not just the section. That's why we pay special attention to every aspect of the door.

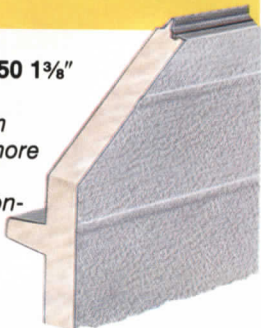
Thermospan sections have high-tensile steel skins with roll-formed integral struts. Sections are bound together by foamed-in-place polyurethane insulation. A complete thermal break along joints and end caps prevents heat transfer between skins.

Rubber bulb joint seals prevent air infiltration. Integral vinyl jamb seals raise with the door to eliminate seal damage when the door is open. U-shaped bottom seal won't ice up, seals against uneven floors. The factory-installed top seal prevents infiltration between header and door.

**Thermospan 2"**  
Top of the line. At least 43% more energy efficient than other non-Wayne-Dalton doors tested.



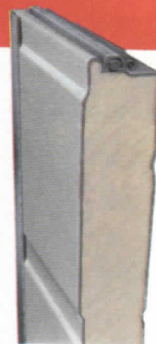
**Thermospan-150 1 3/8"**  
Competitively priced, premium door features, more energy efficient than the best non-Wayne-Dalton door tested.



**Brand A 3"**  
Polystyrene glued-in block insulation. Various moldings and end caps bridge thermal break.



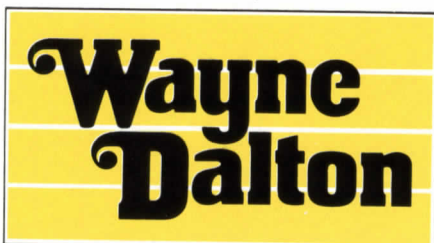
**Brand B 1 5/8"**  
Bare galvanized interior steel skin. Extra struts required on panels over 16' long.



**Brand C 1 5/8"**  
Foreign-made building panel converted for door manufacture.



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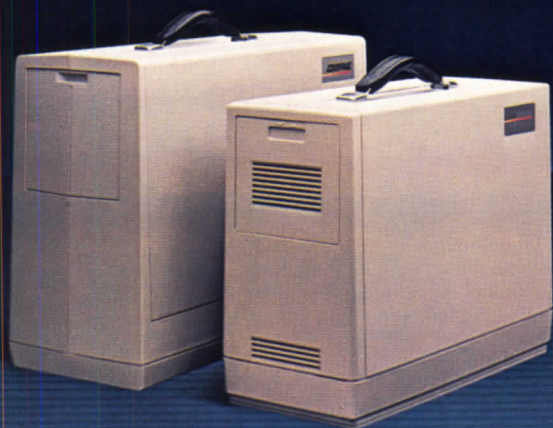
WAYNE-DALTON CORP. • MT. HOPE, OHIO 44660  
Phone 216-674-7015

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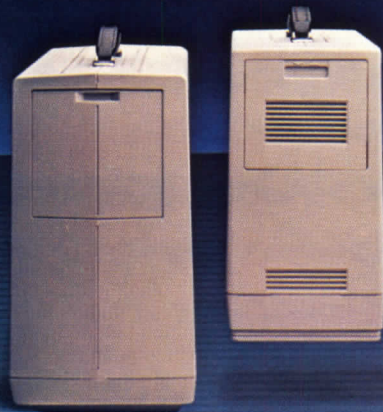
843-028



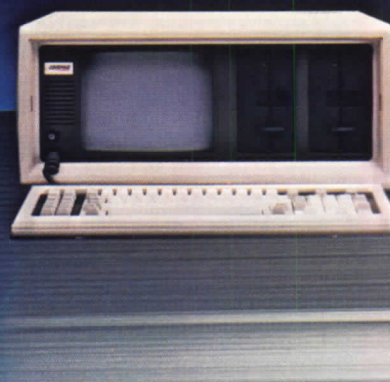
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# Mark your calendar.

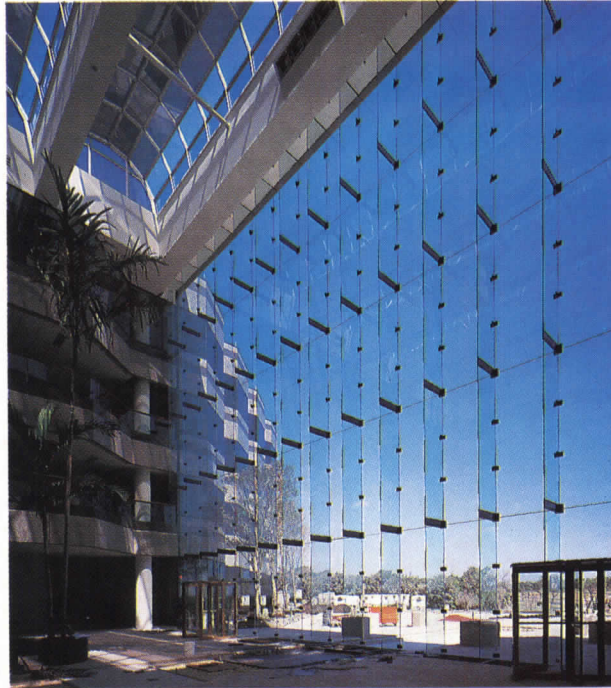


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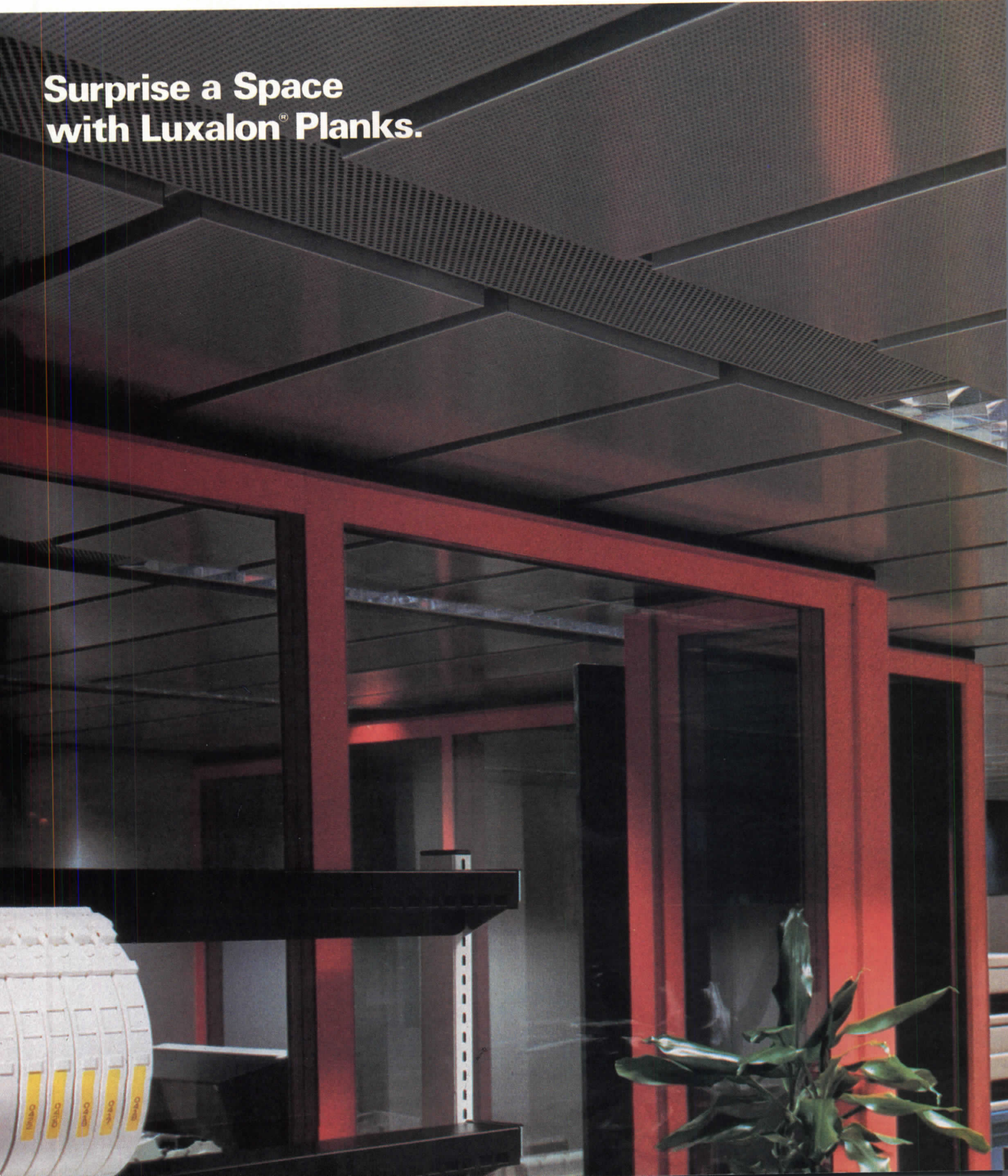
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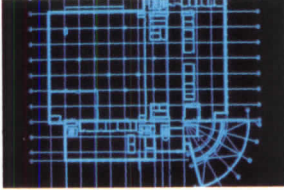
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Nobody looks at a building design quite the way architects do.

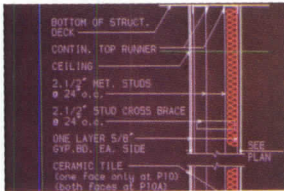
When a contractor sees a plan, he thinks of materials and schedules.

Engineers envision system design and analyses. And facility managers look at your project with the bottom line in mind.

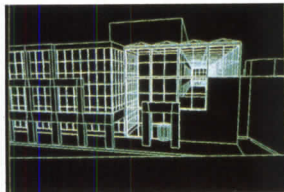
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See us at AE Systems in Chicago, Booth 1033, June 24-27,  
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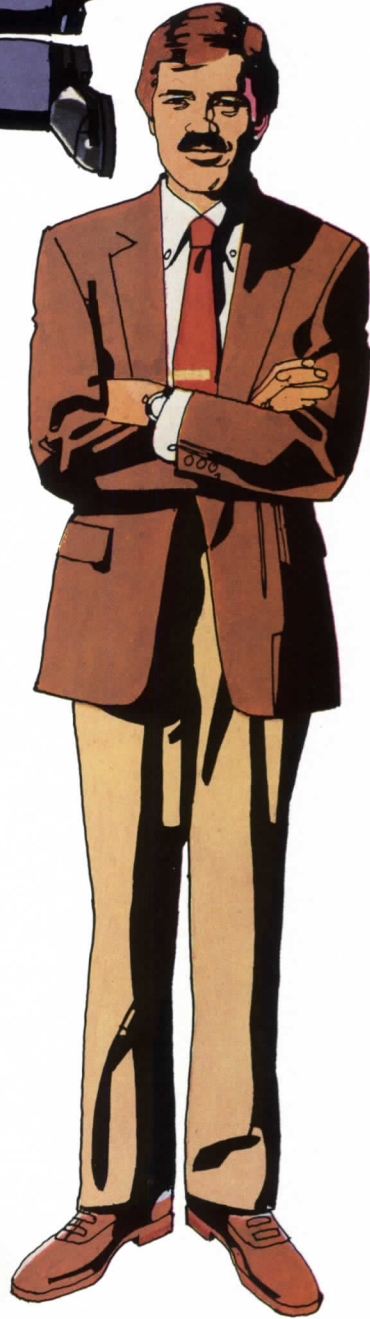
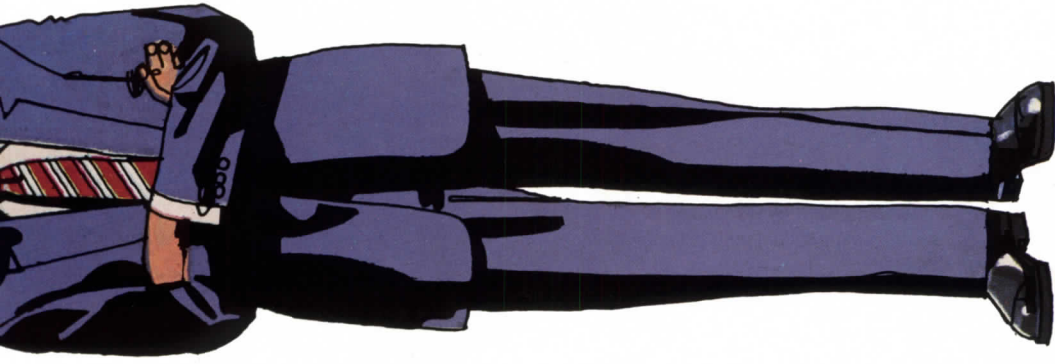
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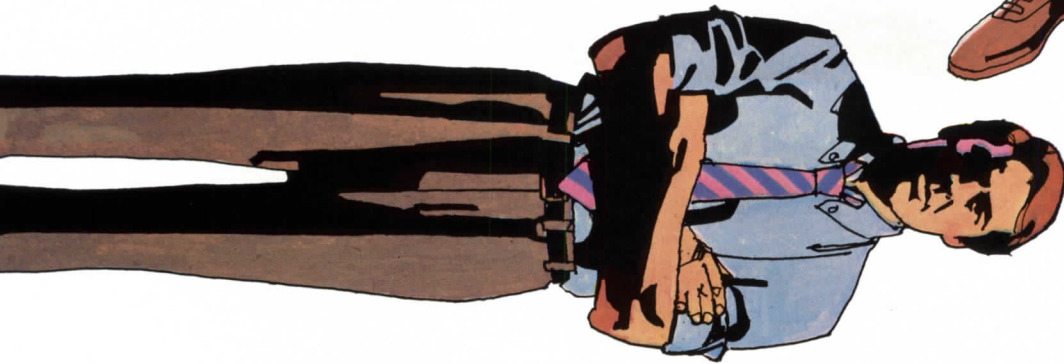




