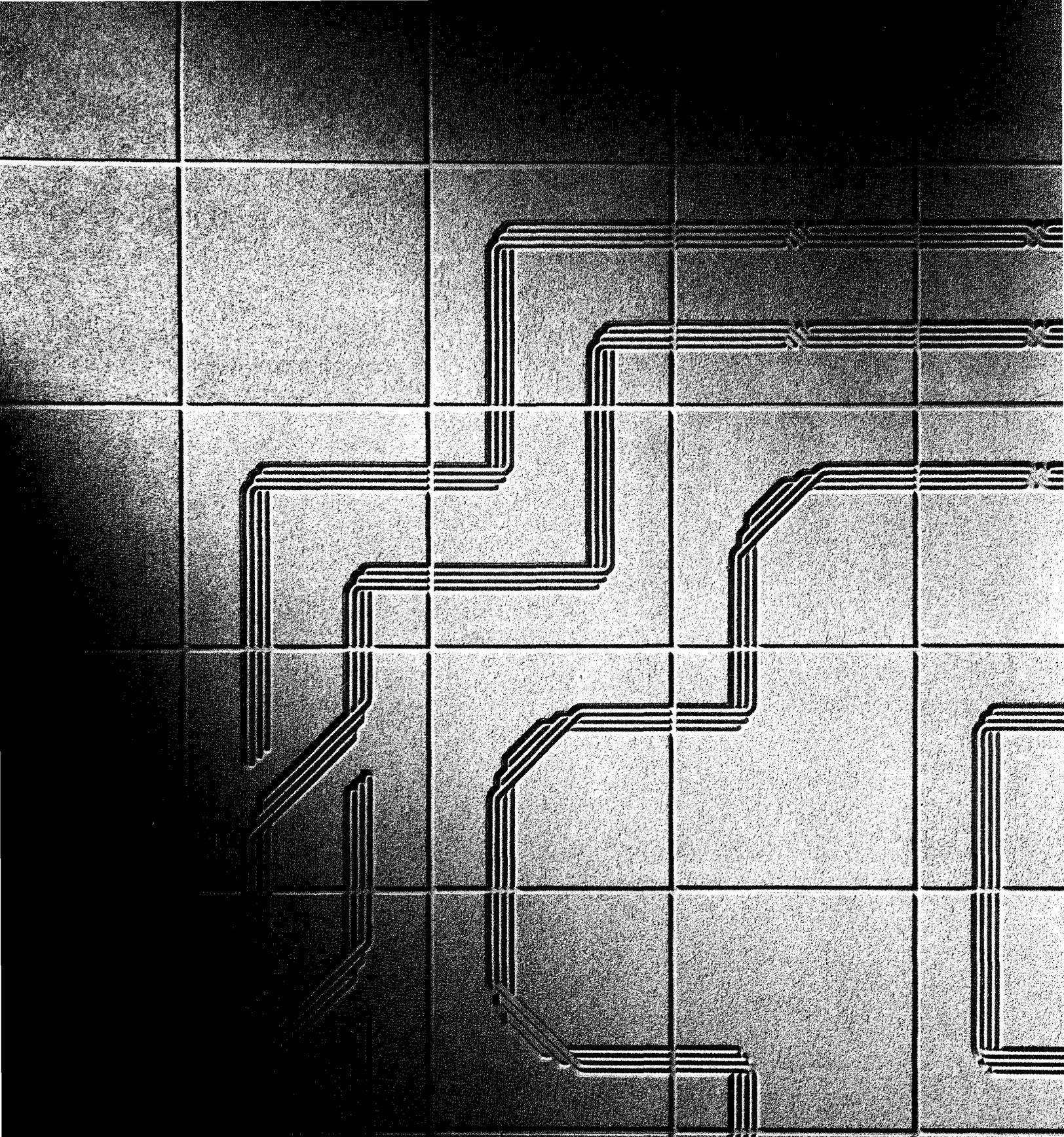


Progressive Architecture

J U N E 1 9 8 8





CUSTOM CEILINGS

New 2' x 2' Syllables[®] ceiling system. Seven systems available. Each offers unlimited custom opportunities. For our brochure, call 1 800 233-3823 and ask for Custom Ceilings.



ARMSTRONG
CONTRACT
INTERIORS

CEILINGS
CARPETS
FLOORS
WALLS

Armstrong

Circle No. 317

COLORFUSION™

Ceramic-On-Steel Melds High-Tech With High Style.

Only AllianceWall makes COLORFUSION™ a unique breed of ceramic-on-steel panels as beautiful as they are functional. By a new, proprietary process, we can fuse a limitless range of colors, patterns or graphics into the wall surface.

AllianceWall's COLORFUSION panels are virtually indestructible. They won't chip, crack, mar or fade, and they are scratch-, heat- and chemical-resistant.

They're easier and less expensive to install than conventional wall surface materials. And they're maintenance-free.

Nice to know that ceramic-on-steel now gives you endless design possibilities. And that it will keep your design intact...a long way into the future. Write or call for more information on American-made COLORFUSION panels.

Ask about our other new metallic, matte and graphic surfaces.

AllianceWall Corporation • Box 920488 • Norcross, Georgia 30092 • (404) 447-5043 • TWX 810-766-0436 • FAX 404-446-5951

 ALLIANCEWALL®



AllianceWall's ceramic-on-steel panels, *left to right*: Exterior, Paragon Building, Houston; Exterior, CIGNA Regional Office Buildings; Interior applications and escalators, Liege Hospital, Belgium; Graffiti-resistant walls, Elevator Manufacturers Worldwide; Exterior and jetways, Cedar Rapids Airport.

Editor
John Morris Dixon, FAIA
Executive Editor
Thomas Fisher
Profession and Industry Editor
James A. Murphy, FAIA
Managing Editor
Valerie Kanter Sisca
Senior Editors
Susan Doubilet, MRAIC, *Features*
Pilar Viladas, *Interior design*
Daralice D. Boles, *News, Features*
Associate Editor
Vernon Mays, *Technics*
Copy Editor
Virginia Chatfield
Assistant Editors
Mark Alden Branch
Jessica Elin
Editorial Assistants
Joan A. Brown
Debra Ladestro

Art Director
Richelle J. Huff
Assistant Art Directors
Lisa M. Mangano
Chee Wang Ng

Contributing Editors
Norman Coplan, Hon. AIA
William T. Lohmann, AIA, FCSI
Walter Rosenfeld, AIA, CSI
Correspondents
Esther McCoy, *Los Angeles*
Barbara Goldstein, *Los Angeles*
Sally Woodbridge, *San Francisco*
Peter Papademetriou, AIA, *Houston*
Thomas Vonier, AIA, *Washington*
Monica Pidgeon, Hon. FAIA, *London*
Donatella Smetana, *Milan*
Jane Holtz Kay, *Boston*

Vice-President and Publisher
Robert J. Osborn
Business Manager
Daniel H. Desimone
Administrative Assistant
Carol Zezima
Promotion Manager
Debra L. Jones
Promotion Director
Jack Rudd
Production Manager
Laverne Adams
Production Assistant
Gerry Lynch Katz
Vice President—Circulation
Gloria Adams
Circulation Manager
Dan Cochran
Circulation Marketing Manager
Roselle Dagostino

Penton Publishing
Progressive Architecture (ISSN 0033-0752) is published monthly, except semimonthly in October, by Reinhold Publishing, A Division of Penton Publishing, 1100 Superior Ave., Cleveland, OH 44114; Philip H. Hubbard, Jr., President; Robert J. Osborn, Vice-President; Penton: Thomas L. Dempsey, Chairman; Sal F. Marino, President; James K. Gillam, N.N. Goodman, Jr., Paul Rolnick, Executive Vice-Presidents. Executive and editorial offices, 600 Summer St., P.O. Box 1361, Stamford, CT 06904 (203-348-7531). FAX 203 348 4023

ABP  MPA

ARCHITECTURAL DESIGN

Editor in charge: Pilar Viladas

- 81 **Authentic Modernity**
Mario Botta's competition-winning scheme for the André Malraux Cultural Center is the centerpiece of a proposed residential and cultural district in Chambéry-le-Bas, France. *Donatella Smetana*

CORPORATE ARCHITECTURE

- 91 **Life Behind the Logos**
As corporations have become major employers of architects and designers, corporate architecture has become a respected career path, with considerable decision-making power. *Thomas Fisher*
- 92 **The Corporate Developer**
The Prudential Insurance Company of America has become one of the largest developers in the country, producing buildings noted for their attention to detail and life safety systems. *Thomas Fisher*
- 96 **10,000 Hotel Rooms a Year**
The Marriott Corporation's expansive building program involves a level of supervision that only a small army of staff can accomplish. *Vernon Mays*
- 100 **Big Blue Designs**
Long an advocate of quality design for the many buildings it erects, IBM continues its tradition by commissioning and working closely with architects attuned to that quest. *Thomas Fisher, Jim Murphy*
- 104 **Mickey the Talent Scout**
Disney Development Company, the real estate branch of The Walt Disney Company, is actively recruiting big-name architects for building projects on the peripheries of its thriving theme parks. *Pilar Viladas*

ARCHITECTURAL DESIGN

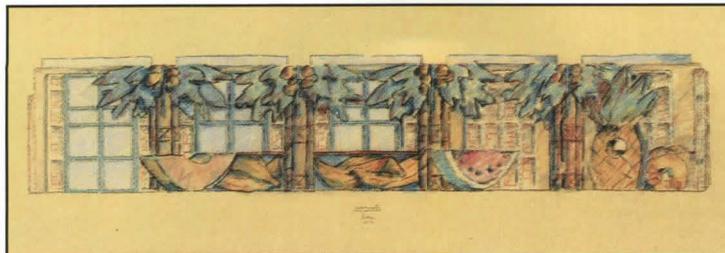
- 108 **P/A Inquiry: Inside the Hotel Guest Room**
Notions of what makes a successful hotel guest room depend on who's doing the designing—and who's using the room. *Vernon Mays*

TECHNICS

- 114 **Up Against the Wall**
Architects must consider the various factors affecting the exterior of buildings when designing and detailing curtain walls. *Thomas Vonier*

DEPARTMENTS

- 9 **Editorial**
Traveling in Time
- 11 **Views**
- 15 **P/A Reader Poll**
Competitions and Awards
- 27 **News Report**
- 37 **Perspectives**
Barcelona Olympics
- 45 **Calendar**
- 53 **P/A Awards Program**
- 63 **P/A Practice**
Verifying Zoning Maps; After the Crash; Single Subcontract Responsibility
- 118 **Technics-Related Products**
- 125 **Books**
Building a National Image; The Spirit of H.H. Richardson
- 131 **New Products and Literature**
- 143 **P/A in July**
- 145 **Job Mart**
- 147 **Selected Details**
- 148 **Advertisers' Index**
- 149 **Reader Service Card**



104

Subscription information: Send all subscription orders, payments and changes of address to Progressive Architecture, P.O. Box 95759, Cleveland, OH 44101 (216-696-7000). When filing change of address, give former as well as new address and zip codes, and include recent address label if possible. Allow two months for change. Publisher reserves right to refuse unqualified subscriptions. Professionals include architectural and architectural-engineering firm personnel and architects, designers, engineers, and draftsmen employed in allied fields. Subscription rates for U.S. professionals are \$30 for 1 year (\$35 in Canada, \$65 for foreign); \$45 for 2 years (\$55 in Canada, \$115 for foreign); \$70 for 3 years (\$85 in Canada). U.S. student subscription for 1 year is \$30. Subscription rate for U.S. nonprofessionals is \$45 for 1 year (\$60 in Canada, \$85 for foreign). Single copies are \$7 in the U.S., \$8 in Canada, and \$9 for foreign except Information Sources issue, \$12 in the U.S., \$12 in Canada, and \$20 for foreign. Permission to photocopy is granted for users registered with the Copyright Clearance Center (CCC), provided that the base fee of \$1 per copy of the article plus \$0.50 per page is paid directly to CCC, 21 Congress St., Salem, MA 01970. Indexed in ArchiText Construction Index, Art Index, Architectural Index, Engineering Index. Second class postage paid at Cleveland, Ohio, and additional mailing offices. Volume LXIX, No. 6. Printed in U.S.A. Copyright © 1988 by Penton Publishing Inc. POSTMASTER: Send address changes to PROGRESSIVE ARCHITECTURE, 1100 Superior Avenue, Cleveland, OH 44114.

Cover
Detail of André Malraux Cultural Center in Chambéry by Mario Botta (p. 81). Photo, Stephane Couturier.

Lighting the way to tomorrow.

Today, windows are a bigger part of architectural design than ever before. That's because design is a bigger part of windows.

Kawneer's window line includes both Thermal and Non-Thermal models. Vertically and horizontally pivoted. Inswinging and outswinging casements. Projected, top-hinged, fixed and high performance windows. Kawneer has them all. To open design opportunities. To open minds.

And Kawneer windows are not only constructed to meet AAMA performance standards, but standards much higher. Our own.

Kawneer windows. They let you look at your design in a whole different light.

 **Kawneer**
The Designer's Element





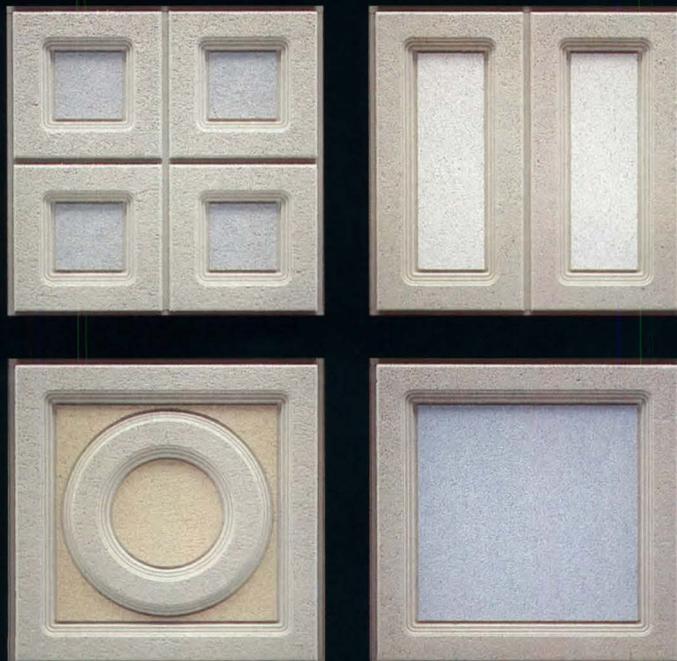
*For full technical description, tracing details and specifications,
contact your Kawneer representative or write to: Kawneer Company, Inc.,
Department C, Technology Park-Atlanta, 555 Guthridge Court, Norcross, GA 30092.*

Circle No. 345 on Reader Service Card



Friendly Ceilings

Friendly Ceilings... part of a new design direction bringing a warm and human quality to the normally impersonal commercial interior. Form, color, and a sense of tradition contribute to this new sensibility. Interiors can be personalized by selecting from 4 modular designs and 8 subtle colors. Easily installed 2' x 2' lay-in panels have a Noise Reduction Coefficient range of .70 - .80 and a Class 1 fire rating. Friendly Ceilings are part of the Taxi Ceilings Collection, a joint design and marketing program of Armstrong World Industries, Inc. and Forms + Surfaces. Forms + Surfaces Box 5215 Santa Barbara, CA 93150 (805) 969-7721 Circle No. 335



Traveling in Time

Examining past architecture can sharpen our discernment, especially if we see beyond our usual professional preoccupations.

THE job of an architecture journalist involves much travel to see the latest buildings. Looking at historical buildings is usually done in spare moments—an hour in Chicago between appointments, a quick tour of Austin or Des Moines between the objective of the trip and the airport—once in a while some real vacation days in places chosen at least in part for their architectural rewards.

One of the pleasures of serving on the AIA Committee on Design over the past several years has been the opportunity to look at buildings and areas I do not otherwise have to see—and to do it with a congenial, interested group of architects. We have seen famous landmarks together, but some of the off-beat places stick in my mind—some of the early Modern houses in Portland, some of the Classical banking halls of San Francisco. This spring, the committee met in Annapolis, Maryland, a town remarkably full of 18th-Century buildings, only a couple of which appear in standard histories of American architecture. Even though the location was a major inducement for attending, we still devoted most of our hours to committee business, so the time spent seeing the town had the quality of stolen moments.

The tours in Annapolis made a strong impression on me primarily because the buildings we examined covered such a narrow span of time and types that we could focus on fine architectural distinctions, rather than broad impressions. Another favorable circumstance is that we relied here on local volunteer guides—very skillful ones—to interpret the buildings for us, rather than people with the more familiar perspectives of architects or architectural historians. These guides were quite effective in portraying the gradually increasing grasp of Classicism shown by Colonial designer/craftsmen in everything from fenestration patterns to chair backs. At the same time, they could illuminate the role of the town's mansions as social-season settings for families whose real homes were on outlying plantations, for instance, and they could portray the spirit of botanical exploration behind the 18th-Century gardens. They could also share with us the present-day preservation strategies of a historic town that is also the seat of an expanding state government, with the metropolitan expansion of both Washington and Baltimore rolling into its outskirts.

It is very helpful to the critical faculties, I was reminded again, to immerse yourself, if only for a few hours, in the aspirations and related design accomplishments of another time. In this case, it was also humbling. The ambitious urban plan of this town, its buildings, and their furnishings were accomplished despite a relatively primitive technology and a position at the very edge of Western culture. In many naïve—sometimes awkward—ways, the design we saw shows its provincial origin; why, then, does it compare favorably with much of the best work we produce today, with our advanced technology and our access to every design thought and accomplishment on earth?

Two tentative answers: In the 18th Century, design and architecture constituted a far larger portion of total intellectual investment than they do today, and in that society there was a fairly clear consensus—at least among those who commanded the resources—as to what the ideal built environment should be. Today we can take some satisfaction in the attention the popular media are giving to design and in community efforts to regulate design (by no means an unmixed blessing), but we still cannot pretend that architecture commands any more than a small and remote corner of the national consciousness—or that interested citizens won't be befuddled by the conflicting messages they receive from our design community.

At any rate I would urge you, based on this brief encounter with Annapolis, to seek out some similar experience to provide a healthful shift of perspective. Over these next few months, when vacations are in order, you may quite understandably want to examine the latest museum or waterfront bazaar, or the timeless beauty of some cathedrals or Mediterranean villages; whether or not you can make these more ambitious pilgrimages, by all means visit a nearby historic neighborhood, house, farmstead, mill, or pueblo—if possible in the company of a nonarchitect guide. You risk at worst being numbed by trivia, but if you are fortunate, you may get a perception of design as part of a larger cultural picture—a picture that warrants thoughtful comparison with the world you work in. ■

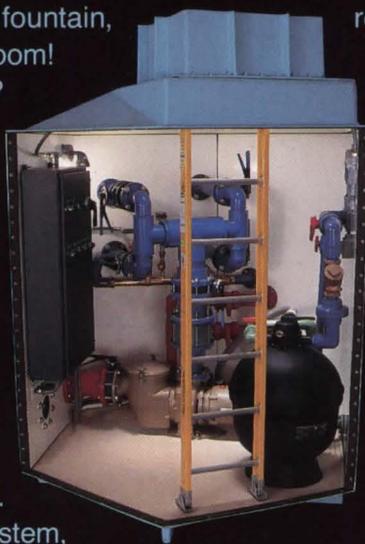
John Morris Diefen

Pump Room! What Pump Room?



Sooner or later in planning a fountain, reality sets in. I need a pump room! Where do I put it? How big is it? How do I specify it? Maybe I need help! Kim Lighting just relieved you of this worry and responsibility by making the pump room a known quantity, supplied by us as part of a custom fountain package.

All mechanical and electrical fountain components are factory installed in a compact corrosion proof fiberglass vault. It even includes a ventilation system,



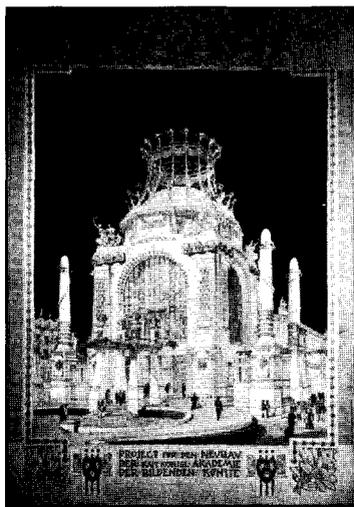
room lighting, hatch and ladder. Your client saves on overall installed cost, and we relieve you of a big headache. As for confidence, 50 years of engineering and design expertise stand behind the Kim name.



KIM LIGHTING

16555 East Gale Avenue • Post Office Box 1275
City of Industry, Calif. 91749 • (818) 968-5666
FAX (818) 330-3861

Circle No. 382



Historisches Museum der Stadt Wien

Otto Wagner, Academy of Fine Arts.

Wagner Exhibition Credits

The exhibition of Otto Wagner drawings (P/A, April 1988, p. 28) which is traveling in America through the fall of 1988 was organized by the Drawing Center, 35 Wooster Street, New York, New York 10013. The Drawing Center is a nonprofit space for the exhibition and study of drawings. The catalog by Otto Graf, which contains 110 black and white photos and 38 color plates, is available from The Drawing Center for \$24 including postage. The exhibition has been made possible by generous grants from the National Endowment for the Arts, the New York State Council on the Arts, and British Airways. The exhibition can be seen at the University Art Museum, University of Minnesota, Minneapolis, now through August 26. (See Calendar, p. 45.)

Urban Design in 3-D

As an Architect and Urban Designer I was very pleased with your March issue and its focus on Urban Design. I am troubled, though, by one aspect of Thomas Fisher's "New Urban Design" review of current work: each project was illustrated exclusively by a plan drawing. You chose not to include any sections, elevations, or 3-dimensional studies of these projects. As

Senior Designer of the Gateway East Project in East St. Louis, my design concept, while originating in plan diagrams, quickly became an exercise in 3-dimensional design. I am sure the same is true of my professional colleagues whose work you also chose to illustrate. Perhaps the greatest distinction between Urban Designers and Urban Planners is that most Urban Designers are Architects and, as such, design in plan, section, elevation and perspective. The heart of any true Urban Design scheme should be the creation of quality urban spaces: hard plazas, landscaped parks, tree-lined boulevards, pedestrian arcades and courtyards, service streets and mews. As illustrated in your article on Rector Place, Battery Park City, Design Guidelines can be an effective way of implementing the creation of these spaces. And while I would argue that a strong Urban Design concept can be very lenient in its guidelines, nevertheless the full design of these spaces can only be achieved in three-dimensional modeling. It is therefore a discredit to the profession to limit the illustration of the work to plan views.

*Robert L. Schmidt, AIA
Skidmore, Owings & Merrill
London*

[Our emphasis in our survey of urban design examples was on plan elements and open spaces. In our more detailed treatment of Battery Park City, we showed diagrams of the three-dimensional considerations that are also essential to effective urban design.—Editor]

CADD Resolution

The microcomputer-based "rendering" example (P/A Technics, April, p. 127) by SOM Chicago of Sullivan/Wright's Charnley House balcony is so graphically inept, without apparent purpose, and altogether inadequate to the beautiful original, it should have been captioned as an example of the misguided and primitive results that still abound in the world of CADD.

I'm looking forward to [the] AIA Convention Professional Program Seminar entitled: "Computer-Aided Design: Myth or Dream Unfulfilled?"

*Claude E. Armstrong, AIA
Jan Hird Pokorny Architects & Planners
New York, New York*

[All of the dimensional data for the Charnley House balcony is in SOM's computers and a higher resolution image of it, showing the intricate carving, could have been made. Because it was shown in the article as part of a much larger image, it was not reproduced at a high resolution.—Editors]



Jim Wilson/N.Y.T. Pictures

Winter Behind Walls

The environmental improvisation within the walls of Dannemora Prison was illustrated in the August 1987 P/A (pp. 86-87) in summer photos by Joshua Freiwald. In March 1988, the *New York Times* published this photo of the same yard in winter, showing how residents take advantage of the northern New York State climate.

Office Design Credit

The offices of Leason Pomeroy Associates in Los Angeles (April P/A, p. 96) were designed by Stanley Felderman, when he was president of Leason Pomeroy-Felderman Associates.

Chair Museum Credit

Vitra's chair museum (May P/A, p. 79) was designed by Frank O. Gehry & Associates in association with Gunter Pfeifer Architect, Lorrach, West Germany.



INTRODUCING 'COLOR + COLOR'

More than ever before. 108 solid colors. 8 different finishes, including 5 totally new ones. The most advanced technology in laminate finishes enhances all our colors. Our improved matte finish makes our solids brighter, crisp and more consistent. They not only look better, they feel better, too. It all adds up to the most comprehensive and progressive palette in laminate.

We've also created COLOR + COLOR, a revolutionary color selection system to make using this palette even easier.

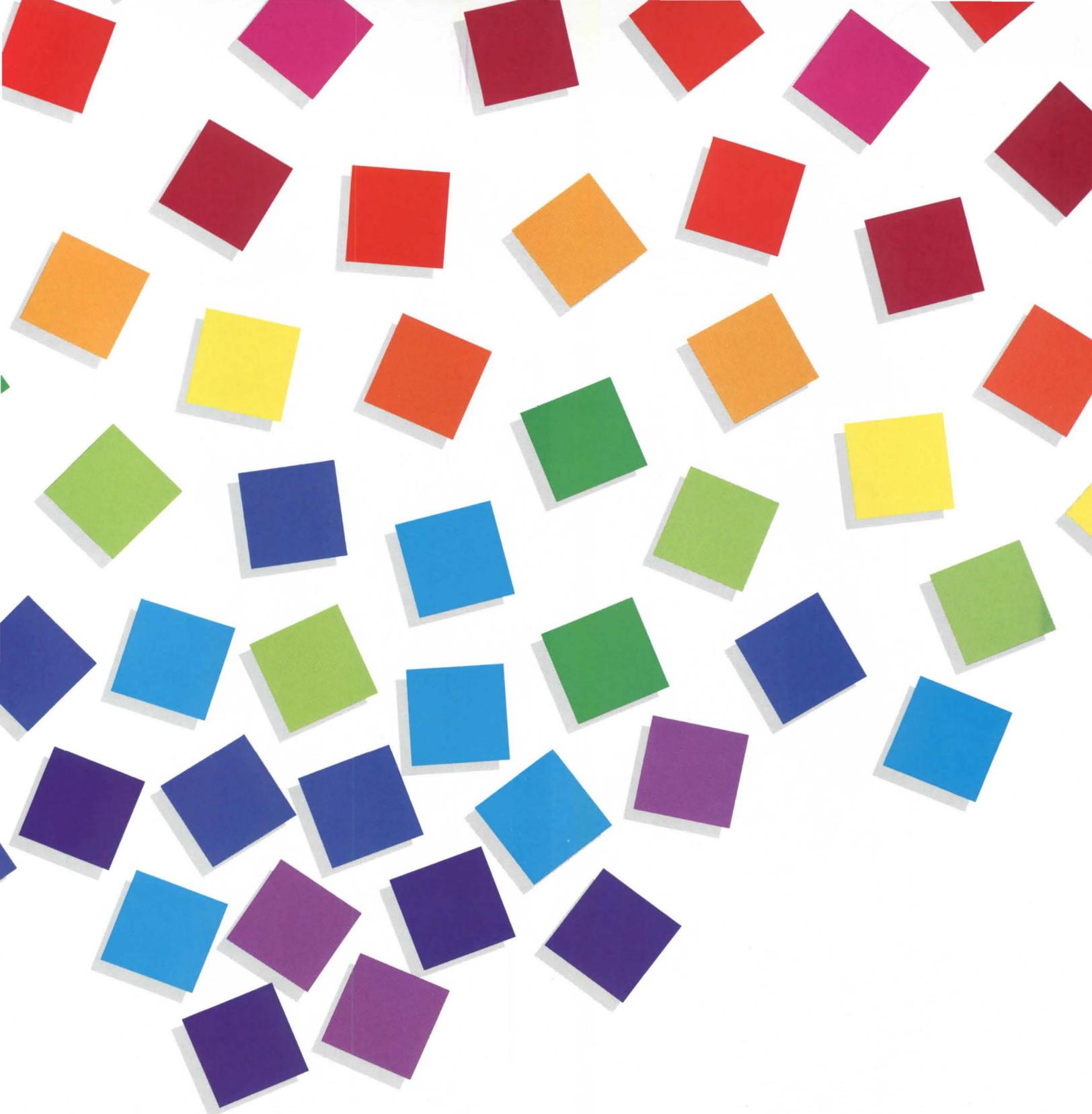
COLOR + COLOR divides the colorways into six families, positioning them according to their chroma and value. The presenter contains samples of the full range of Formica® brand laminate finishes, as well as complete specifications and ordering information.

COLOR + COLOR is a tool you'll use again and again for every laminate specification.

For additional information call your local Formica brand products distributor or write to: Formica Corp. One Stanford Road, Piscataway, NJ 08854



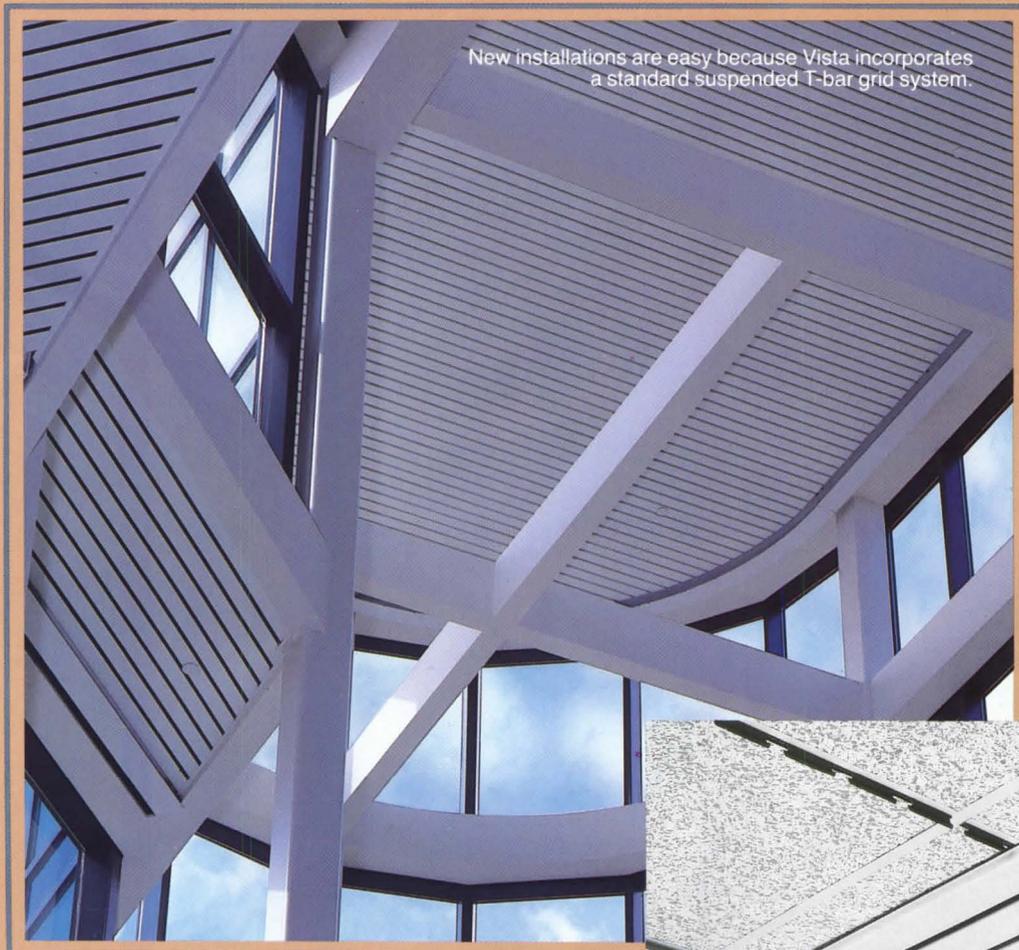
Circle No. 331 on Reader Service Card



NEW COLORS, NEW FINISHES.

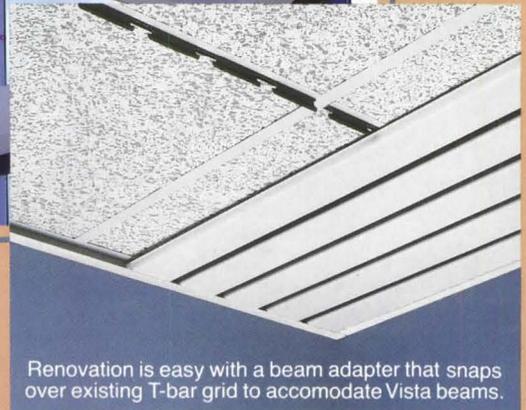


A linear metal ceiling system unparalleled



New installations are easy because Vista incorporates a standard suspended T-bar grid system.

in ease and beauty



Renovation is easy with a beam adapter that snaps over existing T-bar grid to accommodate Vista beams.

Vista

The Vista parallel beam ceiling system is an innovative way to create a distinctive environment for new installations. Vista also is an economical answer to the updating of any dull, outmoded ceiling. For new installations Vista offers a completely integrated system of lights, air handling, and acoustical insulation. In renovation applications the parallel beam adapters install over any exposed or concealed "T" bar type ceiling system without disruption of components or the need to change existing lighting or air handling systems.

Vista is available in both aluminum and steel and is offered in over 100 attractive colors and reflective finishes. Vista beams are coated to provide a durable and easily maintained surface for either interior or exterior applications.

In both new construction or renovation projects, Vista is the logical choice to dramatize and/or revitalize.



Chicago Metallic Corporation

Chicago 312-563-4600 • Baltimore 301-796-8220 • Los Angeles 213-582-1100

Circle No. 323 on Reader Service Card

P/A Reader Poll

Competitions and Awards Programs

Readers recognize the benefits of competitions and awards programs while registering concerns about cost and fairness.

Just over 700 readers—most of them owners and principals—responded to the P/A Reader Poll on Competitions and Awards Programs. Their answers reflect firm experience as potential or seasoned competitors.

Who responded (Figure 1) Small firms with less than 10 employees dominate the sample at 58 percent of the total. Over 60 percent of the sample are owners and principals, although project managers and staff architects are also well represented at 15 and 12 percent respectively.

Morrison & Morrison find that the greatest variations in response, however, are registered not in terms of the ownership or size of a firm but its age. The sample is split fairly evenly among the four age brackets for firms, defined in this report as startup (5 years or less in business), young (6 to 15), mature (16 to 30), and established (over 30 years).

DESIGN COMPETITIONS Participation (Figures 2–4) Although half of the respondents believe that the number of design competitions has increased over the past five years, only 14 percent report that their willingness to enter competitions has increased. Over one-third report a decrease in their desire

to participate. Established firms are the most disenchanted, with 44.9 percent registering a decrease in interest, while young firms, as might be expected, show the greatest interest.

The benefits (Figure 5) Although they may find the costs of competing prohibitive (see below), many architects (63 percent) believe that design competitions generally raise the quality of architecture. That view is most strongly held by staff architects and by new firms.

Over 70 percent of the readers believe that design competitions provide a good mechanism for helping young firms get started. Surprisingly, however, the Morrisons find that this view is most commonly held by respondents from the large and established firms (82 and 86 percent respectively as against 71 and 74 percent for small or startup firms).

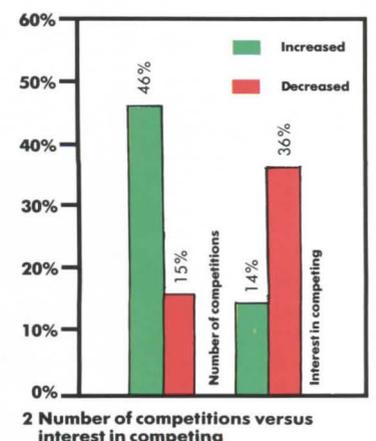
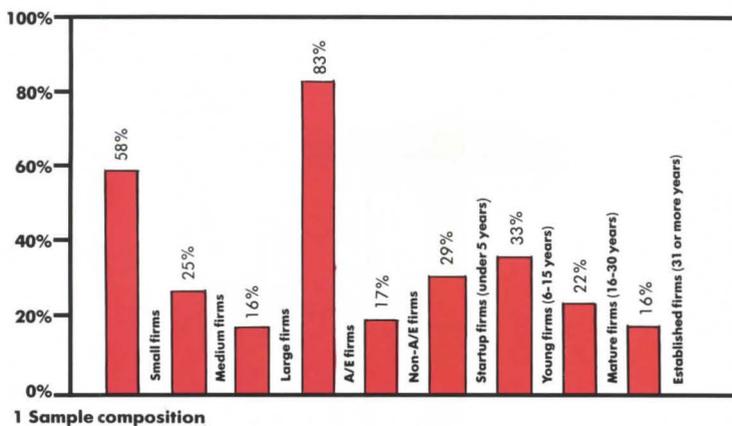
Three-quarters of the respondents also believe that design competitions are a good means for developing a firm's skills, a view shared in particular by new and mature firms. And 71 percent believe that entering design competitions helps staff morale, even if their firm does not win. Staff architects are more likely to hold this point of view than are owners and principals (80 percent versus 67 percent).

The cost of competing (Figure 6)

The Morrisons report that the cost of entering design competitions emerges in this survey as the chief concern for all architects. A strong 83 percent of the respondents believe that competitions are too costly for competitors, although 53 percent believe they are justifiable to some degree as marketing expenses. Established firms are the most likely to regard that cost as prohibitive, and architects whose interest in competing is on the wane cite cost as a major concern.

Although startup and young firms are the most eager to participate in design competitions, nearly all readers (95 percent) hold that small, new firms are the least equipped to support the cost. Thirty-nine percent of the sample find that entering design competitions is economically feasible for only large and established firms, while another 30 percent believe that entering is not feasible for any firm, regardless of size or age.

Other drawbacks (Figure 5) Chief among the other concerns expressed by respondents is the lack of client consultation in design competitions. Nearly three-quarters believe that the absence of direct contact with the client adversely affects solutions. That



view is strongest among project managers and those respondents registering a low interest in competitions. (As might be anticipated, those with little interest in competing are the most likely to find fault with the competition process and results.) Nearly three-quarters of the respondents believe to some extent that design competitions are a means by which clients exploit architects, and that in architect/developer competitions, design counts for little. Neither view, however, is strongly held; only 26 percent agreed completely with the exploitation statement, and only 19 percent agreed completely with the criticism of architect/developer competitions.

Nearly one-third of the readers, however, believe strongly that the quality of presentation counts too much in decisions. And a disturbing 70 percent disagreed with the statement that the best designs usually win. That view, again, was strongest for those who register low interest in competing. Startup firms show slightly more optimism than the norm.

What makes a good competition? (Figure 7)

The assurance of a real commission to the winner and the promise of fairness, as indicated in the competition rules, are cited as the most important from a list of

six variables by 73 and 67 percent of the readers respectively.

Fifty-four percent cite the importance of a complete and clear program, while 40 percent regard the promise of publicity as a significant incentive. The stature of the jurors and the prize money were listed as critical factors by only 32 percent of the sampled architects. However, prize money is significantly more important to staff architects (45 percent) than to any other category of respondents.

Historic competitions (Figure 8)

Although readers were not particularly quick to praise the publicity value of competitions, a test of general knowledge reveals that architects do remember competitions fairly well, especially recent ones. Seventy-seven percent correctly identified the Boston City Hall as a commission awarded on the basis of competition, while 74 percent recognized the Tribune Tower and 66 percent recalled the Gateway Arch as competition commissions. Memories failed for the Lincoln Memorial, the oldest commission by competition in the poll list. However, all but a small percentage of readers caught the “plants.” Eighty-seven percent knew the National Gallery commission was not awarded by competition, while

89 percent made the right call on Dulles Airport and 97 percent knew that Frank Lloyd Wright did not compete for the commission to design Johnson’s Wax.

Best competition programs (Figure 9)

The Morrisons report that “a majority (70 percent) of P/A readers believe that design competitions are most appropriate to choose architects for major public buildings.” At the other end of the scale, specialized health and education commissions were considered the least appropriate subjects for competitions.

Forty-nine percent of the readers felt competitions worked well for publicly sponsored housing, while modest public projects and corporate facilities were considered good candidates for competition by only 40 and 38 percent of readers respectively.

AWARDS PROGRAMS (Figure 10)

Participation

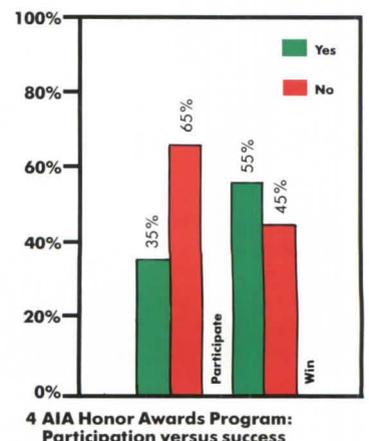
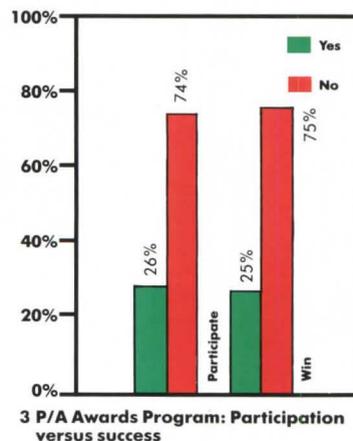
Twenty-six percent of the firms sampled have participated in the P/A Awards Program, while 35 percent have participated in the AIA Honor Awards Program. Over half of those who have entered the AIA program have won an award, while 25 percent of those who have entered the P/A program have received an

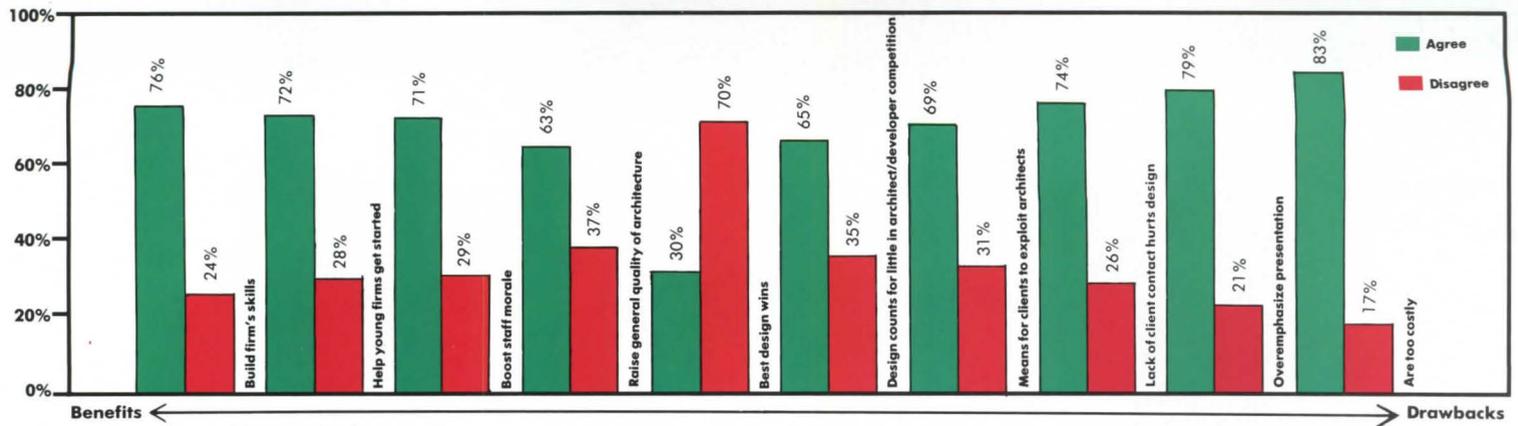
award. The two programs attract many of the same competitors: 55 percent of those who enter the AIA programs also enter the P/A competition, while 66 percent of P/A submittees also compete in AIA programs. And 27 percent of the sample have won an award in a local or regional AIA competition. Large and established firms show a better track record in both P/A and AIA programs.

Asked to register their perceptions of awards programs, as distinct from competitions for commissions, 91 percent of the readers agreed that such programs provide a good means for young firms to gain recognition. The Morrisons report that “those firms who enter P/A and AIA award programs are even more likely to concur with this sentiment.” Over 70 percent regard awards programs as a valuable way for established firms to maintain their reputations. However, only 57 percent agreed that awards programs are a valuable means of comparing one’s talents with the best.

The problems

Just over half of the respondents do not believe that the best design usually wins. Fifty-nine percent believe that jurors are not conscientious and unbiased,





5 Perceived benefits and drawbacks of competitions

while 75 percent believe that jurors have too little time to evaluate entries. (A sour grapes syndrome does prevail: Those who entered either the P/A or the AIA Honor Awards program and have not won register a consistently more negative view of juror qualifications than the sample average.) And 68 percent feel that few clients allow work that will win awards.

Conclusion

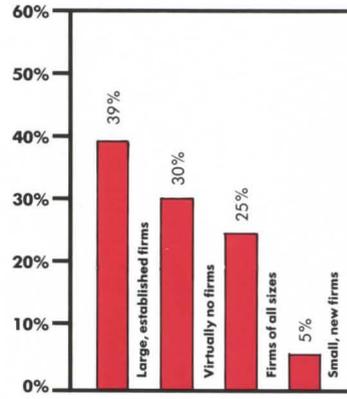
Design competitions can help hone a firm's skills and boost staff morale, help a young firm get started, and raise the general quality of design. But the cost of competing, the overemphasis on presentation, and the lack of direct contact with clients remain key concerns for architects who consider entering competitions.

Similarly, winning an award can help a young firm gain recognition or an older one maintain its reputation. But concerns about the time jurors spend reviewing entries and the biases they bring are reflected in the pessimistic belief that the best design does not always win.

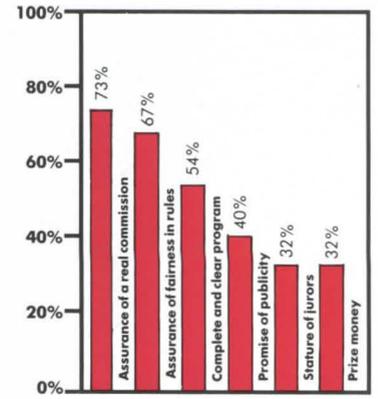
Not surprisingly, the most negative opinions prevail among those practitioners least interested in competing. Yet even those architects who maintain a high interest in competitions and awards programs reg-

ister significant criticisms. Their concerns form a useful checklist of factors to be reviewed by any architect considering whether or not to enter a given competition or awards program. Moreover, a majority of respondents—64 percent—indicate a willingness to enter competitions despite perceived drawbacks. These architects recognize that competitions and awards programs are an established—and growing—part of professional practice.

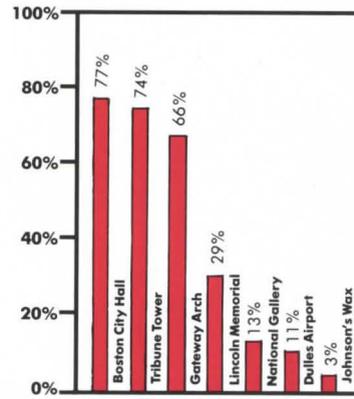
Daralice D. Boles



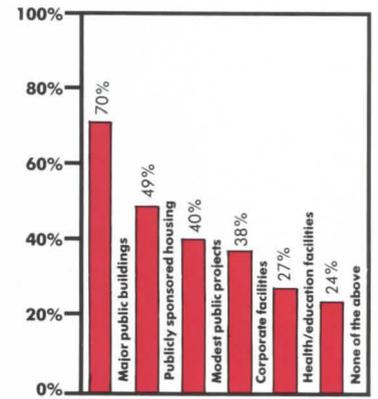
6 Firms for which entering design competitions is economically feasible



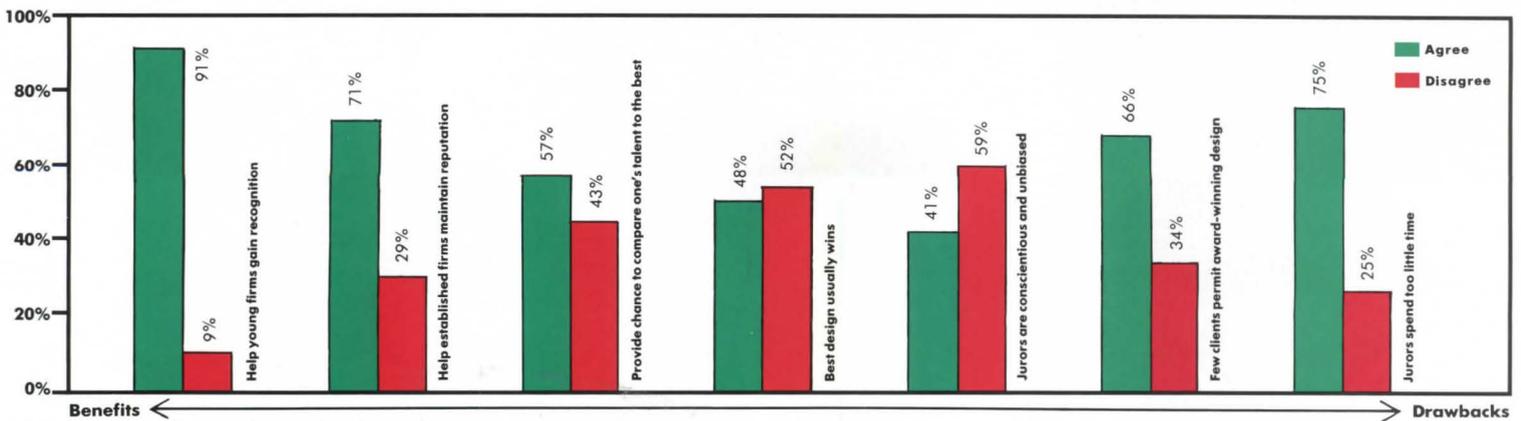
7 Factors influencing decision to enter a design competition



8 Readers' identification of commissions awarded by competition



9 Commissions for which design competitions are appropriate means to select an architect



10 Perceived benefits and drawbacks of awards programs

In building designs
calling for a steel
structural support system,
the call for windows has
typically been
to metal.

But consider now, if you
will, the atypical beauty of
Andersen Perma-Shield® windows.

Precisely, their ability to bring warmth
and character to nearly any design. To enhance,
not detract from, its integrity. Whatever the
support system, whatever the facade.

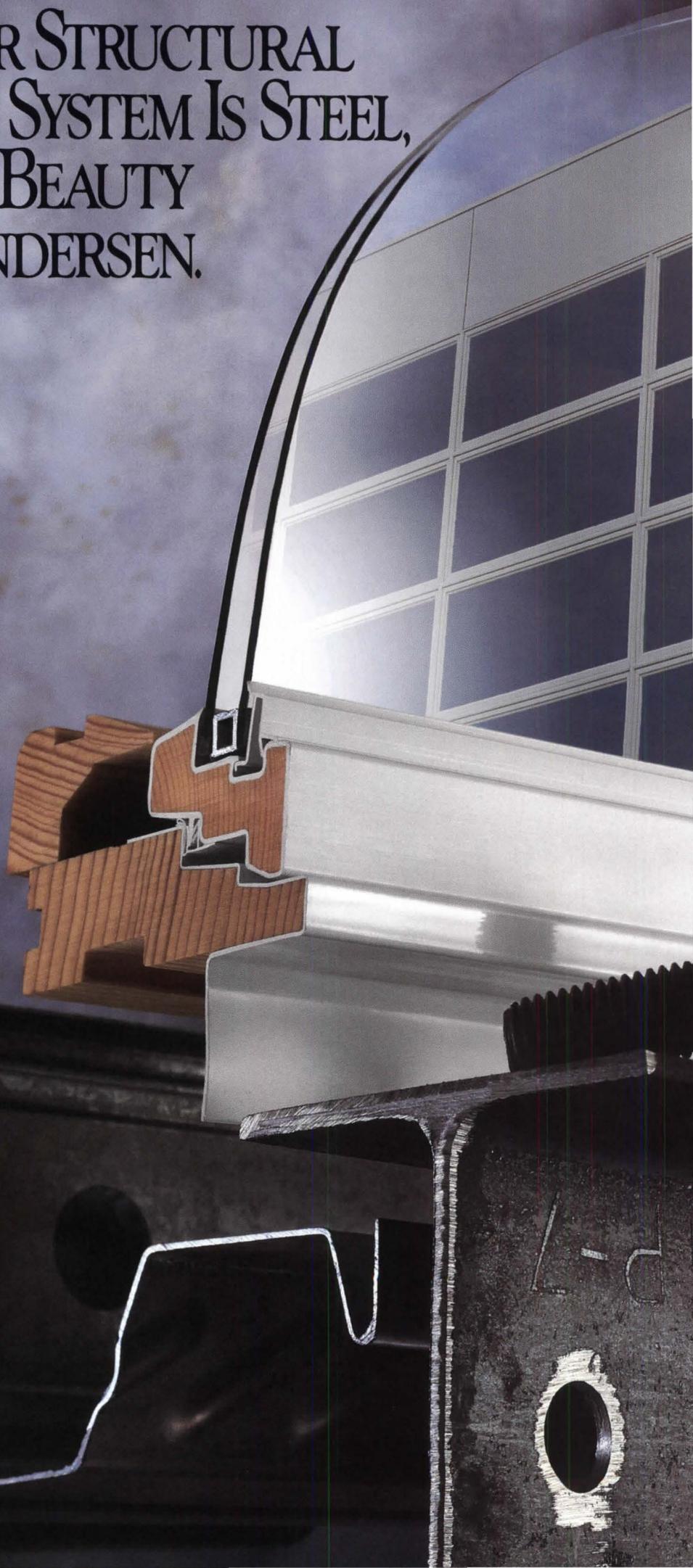
It's a beauty that comes by design.
Through smooth, simple lines; crisp, tight
corners and a clean, functional look.

So whether you specify white or our
Terratone® earthtone color, with clear, reflective
or tinted glazing, Andersen Perma-Shield
windows steal nothing from your design.

Rather, their beauty and compatibility
are yours for the taking.

For the name of your local Andersen
Distributor Commercial Representative, call
1-800-635-7500. Or write Andersen Commer-
cial Group, P.O. Box 12, Bayport, MN 55003.

WHEN YOUR STRUCTURAL SUPPORT SYSTEM IS STEEL, STEAL SOME BEAUTY FROM ANDERSEN.



ANDERSEN
COMMERCIAL
GROUP







WITH ANDERSEN® WINDOWS, THE LAST THING TO WORRY ABOUT IS RUNNING INTO A BRICK WALL.

Unlimited design potential. Is it too much to ask of Andersen windows? Simply and emphatically, no. Not with Andersen Perma-Shield® Flexiframe® windows. For with this versatile window line comes all of the custom benefits of designing buildings with an attractive stick window system.

You can create curtain walls, trapezoids, pentagons, octagons, whatever you fancy. In whatever size and combination you wish.

With our crisp, clean Andersen lines and smooth, tight Andersen corners.

In a style to complement any building facade, any pattern, any texture.

Unlimited design potential? Let's just say that with Perma-Shield Flexiframe windows even running into a brick wall can be a beautiful experience.

For the name of your local Andersen Distributor Commercial Representative, call 1-800-635-7500. Or write Andersen Commercial Group, P.O. Box 12, Bayport, MN 55003.

ANDERSEN
COMMERCIAL
GROUP





IN AN ERA OF NARROWING DESIGN PARAMETERS, THERE IS STILL ONE CONCRETE OPPORTUNITY.

There are those who would translate stricter codes and greater restrictions into less design freedom. But not you. And not Andersen. Because with tighter parameters comes not only the challenge to design with new and different materials, but the challenge to design with existing materials in new and different ways.

Consider, for example, masonry and Andersen Perma-Shield® windows.

The trim lines and clean, uncluttered appearance that are unique to Perma-Shield windows make organizing your facade and patterns easy. While making the link between interior and exterior space as noticeable or as unnoticeable as you desire.

Allowing you to make burnished concrete beautiful, pre-cast concrete preemptive. But then, the most concrete reason to specify Andersen® windows has always been beauty.

For the name of your local Andersen Distributor Commercial Representative, call 1-800-635-7500. Or write Andersen Commercial Group, P.O. Box 12, Bayport, MN 55003.

ANDERSEN
COMMERCIAL
GROUP



No matter how colorful your design and

no matter what your design considerations, you'll find

Andersen

Perma-Shield®

windows beautifully compatible. They're available

as Andersen High-Performance and High-

Performance Sun glazings. Both are designed to detect heat and keep it where you want it, permitting the use of large glass areas for bigger views and maximum light.

There are other glazing options available, too. Your choice of tinted, reflective, safety, spandrel, decorative or double-pane.

In short, no matter how you color it, there's an Andersen glazing to complement any commercial design.

So if your opinion of Andersen windows until now has been otherwise, perhaps we have kept you in the dark too long.

For the name of your local Andersen Distributor Commercial Representative, call 1-800-635-7500. Or write Andersen Commercial Group, P.O. Box 12, Bayport, MN 55003.

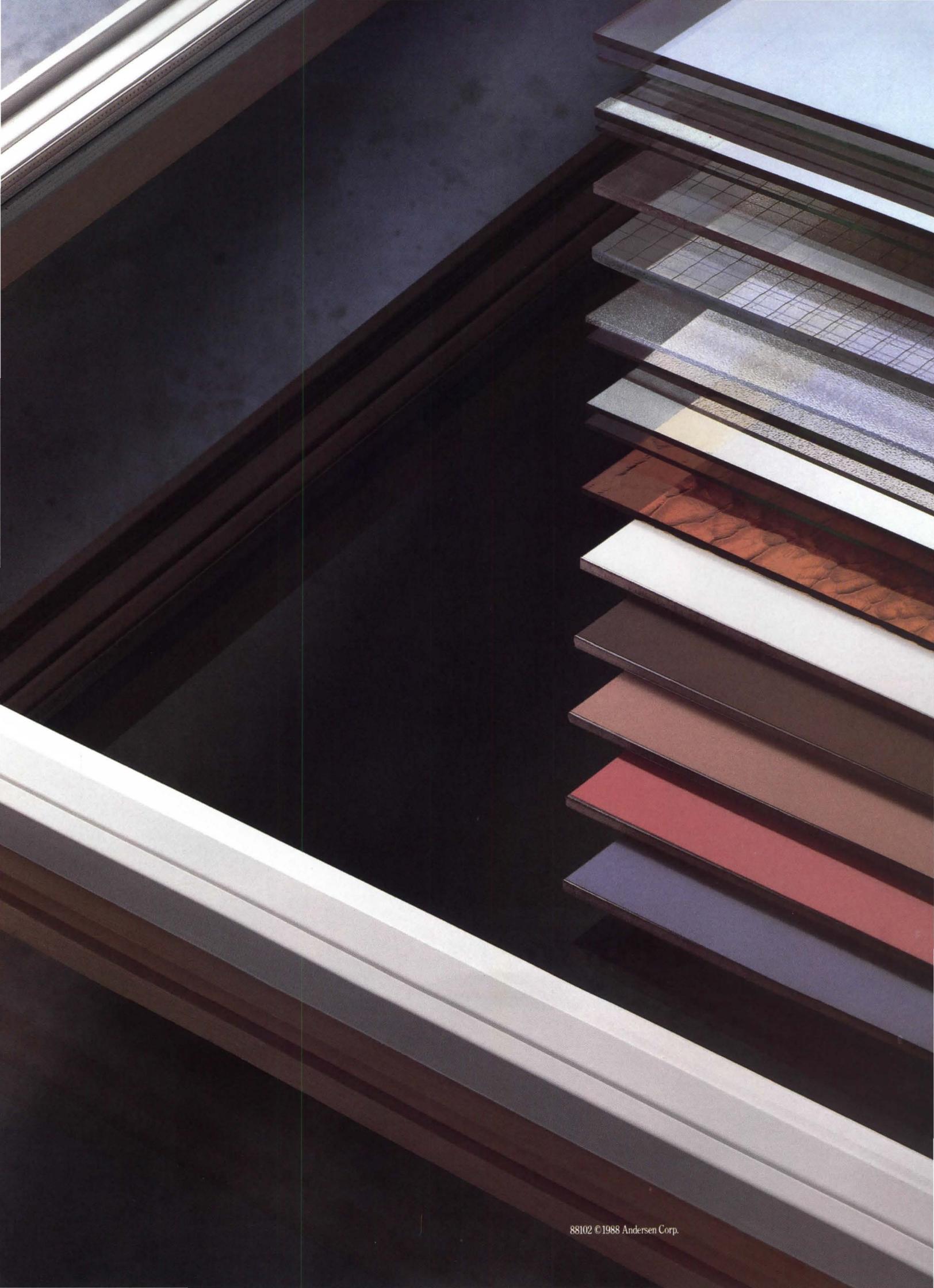
IF WE HAVEN'T ALREADY DONE SO, PERMIT US NOW TO COLOR YOUR OPINION.



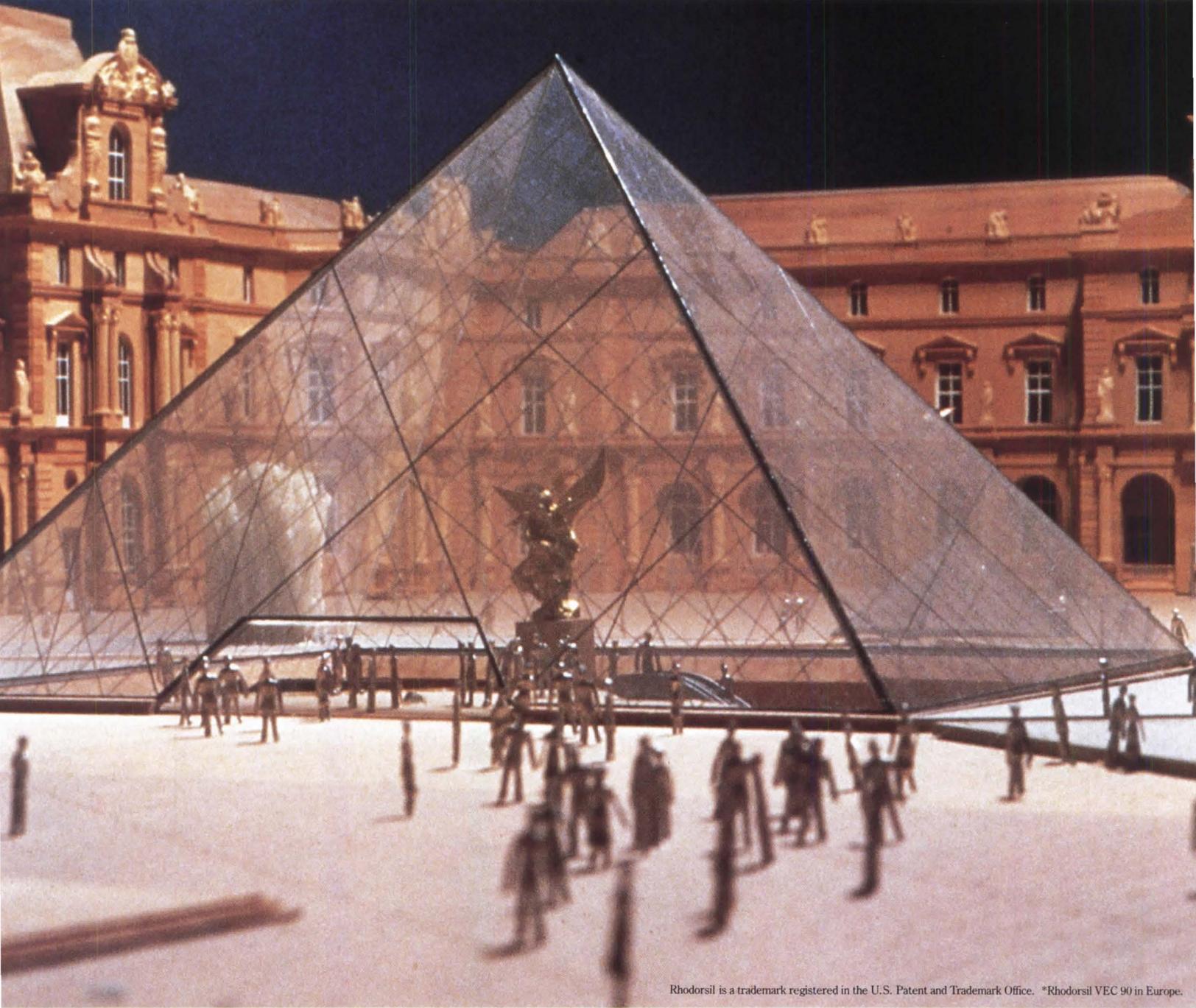
Andersen High-Performance (above) and High-Performance Sun insulated glass (below) are just two of the many optional glazings we offer.

ANDERSEN
COMMERCIAL
GROUP





The Blending of Art & Science



Rhodorsil is a trademark registered in the U.S. Patent and Trademark Office. *Rhodorsil VEC 90 in Europe.

I.M. Pei & Partners Style.

When I.M. Pei & Partners designed the Grand Louvre entrance, they did more than create an architectural masterpiece. They laid out an engineering marvel, where more than 86 tons of transparent glass would be combined to form an apparently seamless pyramid.

After two years of rigorous testing, just two sealants were chosen to handle this high-tech assignment.

Rhodorsil® 5C for weathersealing (because of its superb physical characteristics and long-lasting weatherability) and Rhodorsil 90* for structural glazing.

The choice was not surprising. After all, we've been developing silicone sealant technology for over 30

years. And now, with our ultra-modern research and production facility in New Jersey completed, we're ready to provide you sealant solutions for all your architectural works of art.

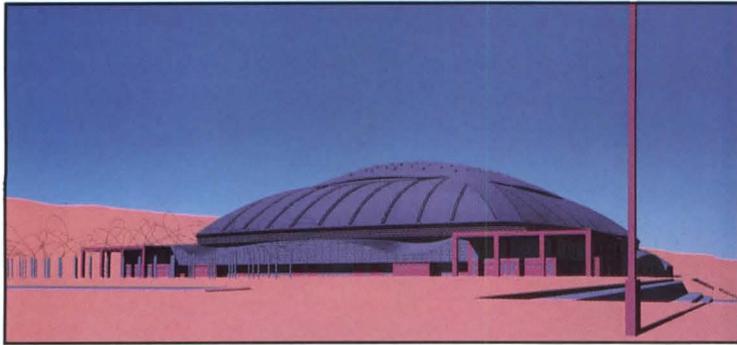
If you'd like to know more, write us. Rhone Poulenc Inc., Rhodorsil Silicones, P.O. Box 125, Monmouth Junction, NJ 08852.

 **RHÔNE-POULENC**



Rhodorsil Architectural Silicone Sealants

Setting the Standard.



Arata Isozaki's sports hall is one of several projects planned for the 1992 Olympics in Barcelona. See page 37.

Promoting a U.S. Design Council

Despite all the talk in Congress about how to make U.S. exports more competitive, there has been little discussion about product design and how it might help to improve the balance of trade. But that may change if Design America gets its way.

The organization has held forums around the country to generate interest in and gather ideas for a U.S. design council, which would promote good design both at home and abroad.

(continued on page 33)



Endangered Holy Family Church.

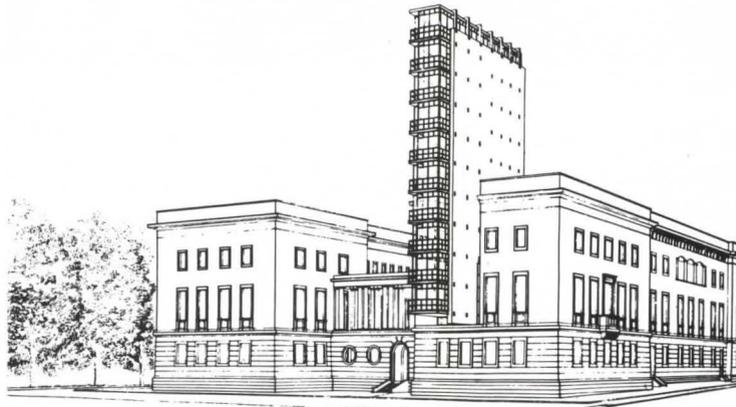
Judson Brown

Churches Threatened in Chicago

For many old and beautiful churches in Chicago, the question is becoming when, not if, they'll be demolished. The fate of two architecturally significant Catholic churches in particular is in grave doubt. And last December, the archdiocese of Chicago announced that 25 historic inner-city churches may be closed and possibly demolished in the near future.

The Landmarks Preservation Council of Illinois (LPCI) and the National Trust for Historic Preservation are trying to pull together money and resources to save endangered local churches. "We realize we can't save them all, so we are forced to

(continued on page 32)



Gae Aulenti's design for the Berlin Academy of Science.

Berlin Academy of Science Competition and Controversy

Last winter, the Senat of West Berlin awarded the commission for the conversion of the former Italian Embassy for use by the newly created Academy of Science to a team headed by Milanese architect Gae Aulenti. The project is the latest in a series sponsored by the Senat in an effort to recapture the city's former importance as the interna-

(continued on page 29)

Americans in London Docklands

Britain's first skyscraper of American proportions is to form the centerpiece of the 12-million-square-foot Canary Wharf development proposed by Toronto-based developers Olympia & York for London's Docklands district. The 800-foot-high, pyramid-topped building, designed by Cesar Pelli of New Haven, will be London's tallest. Other parts of the \$7 billion Canary Wharf project, which is

(continued on page 28)



Docklands: Pelli (center tower) and Kohn Pedersen Fox (paired highrises and midrises).

Pencil Points

Jean Nouvel has been awarded the commission to design a luxury hotel for **Perrier** in Vichy, France. **Ricardo Bofill** and **Christian de Portzamparc** were also considered for the project.

The Massachusetts Museum of Contemporary Art now has the funds to proceed with plans to convert an abandoned factory in **North Adams, Mass.**, into the world's largest gallery. Governor **Michael Dukakis** signed a bill allocating \$35 million to **Mass MoCA**, whose program also includes retail, hotel, condominiums, and light industry.