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- Greg

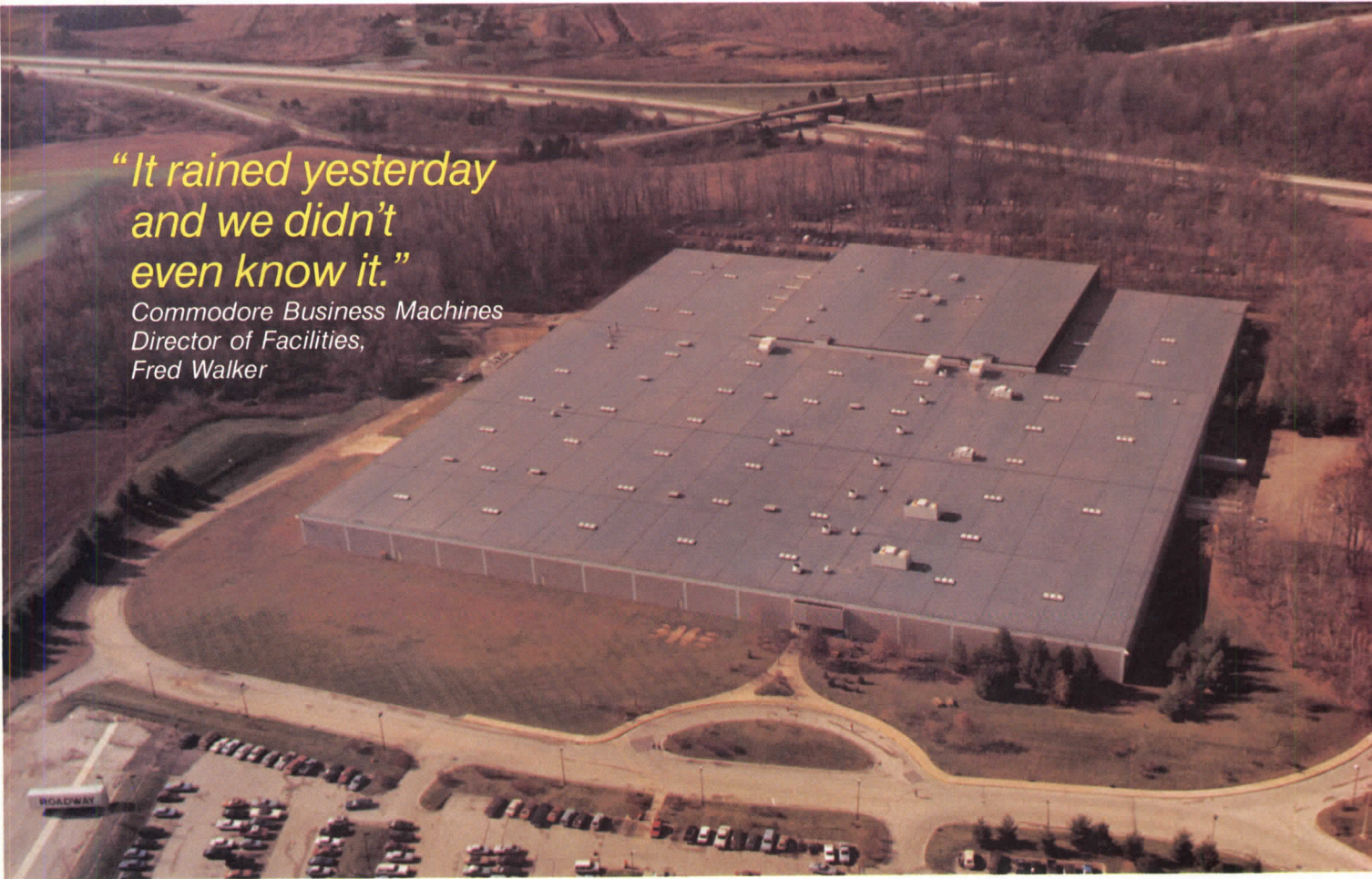
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See Intergraph's Integrated Architectural Design system  
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*"It rained yesterday  
and we didn't  
even know it."*

Commodore Business Machines  
Director of Facilities,  
Fred Walker



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**There is no equal.**

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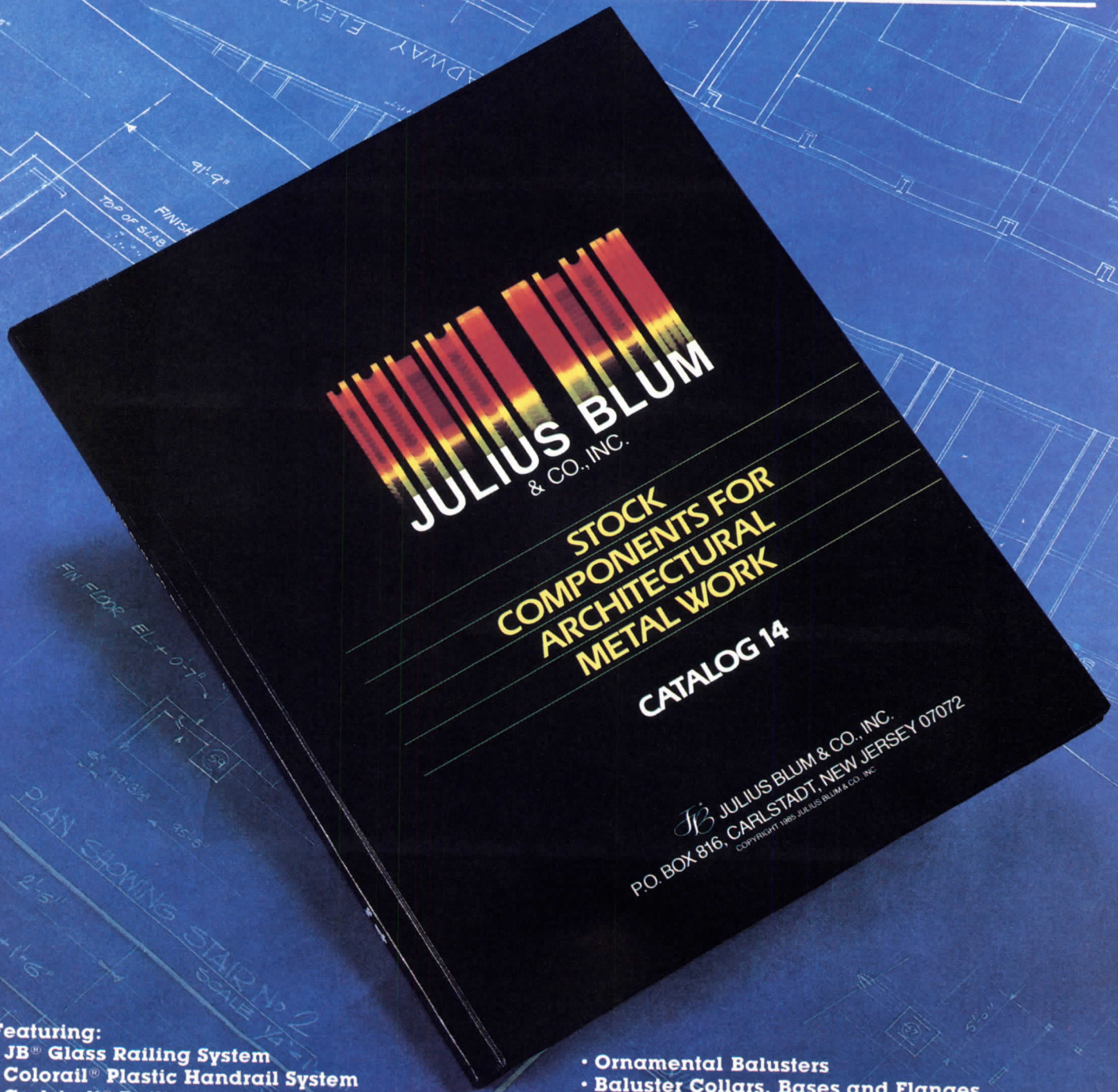
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# HORIZON

		<ul style="list-style-type: none"> <li>■ Horizon strip window and wall system are compatible.</li> <li>■ Strip window features flush structural silicone glazing or conventional gasket glazing.</li> <li>■ Single or double glazing.</li> </ul>	
<ul style="list-style-type: none"> <li>■ Thermally improved</li> <li>■ Interior and exterior colors can be the same or different.</li> <li>■ Choice of glass, aluminum, stainless steel or stone panels.</li> </ul>			
	<ul style="list-style-type: none"> <li>■ Pressure equalization</li> <li>■ Nine metallic fluoropolymer colors standard.</li> <li>■ One piece structural tubular million in lieu of multiple pieces.</li> </ul>		

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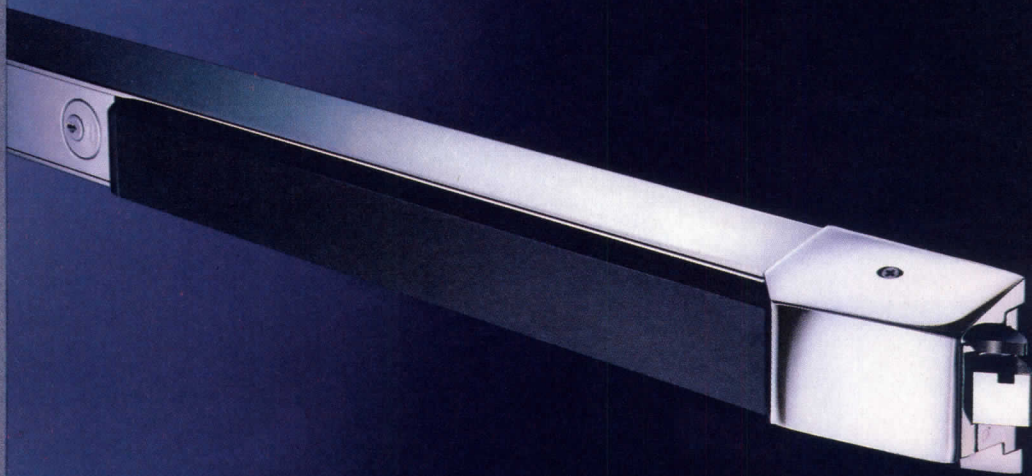
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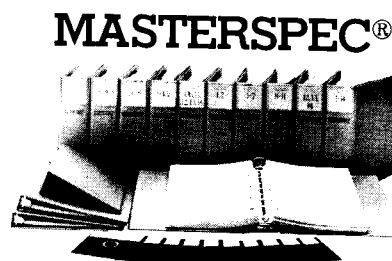


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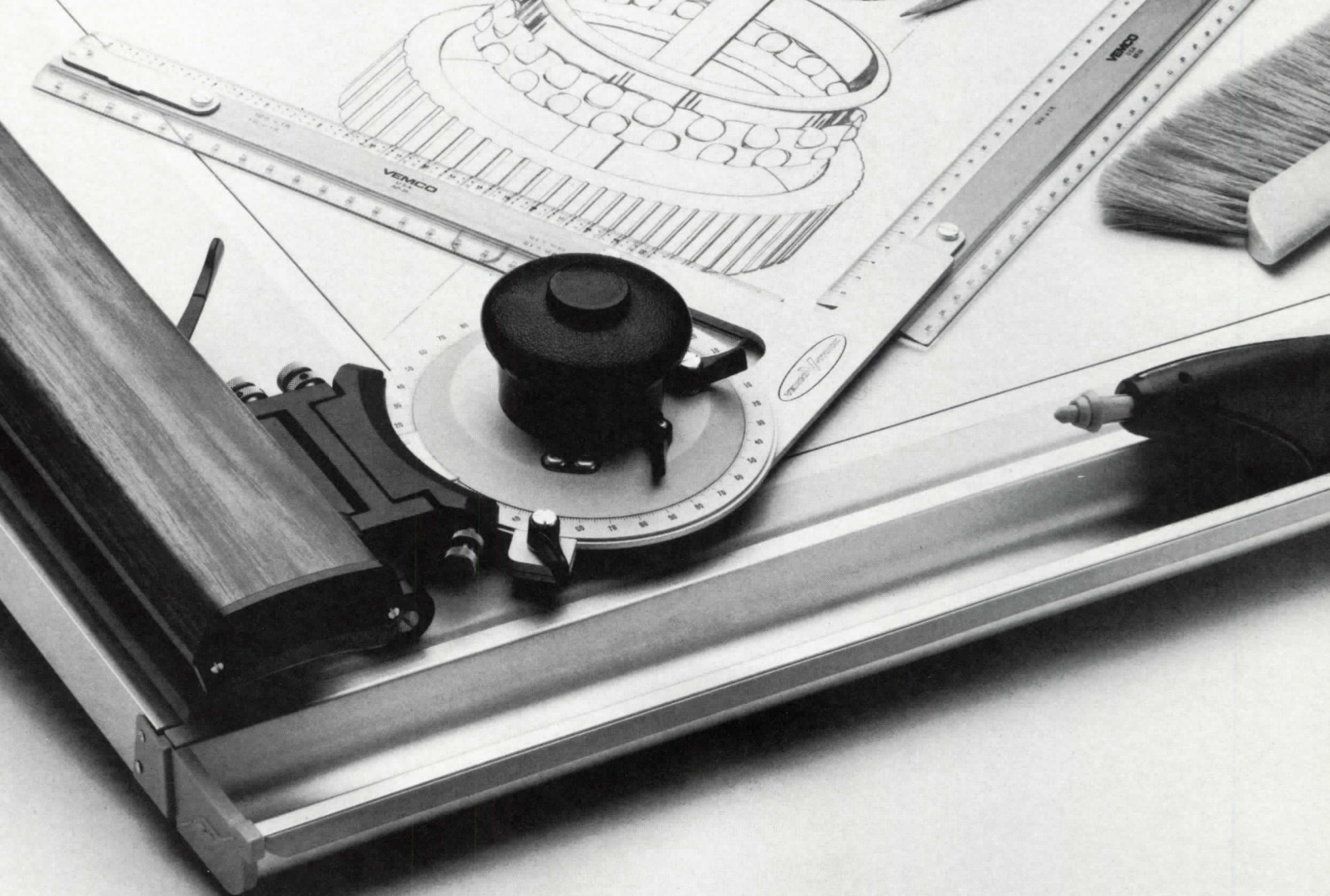
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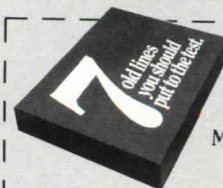
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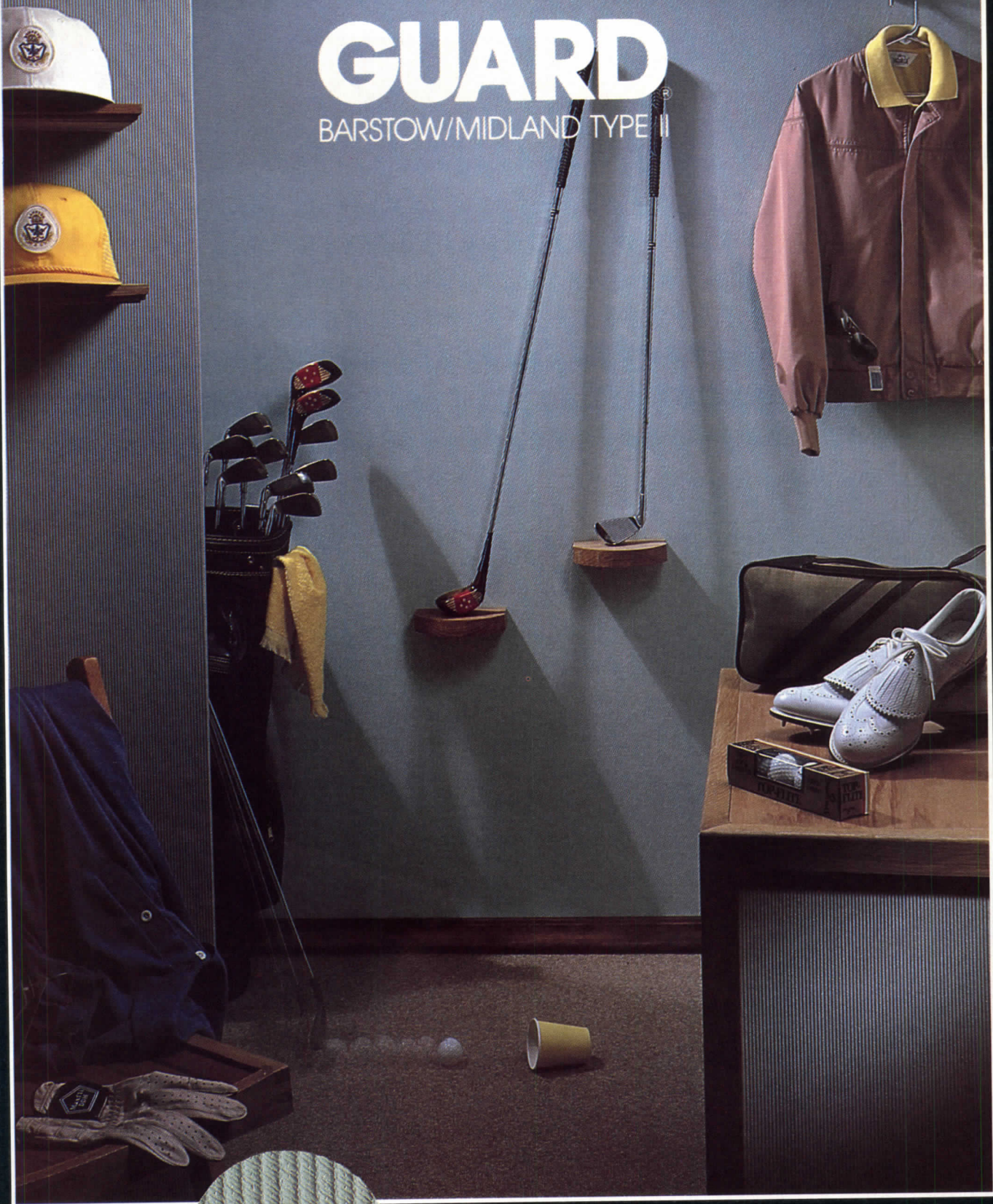
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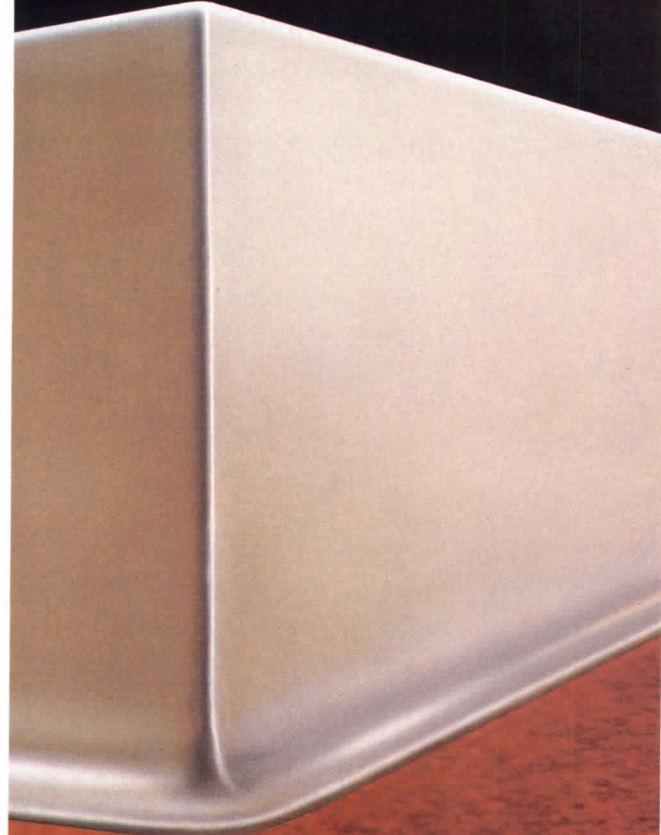
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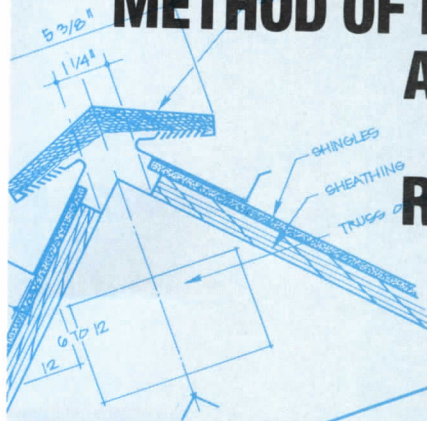
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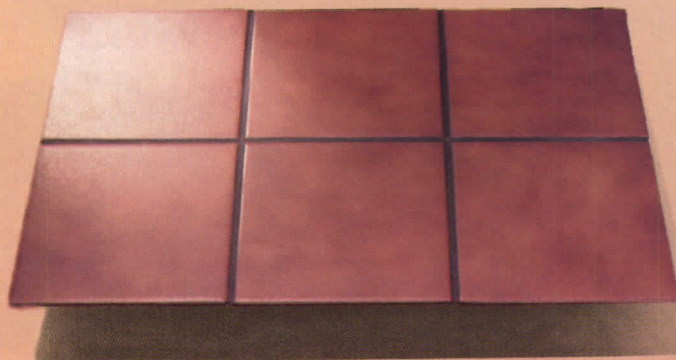
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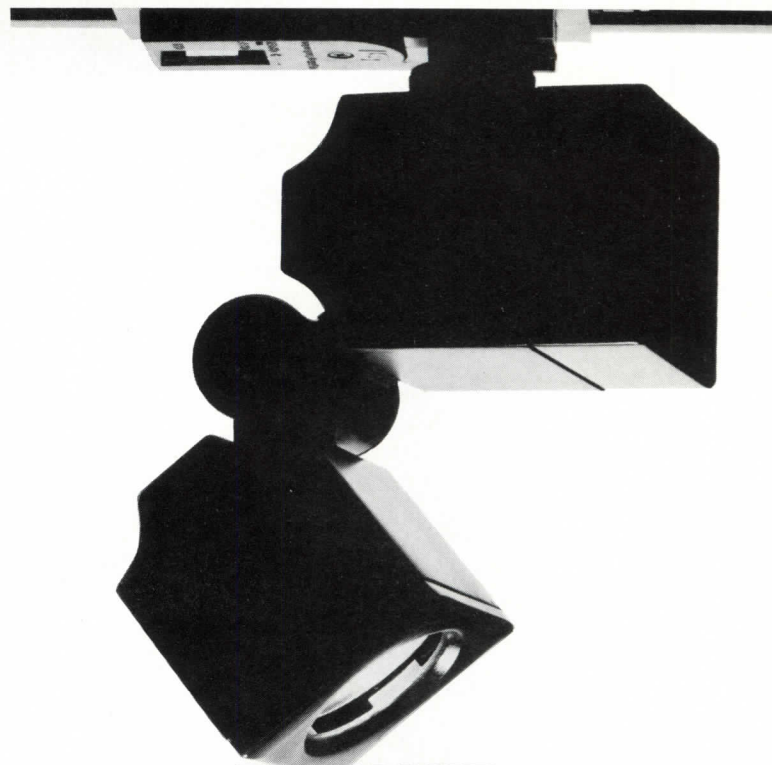