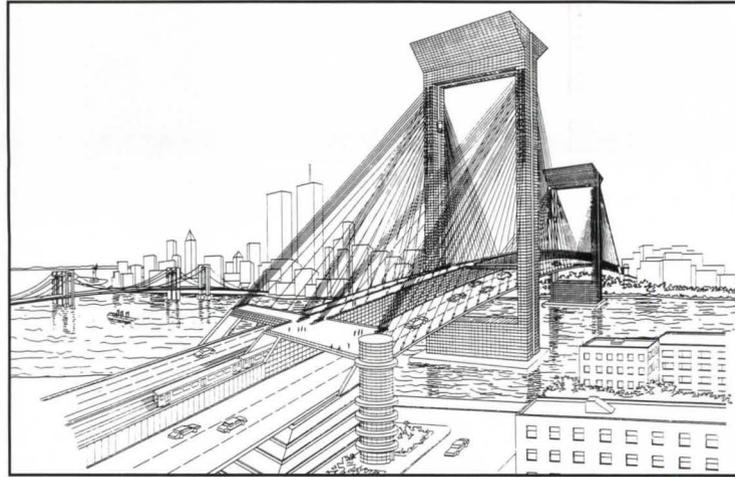
Gwathmey Siegel & Associates, New York, have been selected to design the new **Busch-Reisinger Museum** at **Harvard University**. The \$6 million building, which will occupy a site adjacent to the **Fogg Art Museum**, will also house a portion of the **Fine Arts Library**.

An International Academy of Architecture has been set up in **Sofia**. Funded in part by the **Bulgarian government**, the **Academy** is to be housed in the restored monastery of **St. Kirik**, also home to the **Bulgarian Institute of Architects**, outside **Plodniv**. **Dennis Sharp** will head the education arm, and **Jonathan Glancey** will edit the bimonthly magazine, as yet unnamed, with the assistance of guest editor **Norman Foster**.

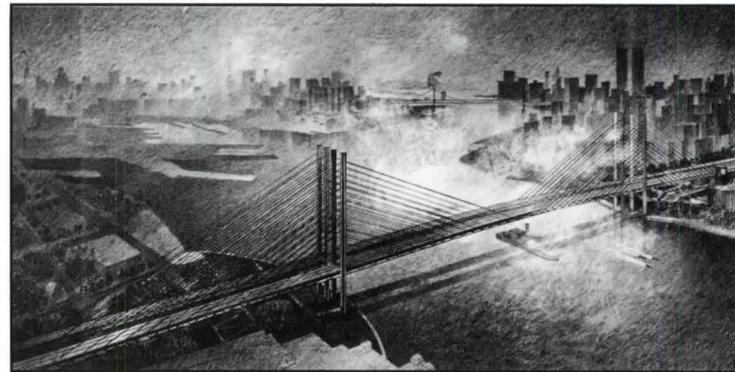
HOK's Sports Facilities Group has been named architect for the **Chicago White Sox Stadium**, proposed for a site adjacent to the existing **Comiskey Park**. The open-air stadium will seat **47,000**.

Eero Saarinen's Dulles International Airport Terminal Building has won the **1988 Twenty-Five-Year Award** from the **American Institute of Architects**.

The former Crown Zellerbach Building in **San Francisco** is to be renovated by **Kaplan/McLaughlin/Diaz**. Designed by **SOM** with **Hertzka & Knowles** in 1956, the 17-story office building, a classic curtain wall structure, was designated a historic landmark last May.



Williamsburg Bridge proposal by **DRC Consultants** and **Parsons Brinckerhoff Quade & Douglas** with **Der Scutt**.



Bridge proposal by **Arup Associates**.

A Bridge Too Far?

Should the city patch it up or tear it down? That is the question confronting the keepers of New York City's Williamsburg Bridge, who are simultaneously examining repair plans and studying new bridge proposals.

Some 89,000 automobiles, 17,000 trucks, 84,000 subway riders, 4000 bus passengers and 400 pedestrians cross the 85-year-old Williamsburg Bridge each day. Those commuters got a taste of traffic nightmares to come when the bridge was closed in May for emergency inspection and repairs. Faults are legion—from broken wires in the cables to crumbling decks.

While most of the 25 replacement bridge designs proposed by competing international teams play it straight with simple solutions in which the engineering is the architecture, a few took the opportunity to propose more ambitious programs. A design by **DRC Consultants** and **Parsons Brinckerhoff Quade & Douglas** with **Der Scutt**, all of New York, would house a museum and a restaurant in twin towers that would be right at home among the apartment buildings of Third Avenue.

As New Yorkers contemplate these alternatives under crisis

conditions, two bridge construction executives have sounded a more general, worldwide alarm. According to *The New York Times*, **Stewart C. Watson** and **David Stafford** contend that cable-stayed bridges, which are less expensive to build than traditional suspension bridges and increasingly favored, are vulnerable to premature, rapid corrosion that can reach dangerous levels in four to ten years. (In the cable-stay design, the roadway is suspended directly from the bridge towers, producing a fan-shaped cable pattern, while in suspension bridge designs, smaller vertical cables are suspended from larger cables, which hang in an arc between the towers.) Ironically, all but two of the 25 designs for the Williamsburg replacement bridge use the cable-stay system.

While public attention has focused on the more dramatic possibility of failure in the main suspension span, recent inspection reports locate the most significant corrosion in the on-land approach roadways. That fact, coupled with the new questions raised about cable-stay design, could make repairing the existing bridge more palatable. The city's Department of Transportation is expected to announce its plan of action in July.

Daralice D. Boles

Docklands (continued from page 27) billed as the world's largest commercial development, are designed by **Kohn Pedersen Fox** of New York and the London and Chicago offices of **Skidmore, Owings & Merrill**.

Canary Wharf marks the most comprehensive intervention to date in Europe by American architects. The master plan for the 71-acre site by **SOM** with **I.M. Pei & Partners**, New York, and **YRM Associates**, London, with landscape architects **Hanna/Olin**, Philadelphia, incorporates major revisions demanded after the initial plans were unveiled last year. The mixed-use program, with 10 million square feet of office space, 400,000 square feet of retail, two hotels, and parking, remains largely unchanged. The new plan, however, is more symmetrical, with more formal landscaping and improved access to the water that surrounds the site. It is perhaps overly formal by London standards, but makes good use of the dramatic possibilities offered by the long site linking two bends in the Thames River.

The buildings are grouped around a long courtyard that is divided in two by the **Pelli tower**. **Pelli's** design replaces a taller, asymmetrically positioned skyscraper by **KPF**, who have contributed a pair of 600-foot-high towers with barrel-vaulted tops to the current plan. **KPF** has also designed three mid-rise buildings—a hotel and a pair of office blocks now under way. These join office buildings of similar size by **SOM** and **Pei**.

The dominant feature, however, remains the **Pelli tower**. Some 50 feet shorter than the tallest tower of the original plan, it remains 200 feet taller than London's previous tallest buildings, the 1966 **British Telecom Tower** and the 1981 **National Westminster Tower**.

Pelli takes pride in the fact that his tower will act as symbol for this booming area, noting that London's existing tall buildings lack sufficient "flair and dignity" to be termed skyscrapers. He has not missed the great symbolic value of his design in signifying the shift of London's center of gravity away from the City and the West End. Yet he has designed a skyscraper for London without appearing to consider what a European skyscraper (a contradiction in terms?) should look like. And his romanticized skyscraper implicitly denigrates London's other, mostly Modernist, tall buildings, some of which inspire a certain fondness among locals

(if not the Royals). It must be said, however, that if the skyscraper is ever to be appropriate in the Old World, this is probably both the time and the place to make the attempt.

Hugh Aldersey-Williams

The author is a free-lance journalist based in London and New York. His book New American Design will be published by Rizzoli in the fall.

Gund by Faneuil Hall

Faneuil Hall, Merchants Row, State Street: This is Boston's Holy Land. You can practically hear the chatter of merchants, the call of orators, the shouts of patriots—and the clamor of preservationists. And the sifting of "acres of drawings," says architect Graham Gund of Graham Gund Architects, Cambridge.

Gund's new building on State Street may be the city's most painstaking exercise in contextualism. The 12,000-square-foot One Faneuil Hall Square reflects the combined labors of city preservationists, the Boston Redevelopment Authority, and the architects.

The "long bloody process," as one former BRA staffer puts it, began in 1979 after the 19th-Century Sanborn building by Alexander Parris, which had occupied the site adjacent to historic Faneuil Hall, burned down. Round and round the design went. Countless forms and façades came forth—as many as 120 in a room in one day, the BRA staffer remembers.

The point of this arduous exercise was to ensure that the new building fit into Faneuil Hall Square, with its small-scale mix of periods—from master architect Charles Bulfinch's Federal style enlargement of Faneuil

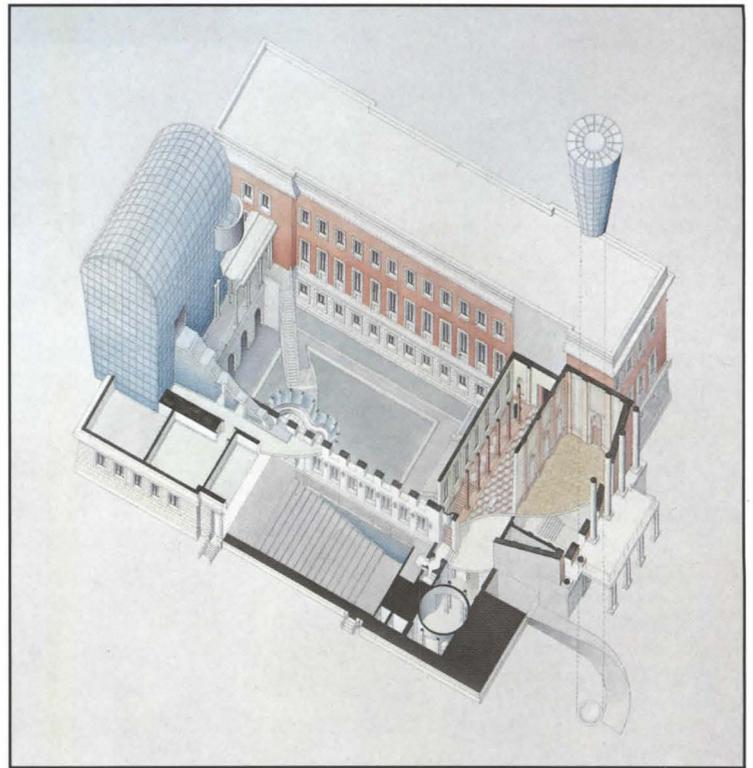
Hall from 1805, to Parris's robust Greek Revival Quincy Markets a generation later, to the office towers of today. Gund's role model, he says, was the Sanborn Building itself, which deferred to Faneuil Hall.

Unfortunately, One Faneuil Hall Square does not defer sufficiently to this noble father figure. From too many vistas, the offspring, a seven-story masonry cube ordered into six symmetrical bays on each side, overwhelms its historic parent. The reasons for this unintended result seem both predictable and symptomatic of so many buildings that are self-consciously historical, but fail to emulate the past's small scale and more detailed craftsmanship.

As in so many Post-Modern replays of historic outlines, the underdetailed parts—the austere sweep of the roof, the blank-eyed windows, and especially the glass greenhouse, which manages to stripe the sky as a black void above Faneuil Hall's cornice—draw away from the role model in a kind of parody.

To be sure, the need to mediate between a historic area and the slick Modernist towers nearby would have daunted Boston's master architect Bulfinch himself. To Gund's credit, too, he has avoided the cliché of Boston brick, with a pink granite façade that bows to State Street.

The BRA likes to use this building as testimony to their capacity to compromise between old and new, to encourage a structure that merges into the cityscape. To this viewer, however, it is false homage to the God of Context. One Faneuil Hall Square remains evidence that a stilted historicism cannot compensate for the damage that even relatively small increases in scale and decreases in detailing make. **Jane Holtz Kay**



Berlin Academy of Science design by Robert A.M. Stern.



Academy design by Kollhoff and Betow.

Academy (continued from page 27) tional center of modern science. That goal is now resulting in some remarkable architecture: the Berlin Science Center designed by James Stirling, Michael Wilford & Associates opened in May; the new Centre for Manufacturing Technology by Fesler & Bayerer opened last year and immediately captured the German architecture prize; and a factory designed by Peter Behrens (1910–12) for AEG is now being converted into a "thinktank."

Aulenti's scheme for the new Academy was selected from proposals submitted by eight invited architects. Second prizes were given to Robert A.M. Stern, New York, and Hans Kollhoff with Theodora Betow, West Berlin.

The original Academy of Science was founded in 1700, and, although located in East Berlin,

is still one of the most prestigious scientific institutions in the world. By contrast, the new West Berlin academy is to be "future-oriented," examining the societal problems caused by technology.

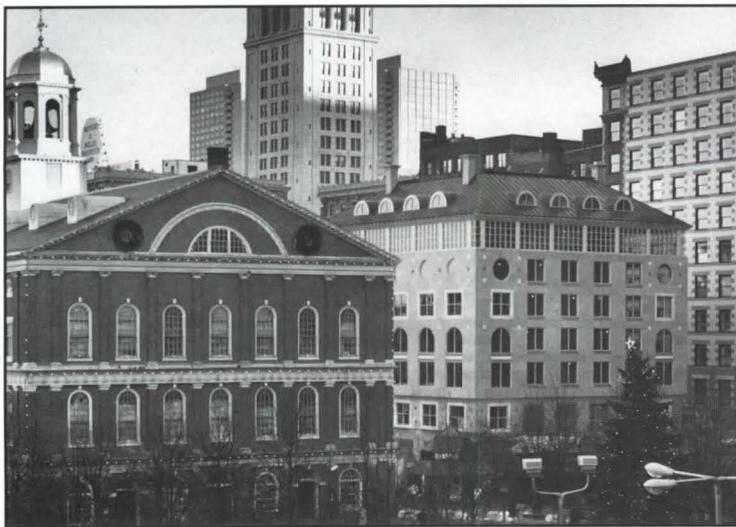
The building it will occupy was completed in 1942 as part of the National Socialist rebuilding of Berlin. Damaged in 1945, it is still partially occupied by the Italian Consulate, which will share the building with the Academy.

The site was undoubtedly chosen for its proximity to the Culture Forum, where prime examples of postwar architecture by Scharoun, Mies, and Stirling are located. But the Embassy's origins did not go unnoticed by the competition organizers, who requested that any new architectural elements be of Modern design. These Modern additions would contrast with the Neo-Classical embassy and thereby demonstrate that the "... period [of the Third Reich] had been intellectually conquered." (A group of period rooms are, however, to be restored.)

The winning scheme by Aulenti's team accomplishes the paradox of barely altering the embassy's footprint, while adding a monumental presence to West Berlin's skyline. A slender galleria slices through the embassy's east wing, culminating in a ten-story apartment tower whose west façade will offer superb views of the Tiergarten.

Even more dramatic was Hans Kollhoff's proposal. Uncomfort-

(continued on page 30)



Gund's One Faneuil Square Hall (right) beside the original hall.

David Hewitt

Academy (continued from page 29)

able with the concept of housing a new humanistic science center in a building built by the Nazis for an Axis power, Kollhoff and codesigner Theodora Betow proposed a 17-story tower located at the rear of the embassy courtyard. The two structures—embassy and tower—are opposites, balancing glass against masonry, transparency or lucidity against opacity, Modernism against Neo-Classicism, past against present.

In a departure from their recent American projects, which are more classicizing, the office of Robert A.M. Stern proposed a collection of irregular glass pavilions, vaguely reminiscent of Expressionist architecture and intended, said the architects, to “represent the ideal of science as a process of renewal.”

In the end, however, all three schemes failed, despite aggressive interventions, to rid the building of its past. The Senat itself is reconsidering the decision to house the Academy there. A proposal to give the embassy landmark status was recently rejected. A second idea—to renovate the existing embassy but erect a separate building for the Academy—is now being investigated. Either way, Academy representatives say Aulenti will serve as architect, and a final decision is expected this month.

Mary Pepchinski ■

The author, an American architect, is teaching at the Technical University in West Berlin.

Broadway Theaters Earn Designation

After a protracted and complicated battle between preservationists, actors, theater owners, real estate interests, and local politicians, New York City’s governing Board of Estimate voted in March to affirm the landmark status of 28 Broadway theaters, bringing the total of designated theaters to 31. The Board also adopted special guidelines that allow owners to make production-related changes to the theaters on their own, as long as any noted decor or architectural feature altered during a production is restored afterward.

The three major theater owners and producers in the area—the Shubert Organization, the Nederlander Theater Organization, and Jujamcyn Theaters—had argued strongly against designation, especially of theater interiors. They claimed that the financial constraints of restoring any altered portion of



The newly designated 46th St. Theater in Broadway theater district.



The Music Box Theater.

a playhouse, including sometimes minute or detailed interior ornamentation, would impede the profitable operation of most playhouses. But the special guidelines, which were worked out between the New York City Landmarks Commission, the owners, and the nonprofit organization Save the Theaters, attempt to address the economic realities of show production by permitting changes required by extravaganzas such as “Cats,” or “Phantom of the Opera,” to be made swiftly, without the normal landmark review procedures and without bureaucratic delay, as long as those changes can be reversed.

Owners also complained that designation would rob them of the potentially lucrative air rights over the theaters—this despite the New York City Planning Commission’s proposed Theater Retention Bonus. That bonus would allow developers in the theater district to gain extra floor space with payments to the theater owners; in return, theater owners would pledge not to destroy the theaters and maintain them as legitimate production houses.

The Board’s action comes six years after the demolition of the

Helen Hayes, Bijou, and Morosco theaters for a hotel triggered angry protests from various groups, including the Municipal Arts Society, Actors’ Equity, and Save the Theaters. Since then the Landmarks Commission has reviewed 45 theaters—at least 33 still used as legitimate playhouses—in a 13-square-block area around Times Square. (Very few theaters remain on Broadway itself.) Together these theaters represent a concentrated and unique ensemble of showhouses that have helped define and nurture the idea of “Broadway” as the pinnacle of showbusiness success and glamour.

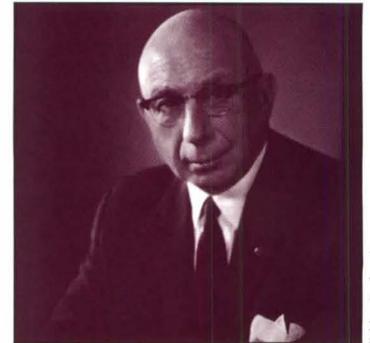
Although the Commission’s reports cite the designated theaters’ general “historic and symbolic importance to the development, heritage and cultural characteristics of New York City, New York State and the nation,” emphasis on the theaters’ architectural or aesthetic significance varies greatly from building to building. Indeed, some architectural historians have noted that many of the Broadway theaters, when considered individually or compared to other architecturally important playhouses in America or in Europe, are aesthetically undistinguished.

Nonetheless, a handful of the Broadway showhouses do stand out as unusual, innovative, or strong examples of early 20th-Century theater design. Among the notables are the elegantly proportioned Neo-Georgian Music Box Theater designed in 1921 by the prolific theater architect C. Howard Crane, and Carrère and Hastings’ Globe Theater, built in 1910 and renamed the Lunt-Fontanne in 1958.

Neither the Commission nor the Board has acted on eight other theaters that are now either unused or have been converted to movie houses. These

remaining theaters, all of which are on 42nd Street, will likely be upgraded as part of the 42nd Street Development Corporation’s plans to build office space and “clean up” the thoroughfare—plans which so far have been delayed by legal action and the search for adequate financial backing. **Peter L. Donhauser** ■

The author is an architectural historian and an educator at the Metropolitan Museum of Art.



Philip H. Hubbard, Sr.

Philip H. Hubbard, Sr., 1900–1988

Philip Hollister Hubbard, former President and Chairman of the Board of Reinhold Publishing, died in April.

As president of Reinhold, which publishes P/A, Hubbard presided over the shift in editorial direction that accompanied the name change from *Pencil Points* to *Progressive Architecture* following World War II. That change was described in the magazine itself as a shift from a “general journal for the drafting room” to a broader publication dedicated to “the vigorous promotion of what we believe to be good architecture and to the active encouragement of all . . . who work honestly at improving the human environment.”

Hubbard joined the Pencil Points Press, Reinhold’s predecessor, in 1923 as a sales representative. He served as publisher of *Pencil Points* and then P/A from 1931 through 1946. He was also instrumental in establishing the P/A Awards program and played a major role in the formation of the company’s book division. He retired from the position of Chairman of the Board of Chapman-Reinhold in 1968.

His son Philip H. Hubbard, Jr., has also served as publisher of P/A and is now President of the Reinhold division of Penton Publishing and Vice President of Penton Publishing. His eldest grandson, Philip H. Hubbard III, is an architect with Ferris Architects, Southport, Conn. ■

ICF

International Contract Furnishings Inc.

305 East 63rd St., New York, NY 10021

Telephone: 212/750-0900

Telex: 236073 ICF UR

Telefax: 2125931152

Circle No. 340

The Trattoria Chair

Design: Vico Magistretti, 1987

Here is an 18th century chair which Magistretti has taken from a piazza in Venice and sturdily re-created for our time.





Landmarks Preservation Commission of Illinois

Endangered St. Mary of the Angels in Chicago.

Chicago (continued from page 27)

pick the most architecturally important," said Carol Wyant, executive director of the LPCI.

Holy Family, the second oldest Catholic church in Chicago, is one of those important churches. Built in 1860 to the designs of Dillenburg & Zucher of Milwaukee and John M. Van Osdel, it survived the Chicago Fire of 1871.

The church's soaring tower dominates its Near West Side neighborhood, where it has served a succession of immigrant waves—Irish, Italian, Mexican, black. But its neighborhood has declined in recent years as one-time parishioners moved up in the world and out to the suburbs. The mostly lower income parishioners can't meet rising maintenance costs, and restoration is estimated at \$3.5 million.

The LPCI and the National Trust are working feverishly to help save the church. Recently, a church council rejected a committee recommendation to demolish the church; the matter now goes to a higher authority in the Jesuit order.

The outlook is only slightly brighter for St. Mary's of the Angels: The archdiocese, which had announced its intention to close and possibly demolish the deteriorating structure, recently granted the congregation a two-year reprieve. Parishioners are eager to save the building, but daunted by the estimated \$1.4 million in necessary repairs to the roof, dome, and walls.

The imposing church, located just west of the Kennedy Expressway on Chicago's West Side, was designed by Worthmann & Steinback and built in 1911. It is considered one of the finest examples of the Roman Renaissance style in the United States, with terra cotta and tile dome modeled after St. Peter's

Basilica in Rome.

Neither church is designated a landmark, nor are they likely to be, thanks to a March 1987 amendment to the city's landmarks ordinance prohibiting designation of a religious edifice without the consent of the congregation. That legislation doubles the difficulty of attaining landmark status not only for inner-city churches, but for well-kept churches of affluent congregations.

The Fourth Presbyterian Church on tony North Michigan Avenue is one example. Like St. Bartholomew's Episcopal Church in New York, Fourth Presbyterian sits amid skyscrapers in one of the city's hottest real estate markets. Cashing in on the potential real estate value of their property is something the congregation doesn't want to preclude.

One of the few success stories in church preservation in the Chicago area is Unity Temple in Oak Park, a 1906 Frank Lloyd Wright building. The congregation granted interior and exterior easements to the LPCI, giving the preservation group control of the architecturally significant elements of the building. But the preservationists have had no such luck in Chicago. Meanwhile, the LPCI and National Trust are consulting with lawyers to see if a successful court challenge could be made to the city's ordinance.

Lisa Goff

The author is associate editor of Crain's Chicago Business.

Low-Income Infill Housing

A recent exhibition in New York carried the message that low-income, subsidized housing can be an architecture of carefully modulated forms, spaces, and materials that dignifies its occupants and enriches surrounding communities. "Reweaving the Urban Fabric: International Approaches to In-Fill Housing" included 60 American and European examples.

As part of a three-pronged effort by its sponsors—the New York State Council on the Arts and the New York Landmarks Conservancy—to make housing a public issue, the exhibition joins the sponsors' 1984 Harlem In-Fill Housing Competition and a more extensive housing survey to be published this fall.

In contrast to the sleek, corporate gallery of the PaineWebber Building where the show was housed, the exhibit depicted an architecture occupied and altered by ordinary people. Their presence in the architectural photographs deepened the show's underlying stance that design, at its best, is a humanistic pursuit that integrates physical form with culture in service to society.

Of the American work, projects in New York, California, and Charleston are among the



Herman Hertzberger

Hertzberger's Kassel housing.

most effective in "reweaving" old with new. A premiated entry in the Harlem competition by Steve Campbell and Mark Nielson of Payette Associates, Boston, comes closest to the European synthesis of local housing traditions with progressive site planning principles evident in projects by Antoine Grumbach in Paris, Herman Hertzberger in Germany and the Netherlands, and Aldo Rossi in Italy.

It is Hertzberger, however, who consistently provides the exhibition's richest rewards. In his low-rise projects in Berlin,

Kassel, and Amsterdam, units reach to the light with balconies and terraces that give rhythm and scale to façades. There is no ornament here, but there is a tactility to these elevations that is equal to the outstanding brick row house work of English architects Jeremy Dixon and Alan Colquhoun, also exhibited, who make stylistic references to the London row house. We may look at these photographs and others in the show and return to the American city and suburb of crackerbox condominiums asking: What is luxury?

Roy Strickland

The author is a practicing architect and assistant professor in the Graduate School of Architecture, Planning and Preservation at Columbia University, where he teaches the housing studio.



Sketch: courtesy Building Design

Arup Associates' design for Paternoster Square.

HRH vs. Architects at St. Paul's

"Architects have inflicted greater damage on London than the Luftwaffe managed during World War II," claimed Prince Charles in a recent speech. This sort of assertion doesn't go down well with architects; yet when the Prince not only garners headlines in an otherwise indifferent press, but has the ear of the current RIBA president, Rod Hackney, they take notice.

Moreover, the Prince went on to commend features found in an unsolicited proposal for a sensitive site in the City of London currently subject to a limited competition among seven of the world's most highly regarded firms (highly regarded, that is, among architects). The proposal that was to the Prince's taste had been commissioned from a lesser known firm, John Simpson & Partners, by a London evening newspaper. The features praised by the Prince were the pseudo-traditional ones that pass for "history" in popular sentiment.

The site in question is Paternoster Square, on the north side of St. Paul's Cathedral. While

(continued on next page)



**The dawn of
a new era!**

The Problems



Stains from hot coffee.



Color loss from strong light sources.



Stains from wine.



Damage to the fibers from strong acids such as battery acid.



Oil-based stains.



Damage and loss of color from harsh bleaches and cleaners.



Stains from salad dressing.



Color loss from medications, and plant fertilizers.

The Solution.

Marquésa[®] Lana
with **Scotchgard[®]**
Protector

Marquésa[®] Lana/St
with **Scotchgard[®]**
Protector

PermaColor[™]
BY AMOCO



The 5 year
stain and fade
warranty for
both commercial
and residential
carpet...

Marquésa® Lana

PermaColor™
BY AMOCO

**LIMITED 5 YEAR
STAIN AND FADE RESISTANCE
WARRANTY**

Marquésa Lana/ST

Amoco Fabrics and Fibers Company warrants to the original purchaser that for 5 years from the date of original purchase, carpets made entirely with 100% Marquésa® Lana and/or Marquésa® Lana /ST yarns, when installed and maintained for indoor commercial or residential use as recommended by Amoco Fabrics and Fibers Company, will not show a permanent, noticeable color change greater than one unit on the AATCC Gray Scale* due to staining or fading and will maintain an AATCC Gray Scale rating of four or better, where five represents the original color of the carpet. This warranty is subject to the following stipulations and limitations.

1. If the original purchaser believes they have a fading problem or a stain they cannot remove, they must call Amoco Fabrics and Fibers' PermaColor™ Service Line for assistance: **1-800-BY-AMOCO (1-800-292-6626)**
2. If the original purchaser is unable thereafter to remove the stain using the procedures recommended by Amoco Fabrics and Fibers, they must allow a cleaning professional (contacted by Amoco within 10 days) to clean the stain. If the stain is removed by the professional cleaner, the original purchaser will be responsible for the cost of the cleaning.
3. If the original purchaser believes they have a fading problem, they must allow a certified carpet inspector (contacted by Amoco within 10 days) to inspect the affected area. If the certified inspector determines noticeable fading has not occurred, the original purchaser will be responsible for the cost of the inspection.
4. If the stain is not removed by the professional cleaner so that a noticeable color change greater than one unit on the AATCC Gray Scale exists, or a fading problem is verified by the inspector, Amoco Fabrics and Fibers Company will repair or replace the affected portion of the carpet with new carpet of equivalent quality at no cost to the original purchaser, including installation cost.
5. The original purchaser should provide the date and place of purchase of the carpet to Amoco in the call to the Service Line and must present proof of purchase to the inspector or cleaning professional.

*The AATCC Gray Scale Rating is a nationally recognized system using a standardized comparison system to determine the extent of color differences.

6. This warranty does not cover staining or fading due to:
 - (a) application of improper cleaning agents or maintenance methods;
 - (b) staining or fading occurring after the use of any additional carpet treatments or chemical applications;
 - (c) burns, cuts, or tears;
 - (d) normal soiling, abrasion, crushing or changes in texture of the carpet pile in any area;
 - (e) abnormal usage of the carpet, faulty installation of defective carpet construction; or
 - (f) staining or fading occurring after removal of the carpet and its reinstallation.

This warranty is validated upon Amoco Fabrics and Fibers Company's receipt of your warranty registration card. This warranty is a limited warranty that grants you specific legal rights, and you may also have other rights that vary from state to state. This warranty is void outside of the United States. For warranty questions or service, call the Service Line number above or write: **ATTN: PermaColor™ Consumer Services, Amoco Fabrics and Fibers Company, 900 Circle 75 Parkway, Suite 550, Atlanta, GA 30339.**

NO ONE IN THE INDUSTRY HAS A WARRANTY THAT EVEN COMES CLOSE

For more information about PermaColor
Call
1-800-292-6626



Amoco Fabrics and Fibers Company
Fibers & Yarn Division
900 Circle 75 Pkwy., Suite 550
Atlanta, Georgia 30339
(404) 956-9025

Amoco Fabrics and Fibers Company makes fibers and yarn, not finished carpet.
Marquésa Lana and Marquésa Lana/ST are the registered trademarks for olefin yarn produced by Amoco Fabrics and Fibers Company.

© Amoco Fabrics 1988

FY-3-A-2-88

HRM (continued from page 32)

small compared to the vast redevelopments of Docklands (see story, page 27) and Kings Cross, this square has been London urbanism's most important testing ground for decades.

This precinct of freestanding slabs and loosely contained plazas, laid out by Sir William Holford in the 1960s, was regarded at the time by critics such as Nikolaus Pevsner as the definitive solution to a sensitive area. Today the slabs are obsolete for current business needs, while the plazas are unloved by office worker and tourist alike.

The triangular site will be redeveloped by the Paternoster Consortium as an office and shopping complex. The Consortium commissioned a competition for "an overall scheme . . . rather than a final design solution." Of the invited firms—Arup Associates; Skidmore, Owings & Merrill; Isozaki & Associates; Richard Rogers Partnership; Foster Associates; MacCormac, Jamieson, Pritchard & Wright; and James Stirling & Michael Wilford Associates—Arup was chosen to take the project forward.

The jury—which included critics Colin Amery and Charles Jencks—made the unusual request that the Arup office work



Simpson's square, the Prince's preference.

with Richard Rogers in order to incorporate a feature from his proposal that opens up a view of the north transept of St. Paul's from below to those alighting from underground trains.

Of the Arup project, little can be said at present, as it has not been published, although a glimpse on a TV program revealed that it was the only scheme to recall Christopher Wren's idea of an oval plaza, reminiscent of Bernini's design for St. Peter's Square, set before the west portals.

Foster's alternating bands of public arcades and glazed pri-

vate courts was the most abstract and insouciant—the most Modernist—of the proposals. The most willful, however, was surely Isozaki's farrago of forms—trapezoid, quadrant, triangle, square/circle/tower, oblong, crescent, and octagon—ranged along the churchyard edge, as if to manifest the conflicts in what the architects call "an unsolvable puzzle, even within the customary practice of urban design." **Brian Hatton**

The author teaches at The Architectural Association and writes about contemporary art and architecture.

Council (continued from page 27)

The meetings were jointly sponsored by the National Endowment for the Arts and the Architecture and Planning Research Laboratory at the University of Michigan.

It is no coincidence, say council backers, that trading partners, such as England, Denmark, Italy, and Japan, known for well-designed, high-quality products, also have active design councils. Still, establishing one here will not be easy, as the forums made clear. Manufacturers were wary of governmental involvement in design, and even some designers questioned whether, in the words of Neils Diffrient, "we can

give a clear definition of what good design is."

Most participants, however, seemed to agree that a U.S. design council should be regionally based and privately funded, should make use of existing business and design networks and media, and should conduct research into what constitutes good design and what its economic value really is.

A question raised by the forums was why the U.S. has so many poorly designed products when it is home to many of the world's leading designers. Put another way, why have U.S. designers often found foreign companies more receptive to new design ideas than companies here? Getting corporations to recognize the country's own design community as a valuable and precious resource is itself a worthy task for a design council.

Its NEA funding expended, Design America is now seeking new funds and further participation from the business and design communities. Interested parties should contact Colin Clipson at the College of Architecture and Urban Planning, The University of Michigan, Ann Arbor, Michigan 48109-2069. **Thomas Fisher**

What do this Japanese restaurant, furniture store, and office building have in common?

Top — Kyoto Steak House — and right — Barr Office Building, both by Rossen/Neumann Associates, Southfield, Mich. Lower left — Art Van Furniture by Robert L. Ziegelman/Architects, Birmingham, Mich.



Beautiful, economical exteriors of Foremost Steel Fascia.

More and more buildings are being finished with Foremost Fascia . . . pre-fabricated systems that go up fast to save time and lower construction costs. Both systems (Quick-Lock and Free-Form) carry a 20-year warranty on their Kynar 500® finishes. Foremost's money-saving color-coated sheets are also available flat; cut to size; and fabricated to your specs. Write for complete information.

FOREMOST MANUFACTURING CO.