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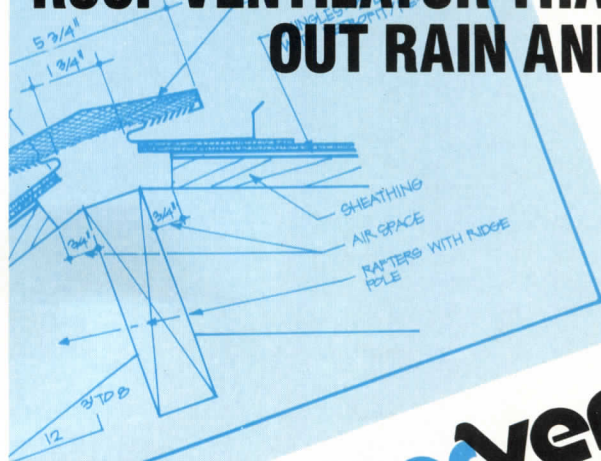
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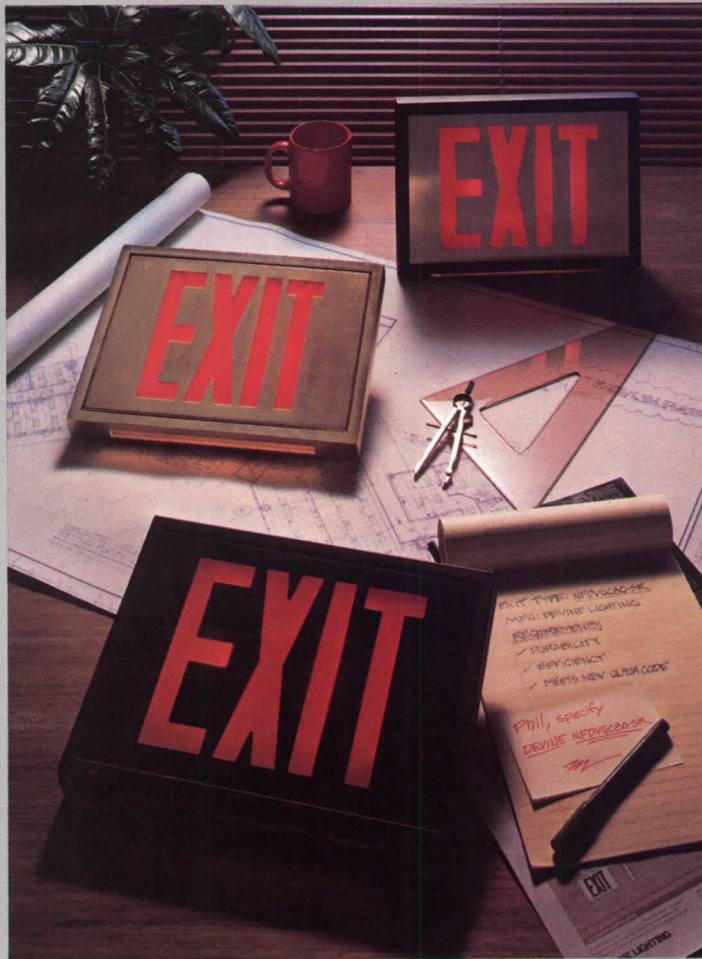
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# Are you ready for UL924?



## **SPECIFY DEVINE EXITS. MEET NEW UL924 CODE.**

You can specify quality emergency exits today that comply with tomorrow's new requirements.

The NFDVG80 emergency profile exit from Devine Design is now available.

The new guidelines were developed with a single goal in mind: save lives. Performance in the emergency mode demands reliability and visibility. That's why UL924 requires signage letters at least six inches tall with a minimum stroke width of 3/4 inch. Furthermore, luminance must be high enough to provide a contrast ratio at least .5 even after 90 minutes of battery operation. Designing an exit to meet these requirements wasn't easy but we did it. Availability isn't the only reason to select this exit though; we have four other good reasons to specify Devine.

### **VERSATILITY**

No matter the application, the NFDVG80 can handle the job. The crisply styled exit offers six mounting arrangements including the UM Universal Mount, six face styles, and incandescent sources. We even offer this as a standard exit—the NFG50 exit—with the option of

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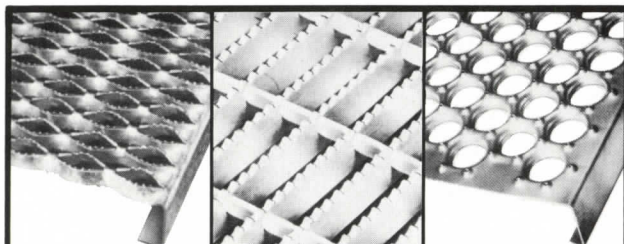
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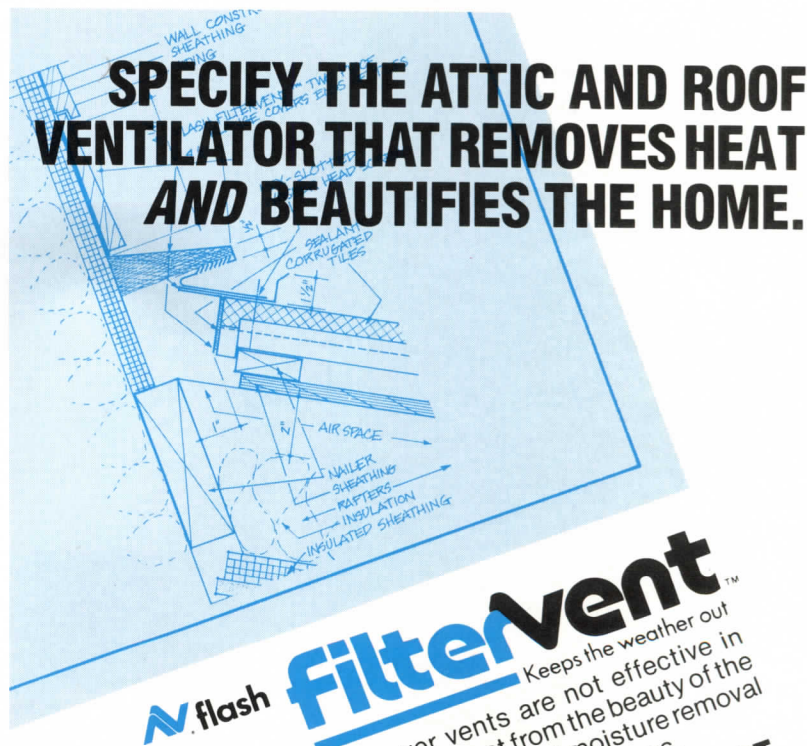
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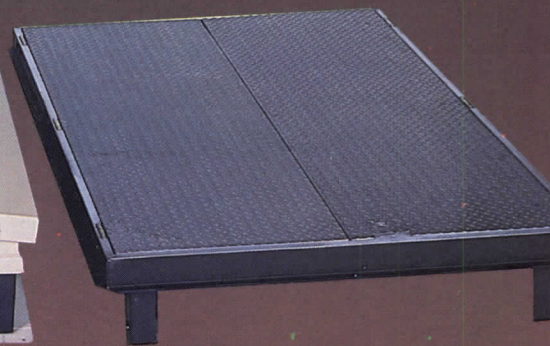
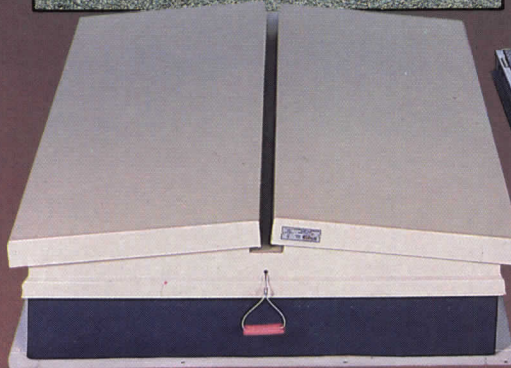
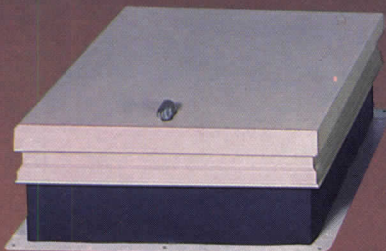
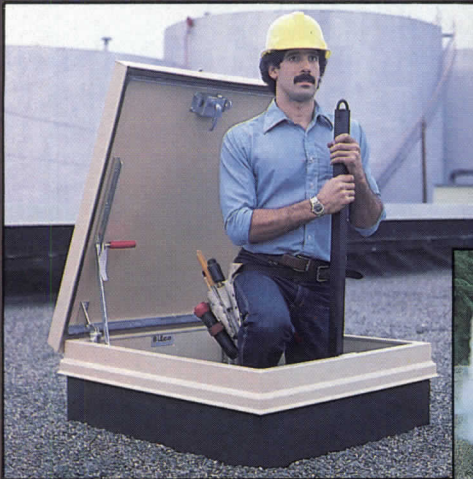


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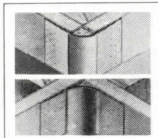
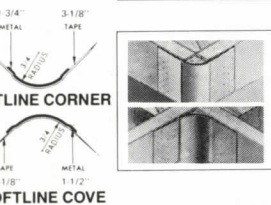
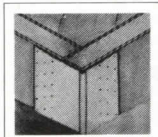
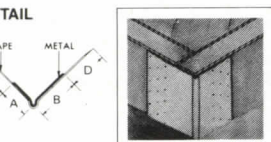


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STYLE	DIMENSIONS				DESCRIPTION
	A	B	C	D	
B-1	15/32"	23/32"	5/8"	5/8"	BEADEX OUTER CORNER Concealed Metal.
B-1W	19/32"	27/32"	13/16"	13/16"	Galvanized metal corner bead laminated to exposed paper tape offers an excellent bond for joint cement and paint. For use on any thickness of wallboard.
B-1XW	23/32"	31/32"	11/16"	11/16"	