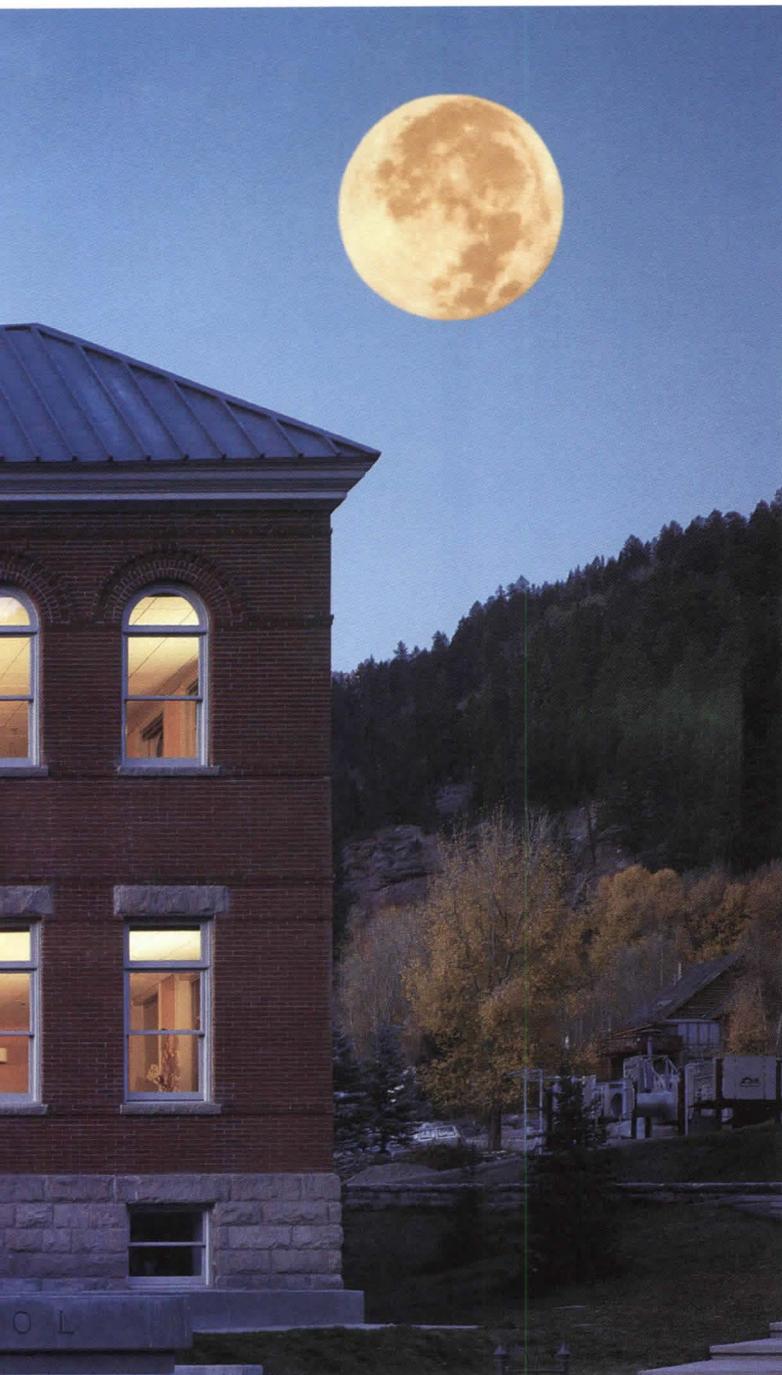
20941 East St. / Southfield, MI 48034 / (313) 357-4020 or 1-800-622-4001

Selected Territories Available



THIS SCHOOL OFFERS AN ADVANCED COURSE IN WINDOW TECHNOLOGY.





When they decided to renovate and reopen the 93-year-old elementary school in Telluride, Colorado, they decided to install Marvin Magnum windows.

Smart. Magnums are among the best-performing wood windows in the world. Whether it's positive wind load, negative wind load, air or water infiltration, they'll handle all the weather the Rocky Mountains can dish out.

Because we make windows to order, we could incorporate Magnum performance features into historically accurate replicas. At the same time, we could include custom features such as a special brick mold casing and a durable polycron exterior finish.

Our made-to-order approach meant our windows fit better. And, working closely with the contractor, we were able to deliver on schedule.

The entire project was a textbook exercise in the benefits of using made-to-order windows in renovation. And when it comes to making windows to order, we wrote the book.

For more information, call us toll-free at 1-800-328-0268 (in Minnesota, dial 1-612-854-1464; in Canada, 1-800-263-6161). Or just write Marvin Windows, 8043 24th Avenue South, Minneapolis, MN 55425.

**MARVIN WINDOWS
ARE MADE TO ORDER.**



Circle No. 352 on Reader Service Card



CASTELLARANO
FIANDRE
CERAMICHE SpA
CASTELLARANO - ITALY

ONLY FIANDRE



CORINDO

THE SECOND GENERATION

Marries the luster and graining of natural granite with the economies of ceramic tile.

Durable... stain resistant... and harder than natural granite, yet every bit as vibrant and commanding.

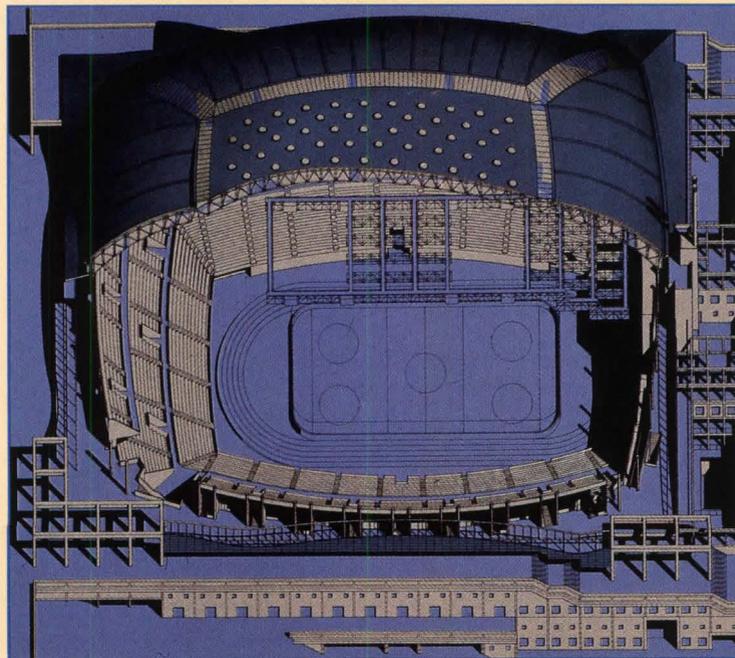
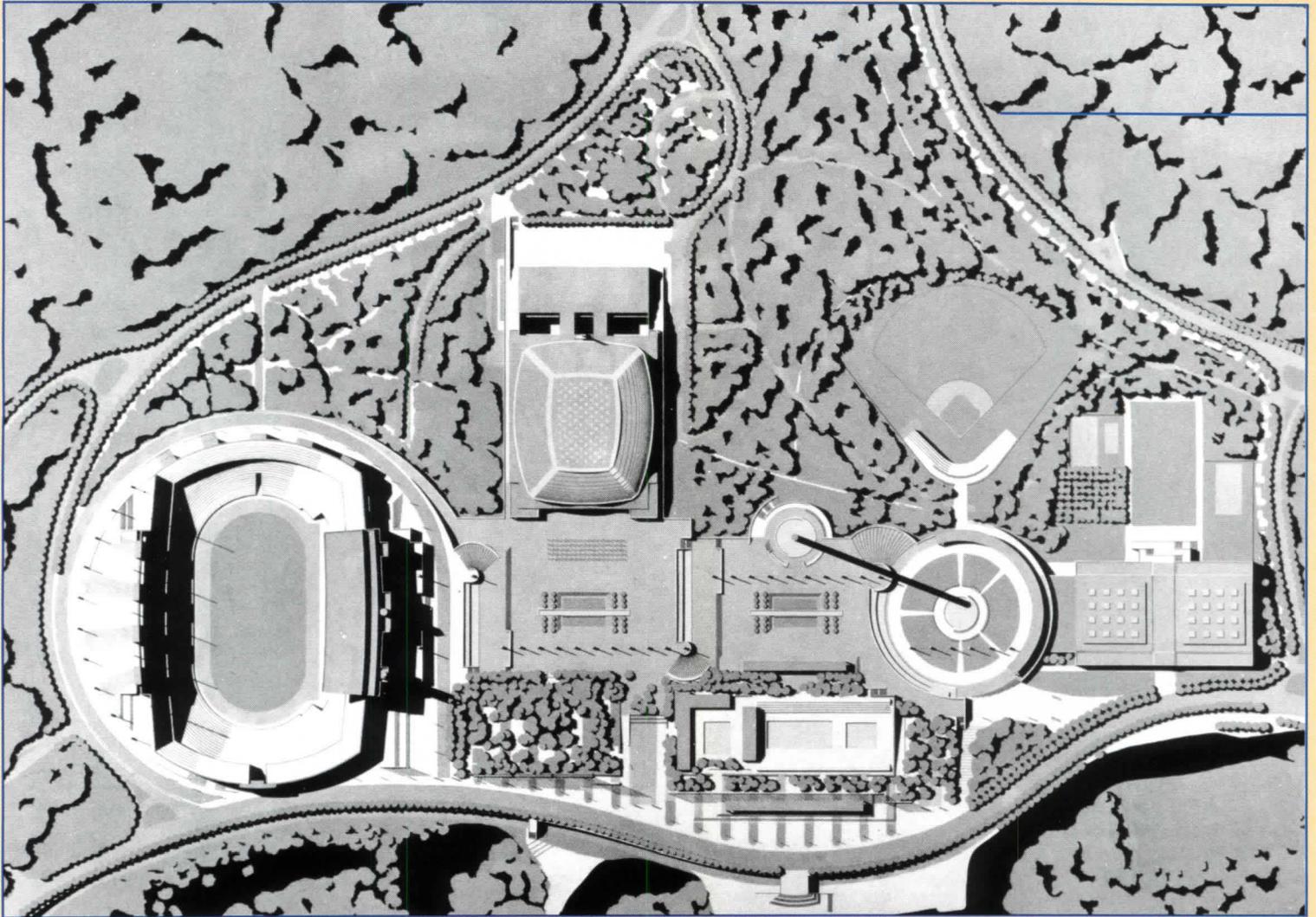
Perhaps only Fiandre could enhance natural stone.

Available with a matte or polished finish as shown... in a combination of nine colors in 12" x 12" and a new 16" x 16" size.

In the U.S.A. and Canada: TRANS CERAMICA LTD., P.O. Box 795, Elk Grove Village, IL 60009 312/350-1555

TCL

Circle No. 330 on Reader Service Card

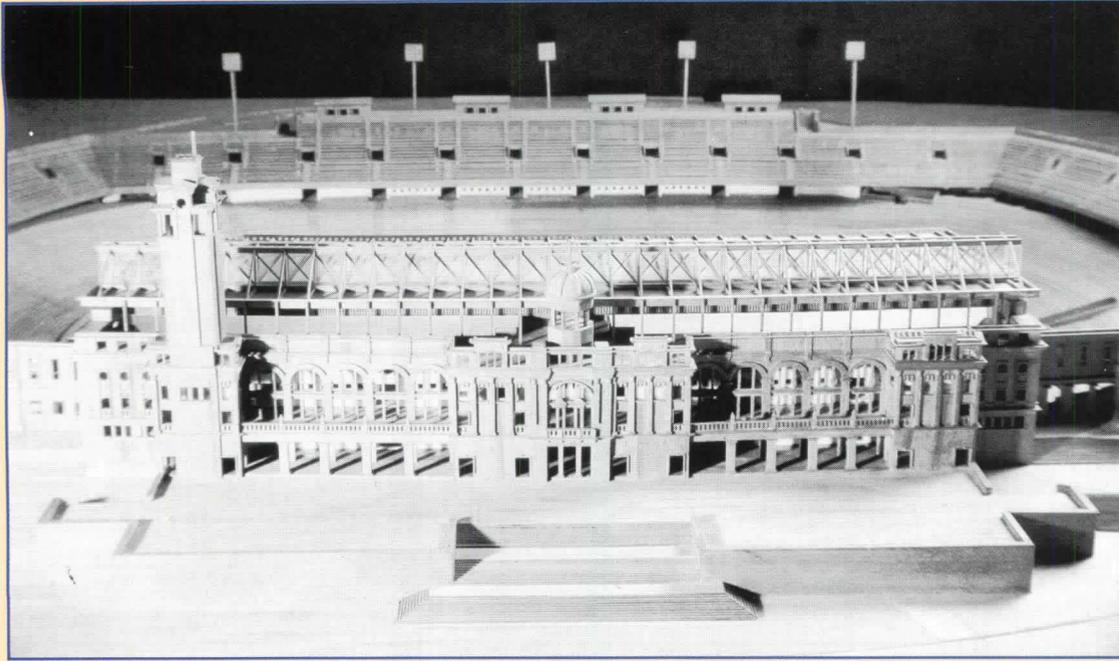


Site plan of Montjuïc Hill in Barcelona designed by Correa & Mila (top) shows location of major sports venues for the 1992 Olympics, including stadium renovation by Gregotti and Correa (left), covered sports hall by Isozaki (middle, and above), and Bofill's wrestling hall (right).

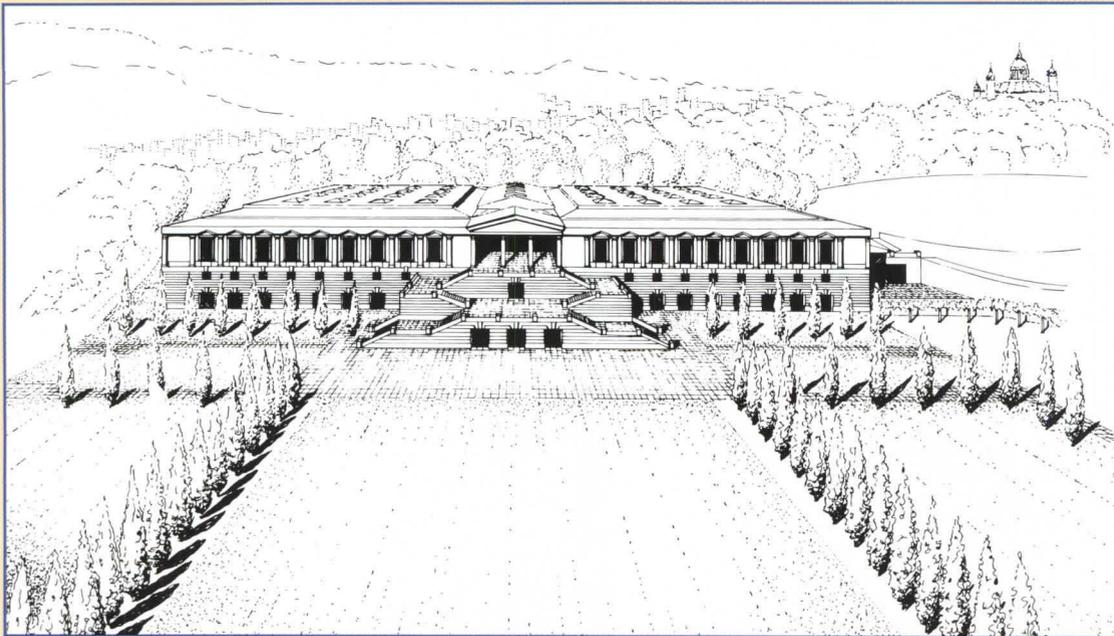
A Designer Olympics

The 1992 Olympic Games in Barcelona will be the most architecturally oriented since the Tokyo Games in 1964, according to Jorge Carbonell, director of the Olympic Village project. Master plan designers Martorell Bohigas Mackay and the Barcelona City Council are currently selecting architects from around the world to design segments of the Village. On the other side of town, plans for the principal sports halls on Montjuïc Hill have been completed by their many architects, according to a master plan by Correa & Mila, Barcelona, and foundation work is currently under way.

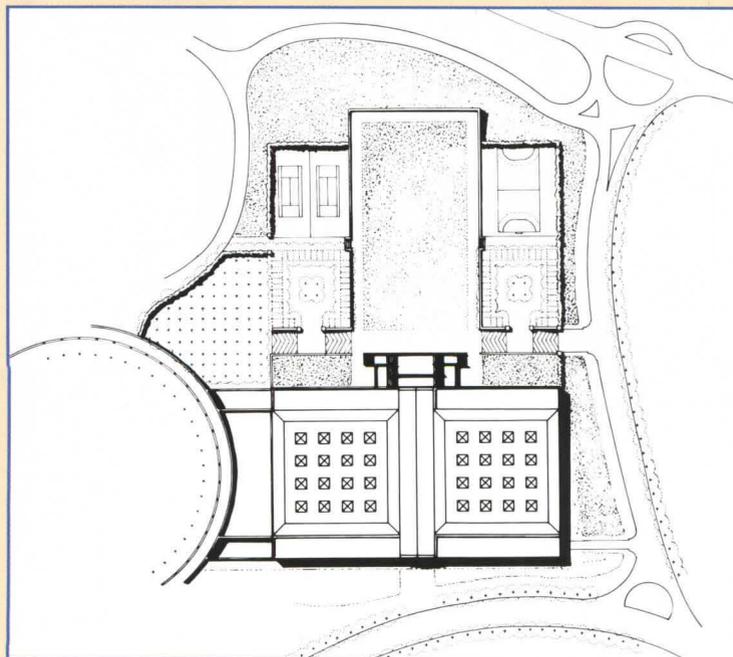
The most innovative structure for the Games is Isozaki's covered sports hall, designed to seat 17,000 spectators. Steel supports are currently being put in place for a 140 x 110 meter space-frame roof structure, which will be assembled on the ground and then jacked hydraulically 45 meters up into position. The three-stage "pump-up" operation avoids the need for scaffolding and could take as little as a



Renovation by Gregotti and Correa of stadium built for 1936 Olympics.



Bofill's wrestling hall and press center (above and in plan, right).



day. Shuichi Fujie, director of architecture for Arata Isozaki & Associates Spain, says this is the first time the technique has been used on such a large structure outside Japan.

The main stadium on Montjuic Hill is a restoration of one built for the 1936 Games, which were never actually held in Barcelona but moved to Berlin at the outbreak of the Spanish Civil War. Principal architects Vittorio Gregotti and Federico Correa are preserving the original perimeter of the old structure, rather than expanding it as initially conceived. The additional spectator seating requirement—raising the capacity from 36,000 to 70,000 with provisional seating for 10,000 more during the Games—is instead being met by simultaneously shrinking and digging out the arena to lower the track level 11 meters.

Changes in Olympic running event distances over the past half-century conveniently accommodate this contraction with a track length of 400 meters, down from 500 meters in 1936. A new second tier of seating will meet the increased demand.

At the opposite end of the central Olympic plaza atop Montjuic will lie a new building by Ricardo Bofill that serves the delightfully ironic double role of wrestling hall and press center. For his return performance in Barcelona, the architect is showing his well-known brand of romantic Neo-Classicism, and has not reverted, as might have been expected, to the Catalan regional Modernism of his early work in the area.

The wrestling hall draws on the Classical gymnasium of Olympian Greece as well as the existing Neo-Classical structures on Montjuic that were built for the 1929 International Fair. (The most notable of these, the grandiose former Palau Nacional, now houses the Museum of Catalan Art, and its interior is being redesigned by Gae Aulenti in time for the 1992 festivities.) Project architect Peter Hodgkinson describes the hall's squat Neo-Classical order as a typically Catalan interpretation of the Beaux-Arts style. Construction is to use traditional Catalan roofing tile and a concrete that approximates the warm yellow sandstone of existing Montjuic buildings.

Across town, Martorell Bohigas Mackay is drawing up more detailed plans for the Olympic Village (P/A, March 1987, pp. 45–46). Considerable modifications have been made to

(continued on page 40)



HEAT MIRROR™ made it fly

Create a naturally-lighted glass enclosure for thirty-nine full-size aircraft, and still comply with one of the country's toughest energy codes. That's the challenge Ibsen Nelsen and Associates faced in designing the Museum of Flight at Boeing Field, Seattle, Washington.

The solution? Use over 55,000 square feet of Heat Mirror insulating glass. Heat Mirror provides the same level of solar control as dark tinted glass, yet lets in *over four times more natural light!* There's less need for artificial lighting and a net reduction of 35 percent

in the Museum's projected annual energy budget.

Compared to other low-e glazings, only Heat Mirror offers *Total Performance*: controlling winter heat loss, summer heat gain, ultraviolet radiation, sound transmission and condensation better than any other insulating glass available today.

To find out how Heat Mirror can open up your design options, contact Southwall Technologies, 1029 Corporation Way, Palo Alto, CA 94303. (415) 962-9111. Or see us in Sweet's: 08810/SOU.

For immediate help on a current project, call our Architectural Services Department, toll-free:

(800) 365-8794



Southwall
Technologies

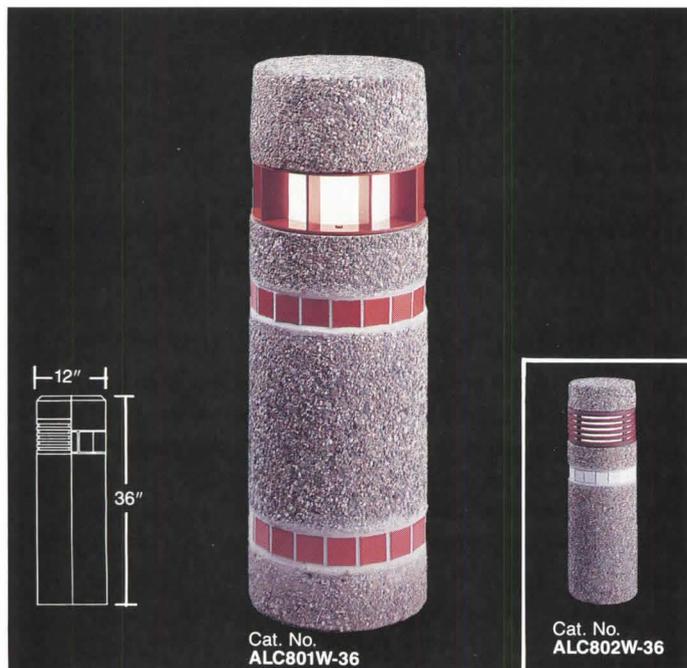
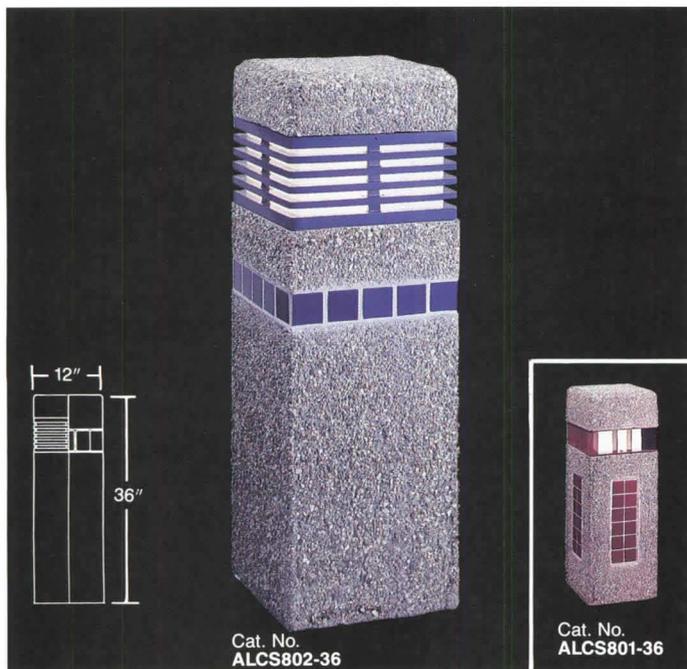


For Total Performance Windows.

Heat Mirror is a trademark of Southwall Technologies.
© Southwall Technologies 1988.

Circle No. 373 on Reader Service Card

CONCRETE LIGHTING

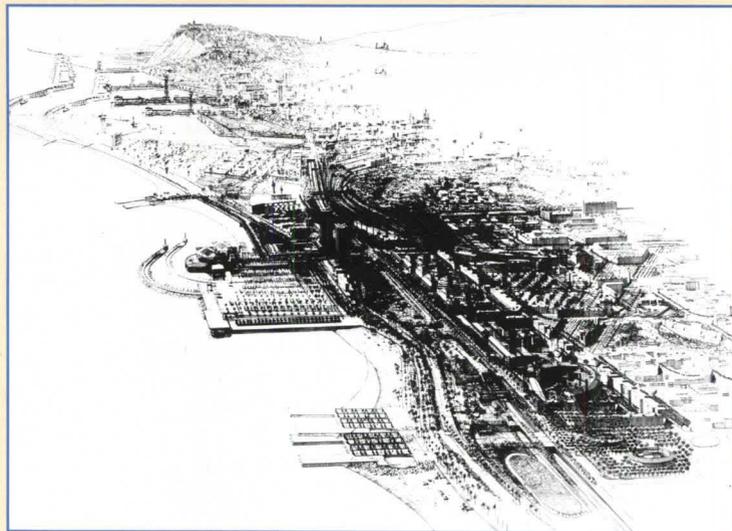


Durable Lighting—Constructed of reinforced precast concrete with a cast aluminum grill and an inner high impact acrylic diffuser. Various textured colored concrete and ceramic tiles are available.

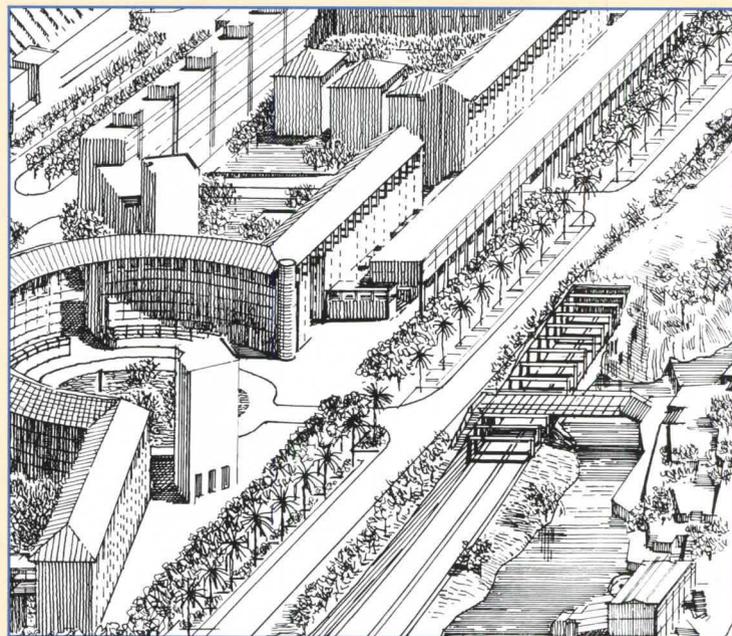
Write on your letterhead for a new brochure.

ARCHITECTURAL AREA LIGHTING INC.

14249 Artesia Blvd. • P.O. Box 1869
La Mirada, California 90637-1869
(714) 994-2700 • FAX 714-994-0522



Revised design for Olympic Village by Martorell Bohigas Mackay.



Detail of Olympic Village master plan.

(continued from page 38)

the original master plan, although the supergrid, based on groups of three of Barcelona's historic city blocks, remains. This will be a small Village, with only 2000 dwellings, and its density will be lower than that of Woo & Williams's village for the imminent Seoul Games, or the average for Barcelona.

The three superblocks that make up most of the development will be under control of different architectural teams, who will design not only housing but ceremonial features, such as the arches that tie the blocks together over the 19th-Century street plan.

David Mackay stresses that the eclecticism here will be more restrained than that of Berlin's IBA housing program (P/A, Nov. 1987, pp. 41-46). Some commonality will be ensured by a recommendation that firms use similar, locally available materials. But, says Mackay, "We

would like to be as eclectic as the city [of Barcelona]. What we don't want it to be is like the IBA which was deliberately eclectic—in other words, a false situation. We'd like it to be more like Amsterdam in the 1920s."

A welcome addition to the urban scheme should result from the recent decision to bring the Olympic yachting events from La Palma on the island of Mallorca back to Barcelona. These events are rarely held in the same location as other sports. The change presents an exciting opportunity to open up the Olympic Village to its Mediterranean shore, giving Barcelonans more access to the sea that is paradoxically so separate from this beautiful old port city.

Hugh Aldersey-Williams ■

The author is a free-lance journalist based in London and New York. His book *New American Design* will be published by Rizzoli this fall.



IN McCORMICK PLACE THERE'S A BEAUTIFUL EXAMPLE OF A TOUGH SPECIFICATION.

THIN-SET TERRAZZO FROM GENERAL POLYMERS.

The designers of Chicago's McCormick Place renovation needed a floor tough enough to stand up to 1.5 million visitors a year. And it had to do it beautifully.

Thin-set Terrazzo from General Polymers gave them infinite design possibilities and a surface that can take the punishing traffic of this, the world's busiest convention center.

Today's Thin-set Terrazzo is strong, yet light enough to be installed anywhere from the ground floor to the penthouse.

So when you're faced with a demanding space, select the one surface that stands up to abuse beautifully.

Thin-set Terrazzo from General Polymers.

For a free brochure on Thin-set Terrazzo and other General Polymers floors, fill in this coupon and mail to: General Polymers Corporation, 145 Caldwell Drive, Cincinnati, OH 45216.

Name _____

Company _____

Address _____

City _____ State _____

Zip _____ Phone No. _____

PA

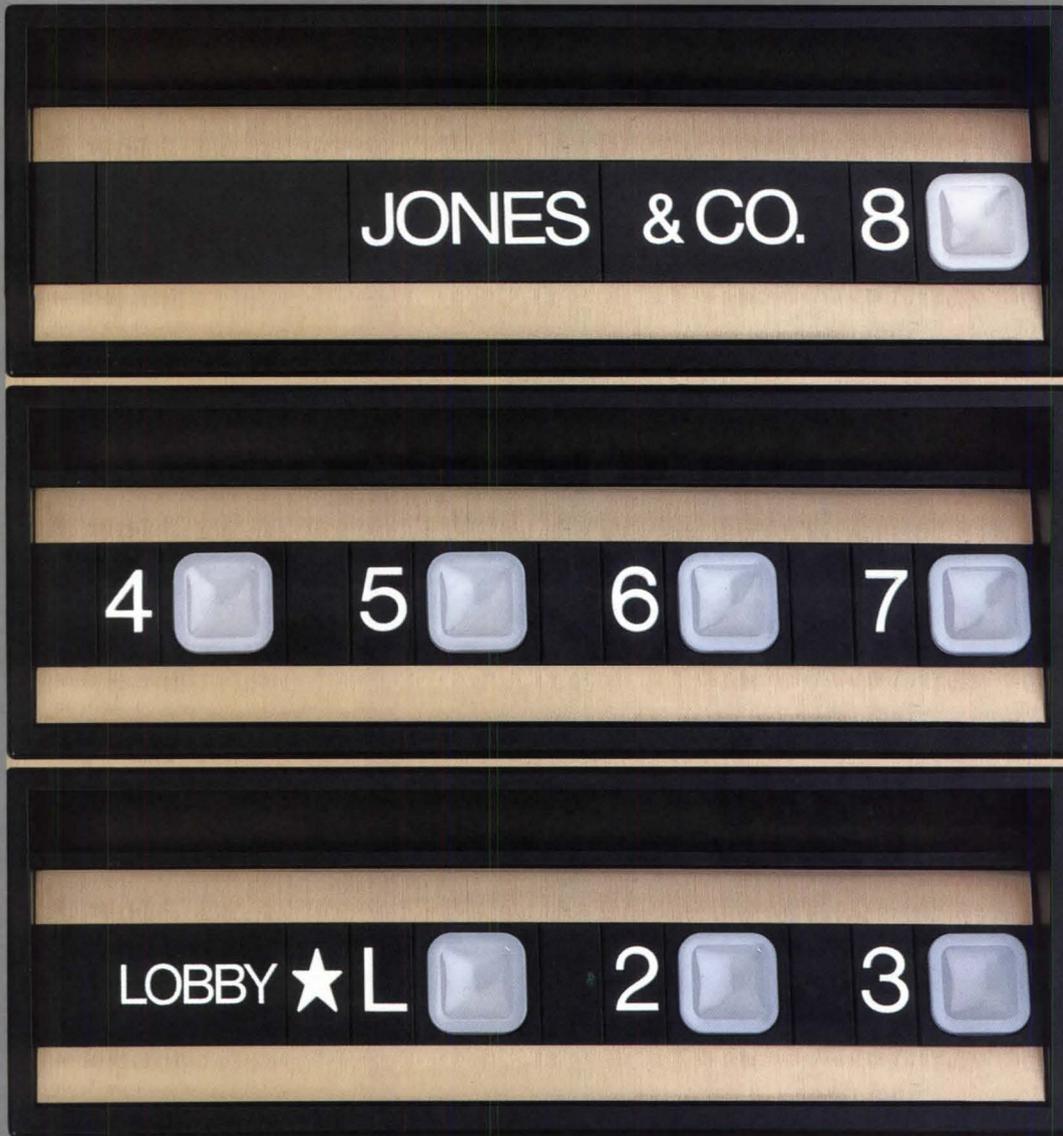
General Polymers

A Cambridge General Company

Circle No. 339 on Reader Service Card

Architect: Lester B. Knight & Assoc., Inc./Skidmore-Owings & Merrill (Joint Venture), Chicago, IL
Installing Contractor: Capital Terrazzo Co., Inc./Marbelette Floor Co. (Joint Venture), Chicago, IL

Only Dover Elevators with the



Visit with us
at CSI and BOMA

In a changing world, count on Dover to keep you current. With an innovative and flexible approach to elevator signal fixtures—Impulse.

Impulse[®] is the first system that lets you integrate signage directly into the cab operating panel. So tenants' names (or any other kind of ID) can be right there by the button. Even better, it's completely modular. You can add to, delete, re-arrange elements as needed.

ator keeps up Joneses.



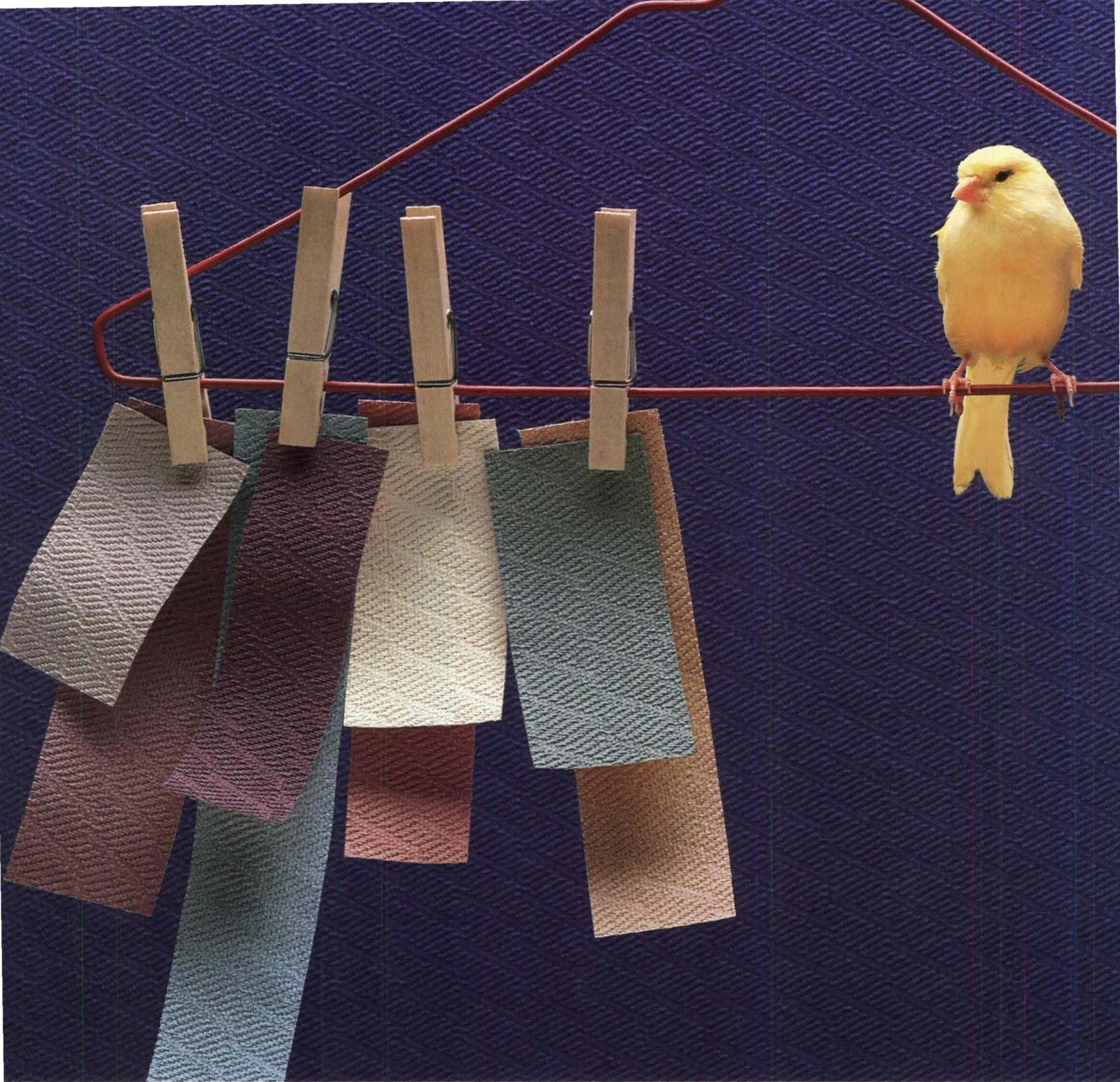
Signage and buttons are recessed at a 20° angle facing up, so they're easy to read, easy to use.

Since it's pre-engineered, Impulse can be assembled and delivered quickly. Which can be important when you're keeping up with the Joneses.

For more information on Impulse signal fixtures, call your local Dover office or write Dover Elevator Systems, Inc., P.O. Box 2177, Memphis, TN 38101.

DOVER[®]
ELEVATORS

*Making more
elevators makes
Dover No.1*



INTRODUCING DEIDRE. A DELICATE BALANCE OF TEXTURE AND HUE.

Guard® Wallcovering presents Deidre, a unique embossing that evokes the "tailored" look of a classic fabric weave. The richness of the embossing makes it

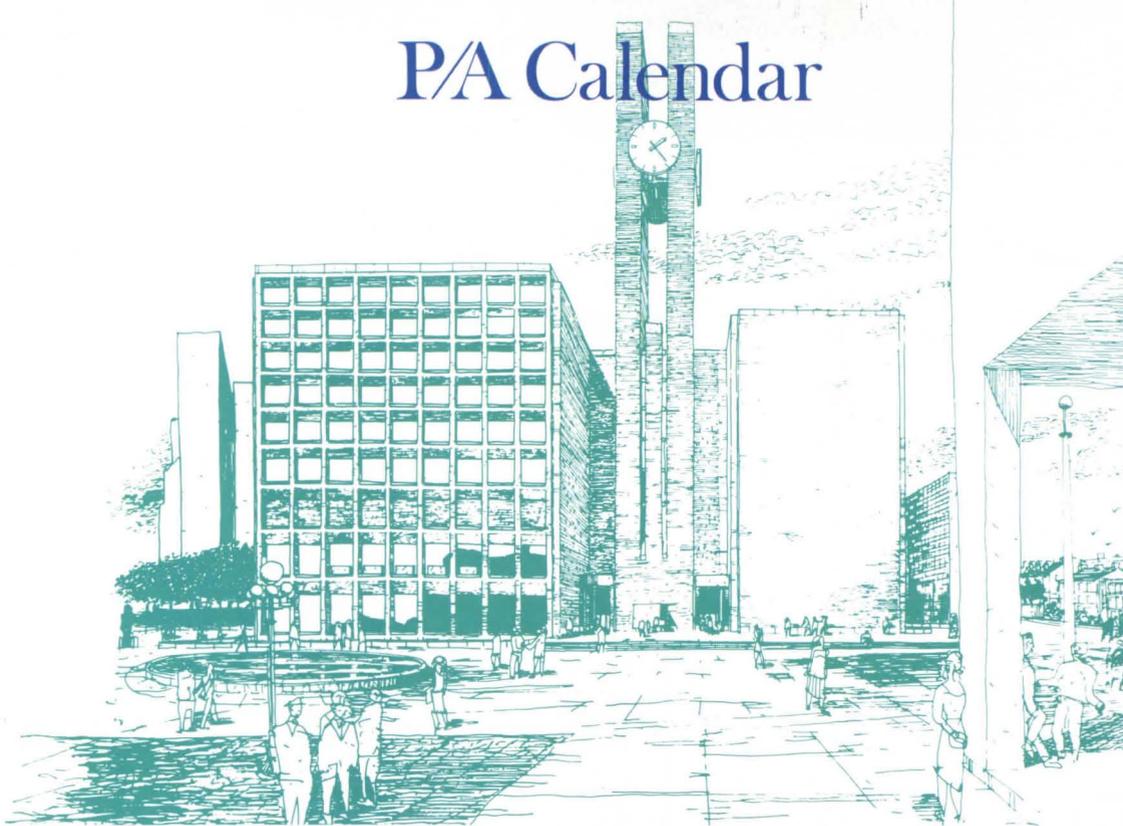


ideal for camouflaging imperfections in wall surfaces. And with the flexibility of over 40 color selections, function and form were never in better balance.

CONTRACT VINYL WALLCOVERING

Columbus Coated Fabrics • 1280 N. Grant Ave.
P.O. Box 208 • Columbus, Ohio 43216 • 614/297-6032
Circle No. 321 on Reader Service Card





Boston City Hall entry by Harry Weese and Michael Lisec in "The Experimental Tradition," through July 31.

Harry Weese & Associates

Exhibitions

Through June 19

Frank Lloyd Wright and the Johnson Wax Buildings: Creating a Corporate Cathedral. High Museum of Art, Atlanta. Also, **July 16–September 4**, Walker Art Center, Minneapolis. (See P/A, April 1986, p. 27.)

Through June 23

Discovery Through Diversity, a furniture design exhibition. Art and Architecture Design Gallery, Baltimore, Md.

Through June 25

Aldo Rossi. Kirsten Kiser Gallery, Los Angeles.

Through June 25

The Bauhaus: Masters and Students. Barry Friedman Gallery, New York.

Through June 26

The Art that is Life: The Arts and Crafts Movement in America 1875–1920. Cooper-Hewitt Museum, New York. (See P/A, May 1987, p. 32.)

Through June 30

Architectural Drawings of the Old Executive Office Building 1871–1888. Octagon Museum, Washington, D.C.

Through June 30

Three Designs: The Norman Rockwell Museum Gallery, Old Corner House, Stockbridge, Mass. (See P/A, April, p. 25.)

Through July 4

A New Brooklyn Museum: The Master Plan Competition. Brooklyn Museum, Brooklyn, N.Y.

Through July 10

The Rise and Fall of New York: Building and Unbuilding in Manhattan. New York Historical Society, New York.

Through July 10

The Long Island Country House, 1870–1930. The Parish Art Museum, Southampton, N.Y.

Through July 15

Artistic Houses: Lavish Interiors of Nineteenth-Century New York. New York Historical Society, New York.

Through July 17

Arquitectonica. Galerie d'architecture Arc en Rêve, Bordeaux, France.

Through July 31

The Experimental Tradition, 25 Years of American Architectural Competitions: 1960–1985. National Academy of Design, New York.

Through July 31

The Architecture of Richard Morris Hunt. Los Angeles County Museum of Art, Los Angeles. (See P/A, May 1986, p. 28.)

Through August 14

Interlacing: The Elemental Fabric, curated by Jack Lenor Larsen. The Textile Museum, Washington, D.C.

Through August 26

Otto Wagner: Drawings. University Art Museum, University of Minnesota, Minneapolis, Minn. (See P/A, April, p. 28.)

Through August 31

Sheet Metal Craftsmanship: Progress in Building. National Building Museum, Washington, D.C. (See P/A, May 1987, p. 22.)

Through August 31

James W. Rouse Retrospective. National Building Museum, Washington, D.C.

Through September 4

Architectural Art: Affirming the Design Relationship. American Craft Museum, New York.

June 23–August 30

Deconstructivist Architecture. The Museum of Modern Art, New York.

July 1–September 15

Frank Lloyd Wright: In the Realm of Ideas. National Museum of American History, Smithsonian Institution, Washington. (See P/A, March, p. 37.)

July 11–September 25

Creating the Early Federal City. Octagon Museum, Washington, D.C.

July 14–August 31

California Lifeguard Towers, including designs by Hans Hollein, Richard Meier, Frank Gehry, and Michael Graves. Kirsten Kiser Gallery, Los Angeles.

Competitions

June 30

Submission deadline, Quaternario 88, for technology in architecture. Contact Planning Research Center, Faculty of Architecture, University of Sydney, 2006, Sydney, N.S.W., Australia.

August 1

West Coast Gateway International Design Competition. Contact West Coast Gateway, 11300 W. Olympic Blvd., Suite 730, Los Angeles, Calif. 90064.

August 1

Nominations deadline, Good Offices: The Seventh Arango International Design Exhibition. Contact Arango Design Foundation, % Carol Damian, 1115 N. Greenway Dr., Coral Gables, Fla. 33134.

Conferences

June 24–26

32nd Annual CSI Convention and Exhibit, Convention Center, Washington, D.C. Contact Construction Specification Institute, 601 Madison St., Alexandria, Va. 22314 (703) 684-0300.

July 17–20

CTDA/AATMCA International Ceramic Tile Exposition, Moscone Center, San Francisco. Contact Ceramic Tile Distributors Association, 15 Salt Creek Lane, Suite 422, Hinsdale, Ill. 60521 (312) 655-3270.

August 1–5

15th Annual Conference on Computer Graphics and Interactive Techniques, Atlanta, Ga. Contact SIGGRAPH '88 Conference Management, Smith Bucklin and Associates, Inc., 111 E. Wacker Dr., Suite 600, Chicago, Ill. 60601 (312) 644-6610.

August 3–6

Design Independence: Shaping the Future, American Society of Interior Designers' National Conference, Washington, D.C. Contact ASID, 1430 Broadway, New York, N.Y. 10018-3399 (212) 944-9920.

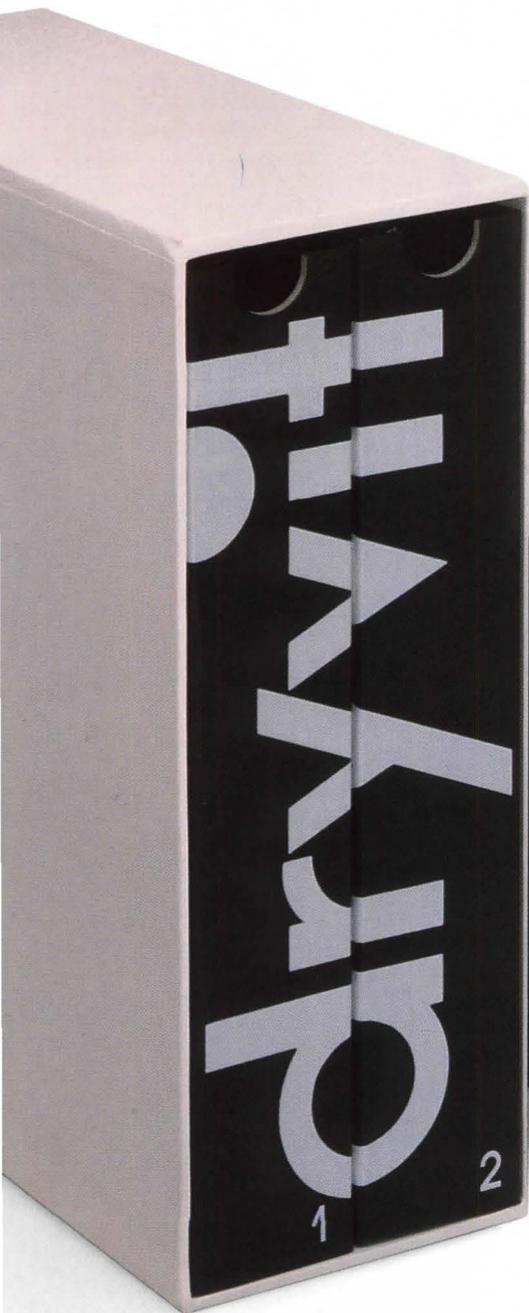
August 4–6

The Structure of an Architectural Interiors Firm, San Francisco. Contact AIA Interiors Group, AIA, 1735 New York Ave., N.W., Washington, D.C. 20006 (202) 626-7300.

INTRODUCING DRYVIT® DETAILS FOR AUTOCAD

designing

Designing with Dryvit . . . At **no cost** to qualified architects, a design package containing nearly 200 design details for use on AutoCAD and a 2-volume comprehensive technical presentation. Write on your letterhead or call us Toll Free.



Design Details . . . Easy To Use.

Bold illustrations are ready for direct use in designing new and retrofit buildings using both in-place and panelized construction.

cad²ry is a trademark of Dryvit Systems, Inc.
AutoCAD is a registered trademark of Autodesk, Inc.

21ST CENTURY BUILDING TECHNOLOGY, TODAY

AND A 2-VOLUME TECHNICAL PRESENTATION.

with dryvit

**Introducing cad²ry™ . . .
Designing with Dryvit on AutoCAD.**

An important part of *Designing with Dryvit* is cad²ry, a set of disks containing nearly 200 construction details, drawn and ready for immediate use on AutoCAD. Cad²ry lets you use the power of AutoCAD's computer-aided design and drafting program to dramatically increase your productivity.



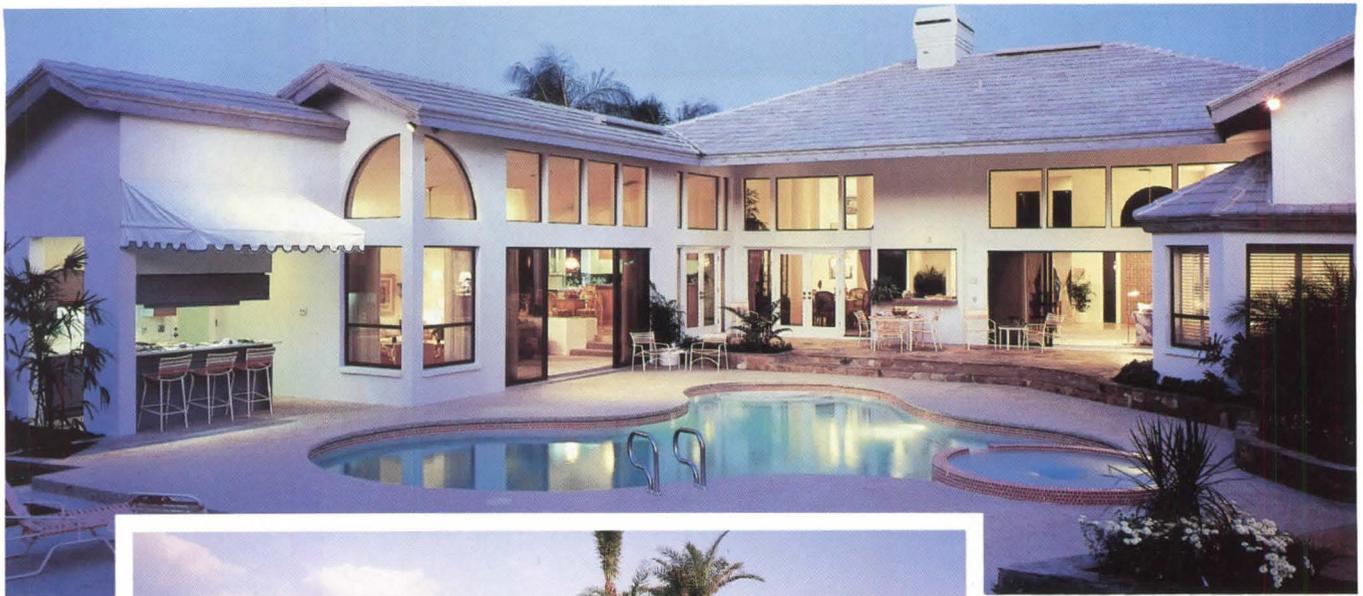
Request *Designing with Dryvit*.

If you want to be the best, you need the best resources. Insist on the Dryvit difference, *Designing with Dryvit*. Request from —

Dryvit Systems, Inc.
Headquarters — P.O. Box 1014
One Energy Way, West Warwick, RI 02893
800-4-DRYVIT

Circle No. 326





Luxury Golfside Florida Homes At Saddlebrook Resort

Now You Can Own A Luxury Saddlebrook Florida Home

You can have a luxurious home built on your site at Saddlebrook's Fairway Village. Homes like the award-winning Arthur Rutenberg designs* shown above, as well as Saddlebrook cluster homes, or one designed by your own architect. Golf course and other choice building sites are available . . . all with the sparkling ambiance and luxury conveniences of Saddlebrook golf and tennis resort. Homes from \$150,000. For more information, write or call John Fahey, VP Sales, Saddlebrook.

Biscayne

One of the largest, most magnificent Homes in the Arthur Rutenberg collection, judged as the "Best Designed Home of the Year" by the National Association of Builders. The Biscayne, with its elegant vaulted ceilings, enormous master suite and every conceivable amenity, is the epitome of the large, luxury Florida home.

The Gulfstream V

From its angled entrance foyer to the elegant raised bath in the master suite, the Gulfstream V is one of Arthur Rutenberg's most exciting, creative designs.

* All Arthur Rutenberg designs are available at Saddlebrook.

- 36 Holes of Golf Designed by Arnold Palmer
- 37 Championship Tennis Courts
- 500,000 Gallon "Superpool" Water Complex
- Fitness Center & Spa
- Restaurants and Specialty Shoppes
- Golf Course Lots Available

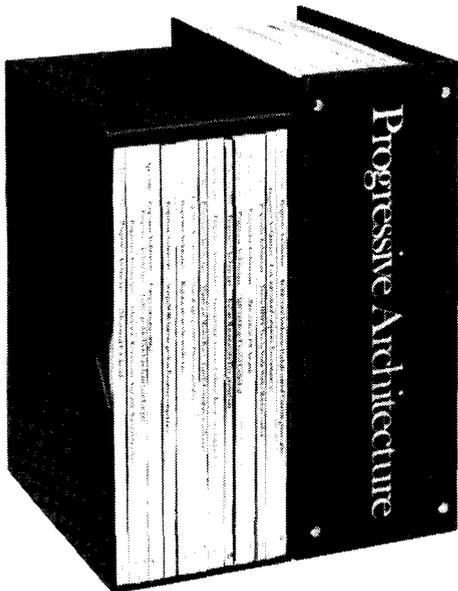


Saddlebrook
Tampa Bay's Great Golf and Tennis Resort



100 Saddlebrook Way ● Wesley Chapel (Tampa), FL 34249
Telephone (813) 973-1111 ● Telex 522621 SADDLEBROOK WSCL
Located just 25 minutes north of Tampa International Airport

Circle No. 364 on Reader Service Card



Now—Two Ways To Save and Organize Your Copies of P/A.

Protect your P/A issues from soil and damage. Choose either the attractive library case or the all new binder. Both are custom designed in blue simulated leather with the magazine's logo handsomely embossed in white.

Jesse Jones Box Corporation
Dept. P/A
499 East Erie Avenue
Philadelphia, Pa. 19134

My check or money order for \$ _____ is enclosed.

Please send P/A library cases

- _____ One for \$7.95
- _____ Three for \$21.95
- _____ Six for \$39.95

binders

- _____ One for \$9.95
- _____ Three for \$27.95
- _____ Six for \$52.95

Name _____

Company _____

Street _____

City _____

State & Zip _____

Check must accompany order. Call 800-972-5858 for credit card orders. Add \$1.00 per item for postage and handling. (\$2.50 per item outside U.S.A.) PA residents add 6% sales tax.

Allow 4-6 weeks delivery

HARRY HOPMAN/SADDLEBROOK INTERNATIONAL TENNIS



Junior Summer Camp at Special Rates, May 29 - Sept. 17, 1988

Harry Hopman/Saddlebrook International Tennis welcomes adults and juniors of all ability levels, from beginners to acclaimed touring professionals. The renowned Harry Hopman tennis program features year-round daily clinics, five hours of intensive instruction with never more than four players per court and instructor. The Hopman drills and teaching traditions continue as Lucy Hopman, Tommy Thompson



(Head Professional) and Howard Moore (Camp Director) head the staff of experienced Harry Hopman instructors including Roland Jaeger and Alvaro Betancur. Dr. Jack Groppe directs high-tech physical and mental conditioning. Home of the United States Professional Tennis Association and the Palmer Academy with excellent college-preparatory academics.

U.S.: 1 800 237-7519; In FL: 1 800 282-4654



HARRY HOPMAN/SADDLEBROOK INTERNATIONAL TENNIS
100 Saddlebrook Way • Wesley Chapel, FL 34249
Telephone (813) 973-1111 • Telex 522621 SADDLEBRK WSC

60% discount on airfare

Circle No. 365 on Reader Service Card

Treat yourself to a perfect golf vacation at one of the most beautiful resorts in the country. Rolling greens and tree-lined fairways surround luxurious accommodations in our beautiful, flower-filled Walking Village where it's just a pleasant, sunny stroll to tee off on one of two 18-hole championship golf courses designed by Arnold Palmer • play tennis on 37 immaculate courts • tone up in our complete health spa • lounge by our half-million gallon Superpool • enjoy fine dining, lounges and entertainment.

Suntastic Special
from **\$80** 3 days/2 nights per person double occupancy.
Tax & gratuities not included.
Rate valid May 27 - Sept. 14, 1988
For reservations call toll-free:
1 800 237-7519;
In FL 1 800 282-4654

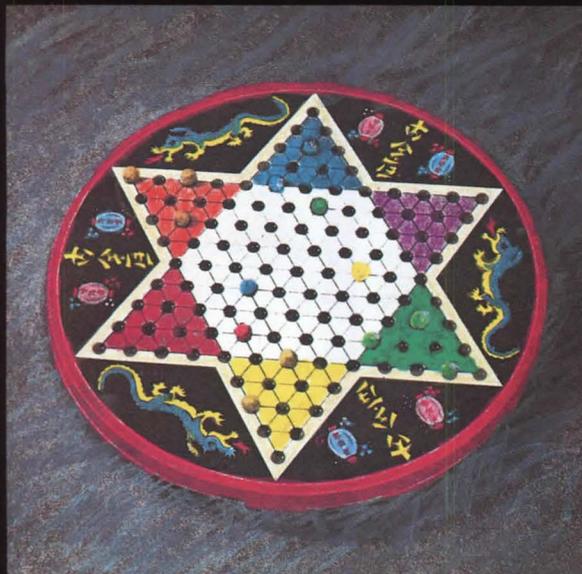
Saddlebrook
Tampa Bay's Great Golf and Tennis Resort
100 Saddlebrook Way, Wesley Chapel, Florida 34249 813-973-1111

Circle No. 366 on Reader Service Card

SHAW | WALKER

THE OLDEST

Shaw-Walker is taking exception to the rules of quick shipping.

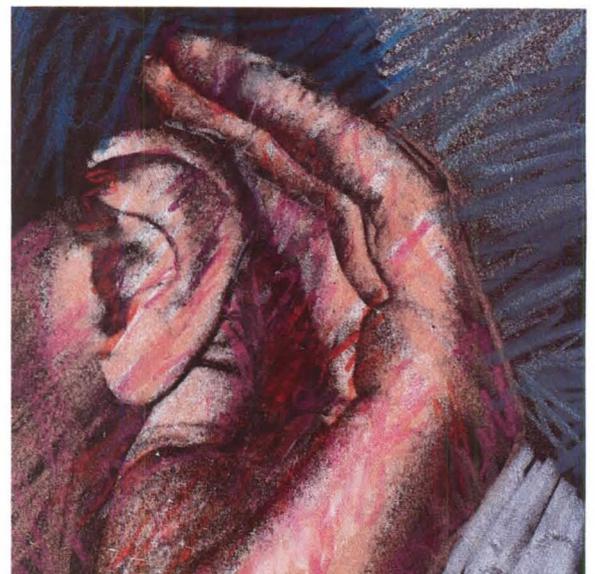


Remember when you loved to play Chinese Checkers... except sometimes your marbles were hopelessly immobile?

Shaw-Walker's *Express Delivery* program addresses your real concern—not when your order leaves our dock, but when it will arrive at yours. Express Delivery means that your furniture will be delivered when promised, on time... no matter what obstacles get in the way.

Ask about our introductory program promotional guarantee

Shaw-Walker is taking exception to the rules of customer service communication.



Remember when you loved to play Charades... except nobody ever quite seemed to understand your signals?

Shaw-Walker's comprehensive *Training Programs* ensure that, company-wide and throughout the dealer network, our people all speak the same language—yours.

Circle No. 370 on Reader Service Card

NEW GAME

Shaw-Walker is taking exception to the rules of design continuity.

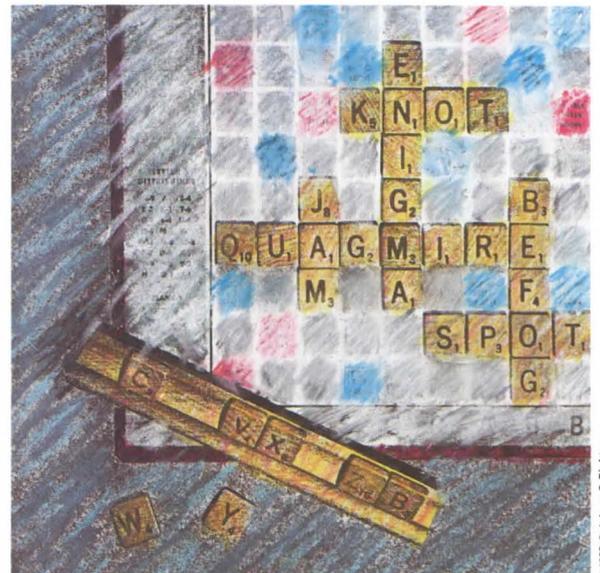


Remember when you loved to play Canasta... except your cards never quite matched your partner's?

Shaw-Walker's *Woodwind Modular and Freestanding Wood Furniture* provide design continuity, from our systems workstations to executive offices and conference rooms. Two Woodwind profiles, four hardwood veneers and ten wood finishes present hundreds of design options, ensuring that coordinated solutions are in hand.

IN TOWN

Shaw-Walker is taking exception to the rules of product obsolescence.



Remember when you loved to play Scrabble®... except your words were never expandable?

Shaw-Walker's *Tempo 3* system has been around for 10 years, yet its 3½" panels are still state-of-the-art, providing expandable cabling channels for electrical, data and telecommunications. You can add panels, or expand to an entirely new system. Shaw-Walker makes obsolescence a thing of the past.

For more information call 1-800-345-9404

**ANNOUNCING
SYSTEM 2002...**
Tech Wall's New Dry Joint System.
Ask us about it!

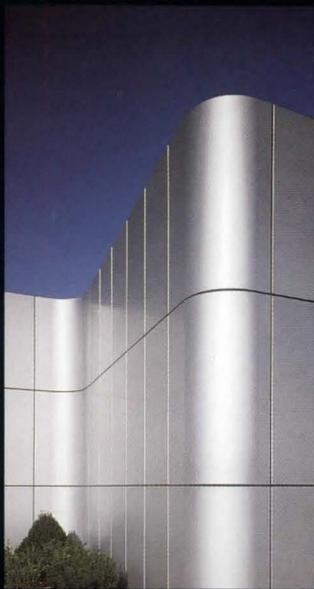
T E C H W A L L

*Top Left:
Margie's
Bridal Boutique
Chicago, IL
Balsamo/Olson Group*

*Below Center:
R.A.B. Motors
San Rafael, CA
Esherick Homsey Dodge
and Davis Architects*

*Top Right:
1522 K Street
Washington, D.C.
Don A. Hawkins
Associates*

*Bottom:
Central Park Square
Phoenix, AZ
Clark — Van Voorhis
Architects, Inc.*



Tech Wall offers architects and builders a stunning range of design possibilities — without the compromises common to other systems.

From radiused corners to intricate compound curves; from continuous coping to projected curved panels; *almost anything you can design can be realized with Tech Wall.*

And since Tech Wall is solid aluminum, *there are*



no standard sizes. Every panel is made to meet the architectural requirements of your job.

Tech Wall also offers a virtually unlimited range of tested and proven finish options.

For further information, call today.

1-800-631-7379
in New Jersey 201-272-5200

THECSGROUP

U N C O M P R O M I S E D D E S I G N F L E X I B I L I T Y

Circle No. 383 on Reader Service Card

P/A Awards Program

ARCHITECTURE

PLANNING

RESEARCH

JURY FOR THE 36TH P/A AWARDS

Progressive Architecture announces its 36th annual P/A Awards program. The purpose of this competition is to recognize and encourage outstanding work in Architecture and related environmental design fields before it is executed. **Submissions** are invited in the three general categories of architectural design, urban design and planning, and applied architectural research. Designations of first award, award, and citation may be made by the invited jury, based on overall excellence and advances in the art.

Architectural Design: *Anthony Ames*, Anthony Ames Architect, Atlanta; *Terry Farrell*, Terry Farrell Partnership, London; *Adrian Smith*, Partner, Skidmore, Owings & Merrill, Chicago; *Bernard Tschumi*, Bernard Tschumi Architects, New York, Dean, Columbia University Graduate School of Architecture, Planning and Preservation, New York.

Urban Design and Planning: *Alexander Cooper*, Alexander Cooper + Partners, New York; *Donn Logan*, ELS/Elbasani & Logan Architects, Berkeley, Calif.

Research: *Donald Prowler*, Assistant Professor, University of Pennsylvania Department of Architecture, Philadelphia; *Polly Welch*, Welch & Epp Associates, Arlington, Mass.

Judging will take place during October 1988. Winners will be notified, confidentially, before October 31. Public announcement of winners will be made at a ceremony in New York on January 20, 1989, and winning entries will be featured in the January 1989 P/A. Clients, as well as professionals responsible, will be recognized. P/A will arrange for coverage of winning entries in national and local media.

Turn page for rules and entry forms.

DEADLINE FOR SUBMISSIONS: SEPTEMBER 6, 1988

Entry form: 36th P/A Awards Program

Please fill out all parts and submit, intact, with each entry (see paragraph 14 of instructions). Copies of this form may be used.

Entrant:
Address:
Credit(s) for publication (attach additional sheet if necessary):

Entrant phone number:
Project:
Location:
Client:
Client phone number:
Category:

Entrant:
Address:
Project:

I certify that the submitted work was done by the parties credited and meets all Eligibility Requirements (1-7). All parties responsible for the work submitted accept the terms of the Publication Agreement (8-9). I understand that any entry that fails to meet Submission Requirements (10-18) may be disqualified. Signer must be authorized to represent those credited.

Signature _____
Name (typed or printed): _____

Awards Editor/Progressive Architecture
600 Summer Street, P.O. Box 1361, Stamford, CT 06904

Project:
Your submission has been received and assigned number:

Entrant:
Address:

(Receipt)

Awards Editor/Progressive Architecture
600 Summer Street, P.O. Box 1361, Stamford, CT 06904

Entrant:
Address:

(Return label)

Eligibility

1 Architects and other environmental design professionals practicing in the U.S. or Canada may enter one or more submissions. Proposals may be for any location, but work must have been directed and substantially executed in U.S. and/or Canadian offices.

2 All entries must have been *commissioned, for compensation, by clients with the authority and the intention* to carry out the proposal submitted. Schemes developed for design competitions must meet the same qualifications; the submitted design must be the one the client intends to execute. (For special provision in Research category only, see Item 6.)

3 Prior publication does not affect eligibility.

4 Architectural design entries may include only buildings and complexes, new or remodeled, that are scheduled to be in any phase of construction in 1989. Indicate *schedule* on synopsis page (Item 12).

5 Urban design and planning entries must have been accepted by the client, who intends to base actions on them in 1989. Explain *implementation plans* on synopsis page (Item 12).

6 Research entries may include only reports accepted by the client for implementation in 1989 or research studies undertaken by entrant with intention to publish or market results. Explain basis of eligibility on synopsis page (Item 12).

7 The jury's decision to premiate any submission will be contingent on verification by P/A that it meets all eligibility requirements. For this purpose, clients of all entries selected for recognition will be contacted by P/A. P/A reserves final decision on eligibility and accepts no liability in that regard. Please be certain entry meets above rules before submitting.

Publication agreement

8 If the submission should win, the entrant agrees to make available further graphic material as needed by P/A.

9 In the case of architectural design entries, P/A must be granted the first opportunity among architectural magazines for feature publication of any winning project upon completion.

Submission requirements

10 Entries must consist of legibly reproduced graphic material and text adequate to explain proposal, *firmly bound* in binders no larger than 17" in either dimension (9" x 11" preferred). No fold-out sheets; avoid fragile spiral or ring bindings.

11 No models, slides, films, or videotapes will be accepted. Original drawings are not required, and P/A will accept no liability for them.

12 Each submission *must include* a one-page synopsis, in English, on the first page inside the binder, clarifying the project and location, clarifying eligibility (see Item 4, 5 or 6), and summarizing principal features that merit recognition in this program.

13 To maintain anonymity, no names of entrants or collaborating parties may appear on any part of submission, except on entry forms. Credits may be concealed by any simple means. Do *not* conceal identity and location of projects.

14 Each submission must be accompanied by a signed entry form, to be found on this page. Reproductions of this form are acceptable. All four sections of the form must be filled out, *legibly*. Insert entire form, intact into *unsealed* envelope attached inside back cover of submission.

15 For purposes of jury procedure only, please identify each entry as one of the following: *Education, Houses (Single-family), Housing (Multiple-unit), Commercial, Industrial, Governmental, Cultural, Recreational, Religious, Health, Planning and/or Urban Design, Applied Research*. Mixed-use entries should be classified by the larger function. If unable to classify, enter *Miscellaneous*.

16 Entry fee of \$75 must accompany each submission, inserted into *unsealed* envelope containing entry form (see 14 above). Make check or money order (no cash, please) payable to *Progressive Architecture*.

17 P/A intends to return entries intact, but can assume no liability for loss or damage.

18 Deadline for sending entries is September 6, 1988. Any prompt method of delivery is acceptable. Entries must show postmark or other evidence of being en route by midnight, September 6. Hand-delivered entries must be received at street address shown here, 6th floor reception desk, by 5 p.m., September 6.