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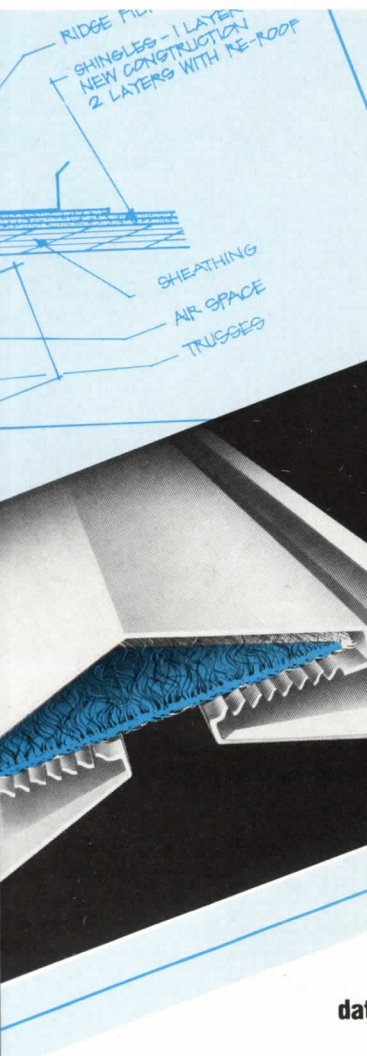
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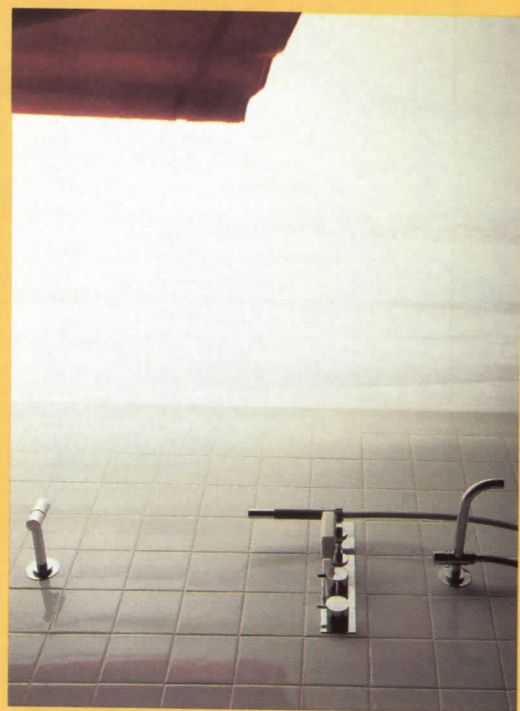
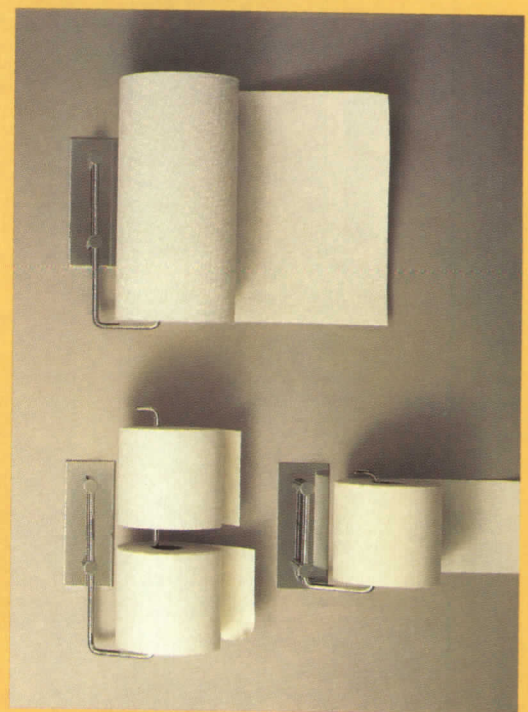
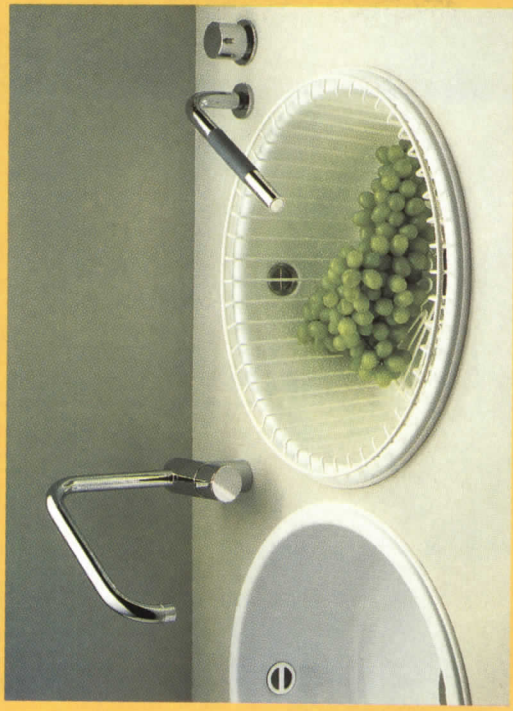
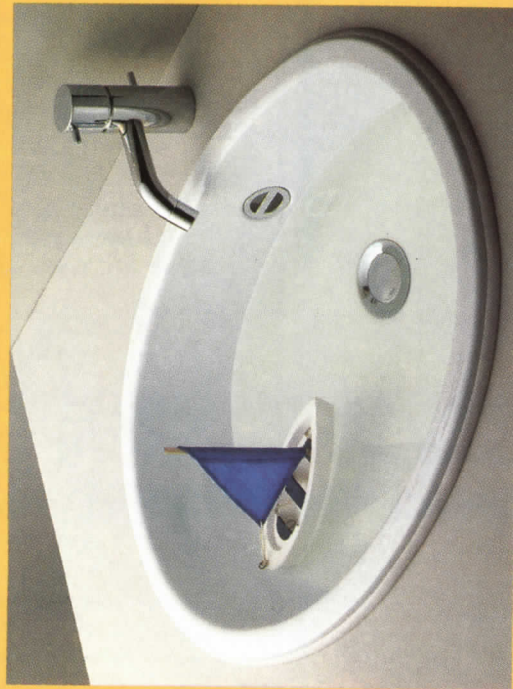
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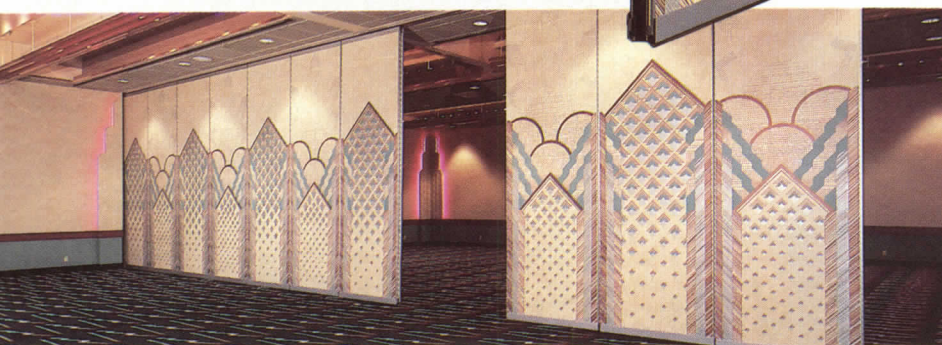


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Radisson Hotel Metrodome, Minneapolis, MN

# Beautiful function.

**The Hufcor Omni Movable Wall. Looks beautiful. Insulates sound and functions like a permanent wall.**

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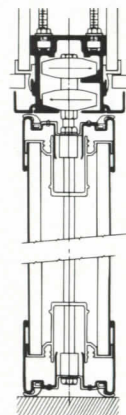
The unique omnidirectional track allows fast, easy movement of acoustical walls—even around 90° corners and through intersections. A Hufcor movable wall can be rotated almost as easily as turning a playing card in your fingertips.

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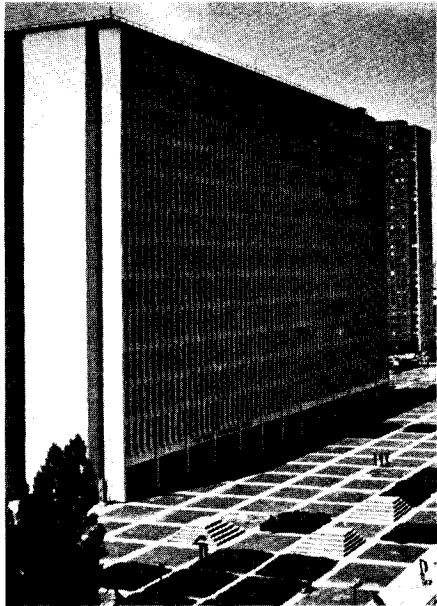
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# What Do These Prestigious Buildings Have In Common?

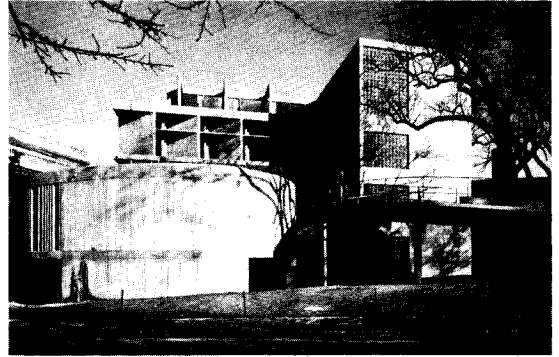
**FORDHAM UNIVERSITY**



**SEALED WITH POLYSULFIDE 1965**

*Lincoln Square of Fordham University  
New York, NY  
Architect: The Perkins & Will Partnership*

**CARPENTER CENTER, HARVARD UNIV.**



**SEALED WITH POLYSULFIDE 1963**

*Carpenter Center For The Visual Arts  
Harvard University  
Cambridge, Massachusetts  
Architect: Le Corbusier*

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*United Airlines Headquarters  
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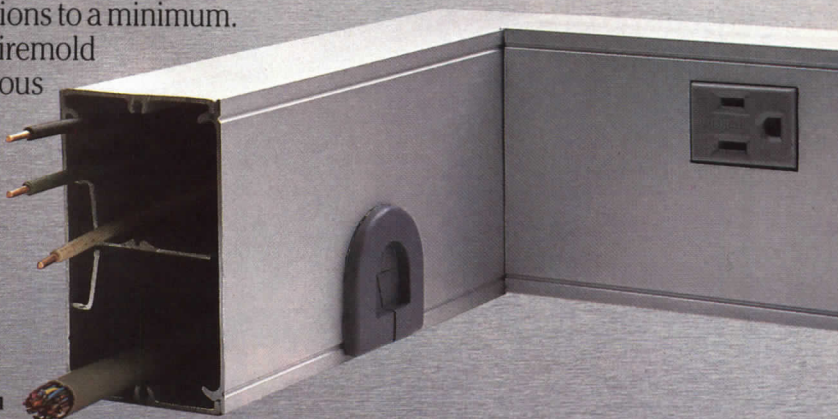
Simply specify lengths with ready-to-assemble butt corners and fittings. Both the one and two compartment raceways are pre-wired for your power requirements. The system comes ready for fast, easy installation, holding on-site alterations to a minimum.

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# “Bob Chinn’s Crab House Restaurant offers seafood excellence and unusual customer convenience thanks to Sloan OPTIMA<sup>®</sup> faucets.”

As owner of one of the nation’s best seafood restaurants, Bob Chinn knows that customers may want to wash up after enjoying dishes like fresh Alaskan King Crab and Hawaiian Mahi Mahi.

That’s why his Crab House Restaurant dining



areas include the novelty of five hand-washing stations featuring Sloan No-Hands automated faucets.

The Sloan OPTIMA No-Hands system uses an electronic sensor

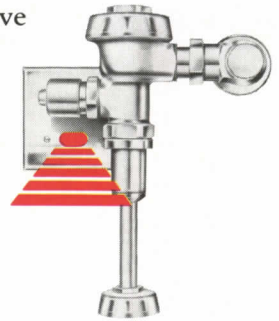
that “sees” the user and automatically turns the faucet on and off—only as needed. This eliminates hand- or foot-actuated faucet controls which can get messy or are awkward to use.

The results: A faster, easier way to wash up. Reduced water usage and maintenance. And greater convenience for customers.

The Sloan OPTIMA No-Hands system meets all building codes and easily adapts to existing sink and plumbing hookups. The system is also compatible with soap dispensers, hand dryers,

toilets, and urinals.

Ask your Sloan representative about Sloan No-Hands automated systems. Or write us.



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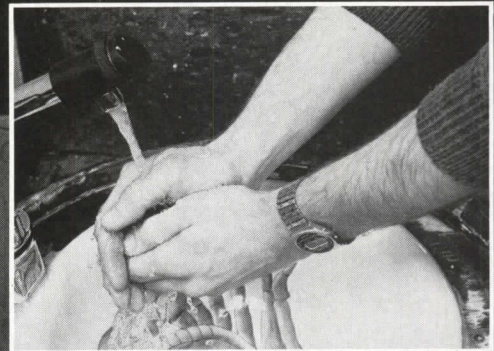
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*A Tradition of Quality and Pride*

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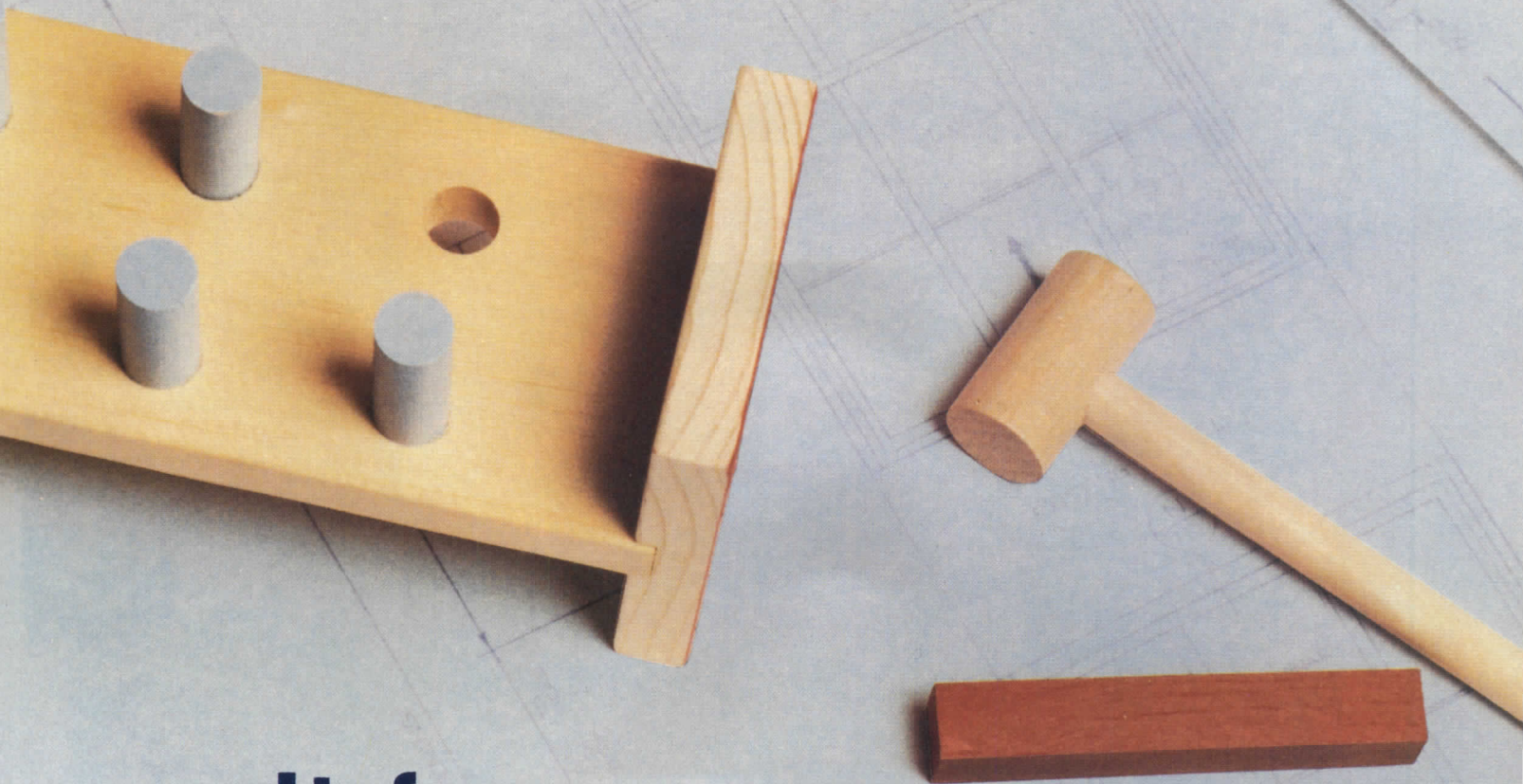


Bob Chinn's Crab House Restaurant in Wheeling, Illinois, posts copies of each day's airfreight bills for customers to see what fresh delicacies from around the world are being offered. Current plans include a \$1.4 million, 300-seat expansion featuring Sloan OPTIMA-equipped restrooms and dining area wash-up stations.





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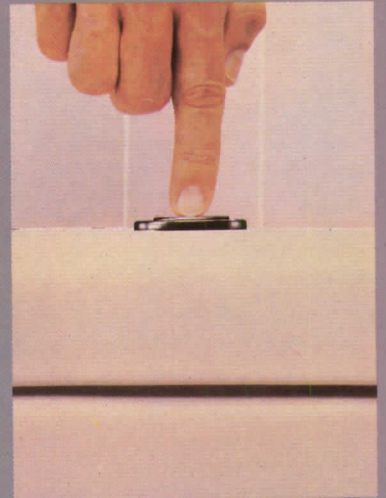
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# 9 Reasons why Mach 5 is a sound professional investment

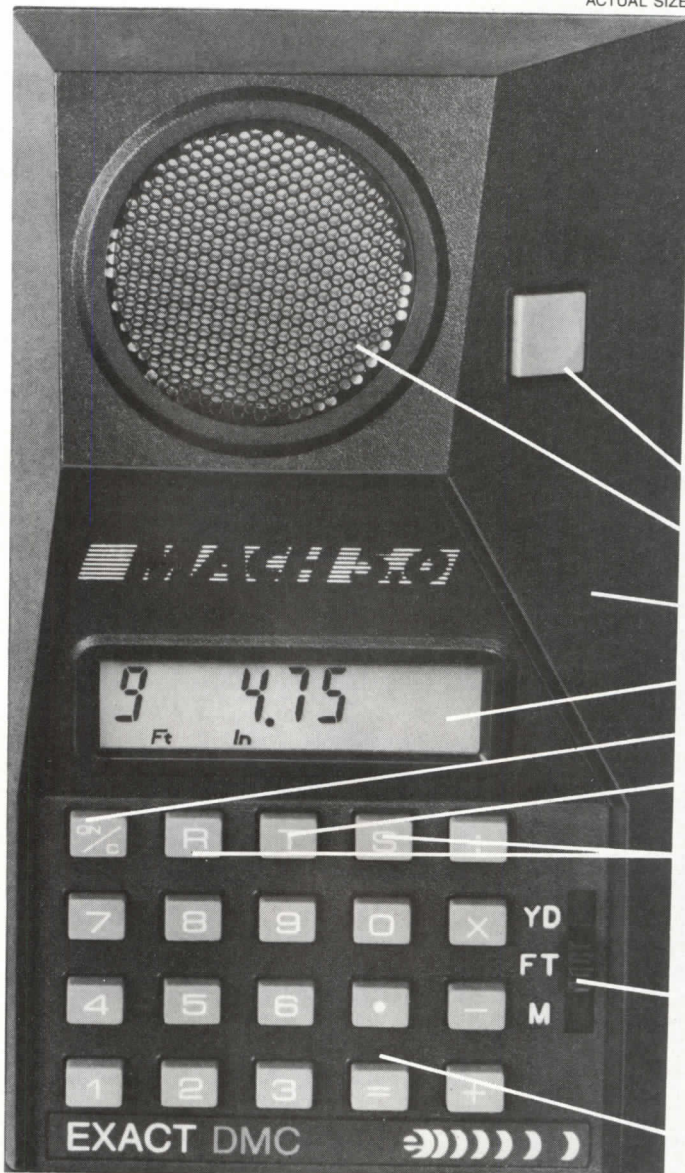
## Measures Distance at the Speed of Sound

- 1. Saves you money**  
Estimating and measuring jobs can now be done in a few minutes—not hours.
- 2. Saves you time and manpower**  
Two man jobs can now be done by one. The man-hours you save on one estimating job alone will more than pay for the Mach 5.
- 3. Saves you cost of materials**  
Not only will you save time and manpower, but with quick, accurate measurements you will order less product for a job. Makes over-estimating a thing of the past.

### Accuracy

The Mach 5 is accurate to within one half of one percent in its normal operating range of one to fifty feet.

- 4. Now you can easily figure room area**  
Place unit against one wall and press actuator to readout distance to the opposite wall. Press "X" key and place on adjoining wall. Press actuator button and then the "=" key to read out area.
- 5. Quickly measure ceiling height and room volume**  
Place unit on floor, press actuator button and multiply ceiling height by room area to get the room volume.
- 6. Enhances your professionalism**  
You can do cost estimates on the spot using fixed markups, conversion factors, cost per yard you store in the calculator's 10 memories.
- 7. Instant conversions to meters, yards, or feet.**
- 8. Room temperature at the press of a button.**
- 9. Rugged, portable—battery good for 200 measurements a day for one year.**



Measures wall to wall at the press of a button.



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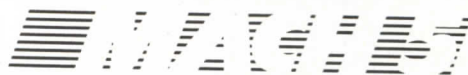
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# Manufacturer sources

For your convenience in locating building materials and other products shown in this month's feature articles, RECORD has asked the architects to identify the products specified

**Pages 118-123**  
University Hospital,  
The University of Michigan  
by Albert Kahn Associates, Architects  
**Pages 118-119**—Pole lighting: Sterner Lighting Systems, Inc. (Executive Luminaire). Exterior masonry: Brick Craft, Inc. (Stonecreek). Strip windows, patient tower: Amelco, Flour City Architectural Metals Div., E. G. Smith Construction Products, Inc. Glazing: LOF. Windows, diagnostic and treatment base: Ware Aluminum Windows, Inc. Glazing: PPG. Glazed walkway: Supersky Products. Glazing: Viracon, Inc.  
**Page 120-121**—Planar ceiling (throughout): Donn Corp. (Paraline). Cove lighting: custom. Seating: Add Interior Systems, Inc. (Raphael Lounge Seating); Gunlocke (Phoenix Chair). Upholstery: Unika Vaev (Twilight); Metropolitan Bedford (Mauve). Carpeting: Gulistan "Microvel" by J. P.

Stevens & Co.  
**Pages 121-122**—Recessed lighting: Marco (mercury vapor, 250 watt). Flooring (throughout): General Polymers Corp. (Deco-RE2 Thinsert Epoxy Terrazzo). Column and wall paint (throughout): Glidden (3700 Spred Latex Enamel). Phone kiosk, sisal wallcovering: Cordemex. Linear diffusers: Titus Products (ML Series). Maple railing vinyl insert: Commercial Plastics (Acrovyn). Molded mineral ceiling tile: Celotex Corp. (Safetone). Sprinklers: Reliable (Model G1). Recessed downlights: Lithonia. Perimeter fluorescent: Illumination Concepts and Engineering.  
**Page 123**—(upper left)—Sprinklers: Viking Corp. (Decor Line). (lower left)—Beds: Hill-Rom. Patient chair: Nemschoff (260 Series). Guest chair: Thonet (Model 1344). Lay-in lighting fixture: Lithonia (2GS Series).

(top right) Wire glazing: Hordis Brothers, Inc. (lower right) Files: Steelcase (Movable wall system). Counter tops: Ralph Wilson Plastic Co. Troffer lighting: Lithonia (Paramax). Secretarial chairs: Steelcase (430 Series).

**Pages 124-125**  
Hughes Spalding Medical Center Addition by Nix Mann and Associates  
Panel skin: Alucobond. Curtain wall: Amarlite PBS-380. Finish: Duranar X-L. Glazing: Guardian. Glass block: Pittsburgh Corning. Benches: Forms and Surfaces. Rubber flooring: Pirelli. Reflective ceiling: Integrated Ceilings. Downlights: Lightolier. Paints: Glidden. Station chairs: Comforto.

**Pages 126-127**  
Mercy-Memorial Medical Center Addition by Hansen Lind Meyer, Architects  
Precast masonry panels: PreCeon/Shock Beton. Windows and greenhouse: Kawneer. Sculpture (in courtyard): "The Marsh" by James Clover. Security screens (on roof): Cyclone Fencing. Paint: Benjamin Moore. Wire glazing: PPG. Wall Vinyl: General Tire & Rubber. Ceiling finish: Armstrong. Carpet: Hollytex and Charleston. Railings: Superior Wood Products. Furniture: Kimball. Tile flooring: Fiandre. Push bars (panic bars): Corbin. Ceiling tile: Armstrong. Recessed lighting: Keene. Wood grid: fabricated by Jim Ware.

**Pages 128-129**  
U.S. Navy Branch Medical Clinic by Bobrow/Thomas and Associates  
Masonry: Angelus Block. Steel grids: Golden Gate Steel. Paint: Sherwin Williams. Entrance: Stiles. Skylight: Kalwall. Vinyl flooring: Azrock Floor Co. Clearstory windows: Stiles. Operating windows: Torrance Steel. Interior doors: Haley Bros.; Laminart finish. Counters: Gold Coast Cabinets. Laminate surfaces: Wilsonart. Seating: Herman Miller. Tile flooring: Select Tile. Automatic doors: Besam. Locks: Falcon.

**Pages 130-131**  
East Austin Multipurpose Center by Coffee Crier & Schenk, Architects  
Ceramic Drum fixtures: Cleo McCall. Tile: Tala Vera Tile. Flooring: D'Hanis Tile Co. Paints: Pittsburgh Paint Co. Perforated hanging fixtures: custom by architects, fabricated by architects and Mind Over Metal.