Address entries to:

Awards Editor
Progressive Architecture
600 Summer Street
P.O. Box 1361
Stamford, CT 06904

Sherwin-Williams introduces a wine for every occasion.

Does Cabernet go with red carpet?
Is Pink Champagne right for a restaurant?
How about Burnished Brandy in a health club?

Ask Sherwin-Williams. About our new ColorAnswers system. And get tomorrow's color answers to today's design questions.

From Cabernet to Pink Champagne, ColorAnswers is over 800 of today's freshest colors. Tinted neutrals. Clear pastels. Refined deeptones. The colors today's architects and designers are specifying.

ColorAnswers is more than just the newest colors from the leader in the paint industry. It's a compact, convenient, and easy-to-use system.

Just select your color from the fan deck. Note the color's name and number. Find that color on the tab dividers in the color case. Then just

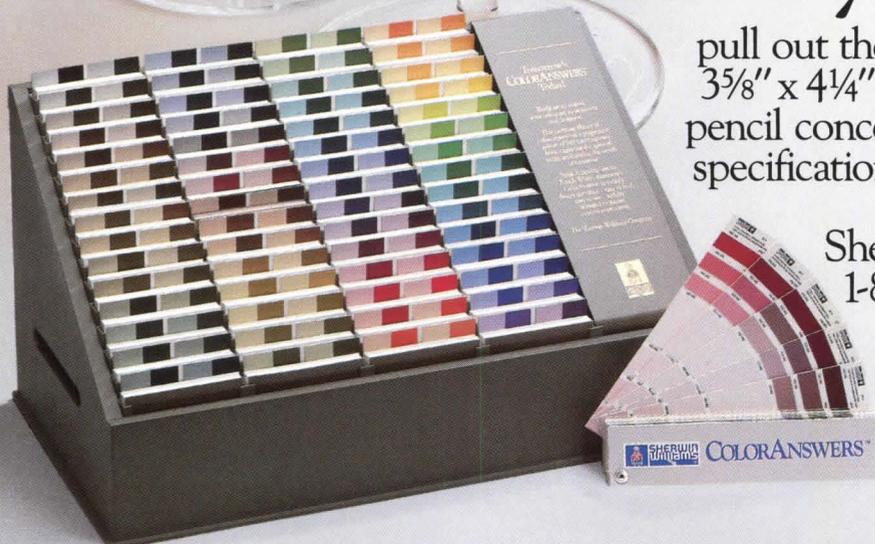
pull out the swatch—a large, easy-to-work-with, 3⁵/₈" x 4¹/₄" sample that works for everything from pencil concepts to final elevations and paint color specifications.

Call now for more information on Sherwin-Williams ColorAnswers. 1-800-321-8194. (In Ohio, 1-800-362-0903.)



Ask Sherwin-Williams for ColorAnswers.

With our new ColorAnswers™ system.



WE MAKE WINDOWS WHERE MONEY'S NO OBJECT.



AND WHERE MONEY'S PRECISELY THE POINT.



Over the years, we here at Marvin have built something of a reputation for ourselves. We've become the company to call when the plans call for a dazzling, one-of-a-kind masterpiece.

But there's another side to Marvin. A more practical, down-to-earth side. In addition to difficult, one-of-a-kind windows, we make the industry's broadest and most versatile line of standard shapes and sizes.

As a result, you can probably maintain the basic integrity of your design at practically any budget level.

You see, we make windows to order. Which means you can specify the features you want us to build in. And you can specify the features you want us to leave out.

For more information call 1-800-346-5128 (in Minnesota, 1-800-552-1167; in Canada, 1-800-263-6161) or write, Marvin Windows, Warroad, MN 56763.

Sometimes money's no object. Sometimes money's precisely the point. Which is precisely why Marvin Windows are always a smart choice.

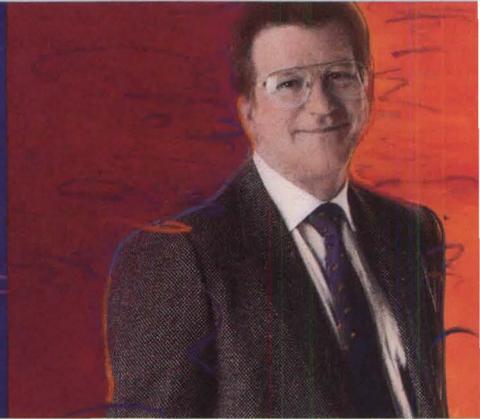
**MARVIN WINDOWS
ARE MADE TO ORDER.**



Circle No. 351 on Reader Service Card



**L. Paul Brayton,
President,
Steelcase Design Partnership
& Brayton International**



**Jim Welch,
President, Vecta**

Member Companies

Atelier International

Brayton International

Metropolitan

Vecta

Steelcase Design Partnership



Ed White,
President, Metropolitan

Stephen Kiviat,
President, Ateller International

A Progress Report from the Steelcase Design Partners

We spend a lot of time with people like you—people who know actions speak louder than words.

And we hear one question over and over: “When will I start to see the results of your new Partnership?”

The answer is: Soon.

The four of us are working together. Our people are working together. And we’re all taking advantage of the capabilities Steelcase offers us.

Our designers are learning about new materials technology, for example.

Our engineers and our manufacturing, distribution and financial people are being exposed to more sophisticated systems, processes and techniques.

And our products and services will soon reflect what they’re taking in.

And you can well imagine what that means for you:

We’ll come up with more trend-setting designs faster, because we now have the wherewithal to bring more of our innovations to market.

And their prices will be lower, their quality higher and their delivery times shorter, thanks to manufacturing and distribution efficiencies.

And our service and after-sale support will get sharper, too.

Our companies will continue to operate independently and compete head to head. We’re still entrepreneurs, after all.

But we now all share something none of us had before: The resources of Steelcase.

And that’s progress.

D U P O N T



A N T R O N[®]



CARPET OF ANTRON PRECEDENT[®] BRINGS MAINTENANCE COSTS DOWN TO EARTH.

The wrong carpet can turn out to be your worst enemy. Its looks quickly begin to fade, your cleaning bills soar. But not with Antron Precedent[®]. That's because Antron Precedent[®] resists soiling and stains better than any other commercial carpet.

So you can enjoy lower maintenance costs. And, because it keeps its texture longer, the beauty lasts

up to twice as long as many other carpets. Beauty, durability and lower maintenance costs. No wonder people are falling for Antron Precedent[®].

For more information, call 1-800-448-9835.

THE ANSWERS COME EASY WITH ANTRON[®]



Circle No. 327

Economics (continued from page 63)
into thin air.

Every bull and bear market is somewhat different, but the schematic chart (p. 63) is one that every architect should study carefully. It displays stock prices over time, but ultimately derives its pattern from the psychology of investor fear and greed. The arrows point to where the New York Stock Exchange and Japan's Nikkei Stock Index are in the middle of 1988. We are in a post-crash recovery in stock prices which (historically) brings the most automatic price movement in the financial markets, and which does not offer hope for the U.S. economy.

The widespread belief that we are not actually in a bear market will only extend the length of phases A, B, and C—perhaps even beyond the duration shown on the chart. But those who are predicting that the bear market is in hibernation, or that we are in the early throes of the next bull market, are ignoring the history of the markets.

The Chart

Look at the chart as a sort of financial market "master-plan." Phase 1 brings a rise in stock prices and reflects a revival of confidence in business after the previous bear market. A middle ground is then reached during

Phase 2 as security prices continue to move up in response to known improvement in corporate earnings. Profits that result from such earnings amount to the only sound foundation upon which a sustained advance in stock prices can be built. Phase 3 sees prices increase on heightened expectations as opposed to real value. The perceptions of informed investors this time began to change in the United States in early 1987, and this led in August to the pinnacle or climax of Phase 3.

Phases 4, 5, and 6 in the bear market have similar but somewhat reverse explanations. During Phase 4, stocks go down for

no visible reason as informed investors quietly distribute their stocks to the less informed, who are busy accumulating them. In Phase 5, stocks go down in response to obviously deteriorating business conditions, which is the phase we are now entering. Finally, in Phase 6, people have to raise money at any cost to stave off bankruptcy, and begin to sell assets: homes, stocks, bonds, collectibles, even gold.

Lessons for the Profession

Exactly what will happen next in the world's financial arena is almost beyond analysis, but there are some general signposts that architects should be aware of.

- A breakdown in the price of gold and/or oil would signal increased odds of a major deflation. Since the assets of many architectural clients are in acreage and buildings, such a deflation might bring on bankruptcies in that group.
- If the Dow Jones Industrial Average (as charted daily in *The Wall Street Journal*) were to fall decisively below a 1650 reading, it would ensure that we are in a severe bear market. Recognizing this 1650 "signpost" in advance allows a timely reaction if and when it occurs.
- Because interest rates are the single most important influence on the health of the design and construction industries, much higher rates would presage a business downturn. Investing in gold (by way of the actual asset or through a gold fund) may be the best way for an individual or firm to hedge against a slump because gold increases in value in response to both financial crises and substantial increases in interest rates.

Reading the Economy

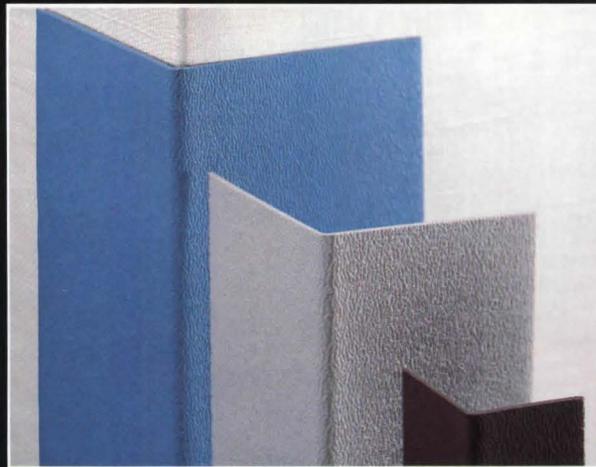
The rapidly changing complexion of the national and international economy means that the profession needs information about trends in stocks, bonds, gold, interest rates, and the like—all slanted toward the design and construction industries. But the information in some of the media is either untrue or (much worse) misleading. How does one "listen" to the financial markets? Here's one such way:

The Industry Prices table, presented on page 9 of Wednesday's *Investor's Daily* newspaper should be reviewed on a regular basis (such as the first week of every month). The conclusions reached from the process explained below will depend upon the contents of that table cross-pollinated with knowledge of

(continued on page 66)

Pro-Tek™ Impact Protection Systems

ECONOMICAL • LOW MAINTENANCE • EASY INSTALLATION • CLASS I FIRE RATING



Corner Guards...designed to meet the most demanding impact situations, which means saving cost and repairs to wall coverings and finishes.

Wall Guards...offer impact protection from everyday abuse in high traffic areas, thus relieving expensive repair and replacement costs.



For free catalog, write or call
our designer/specifier hotline.
Toll Free 1-800-431-3456
In NY 1-800-942-2424
Telex: 646720 • Fax: 914-855-3150



**PAWLING
CORPORATION**
STANDARD PRODUCTS DIVISION

157 Charles Colman Boulevard • Pawling, New York 12564-1188 • (914) 855-1005

See us at Booth #1035 at the C.S.I. Show in Washington, D.C.

The Circular Definition of Excellence



Excellence:

The state of excelling; superior merit.



To us, excellence means the care and attention we've given to designing a window line to fit today's market. Rather than merely offering glazing options, or "just windows", we've designed an entire window system. It's totally low-maintenance, including frames, sash, trim accessories, and special shapes. Our special patented construction gives you heavy pre-finished aluminum extrusions rather than thin roll-form metal or vinyl exteriors-combined with warm wood inside to complement any interior. Modular sizing mulls together easily and special sash construction adds structural strength. True dual-sealed glass is standard and Low-E EAGLE Maximizer Glass is optional.

The circular definition of excellence? To us, it's building excellence into every window from the beginning — with the superior features people want. With the design capabilities to let your imagination take you to places you've never been. If you're looking for ways to add excellence to your projects, take a closer look at EAGLE. Because the circular definition of excellence begins here.

NUMBERS!

EAGLE Windows surpass NWWDA/ANSI Class 20, Class 40, and Class 60 standards tested in independent laboratories.

If You Don't Have EAGLE, You've Settled For Less.



375 East 9th
Dubuque, IA 52001
319/556-2270

Circle No. 329



Dust-Free Shade

The EAGLE Shade is placed between the sealed insulated glass panel and an interior panel so it stays dust-free and is operated through the glass.



Economics (continued from page 64)
 your region's economy, the thrust of your firm's marketing efforts, and so on.

First—Check off those groups (from almost 200 in the table) that start with the words "building," "construction," or "real estate," and then circle the entry for Standard & Poor's stock index or "S&P 500."

Second—Note the number of the three architecture-related groups that are positioned higher than—as well as how many are below—the S&P 500 index in the table.

Third—In a different color, tick off the position of the client groups that are particularly rele-

vant to your practice (e.g., Hotels & Motels, Hospitals).

The conclusions to draw from the above procedure based upon that March 30, 1988 issue were:

- The overall list is pointing toward a coming economic slowdown—roughly nine months out (this is how far ahead the headlights of the financial markets can "see")—but construction will be one of the last areas to turn down.
- Any future economic weakness within the building/construction/real estate-related segments of our economy will be concentrated in both prefab and site-built housing, plus commercial construction.

- Foreign auto manufacturers and cable TV head up the list of potential design/construction clients that are showing the most strength, while nursing homes and all projects involving robotics are currently the most anemic area.

- The weakness within the utility group (which tends to be a bellwether) takes into account one or more of the following: 1) a decreased demand for energy in the United States in 1989, 2) higher interest rates next year, or 3) the coming trend toward independent power production.

The table also showed that, just as retail stocks turned down last summer prior to the decline

in the consumer spending binge, technology stocks today are weakening, perhaps in response to a coming downturn in capital spending.

Market comparisons also tell us what's ahead for international business: Here the strength lies in the Asiatic countries (excluding Singapore) and Canada, while the weakest financial markets are concentrated in Europe.

The foresight provided by such a fine-grained view of where money is flowing within both our economy and the world will become invaluable whenever recession arrives . . . for it will help the design profession to target an increasingly rare commodity: Clients who have preserved their financial health.

William Voelker, AIA

The author, an Associate Professor at the School of Architecture, University of Illinois in Champaign/Urbana, holds M.Arch and MBA degrees.

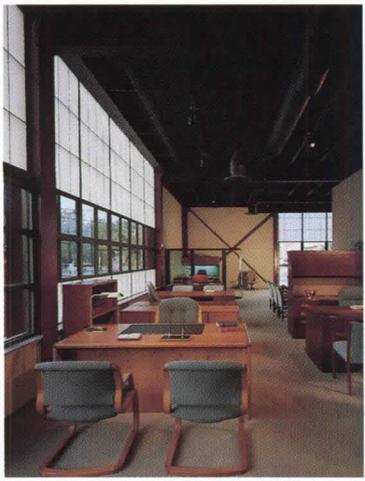
Law (continued from page 63)

New York faced this very question in connection with a 31-story office building constructed in an area with a zoning limitation of 19 stories. (*Matter of Parkview Associates v. City of New York*).

A portion of the owners' property, located on Park Avenue and 96th Street in New York, is in a special Park Department district that, under a zoning resolution adopted in 1973, limited the height of buildings to 19 stories if the setback was less than 150 feet and 31 stories if more than 150 feet. In 1983, the city modified certain boundary lines of the special district to reduce the required setback for 31-story buildings from 150 feet to 100 feet, but the owners' property was in an area unaffected by the amendment. However, the zoning map accompanying the 1983 resolution showed the owners' property within the amended area. The architects, relying upon the map, designed the 31-story building with a 100-foot setback.

Having applied for a building permit in 1985 that was approved by the Building Department as conforming with all zoning requirements, the owners proceeded to construct the building. In 1986, after substantial construction, the Building Department stopped the work. After review, the Commissioner of Buildings partially revoked the building permit on the ground that the permit was invalid when issued and directed the owners to remove the top 12 stories of the building. This decision was appealed to the Board

(continued on page 68)



Rockford Business Center
Emerson Fehr, Architects & Planners

**OUR 33rd YEAR!
And STILL THE LEADER**

Since 1955
Kalwall THE DAYLIGHTING EXPERIENCE!
 The Most Highly Insulating Light Transmitting, Light Diffusing System. For Walls, Window-Walls, Window Replacement.

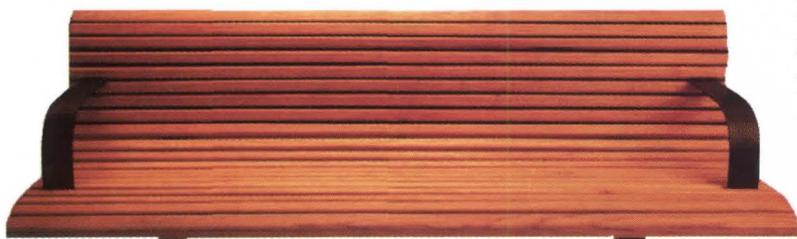
Kalwall Corporation, P.O. Box 237, Manchester, NH 03105.
 Phone 800-258-9777 or 603-627-3861.
 Kalwall: A High-Tech Building Systems Company.

Circle No. 347 on Reader Service Card



With Ultrum it's easy to create a lasting impression.

From beautiful hand-rubbed wood finishes to the contemporary lines of our new perforated metal series, Ultrum offers today's most exciting and versatile site amenities collection.



Stylish seating, planters, trash receptacles, ash urns, Ultrum has everything to create a lasting impression.

In wood, Ultrum continues to blend distinctive styling with meticulous craftsmanship. Every piece is selected with exacting care and hand-finished for use indoors or out.

Ultrum's perforated metal series offers exciting shapes and colors.

Our all-welded construction features heavy gauge perforated steel sheet and tubular steel frame. Each piece is finished with a durable powder coating that protects against heavy wear and weather.



Write for your free copy of the all new

Ultrum catalog. Without it, it will be hard to create a lasting impression.

For information, contact your GameTime representative. Or write GameTime, Inc., Box 121, Fort Payne, AL 35967. Or call 205/845-5610, telex 782-534.



•ULTRUM•

© 1987 GameTime, Inc.

Circle No. 338 on Reader Service Card



Law (continued from page 66)
of Standards and Appeals and was sustained. The Board found that the original zoning resolu-

tion, contended that the decision of the Board to revoke the building permit partially had a rational basis because the build-

ing provisions of law and that the Commissioner may revoke a permit that has been issued in error. Discrepancies between

the map and in the mistaken administrative issuance of the original permit, "those factors would be completely outweighed

P / A P R A C T I C E

Specifications (continued from page 68)

Single subcontract responsibility for certain related portions of the work is one answer. By requiring the contractor to combine several typical subcontracts in a single subcontract, another level of coordination and responsibility is introduced. One subcontractor becomes responsible for the work of several trades. The choice of which trade takes the lead is usually left to the contractor to decide. Implementation in the contract documents is simple, requiring only a clear delineation of the related work in appropriate specification sections and a statement similar to the following in Section 01010

Summary of Work:

"The curtain wall work, as specified in the following sections, shall be awarded as a single subcontract. Separate subcontracts for portions of the curtain wall work will not be permitted."

Perhaps the most common application of single subcontract responsibility is for curtain wall construction, where the goal is successful performance of an assembly that is fabricated and installed by several trades. Diverse components, such as metal framing members, insulated panels, glass, stone, and sealants, must be designed, fabricated, and installed to meet specified performance criteria. Thus, a

coordinated testing program for mockups and installed assemblies is specified in a single section and cross-referenced elsewhere. A single subcontractor is given responsibility for meeting the performance standards, and a single warranty for the work should be signed jointly by the contractor and the subcontractor.

A second application is for control of finishes on otherwise unrelated components, such as the metal elements of a building lobby. Revolving doors, pivoted doors and frames, glass framing members, signs, hardware—each is usually fabricated by a separate subcontractor. When

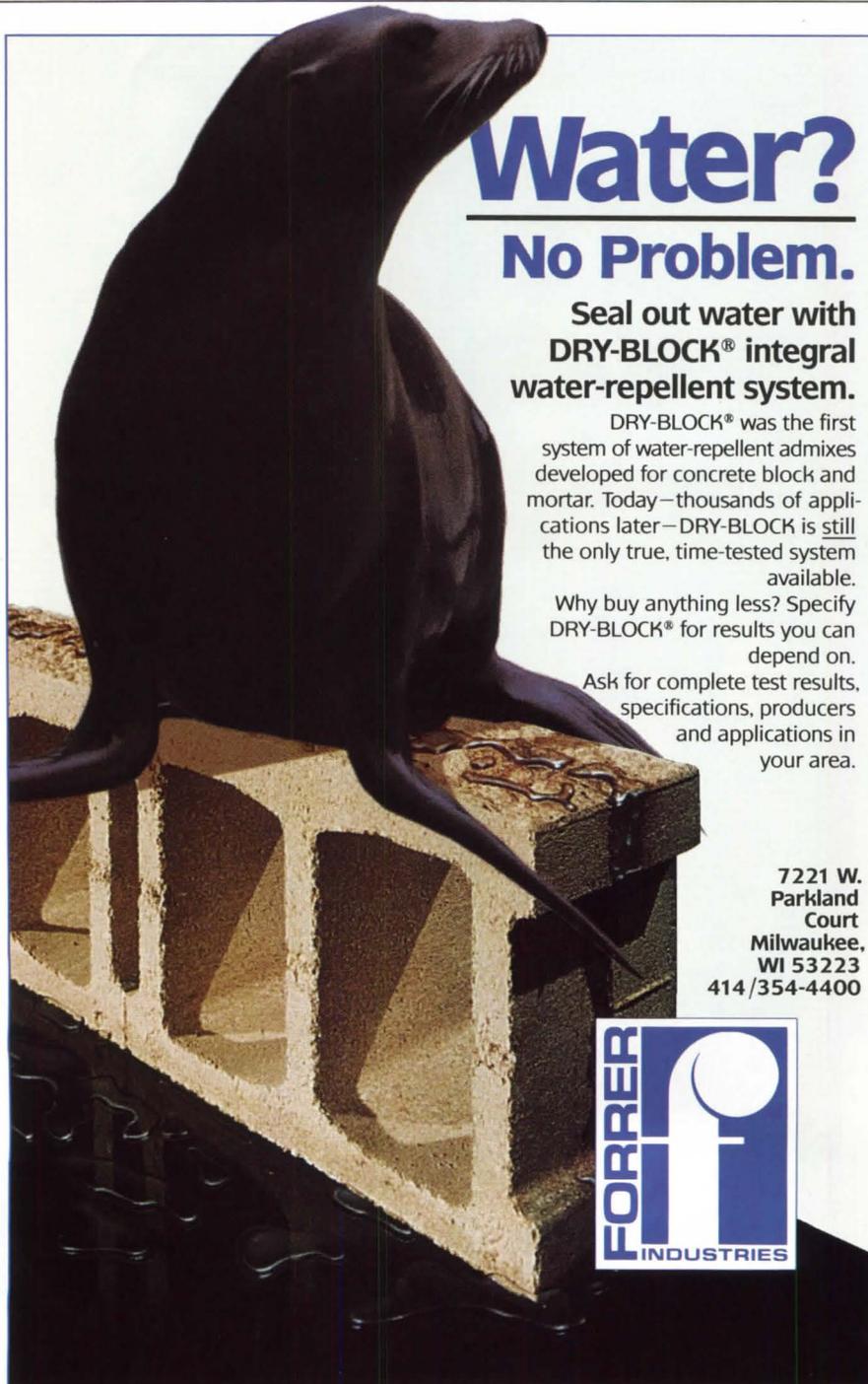
finishes are subject to variation in color, sheen, or texture (and when are they not?), the results are sometimes distressing. "Brass" can range from yellow to bronze, directional brushed finishes can be installed in every orientation, and coatings can look like pages from a color selector book. In this case, single subcontract responsibility will ensure concurrent submittal of all finish samples, a good possibility of getting the same coating manufacturer and applicator for all components, and a single subcontractor to correct unacceptable finishes in the field. Uniform specifications for finish samples (finish designation, alloy, size, etc.) will also support the emphasis on coordination of the final products.

A third application of single subcontract responsibility is for final coordination of equipment components that are not selected until after award of the work. The many elements of a concierge or security desk come to mind—directory, communication equipment, elevator controls, and fire and security system displays. The exact size and shape of such elements vary from one manufacturer to another and are not fixed until the products to be installed have been accepted for the work. By specifying coordination of the desk design (at least the display panel portion), fabrication, and component installation under a single subcontract, potential problems are averted.

When specifying single subcontract responsibility on a project, it is equally important to reinforce some of the normal quality control requirements, such as requiring the subcontractor to name a person who will be responsible for coordination of the work. At a joint post-award meeting, potential coordination problems should be discussed with the involved subcontractor. The specifications should call for coordination of shop drawings and product data submittals first by the subcontractor, then by the contractor. The contractor, subcontractor, and involved suppliers should sign off on coordinated submittals before they ever reach the architect. Incomplete submittals should be rejected. The subcontractor should submit, through the contractor, a schedule for delivery and installation of the related components.

William Lohmann, AIA, FCSI ■

The author is Specifications Manager at MurphyJahn in Chicago.



Water?

No Problem.

Seal out water with DRY-BLOCK® integral water-repellent system.

DRY-BLOCK® was the first system of water-repellent admixes developed for concrete block and mortar. Today—thousands of applications later—DRY-BLOCK is still the only true, time-tested system available.

Why buy anything less? Specify DRY-BLOCK® for results you can depend on.

Ask for complete test results, specifications, producers and applications in your area.

7221 W. Parkland Court
Milwaukee, WI 53223
414/354-4400



Circle No. 336 on Reader Service Card

BIG ENOUGH TO HANDLE BIG BUSINESS' SMALLEST DETAILS

When it comes to handling the computer needs of big businesses, no one fills the bill like ComputerLand®.

We're the oldest chain of computer retail specialists in

the world. With more than eleven years of experience working with businesses of all sizes.

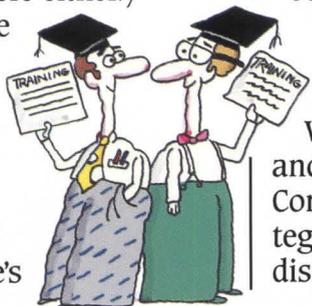


During those years, we've sold well over a million name brand computer systems. Far more than any other computer specialty store network.

Our sales in 1987 alone were nearly \$2 billion.

ComputerLand is also the largest retailer in the industry. With 500 stores in the U.S. — part of nearly 800 worldwide. (No one else comes close here either.)

But you're probably concerned less about what we've done than what we can do... for you. And there's a great deal.



Every ComputerLand store (including the one nearest you) is tied into a well-oiled international network of unsurpassed computer resources.

We offer a complete selection of computer products from major manufacturers throughout the world.

Not just one or two. That includes computers, printers, software and peripherals. So we--and you--have real choices.

We also do our best to make it easy for you to buy computer equipment and keep it up and running.

To begin with, a ComputerLand representative will come to your place of business to talk.

But we don't just talk. We deliver. To get products and parts to you A.S.A.P., ComputerLand has four strategically placed national distribution centers. Including

one just five miles from Federal Express headquarters in Memphis.

Our network provides training to get your staff up to speed quickly. Which we've done successfully for everyone from individual entrepreneurs to Fortune 500 companies.

Each of our ComputerLand stores also has a fully-staffed, full-time service department, should you ever have

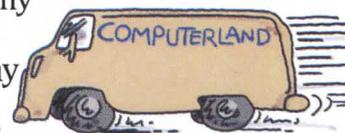
problems.

We can even arrange to service your equipment on-site.

Put simply, we're big enough to handle big business' smallest details.

And that, put simply, is why

so many big businesses give us their business.



© 1988 ComputerLand Corporation. Products and programs available at participating stores.

ComputerLand®
The one thing to know about computers®



TRUSSWALL

T H E · S H A P E S · O F T H I N G S · T O · C O M E

Trusswall from Kawneer introduces the rounded look to the high span entrance. Trusswall spans the clear story entrance area with the structural strength and the desirable aesthetic appeal of the rounded mullion. Formed by circular extruded aluminum chords connected by a separating web that adds stability, strength, and variety, Trusswall becomes a real design alternative.

There are two sides to every story.

On the outside, Trusswall presents a number of faces. One is the innovative circular cover for the sculpted look. Another is the more austere approach, silicone glazing, for an uninterrupted line. And the rectangular cover presents a third more traditional light.

On the inside, Trusswall offers a customization limited only to the imagination. The two-piece construction allows the exterior finish to mix or mate with the building exterior while the interior chords can complement the interior attitudes. The color palette of Fluropon® finishes suggests even more design alternatives.

With four web options to choose from, design flexibility increases. The choices are offered. The choices are yours.



But while the design options offer flexibility, the integrity of the structure remains inflexible. A thermal break, and the flexibility of either 1/4" or 1" glass attest to Trusswall being ready and willing to take on nature's harshest elements.

Trusswall. Further evidence of Kawneer's commitment to space.

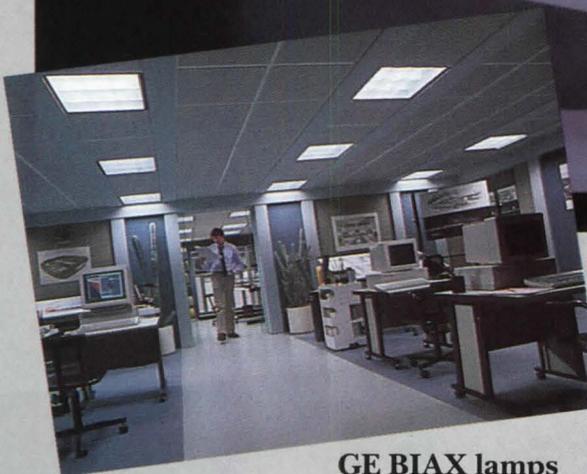
Kawneer
THE DESIGNER'S ELEMENT.



For product information on Trusswall contact:
Kawneer Company, Inc. Department C
Technology Park—Atlanta 555 Guthridge Court Norcross, GA 30092

Circle No. 344 on Reader Service Card

GE IS THE LIGHT THAT WILL RESHAPE THE WAY



**GE BIAX lamps
make everybody and everything,
including operating costs, look better.**

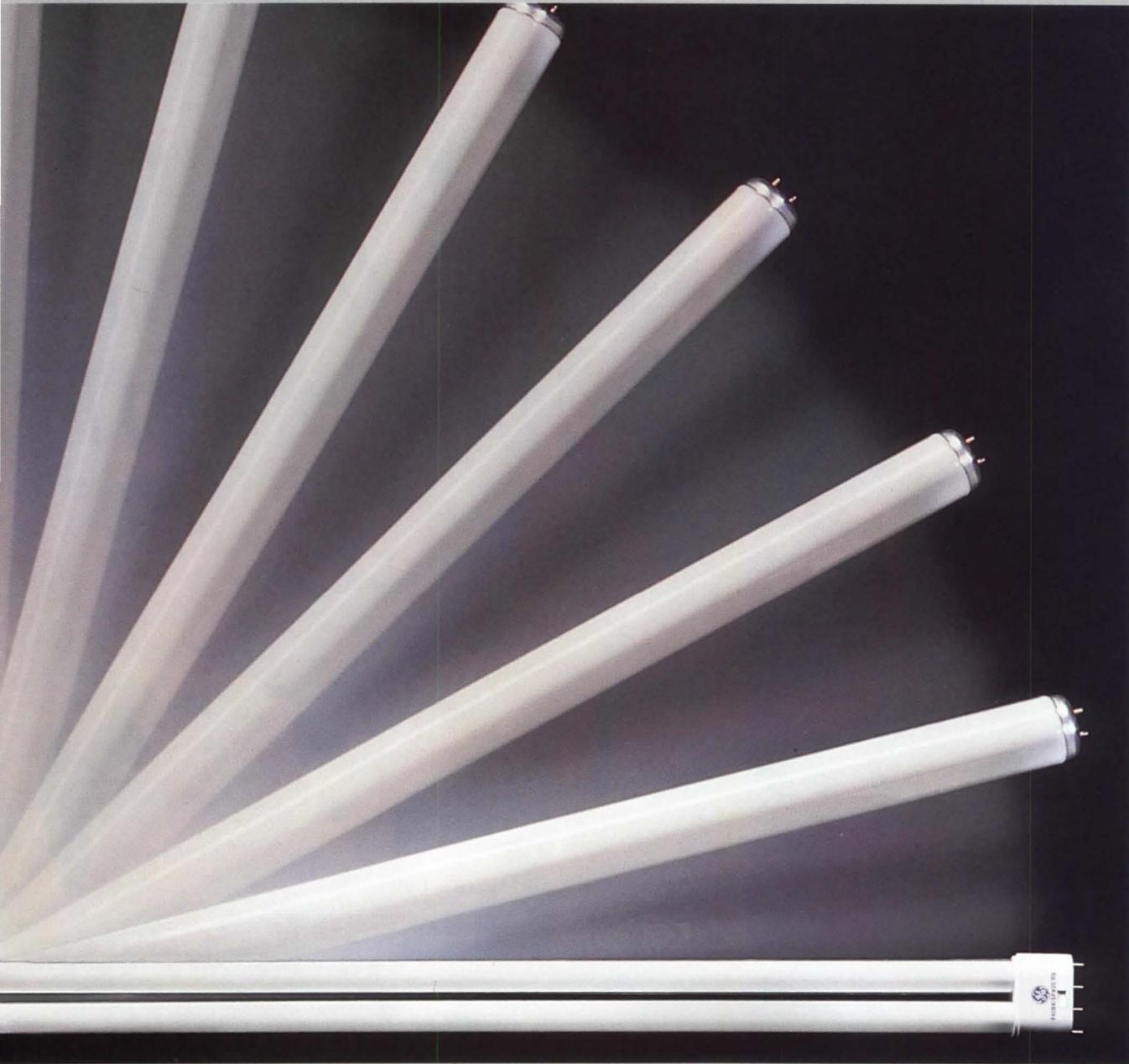


It won't take you long to discover that with GE BIAX™ 40-watt lamps, the design possibilities are endless.

Because they're only 22.5 inches long, yet deliver all the light of standard four-foot fluorescents, you can design with smaller fixtures. And that means more attractive ceilings.

And because BIAX lamps make colors look richer and more vibrant than standard fluorescents,

YOU DESIGN LIGHTING.



cents can, the lighting you design will make the environment and the people who work in it more attractive.

Equally attractive is the amount your clients will save on operating costs. GE BIAX 40-watt lamps, you see, last up to 8,000 hours longer than conventional U-shaped tubes. And 13 times longer than incandescents.

Feast your imagination on the endless pos-

sibilities of the GE BIAX family of lamps.

For more product or application information, call your local GE Lighting Specialist. Or call the GE Lighting Information Center at 1-216-266-3900.

GE is Light.



GE Lighting

Selecting a CCTV security system can be difficult, even a frustrating experience.