**Pages 144-153**  
International Design Center, Center Two by Gwathmey Seigal & Associates  
**Pages 148-149**—Exterior paint: Thnec Paint (# 1722). Membrane roofing: Carlisle. Clear anodized aluminum entrance: Kawneer. Portico glazing: PPG. Aluminum-framed windows: Kalwall; Kawneer.  
**Pages 149-151**—Plastic laminate surfacing: Formica Color Core. Tile: American Olean. Reception desk: Creative Woodworking. Ceiling, wall and downlighting: custom by CHA Design, Inc. Flooring: Port Morris.  
**Page 152**—Barrier and stair railings; catwalks: custom by architects. Paints: Benjamin Moore (low lustre alkyd). Skylight framing: Fischer Frames. Glazing: I-Wall Panels.  
**Page 153**—Hall carpeting: Lee's Carpet. Signage: Signs & Decals. Elevators: Otis. Ash urns: Bobrick. Ceiling fixtures (30-in. dome): N.L. Corp. Sprinklers: Premier Fire Prevention.

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- **Curtain slats** are roll-formed from 22 gauge commercial quality **G-90 hot-dipped galvanized steel** in accordance with ASTM A-525 and ASTM A-526. Slats are **prime painted** with a specially formulated two coat baked on grey enamel.
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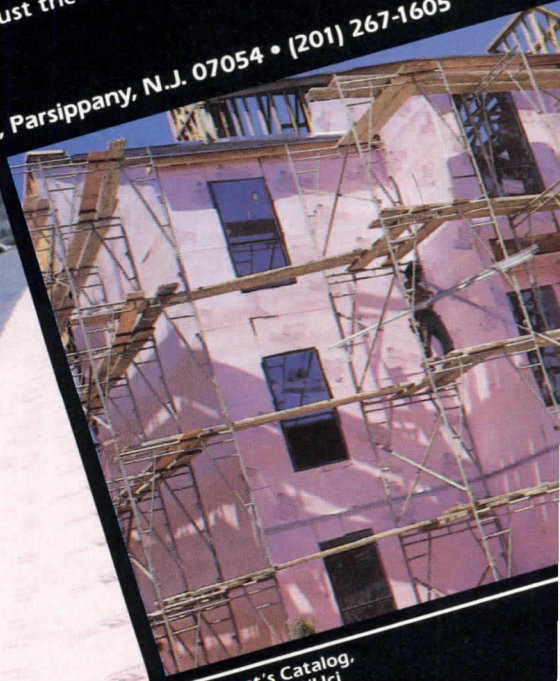
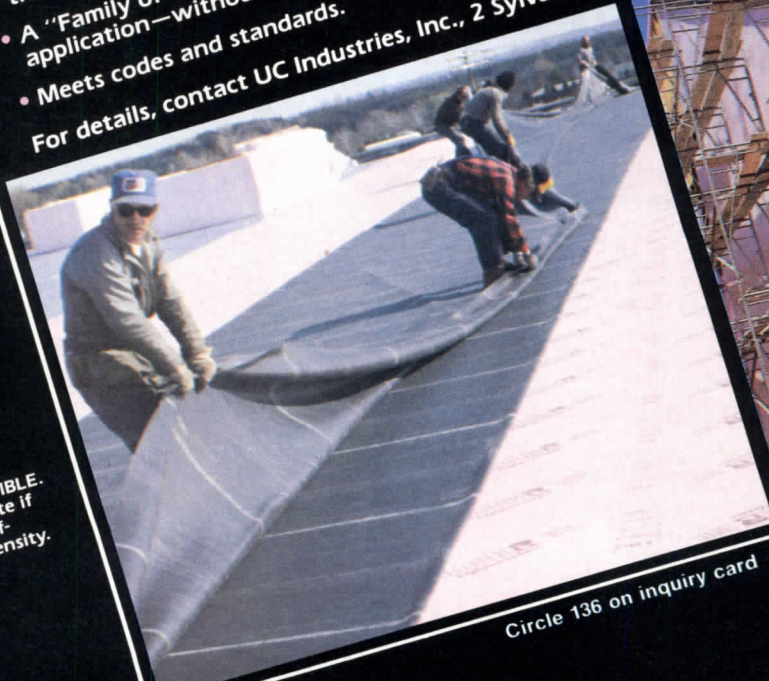


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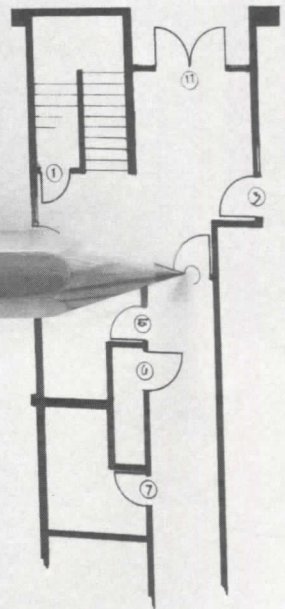
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			W	H	T		
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3	B	WOOD H.C.	30"	80"	1 1/2"	PAINT	B' LABEL
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5	B	WOOD H.C.	30"	80"	1 1/2"	PAINT	
6	B	WOOD H.C.	30"	80"	1 1/2"	PAINT	
7	B	WOOD H.C.	30"	80"	1 1/2"		
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9	B	H.M.	30"				
10	B						
11	O.H.						
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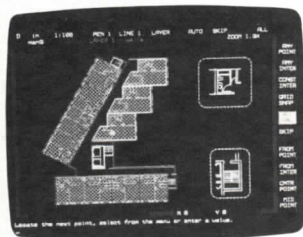
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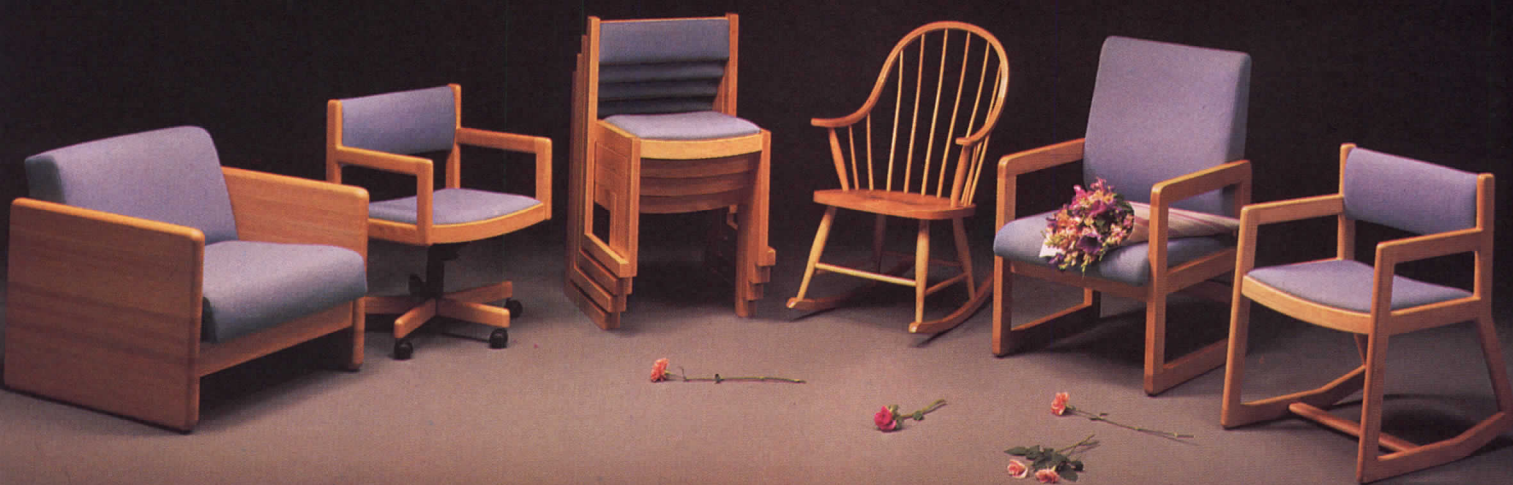
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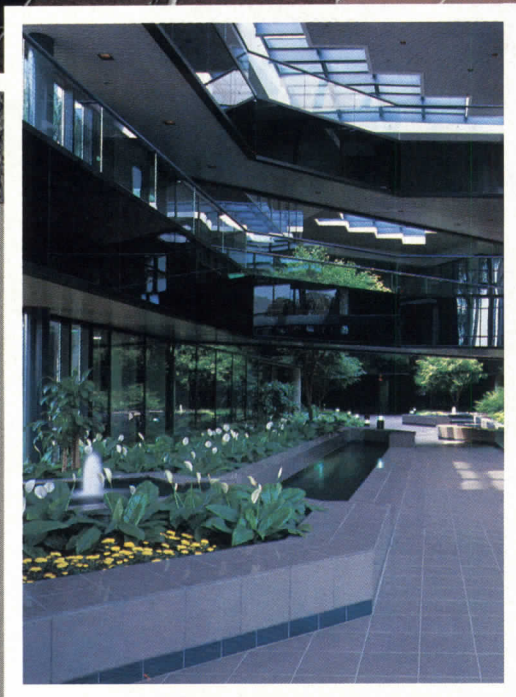
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WALL FINISHES	77,394	45,110	122,504	2.02
FLOOR FINISHES	30,378	165,854	196,232	3.25
CEILING FINISHES	27,414	88,244	115,658	1.88
CONVEYING SYSTEMS	162,982	236,536	399,518	6.40
FIXED EQUIPMENT	41,616	161,469	203,085	3.25
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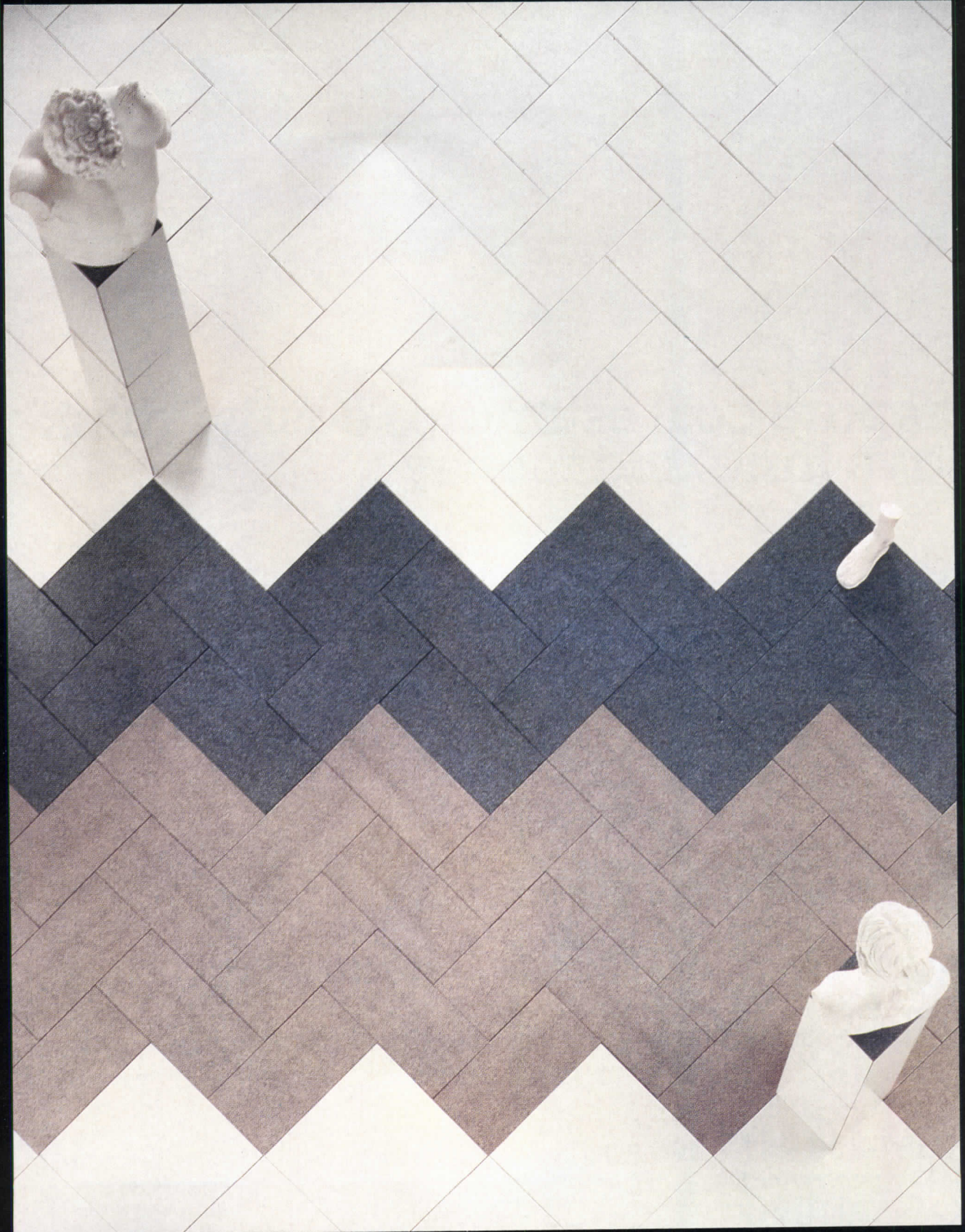