One company offers video cameras and monitors. A different company makes VCRs. And the controls, enclosures, and pan-and-tilt drives must be obtained from yet another source.

This often means dealing with lots of different people to get what's needed, check up on delivery, or obtain service.

Worst of all, no single supplier will guarantee the quality of the completed system (performance or appearance) after it's all put together and installed.

But now these uncertainties are past history. Vicon has simplified the whole unpredictable process.

We design and manufacture everything that's needed for a complete security system. And, we guarantee product compatibility—technically and aesthetically.

Call or write for the name of your Authorized Vicon Dealer
Vicon Industries Inc.
525 Broad Hollow Road
Melville, New York 11747-3007
800-645-9116 (in New York
516-293-2200).

Vicon. The Single Source for the Full System.



Vicon is a member of the CCTMA, a division of Electronic Industries Association.

Atlanta, Georgia

Australia

Canada

Los Angeles, California

Hong Kong

Norway

Portsmouth, England

Singapore

West Germany

Circle No. 377 on Reader Service Card



MANY COMPANIES OFFER THIS.



ONLY SENERGY OFFERS THIS.

When you build or remodel exterior walls, you want durability. Reliability. No maintenance. Quick installation. Value.

Many companies offer energy-saving exterior insulation and finish systems. But it takes more than material. It takes experience. Training. Technical service. Commitment.

Only Senergy offers both SENERFLEX™ (polymer base) and SENERTHIK™ (polymer modified) systems.

Only Senergy combines both systems on the same project. Only Senergy offers an unlimited array of colors at no additional charge. Only Senergy offers a five-year labor and material warranty. Only Senergy offers the ability to see things differently.

Contact Bob Olson, Vice President, Senergy, Inc., 1367 Elmwood Avenue, Cranston, RI 02910, or call 1-800-221-WALL.



SENERGY™

The new surface anodized can't match.



What you see here is a brand new building material. Commcoat™ Flurodize® Coil.

The remarkable finish is made by bonding a Flurodize coating to our finest aluminum substrate, right in our rolling mill.

Commcoat looks a lot like anodized aluminum. Only better. And it comes in seven exciting colors. (Extrusions, too.)

For a price no higher than anodized.

But the difference is, Commcoat Flurodize Coil keeps on looking good

year after year. With far less weathering, fading or staining than anodized.

Nor does its color vary from panel to panel. Or crack when sharply bent.

To get your hands on some, call any of these distributors: Petersen Aluminum Corporation, Wrisco Industries or Idéal Métal

Inc. Laminated panels are produced by Alucobond Technologies.

Or call us at 1 (800) 556-1234, Ext. 174. In California, 1 (800) 441-2345, Ext. 174.



**COMMONWEALTH
ALUMINUM**

Commcoat is a trademark of Commonwealth Aluminum Corp. Flurodize is a registered trademark of DeSoto, Inc.

No Smoking



See new inherently flame retardant fabrics now available from Lee Jofa

See Parsifal, Tosca and Hobart in the COM Collection at your Lee Jofa Showroom

Lee Jofa/Groundworks Showrooms: Atlanta, Boston, Chicago, Dallas, Dania, Denver, Detroit, High Point, Honolulu, Houston, Laguna Niguel, Los Angeles, New York, Philadelphia, San Francisco, Seattle, Washington, D.C., Toronto, London.

Circle No. 349 on Reader Service Card

STAIN PROOF GROUT!



LATAPOXY[®] SP-100 The Stain Proof Grout

- Grout as easy to clean as the tile itself
- Consistent, uniform grout color
- No sealers required—ever
- Over 30 bright bold colors

Call the LATICRETE[®] Technical Services Department for complete information on this exciting product and the complete line of time proven installation systems from LATICRETE International.

Call (800) 243-4788 or (203) 393-0010 for information, cost estimates and technical assistance.

When your project demands reliability, cost effectiveness, proven installations...call on the LATICRETE System.



LATICRETE INTERNATIONAL, INC.

1 LATICRETE PARK NORTH • BETHANY • CT 06525-3498 USA
TELEPHONE (203) 393-0010 • TOLL FREE (800) 243-4788
TELEX 96-3541 LATICRETE BTHY • TELEFAX (203) 393-1684

Circle No. 384 on Reader Service Card

Color your vision
with ECLIPSE®
Reflective Glass



ECLIPSE®
Reflective Glass

LOF Libbey
Owens
Ford

A member of the Pilkington Group

ECLIPSE® reflective glass is a pyrolytically coated reflective glass product of the Libbey-Owens-Ford Co. It is manufactured using a chemical vapor deposition process in which a gas reacts with the semi-molten surface of a ribbon of float glass to form the reflective coating.



Fabrication/Installation Ease Unlike many competitive products, ECLIPSE reflective glass is post temperable. The durability of the pyrolytic coating is such that ECLIPSE reflective glass can be handled, cut, insulated and tempered or heat-strengthened like ordinary annealed glass. It can be glazed with either surface to the exterior in both monolithic and insulated glass applications and is compatible with most commercially available glazing sealants. This added product flexibility can greatly reduce the need for costly special handling, fabrication and installation procedures.

Superior Performance ECLIPSE reflective glass offers an exclusive combination of crisp reflectance and good daylight transmission which results in a uniquely low absorption characteristic which eliminates the need for heat treating in most vision applications. In addition, the coating is extremely uniform and effectively blocks the sun's damaging ultraviolet rays.

Distinctive Appearance Whether the coated surface is glazed to the interior or exterior, ECLIPSE reflective glass has a unique, striking appearance which provides building designers with an exciting new visual tool.

Excellent Availability The on-line pyrolytic coating process gives ECLIPSE reflective glass ready availability which can significantly reduce lead times, helping control project costs.

Product Characteristics

Heat Treatable ECLIPSE reflective glass can be heat-strengthened, tempered or bent. As with any pyrolytic reflective glass, maximum temperature limits must be observed.



Interior or Exterior Glazing Because of its exceptional coating durability, ECLIPSE reflective glass' coated side can be used in first or second surface applications in single glazing or on any of the four surfaces of an insulated glass unit. As in any first surface installation, a review should be made of potential problems caused by surrounding materials, such as stains from weathering steel or concrete.

Compatible With Most Sealants ECLIPSE reflective glass is compatible with most construction silicones and the sealants commonly used in the manufacture of insulating glass units. Specific compatibility questions should be directed to the sealant manufacturer.

Low Heat Absorption Characteristics ECLIPSE reflective glass offers a unique combination of high solar reflectance, good daylight transmission and resultant low heat absorption. This allows it to be used without heat-treating in most vision applications. Heat treatment is required in instances where strength, safety or thermal stress are of concern.

Significantly Reduces UV Transmission Over 90% of the sun's damaging ultraviolet radiation is blocked by the ECLIPSE coating. This substantially limits problems of color fading and the breakdown of plastics. At the same time, ECLIPSE reflective glass will not adversely affect plant growth.

Resists Surface Damage The ECLIPSE coating is extremely durable. Handling, fabricating, packaging and installation rubs and scratches are minimized.

Distinctive Appearance With the coating glazed first surface, ECLIPSE reflective glass has a distinct, crisp appearance and a higher reflectivity. In second-, third- or fourth-surface use, the colors are deep and rich, with a subtle reflectivity. Viewed from the interior, ECLIPSE reflective glass transmits light with a definite warm color cast.



A Choice of Colors ECLIPSE reflective glass is available in four dramatic colors: blue-green, bronze, grey, and with the coating glazed first surface, a distinctive silver—regardless of substrate color.

Extremely Uniform Coating The ECLIPSE manufacturing process affords exceptional run-to-run consistency. This results in excellent performance and color uniformity—both in new construction and replacement applications.

Cleaning, Maintenance & Heat Treating

Complete, step-by-step guidelines in each of these areas are available from LOF and may be obtained by contacting your local representative.

Performance Data

Product	Exterior Appearance	Nominal Thickness	Coated Surface	Direct Transmittance ¹			Reflectance ¹		U-Values ³				Shading Coefficient ³ No Shade		
				Daylight	Solar	Ultra- ² Violet	Daylight Exterior	Solar	Summer		Winter		Europe	UK	US
				%	%	%	%	%	Eng.	SI	Eng.	SI			
ECLIPSE® Blue-Green	Bright Silver	6mm monolithic (¼")	1	33	28	11	45	36	1.08	6.1	1.11	6.3	.43	.46	.44
	Blue-Green		2				30	18	1.09	6.2	1.10	6.2	.47	.52	.50
	Bright Silver	24mm ⁴ insulating (1")	1	29	22	8	45	37	.56	3.2	.49	2.8	.34	.36	.34
	Blue-Green		2				30	19	.57	3.2	.49	2.8	.37	.41	.38

Product	Exterior Appearance	Nominal Thickness	Coated Surface	Direct Transmittance ¹			Reflectance ¹		U-Values ³				Shading Coefficient ³ No Shade		
				Daylight	Solar	Ultra- ² Violet	Daylight Exterior	Solar	Summer		Winter		Europe	UK	US
				%	%	%	%	%	Eng.	SI	Eng.	SI			
ECLIPSE® Grey	Bright Silver	6mm monolithic (¼")	1	20	29	10	45	36	1.08	6.1	1.11	6.3	.43	.47	.45
	Grey		2				13	12	1.10	6.2	1.10	6.2	.49	.55	.53
	Bright Silver	24mm ⁴ insulating (1")	1	18	23	7	45	37	.56	3.2	.49	2.8	.35	.37	.35
	Grey		2				13	13	.57	3.2	.49	2.8	.39	.43	.40

Product	Exterior Appearance	Nominal Thickness	Coated Surface	Direct Transmittance ¹			Reflectance ¹		U-Values ³				Shading Coefficient ³ No Shade		
				Daylight	Solar	Ultra- ² Violet	Daylight Exterior	Solar	Summer		Winter		Europe	UK	US
				%	%	%	%	%	Eng.	SI	Eng.	SI			
ECLIPSE® Bronze	Bright Silver	6mm monolithic (¼")	1	25	30	8	45	36	1.07	6.1	1.11	6.3	.44	.47	.45
	Bronze		2				18	14	1.09	6.2	1.10	6.2	.49	.55	.53
	Bright Silver	24mm ⁴ insulating (1")	1	22	24	6	45	37	.56	3.2	.49	2.8	.36	.38	.36
	Bronze		2				18	15	.57	3.2	.48	2.7	.40	.44	.40

- Nominal values shown. Tolerance ±3.
- The UV Solar Transmissions are based on the standard intensity versus wavelength for the sun's radiation when the sun is at 60° zenith angle and measured at normal incidence to the glass surface.
- Winter U-values are based on an outdoor temperature of -18°C (0°F), an indoor temperature of 21°C (70°F), and a 24 kph (15 mph) wind velocity with no sun. Summer U-values and shading coefficients are based on an outdoor temperature of 32°C (90°F), an indoor temperature of 24°C (75°F), a solar intensity of 789 W/m² (250 Btu/hr × ft²), and a 12 kph (7.5 mph) wind velocity. "Eng." units are Btu (hr. × ft² × °F). "SI" units are W/m²K.
- 24mm (1") insulating glass constructed of 6mm (¼") glass outboard, 12mm (½") airspace, and 6mm (¼") clear glass inboard.



- Cover photo:
A.B. Warren Development
Building
Tucson, Arizona
ECLIPSE® Bronze #1 Surface
- Christofer Oaks, Phase II
Sacramento, California
ECLIPSE® Blue-Green
#2 Surface
 - Rainbow Health Center
Miami, Florida
ECLIPSE® Grey #1 Surface
 - San Ramon Recovery Center
San Ramon, California
ECLIPSE® Bronze #2 Surface
 - Quadrant Corporate Center
Bothell, Washington
ECLIPSE® Grey #2 Surface
 - SeaGate Centre
Toledo, Ohio
ECLIPSE® Grey #1 Surface
ECLIPSE® Grey #2 Surface
 - Arapaho Office Building
Richardson, Texas
ECLIPSE® Grey #2 Surface

ECLIPSE[®]

Reflective Glass



A member of the Pilkington Group

811 Madison Ave.
P.O. Box 799
Toledo, Ohio 43695
Telex: 28-6437 or 196704
Telefax: 419-247-4573

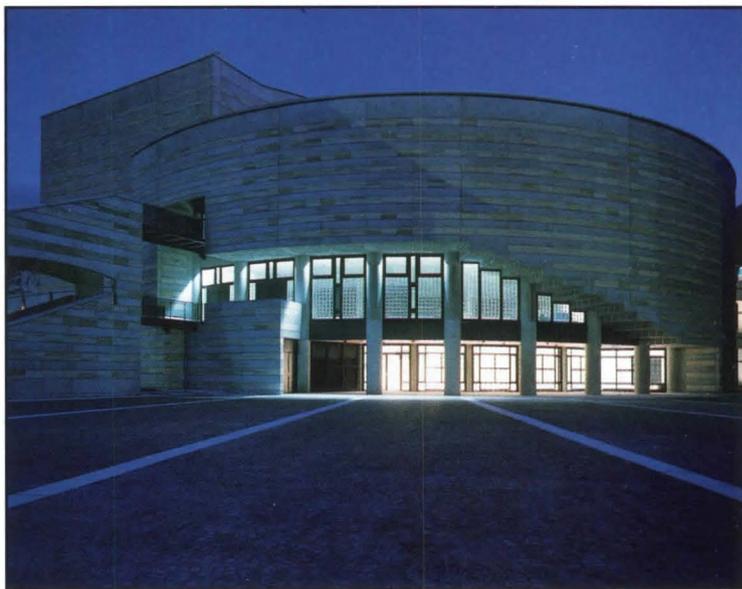
ERG-E1-6/87
© Copyright 1987 Libbey-Owens-Ford Co.

Printed in U.S.A.



Authentic Modernity

Mario Botta's design for a cultural center in the foothills of the French Alps abuts a 19th-Century barracks that is reused but retains its historic identity.

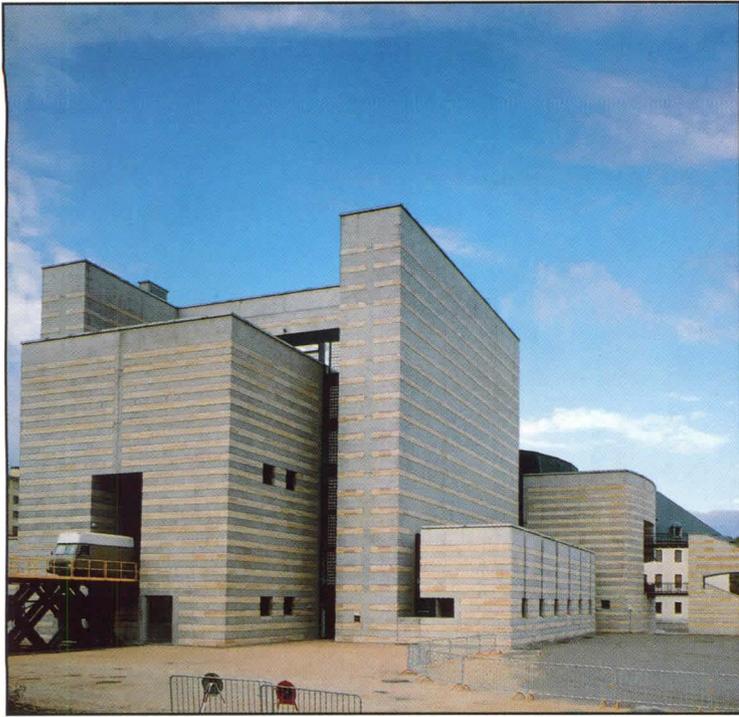


Night view of Botta's Malraux Cultural Center in Chambéry.

"THE best way to respect the past is to be authentically modern. The rich history of the city is a result of successive stratifications," declares Mario Botta. The 45-year-old architect from the Swiss canton of Ticino believes that technical and functional progress has too often demanded a sacrifice of the memory and history of the city. Yet he also argues against the slavish restoration of monuments that "mummify" the city. And he claims that "historical buildings should die a natural death," unless their space can be shaped to the changing need of the inhabitants. One such living monument, cited by Botta in defense of his thesis, is the Roman Pantheon, which was built as a temple of the gods and subsequently utilized as a church and marketplace.

This spirit of strengthening and rejuvenating urban history carried the day in the 1982 competition to design the André Malraux Cultural Center in Chambéry-le-Bas, France. Following an open call for entries, the city named three finalists: Botta and the French architects Henri Gaudin and Favre & Perrottet. Botta won with a design that incorporates the east wing of the adjacent Gendarmerie,

(continued on page 90)



Overviews of Malraux Cultural Center (above and right) show the relationship of Botta's new theater to the adjacent Gendarmerie, a 19th-Century structure whose east wing has been restored to house the theater lobby, an art gallery, rehearsal rooms, and offices. Other military buildings surrounding the former barracks were destroyed as part of a comprehensive urban renewal plan. A residential develop-

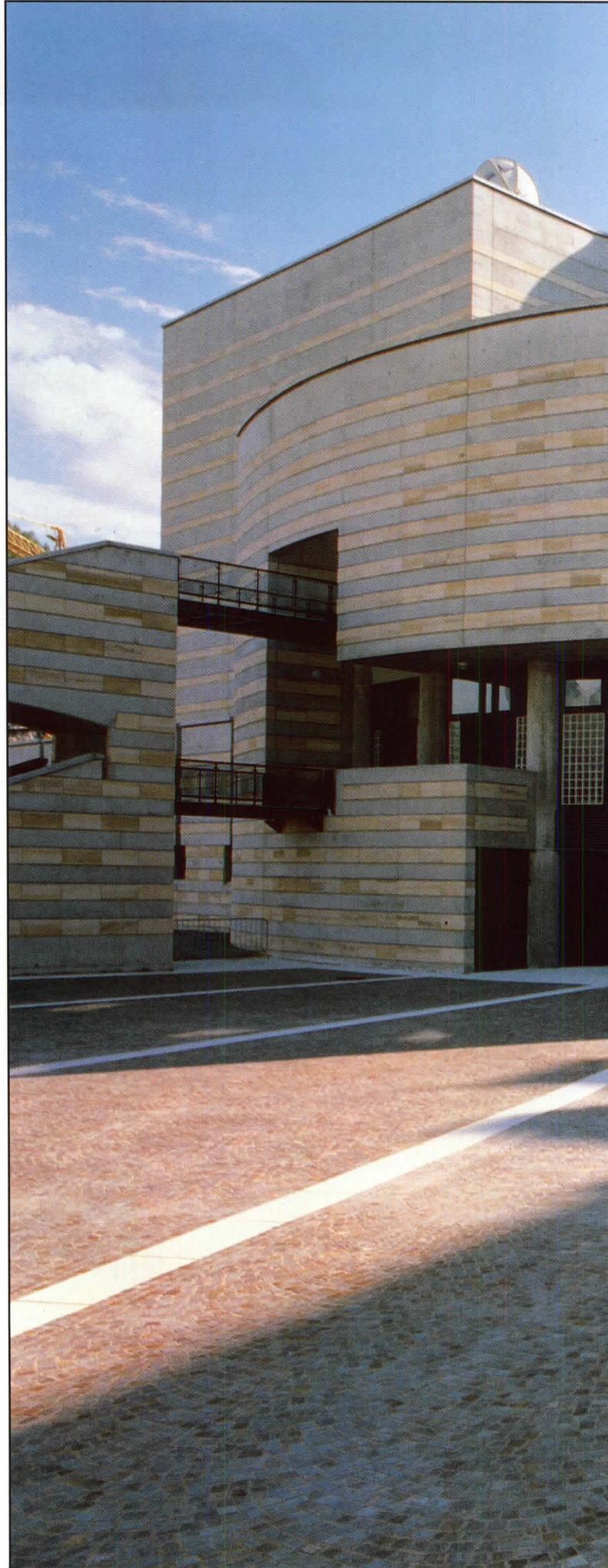
ment designed for the site by Henri Ciriani has not gone ahead. As a result, the Botta theater stands in an open but unfinished plaza. The theater itself is composed of two contrasting volumes—a half-cylinder housing orchestra seating and a massive block that contains the stage and flytower (above). Smaller wings housing dressing rooms flank the flytower (right, foreground and top).







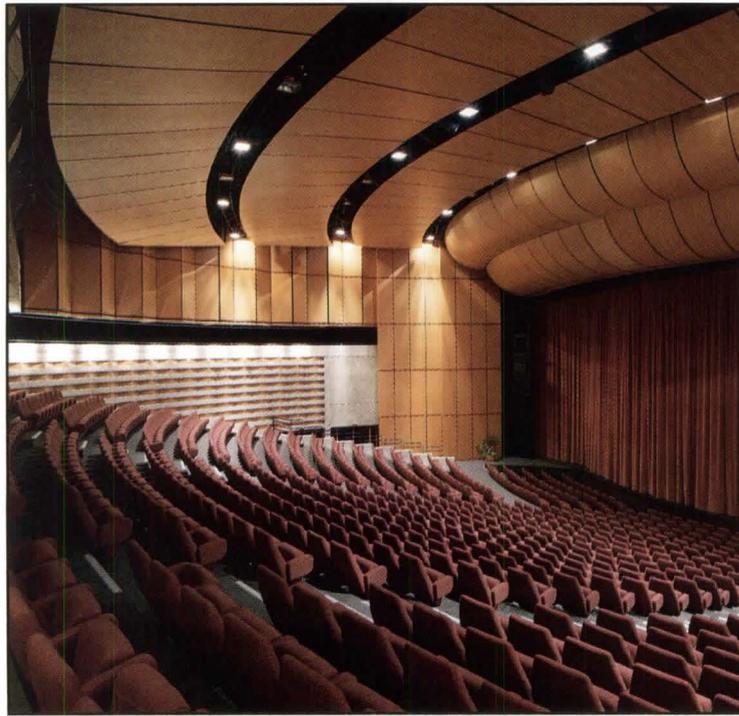
A dramatic emergency exit stair (top) shapes the plaza between the theater and the former barracks (above). Theatergoers enter the cultural center through the barracks courtyard and its east wing, passing to the theater through a glazed bridge (facing page, right). The striated stone and concrete façade is cut with a jagged edge to reveal the interior stairs and glazed foyers, which wrap around the ground-floor cinema and theater seating one flight up.







Malraux Center



Stephane Coururier

Horizontal and vertical circulation wraps around the cinema and theater seating. A generous ground-floor ambulatory (facing page) and wide stairs that provide access to the theater at the second and third floors (top right) show Botta's command of daylighting. The striped exterior façades are echoed in the public foyer (top left) and within the theater itself (bottom, left and right) in alternating gray and yellow bands of stone and wood.



Stephane Couturier

(continued from page 81)

or former military barracks, which dates from the Napoleonic era.

The Malraux Center was intended by the city to be the centerpiece of a renewed cultural and residential district, located just outside the medieval center of the city. Other military buildings in the area deemed by the city to be of no historic value were demolished to make way for new construction. The only new projects completed to date, however, are Botta's theater and the complete renovation of the Gendarmerie by French architect Jean Patrick Fortier. A major residential complex, designed by architect Henri Ciriani for a site across the square from Botta's theater, has not yet gone into construction, and the fate of other ambitious plans for the area remains uncertain.

In Botta's design, the wide interior courtyard of the Gendarmerie now serves as an open foyer used by the public attending theater performances, while the east wing houses the entrance lobby, an art gallery, a library, and offices. Theatergoers pass from the old to the new building by a stacked, glazed bridge which offers a view of the surrounding urban area.

The 950-seat theater and the cinema below it occupy a striking half-cylinder, while the stage and fly tower, rehearsal and dressing rooms fill an imposing block that towers over the half-cylinder and three-story barracks. Botta's paired volumes face one another like two compact bodies, distinguished on one side by the theater's emergency stair, which departs dramatically from the northeast edge of the cylinder, defining a secluded plaza between the barracks and theater. Although Botta had originally positioned the theater perpendicular to the Gendarmerie, it was later shifted to align with the existing grid of the city.

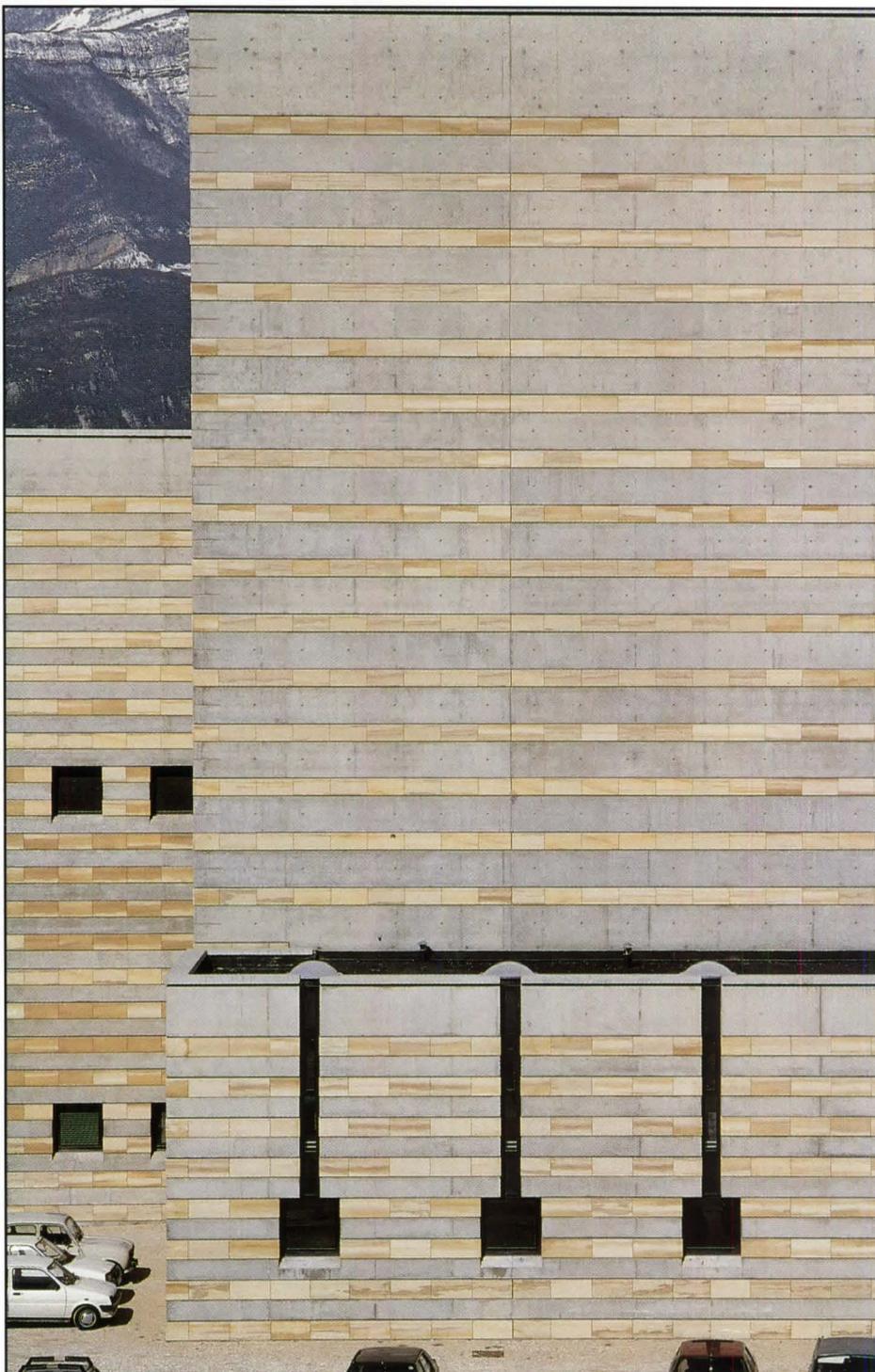
The theater's dramatic striations of concrete and limestone recall the Romanesque churches that served as Botta's inspiration. The heavy walls have no conventional windows but instead are pierced by narrow slits that recall medieval fortresses, or eroded with a wide, irregular tear that reveals a concrete and glass façade.

These openings—together with the use of primary volumes each of which serves a distinct function, and the striated or gridded compositions of stone, concrete, and glass—all are characteristics of Botta's work. The contrast of full and empty spaces, and the sharp differentiation of light and shadow reveal the architect's assimilated heritage of Classical architecture and Modernism.

Described variously by critics as "an oasis" and "a Japanese wrestler, crouching before springing forward," Botta's theater stands out as a strong formal presence in the quiet town of Chambéry, below the French Alps. The classic Gendarmerie, its roof cut by dormers, bears no apparent connection to the new house of culture beside it. Yet this 19th-Century building and the adjacent monument of the 1980s match with a sort of subtle, inexplicable complicity.

New and old coexist harmoniously, despite a natural dialectic tension. As Botta himself points out, "This intervention consolidates the old military barracks. It is the detached object, the building on the edge of the city limits that establishes a dialogue with the compact medieval center. In my view, the consequent contrast emphasizes the fixed assets of two worlds, the old and the new."

Donatella Smetana ■



The dressing room wing (above, foreground) is pierced by thin, slit windows that recall those of medieval fortresses, while the banded façades echo Romanesque churches, cited by Botta as a major influence on his design.

Project: André Malraux Cultural Center, Chambéry, France.

Architect: Mario Botta, Lugano, Switzerland (Urs Kulling, Mischa Groh, design team).

Client: City of Chambéry.

Site: adjacent to historic center of Chambéry on location of former military buildings dating from Napoleonic era.

Program: 82,000-sq-ft theater complex that incorporates a restored 19th-Century barracks which houses administrative offices and the lobby.

Structural system: reinforced concrete.

Major materials: reinforced concrete, limestone.

Cost: withheld.

Photos: Pino Musi, Altair Studio, except as noted.

Stephane Couturier

Life Behind the Logos

Corporations are not only major clients of architecture, but major employers of architects and designers. Here, design professionals in four corporations discuss their work and the corporate work of their peers in outside firms.

AMERICAN corporations, in this era of acquisitions and mergers, deregulation and trade deficits, are no longer the fortresses they once were. Competition has become fierce, and change a constant companion.

These events have left their stamp on corporate architecture. Fee competition and fast-track schedules have become common for outside firms, while cost control and quick response have become facts of life for in-house design staffs. Meanwhile, new demands have been placed upon the architecture itself. A lot of attention, for example, is now focused on how facilities can enhance or diminish worker productivity or a corporation's image.

Perhaps the most significant change in corporate architecture over the last decade has been the rise of facilities management as an established activity within companies and a respected—and increasingly common—occupation for architects and designers. Just 20 years ago, the AIA was discouraging corporate architect memberships; now, corporate architects are a rapidly growing segment of the organization, with their own AIA committee.

The increasing number of corporate architects and designers has created some new challenges for their peers in private firms. More facilities work, for instance, is being done in-house. While companies claim that it is more efficient and cost-effective to do so, architects argue that the comparisons often are not fair. "They don't factor in overhead," says one architect in private practice, "just salaries." But fair or not, it has forced firms to become more responsive and efficient.

Firms also now face having architects and designers as their clients. Some firms report that that has helped produce better buildings; others say that that has just made their job harder. Those differences may stem, in part, from the way the corporations themselves operate, since some seem to give their facilities managers a lot of leeway, and others just a lot of rules.

What follows are profiles of four corporations: Disney, IBM, Prudential, and Marriott. They vary in the size and operation of their facilities departments, and in the type and image of architecture they commission. What they share is a commitment to architecture as a key resource in a fast-changing, competitive world. *Thomas Fisher* ■

The Corporate Developer



One of the largest companies and developers in the country, The Prudential Insurance Company of America shows two very different sides to corporate architecture.

SAFE, secure, rock solid—the qualities that Prudential promotes in its insurance seem to pervade its corporate architecture as well. “We look for well-rounded, service-oriented firms,” says Bruce Long of Prudential’s Realty Group, the development arm of the company. “When we have gone with high-profile firms,” he adds, “it has usually been in joint ventures, where the architects were already on board.” The same seems to hold true for the architecture Prudential commissions for its own use. “We are not looking for firms that are all show and no go,” says James O’Hara of Prudential’s Corporate Services and Buildings Department (CSBD). “We look for firms that have solid experience in areas such as space planning.”

If Prudential doesn’t see itself as a design leader, it is a leader in the sheer volume of architecture and interior design that it commissions. “We are one of the largest real estate developers in the country,” notes Long. (A 1987 *Building Design & Construction* survey listed Prudential as the fifth largest diversified developer in the country, with \$850 million of construction in place.) And, with 85,000 employees occupying almost 12 million square feet of office space, The Prudential Insurance Company of America is itself a major corporate client. “We have 2.5 million square feet of office space to complete in just the next 24 months,” says Kenneth Wood of the CSBD.

Corporate Life

Almost 50 percent of the design work on Prudential’s own facilities is done in-house, by a staff of over 50 designers in the company’s Newark, New Jersey, headquarters and by two or three designers

in each of the company’s satellite facilities. Slightly more than half of the Newark staff consists of interior designers, with the remainder being architects and engineers representing most of the engineering disciplines.

The department looks and acts very much like an outside design firm. “We do everything from programming to contract administration,” says Wood. Also like many outside firms, the facilities staff is oriented to do a certain size project. “If a project is less than about 30,000 square feet,” says O’Hara, “we farm it out to the satellite offices. Below about 10,000 square feet, we won’t touch it.” “The only thing that we don’t have to do is market our services,” says Wood. “In a corporation this large, the work is self-generating.”

Prudential’s Realty Group is much different in size and function. It has 17 architects and engineers in the company’s headquarters and four regional offices. They help select outside firms, monitor the company’s development projects, and supervise the maintenance of the company’s existing real estate portfolio. The staff also inspects properties that Prudential is acquiring, selling, or mortgaging.

Getting and keeping staff does not seem to be a problem for either department. “We don’t have much trouble attracting people,” says Wood. “Most outside firms don’t pay their people as well and they don’t have as good a benefit package.” Corporations like Prudential also offer a degree of job security that many designers do not have in outside firms. “We try to keep a steady core of staff people and farm out work to outside firms when we get too busy,” says O’Hara.



Otto Baitz

The trade-off seems to be mostly in the area of flexibility and career advancement. "When you work for a corporation, you have to play by the corporate rules," says Richard Norkaitis of CSBD. "Also, Prudential is not in the building business. The architects here provide a technical service and there is only so far that they are going to rise in an insurance company."

The Pace of Work

If there are any trends at Prudential's CSBD, they are the increasing amount of interior design work that is done in-house and the increasing speed with which that work must be done. "In the last several years," says Wood, "the work load has become greater and the schedules, shorter. The competitiveness of the financial services industry is the main reason for the increased pace." Outside firms that work for Prudential find the same rapid pace. "All of the Prudential work that we've done over the last ten years," says Howard Grad of The Grad Partnership, "has been fast-tracked."

Adding to the increased pace of the work has been Prudential's recent move to break its operations down into a number of business units, each of which is responsible for its own bottom line. That has led to some unusual financial arrangements, with some business units charging others for space or equipment. It also has varied the company's facilities requirements. "On one hand, Prudential is our sole client," says O'Hara. "On the other, we have 50 clients because the individual business units have different needs. Some want mainly open offices; others, private offices. Some want a banking house ambience; others not. What-

ever they want," he adds, "the business units each have to pay for and justify their tenant fit-up."