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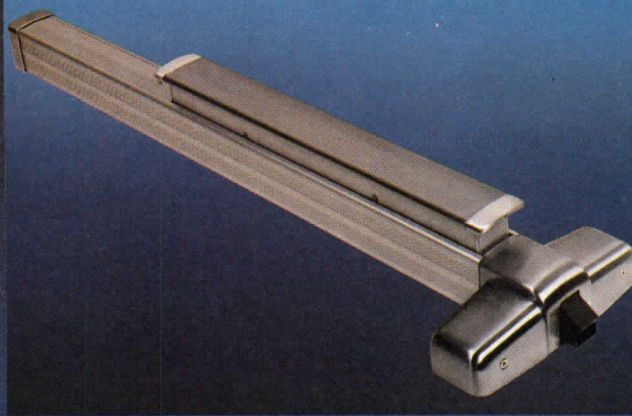
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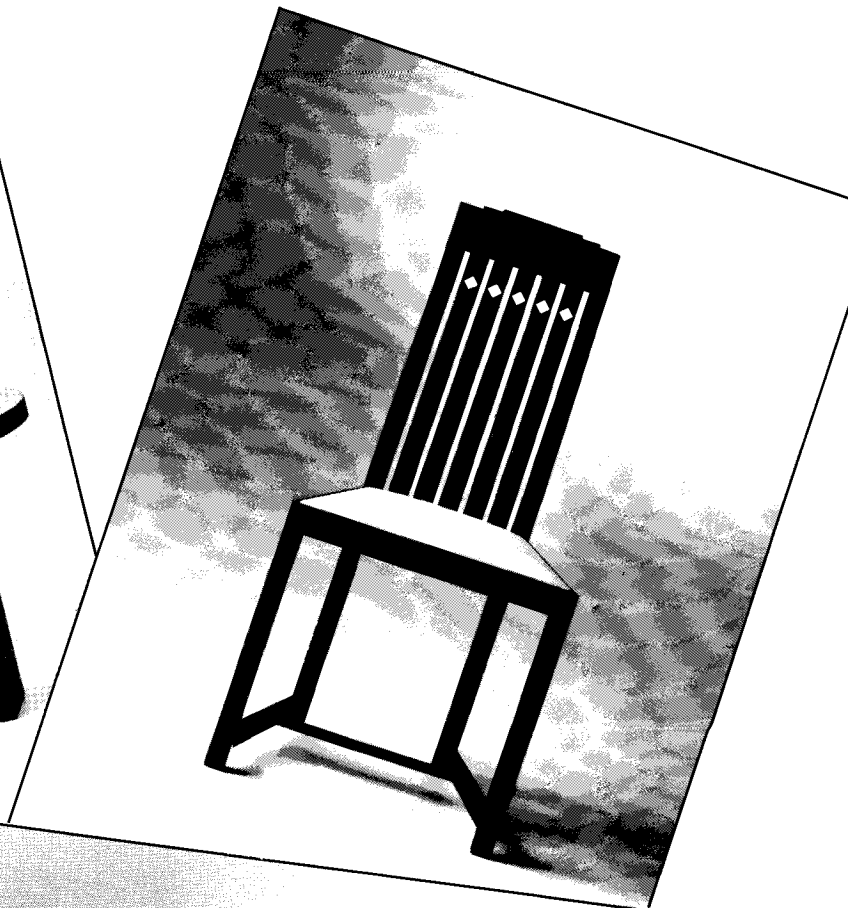
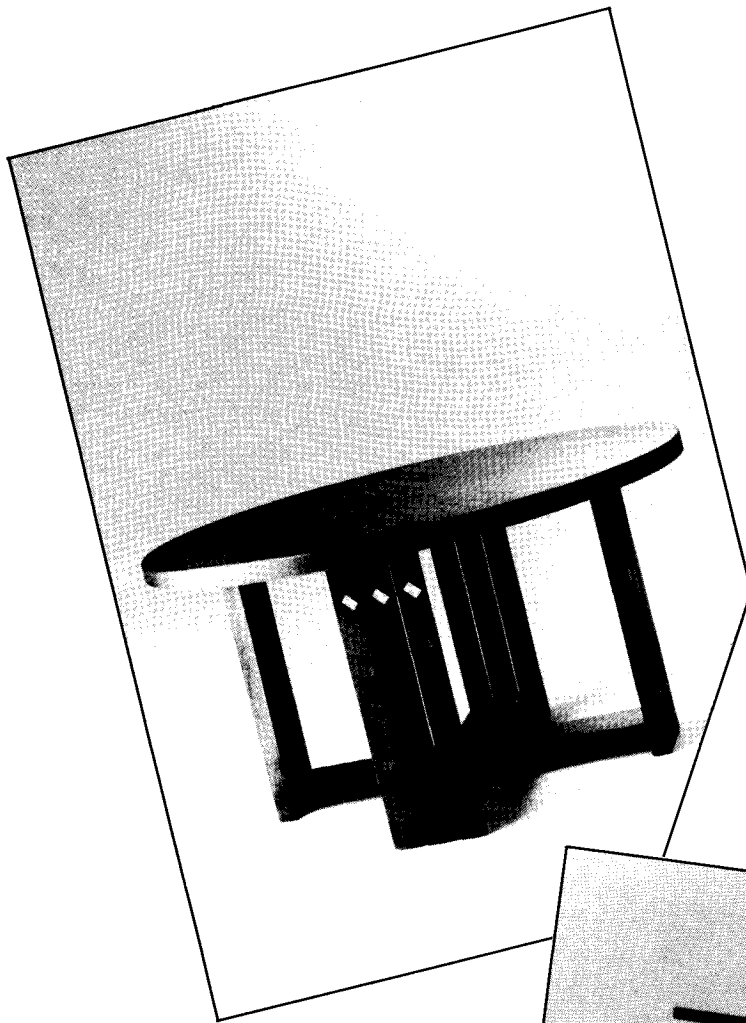


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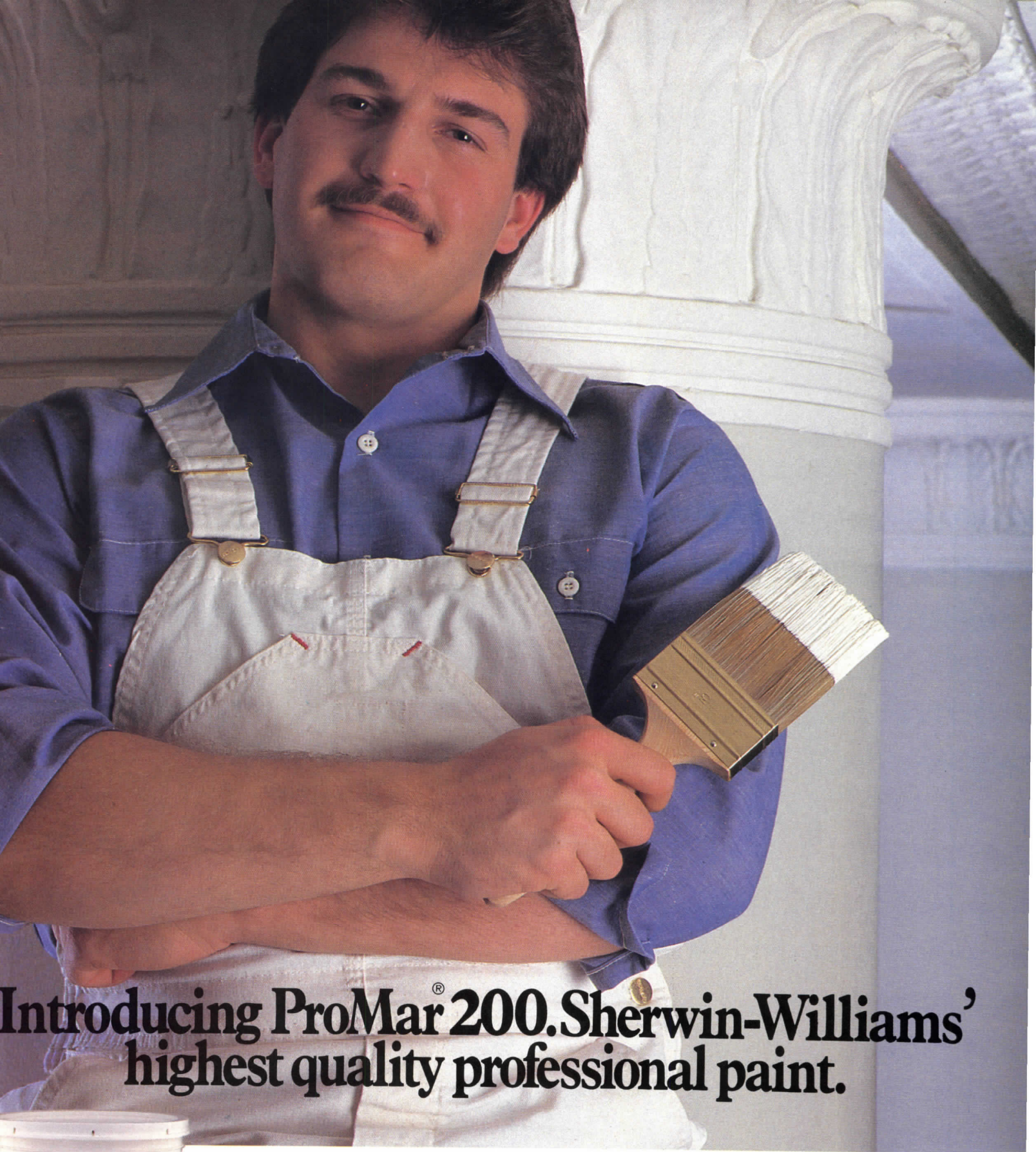
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(G) General Building & Renovation  
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(E) Engineering & Retrofit (brown)  
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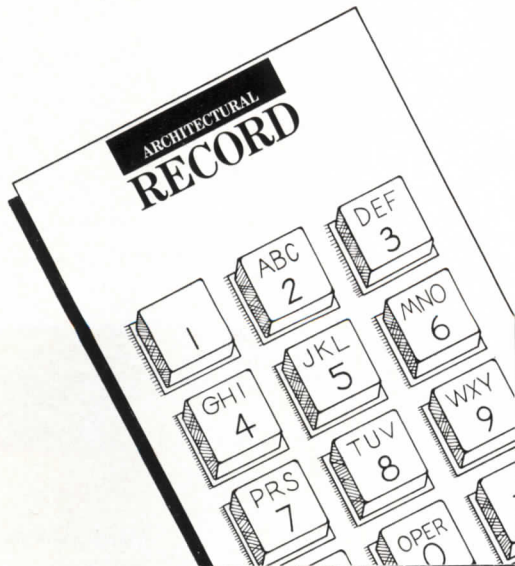
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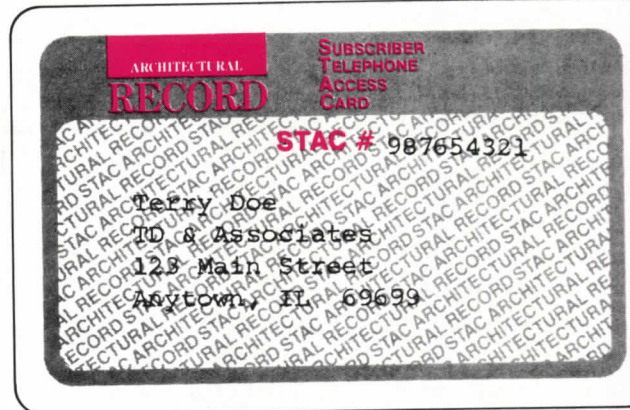
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7. When you have entered a Inquiry Selection Number, the recording prompts, "Enter (next) inquiry number," Enter call by entering:

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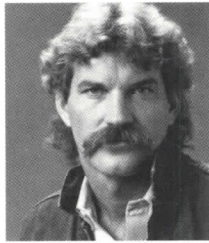
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