The move to business units also is one of the reasons why more of the interior design work is done in-house. "We often have a better understanding of how the business units work," says Wood, "and are able to challenge users in the company more effectively. Outside firms tend to be more polite for fear of offending somebody."

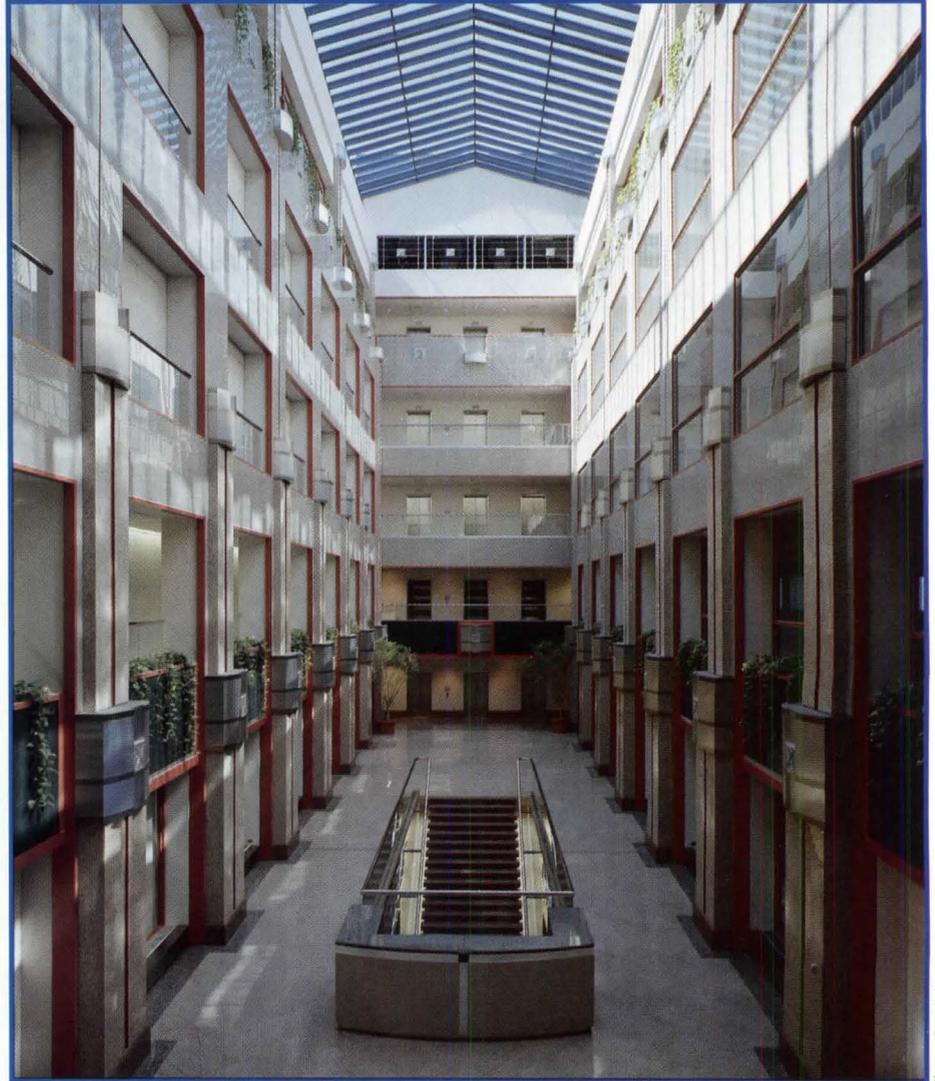
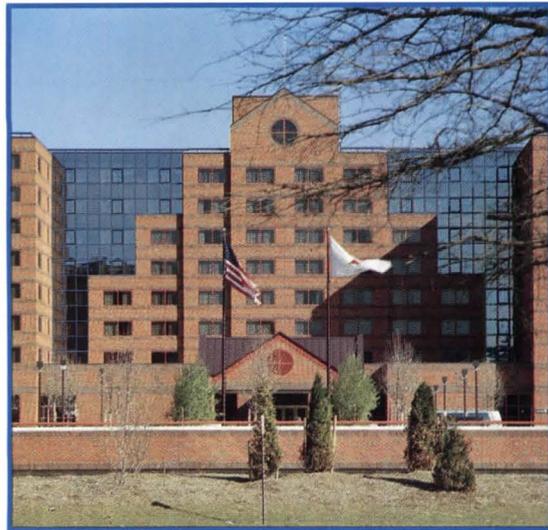
Working with Firms

The trend toward more in-house responsibility has had little effect on Prudential's architectural and development work. "We still farm out most of our A/E work," says O'Hara, "although the amount of that has decreased as we have used more leased space." The CSBD doesn't like to mix responsibilities, with the in-house staff doing the interiors for a building being designed by an outside firm. "But, we typically farm out the architectural and interiors work to different firms," says O'Hara. "We find that it leads to better results."

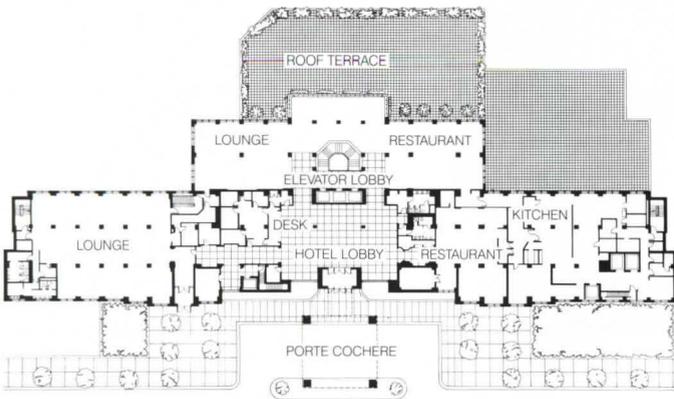
What Prudential looks for in firms and how it selects them varies with the situation. "Our field people often make a list of firms located near a project," says Long, "although we don't necessarily only go with local firms. It depends upon the size and visibility of a project. Sometimes we'll use a high-profile firm for the design and a local firm for production. If the project requires specialized knowledge about a particular type of building, we'll look for firms with that experience. We also like to go to firms we've used before and have liked."

"When interviewing firms," adds Norkaitis, "we look at the project team—its ability, experience,

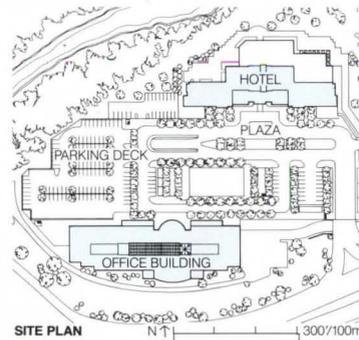
The Office Center at Short Hills in Short Hills, New Jersey (above), was designed by The Grad Partnership and developed by Prudential's Realty Group. The project contains an office building (above left) and a Hilton hotel (above right) that face a plaza and below grade parking structure. The site is adjacent to a highway and shopping mall and backs up to protected open space. The architects have broken down the apparent scale of the two buildings by creating brick "figures" within a "ground" of reflective glass. Prudential gave the architects considerable design freedom, although the company was closely involved in the building and site layouts and in the choice of materials and paid a lot of attention to details, such as the roofs and the fire and life safety systems.



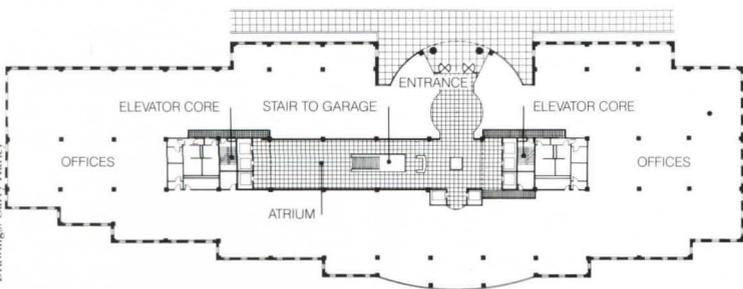
Photos: Otto Baatz



PLAZA LEVEL FLOOR PLAN



SITE PLAN



PLAZA LEVEL FLOOR PLAN

N ↑ 40/12m

The architects used geometric forms to demarcate the entrances of the office building and hotel (above left). The office building is entered through a brick portal set in a glass drum, while the hotel is entered through a cross-gabled porte cochère, which is echoed in the gabled brick façade. The office atrium (above) shows the high quality materials and expansiveness of space that Prudential uses to attract the “high end market.” The site plan (left) indicates how the two buildings define a central plaza, yet are distinguished by having offset entrances. Their first-floor plans (far left) show how the buildings also differ in their spatial organization, with the hotel having a main block with meeting rooms attached to its back side and the office having a slab that expands at its middle to incorporate the atrium.

Drawings: Garry Harley



Photos: Otto Baitz



and chemistry.” The trend among some corporations to choose firms solely on the basis of fees is not an issue at Prudential. “We ask firms for their fee,” says Long, “but that is rarely a deciding factor. We find that most firms qualified to do a job have competitive fees.”

What is becoming a factor in its decisions, though, is a firm’s use of computers. “As we build our computer database here,” says Wood, “we will be looking to firms to turn over their documents in electronic form. Compatibility with our computer system is becoming important; fortunately compatibility among systems is also becoming easier to achieve.”

If Prudential’s people see weaknesses among outside firms, it is in the areas of business savvy and documentation. “Firms’ contract documents are generally inadequate,” says Long. “Detailing is often sketchy and follow-through in the field is poor.” Long admits that the fast-tracking of projects may contribute to this. Still, “we trust the architects to complete the documents,” he says, “even though we usually work from a guaranteed maximum price based on 75 percent completion of the drawings.”

Long also thinks too few architects are sympathetic to development constraints. “We look for architects with a developer’s philosophy, architects who can build to the budget and who can design to our financial parameters,” says Long. “A key issue in any job is controlling the architects and cutting them off when they go over budget or off schedule.”

In many ways, Prudential is a very tough client. “Our charge,” says Long, “is to use Prudential’s

funds wisely, so we are very careful and follow projects closely.” But tough clients can also be good clients if, as in Prudential’s case, their concern leads to better quality buildings. “Prudential’s standards are higher than most developers,” says Howard Horii of The Grad Partnership. “In some areas, such as life safety and detailing, they are much higher.” Prudential may not be a design leader among corporate clients. But, in terms of the performance of the buildings that it both develops and occupies, the company is a regular Rock of Gibraltar. **Thomas Fisher** ■

Prudential uses a variety of architectural firms for both its own buildings and those that it develops. Roseland III in Roseland, New Jersey (above left), was designed by The Stubbins Associates for Prudential’s own use. The building will have 350,000 square feet arranged in arms that embrace outdoor courtyards and that abut a multistory atrium. Its cladding will consist of precast concrete with granite trim and two colors of glazing. Enerplex in Princeton, New Jersey (above right; see also P/A, Aug. 1984, pp. 82–89), consists of a pair of buildings designed by Alan Chimacoff and Skidmore, Owings & Merrill for Prudential’s Realty Group. The project has an ice pond, daylighted corridors and office perimeters, and various passive solar strategies, and it shows Prudential at its most experimental.

10,000 Hotel Rooms a Year

Continuing its expansion at breakneck speed, Marriott maintains a staff of a thousand just to oversee the design and construction work outsiders do for it.

WHEN it comes to creating an international domain of lodging and restaurant facilities, nobody does it bigger than the Marriott Corporation, which last year erected \$1.1 billion in new hotel and motel construction alone.

What began as an unassuming root beer stand opened in 1927 by J. Willard Marriott has blossomed into a conglomerate of nearly 200 full-service hotels, more than 180 moderately priced inns, 500-plus Roy Rogers Restaurants, over 200 Big Boy restaurants, and another 100 eateries along America's highways. The company now has more than 200,000 employees, making it one of the ten largest employers in the country and ranking it as the largest private employer in the Washington, D.C., area.

As if that weren't enough to keep any self-respecting company on its toes, Marriott continues its pace of adding roughly \$1 billion in new construction to its inventory each year. Charged with overseeing its ever-expanding stable of buildings is the corporation's Architecture and Construction (A&C) Division, which occupies the entire third floor—and then some—of Marriott's sprawling headquarters in Bethesda, Maryland.

A Shared Commitment

No company, of course, grows so enormous without a sense of purpose and direction. Both characteristics surface in the conversation of Marriott's managers and in the self-assured manner with which the company proceeds in its empire-building. Confidence is what underlies Marriott's stringent design standards, which set minimum levels of quality for all Marriott facilities and ensure,

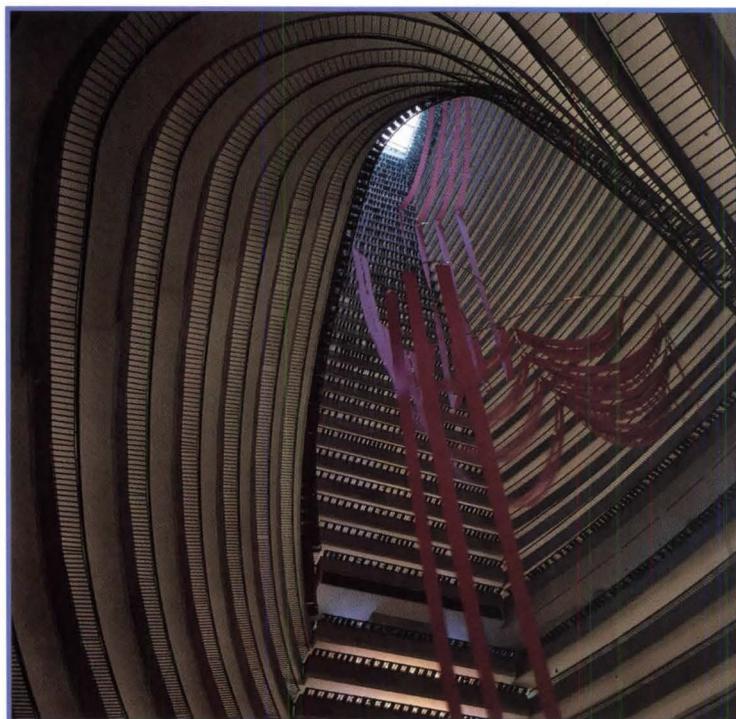
within reason, their profitability. "The alternative to level of standardization is increased cost," says Bob Dacey, senior vice-president for design.

Controlling costs, while ensuring quality, is the A&C staff's mission. The multidisciplinary group of design and construction professionals oversees the development of virtually every new Marriott property from preliminary number-crunching through design phases to the moment when the final bathroom tile is cemented in place. Yet the volume of construction activity has become so unwieldy—Marriott, for example, will build some 10,000 new hotel rooms, renovate another 10,000–15,000, and refurbish more than 800 restaurants this year alone—that almost all design and engineering services have been hired out since 1978 to architects, interior designers, and engineers.

Choosy About Consultants

Marriott selects outside firms from a constantly changing file of available candidates. How do firms get in the file? Initial selection comes from recommendations, mostly, though it is not uncommon for firms to nominate themselves. When a new project comes up, ten-or-so firms are drawn from the file and their qualifications reviewed. Firms located near the project receive strong consideration, "though if we can't find a local one with the right expertise, we might hire one from 1000 miles away," says architect Russell L. Jordan, vice-president for business development. Requests for proposals are then sent to four to six firms.

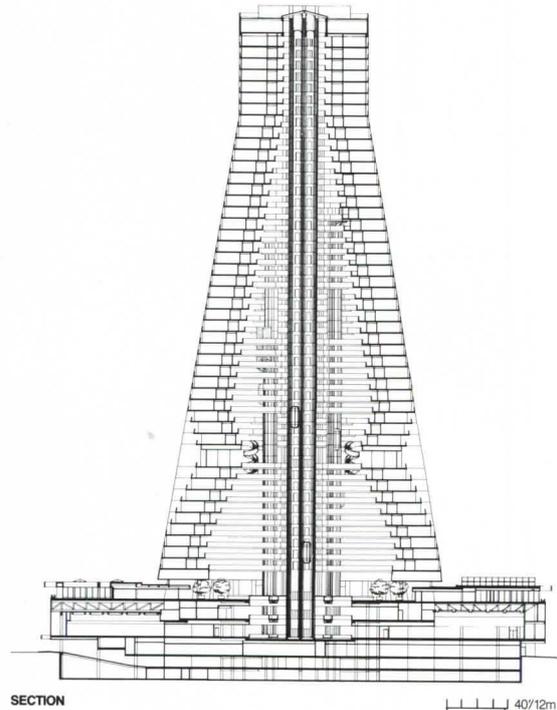
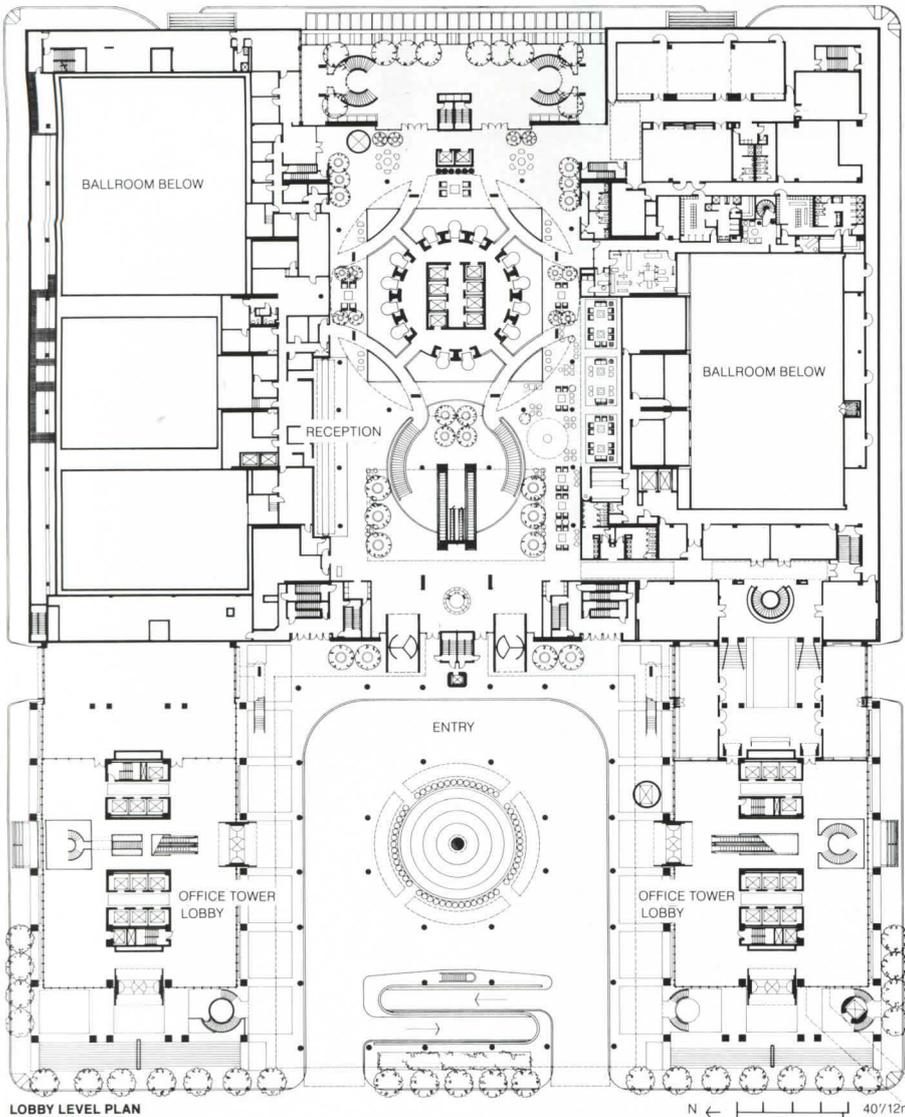
Interestingly, interviews are conducted at the consultants' offices, rather than at Marriott headquarters. Jordan says it's a good way to assess the



Photos: Timothy Hunsley

A view of the atrium in the Atlanta Marriott Marquis (left) reveals the unfolding progression of balconies in the soaring space, highlighted by a large fabric sculpture. The project began through the initiative of architect developer John Portman, who had largely completed design of the hotel before securing Marriott's commitment to manage it. Some facets of the original design changed at Marriott's urging—notably, the capacity increased from 1500 to 1800 rooms and a planned rooftop restaurant was relocated to the garden level to consolidate kitchen facilities. The completed hotel (this page) features a 50-story tower that begins at the podium base as a truncated oval in plan and gradually takes a rectangular form as it rises.





facilities and working atmosphere in the outside office. Final selection weighs heavily on how well a potential consultant runs its business and how well it has performed other jobs under similar circumstances. "How competent and responsive they are is the most important thing," Dacey says.

That responsiveness translates to a willingness to work within the constraints of Marriott's standards, which are described as everything from "rigid" to "comprehensive," depending on whom you talk to within the company. Outside architects sometimes react negatively to the guidelines, Jordan says. "They make personal decisions that are not based on a lot of research," he adds. "But the architects who work for us are banging on the door to work for us again."

Expectations Based on Experience

Marriott closely monitors the progress of its projects and measures that progress against its considerable experience. "I think we give designers the widest possible latitude," Jordan says. "We expect a good designer to be innovative in satisfying an owner's requirements." Over the years, Marriott has compiled vast amounts of data on the strength and durability of products and finishes that are specified, for example, in hotel rooms. "We know an awful lot about doors," says Dacey. Consequently, the guest room doors in a new Marriott hotel will not be a spec writer's best guess but, rather, will be doors that have proven themselves to minimize life-cycle costs.

Marriott's design guides serve as building criteria the company has developed over time through market surveys and design, construction, and

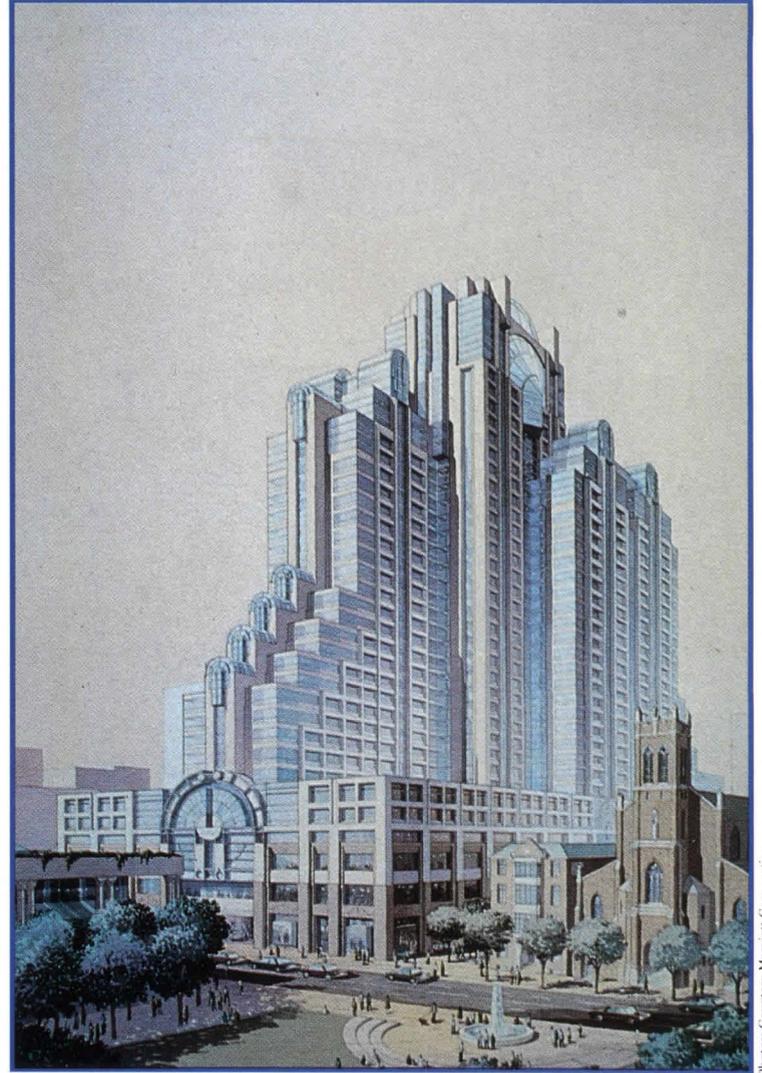
operating experience. Periodically updated as conditions change, the guides govern the design of items such as building exterior, public circulation ways, meeting rooms, guest rooms, vending areas, linen storage, and employee lockers. Lengthy sections of the guide detail the design of laundry areas, food and beverage production facilities, and building systems.

A Boom of In-House Staff

The unprecedented expansion of Marriott has prompted a parallel growth of its A&C Division, which began in the 1930s with a handful of employees under J.W. Marriott's direct supervision. Now the division employs some 1000 people, including about 180 in architecture (70 of whom are registered). Other disciplines included in the division are engineering, interior design, food and laundry facility design, accounting, construction, and information systems. An active procurement wing researches, buys, and tests the fixtures, furnishings, and equipment that eventually find their way into Marriott-owned buildings. And if products that meet Marriott standards can't be found on the market, Dacey says, then the corporation will arrange to manufacture them. Such was the case with flimsy fiberglass shower stalls that dominated the market. While impressed with the prefabricated stalls' potential to reduce installation costs, Marriott found them of unacceptable quality and so fabricated more durable stalls made to company specs.

For those who choose design careers at Marriott, there is a departure from the pattern of work typical in many offices, where an individual's attention may be focused on one to three projects at a time.

The lobby floor plan (above, left) for the Atlanta Marriott Marquis indicates the large entrance drive shared by the hotel and twin office buildings developed by Portman. Eighty-five percent of the meeting and convention activity is consolidated on the hotel convention level, located one floor below the lobby. The hotel tower section (above) shows the location of the 10th floor "skyline level," a reception floor at the atrium's narrowest point, where guest room partitions were eliminated and floor-to-ceiling height increased to improve views of the city and admit more natural light.



Photos: Courtesy Marriott Corporation

"Here an architect lives out his career on a much broader stage," Jordan says. Marriott's architects describe their role as "influencing design," as opposed to design per se. "We manage a process rather than a product," says Bill Dye, who came to Marriott seven years ago fascinated by the prospect of collaborating with architects worldwide.

"I think what attracts a number of architects, particularly young architects, is that we offer a tradeoff from being on the boards and designing," Dye says. "We offer an opportunity to manage a project, selecting and evaluating and hiring an outside consultant. We offer a good exposure to the business of architecture. We kind of step out of our design shoes and into our management shoes. And I think if we were ever to go back into private practice, we would be better prepared for the business and administrative aspects of architectural practice."

Rare Opportunities

Working at Marriott presents opportunities to have a hand in development while preserving the role of designer, says architect Leland Turner, who found land development a difficult kind of experience to gain while in private practice. While working for the corporation also offers a level of job security often hard to obtain in architectural firms, Jordan says he finds that many young designers move on quickly to other jobs in order to build a broad base of experience. "We run a hotel design school here," he quips. A corporate work ethic pervades the A&C division as well, with the office buzzing most days 7 A.M. to 7 P.M.

Tom Holmes, an A&C veteran of 18 years,

watched the division double in size in just a few years. But he says the corporation is getting better as well as bigger. The use of focus groups, for example, provides Marriott with a source of user feedback that improves its services.

Among those areas where he insists Marriott has improved is design. "Perhaps 15 to 20 years ago, you wouldn't have seen these hotels as architecture, but only as buildings," Holmes says. "I have a problem with our buildings being viewed only as sculpture and not judged according to how they function as hotels. No other company is doing hotels that work so well for us and for the needs of our guests."

With such a commitment to the Marriott way of doing things, Holmes says it is inevitable that there will be bad experiences with prima donna architects who pretend to know more about Marriott's guests than the company knows. And there have been clashes. "But I think most good designers appreciate the standards and use them to their advantage," he says.

The best case in point, Jordan says, is Kevin Roche, who recently was selected to design a new, 3-million-square-foot corporate headquarters for Marriott. Though the project is still in conceptual design stages, Roche already has adapted to the Marriott style. "Roche said it beautifully," Jordan recalls. "He said: 'Innovative design should be used to bring the building in on time and within budget.'" To the Marriott way of thinking, those words are music. *Vernon Mays* ■

The latest of Marriott's entries into the convention-based mega-hotel market, both now under construction, are the 999-room San Antonio Marriott Rivercenter (left) and 1500-room San Francisco Marriott (right). The nearly 1.3 million-square-foot San Francisco hotel, designed by Daniel Mann Johnson & Mendenhall's office in Los Angeles, is scheduled to open in late 1989. Its 840,000-square-foot counterpart in San Antonio, designed by the Baltimore office of RTKL Associates, is slated to open in November of this year. Marriott Vice-President for Business Development Russell Jordan says he expects the two projects to be among the last of the convention mega-hotels built for as many as 20 years, due to saturation of that segment of the market.

Big Blue Designs

IBM, one of the first U.S. companies to embrace Modern architecture, remains at the leading edge of design with its innovative review process and its passion for excellence.



IF there is a corporation in this country associated with supporting good design, it is IBM. From the sleek forms of its products to the impressive list of well-known architects that have designed its facilities, IBM has shown that design can be a powerful marketing tool. "We strive to be at the leading edge of our business," says William Kistler, manager of IBM's Architecture and Design Programs, "and like to reflect that in our architecture."

What helps the company stay at that leading edge of architecture is its use of an outside design advisor. In 1956, IBM hired Eliot Noyes to serve as the company's first design advisor for architecture and industrial design. "He convinced the company to adopt a modern design vocabulary," says the company's current advisor, Gerald McCue, Dean of Harvard's Graduate School of Design, "as a way of setting it apart from competitors."

McCue succeeded Noyes after his death in 1977, as IBM's architectural design advisor. "While IBM had a strong tradition of caring about excellence in everything that it did," says McCue, "I felt that new ideas were emerging in architecture that would give us an opportunity to become more adventurous without losing the integrity of the company's tradition." McCue also adds, "The strong interest in design quality under the leadership of Art Hedge, IBM's vice-president, corporate real estate and construction, has permitted us to make important advances."

Both McCue and IBM emphasize the advisory aspects of McCue's role. "He does not approve projects for IBM," says Kistler, "but he helps keep in focus the overall objectives of a project. He makes suggestions and acts as a sounding board,

and IBM makes the decision." McCue concurs. "I have an ombudsman role," says McCue, "and speak up when something isn't consistent with IBM's high standards. I give the second opinion."

McCue reviews most aspects of a project's design, from the schematic and design development drawings to interiors, furniture, and colors. Such upfront work is important, he says, to get the design going in the right direction. "It is important to get everyone to agree on objectives," says McCue, "to get a design going in an acceptable direction."

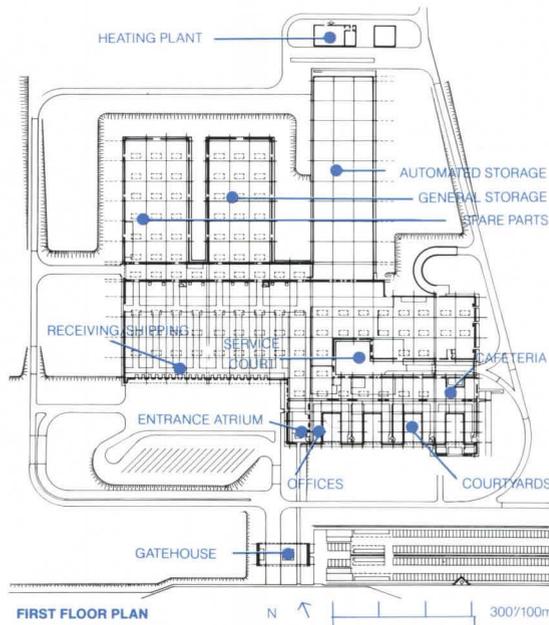
Corporate Life

The contact point for McCue is a design team—half of whom are architects—on IBM's corporate real estate and construction staff. Kistler says, "This group has worldwide responsibilities for architecture and interior design. They are part of a corporate real estate staff that controls all of IBM's real estate activities." Much of the facilities and construction management is handled by the company's various operating units. The corporate staff, says Kistler, does "practically no" architecture or interior design work themselves, and instead commissions outside firms for most new work.

IBM's architects derive professional satisfaction in other ways. "The most gratifying part of the job," says Kistler, "involves interpreting business needs, turning them into concrete programs and objectives, and working with the profession to transform them into a quality building. I enjoy participating in watershed decisions that lead to a good building—budget, program, architect selection. Working in a corporation gives one the opportunity to affect the final outcome at that early stage."



Photos: Gabriele Basilico



Drawing: Garry Harley

The IBM Distribution Center in Basiano, Italy, by Gino Valle shows the high level of design quality in even the most utilitarian of IBM's facilities. The building, an automated warehouse for IBM products, is large (366,000 square feet) but visually unified by the striped aluminum cladding that forms a continuous surface out of which major openings are cut (left). The two-story, recessed entrance (facing page) separates the truck docks and the office wings, which face courtyards defined by two-story portals on the façade. The office wings back up to a mid-level zone that contains a cafeteria and lounges. The warehouse itself has a front receiving area, a middle distribution zone, and three perpendicular rear wings that contain spare parts storage, general storage, and a 78-foot-high automated storage area. The heating plant (above) is located at the rear of that wing. Gino Valle has just completed an addition to the facility, which was designed to expand in an east and west direction.



Ron Rizzo/Creative Sources/Atlanta



Fernando Javier Urquijo



Timothy Hursey

Selecting Firms

When assembling a list of firms to interview, IBM's corporate staffers draw from their first-hand knowledge of trends in the profession and the strengths of various firms in the field. "We also consider the location of a firm," says Kistler, "whether it's busy or not, and whether it has done projects of similar size and scope." McCue also suggests firms for the IBM list. "I point out the very best designers to the company," says McCue. "There is a tendency among some people to think that they can manage great work out of ordinary designers, but it can't be done."

The company interviews three or four firms for every job. What IBM mainly looks for in a firm is "insight," says Kistler. "We try to be reasonably specific in defining what we are looking for in a project, but we respect architects who can show us things we hadn't thought of and demonstrate that they have investigated all options and have found the very best solution."

Previous experience with a particular building type also is important, particularly if the project is technical in nature. "We don't want to be teaching a firm how to do a laboratory," says Kistler.

Once selected, a firm is presented with a set of guidelines that, says Sanford Nelson of Cooper Carry & Associates, "are fairly daunting at first." But IBM's people defend the guidelines as the accumulated wisdom from having done a lot of building. The guidelines, says Kistler, "are not terribly confining except in a few areas." And he adds that "there is a caveat at the end that states if a better way of doing something can be shown, IBM welcomes the deviation."

Joint Ventures

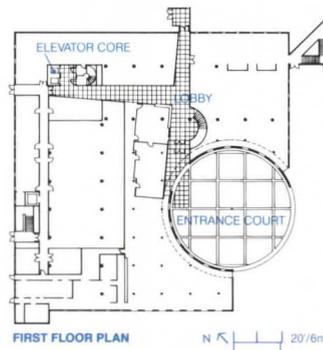
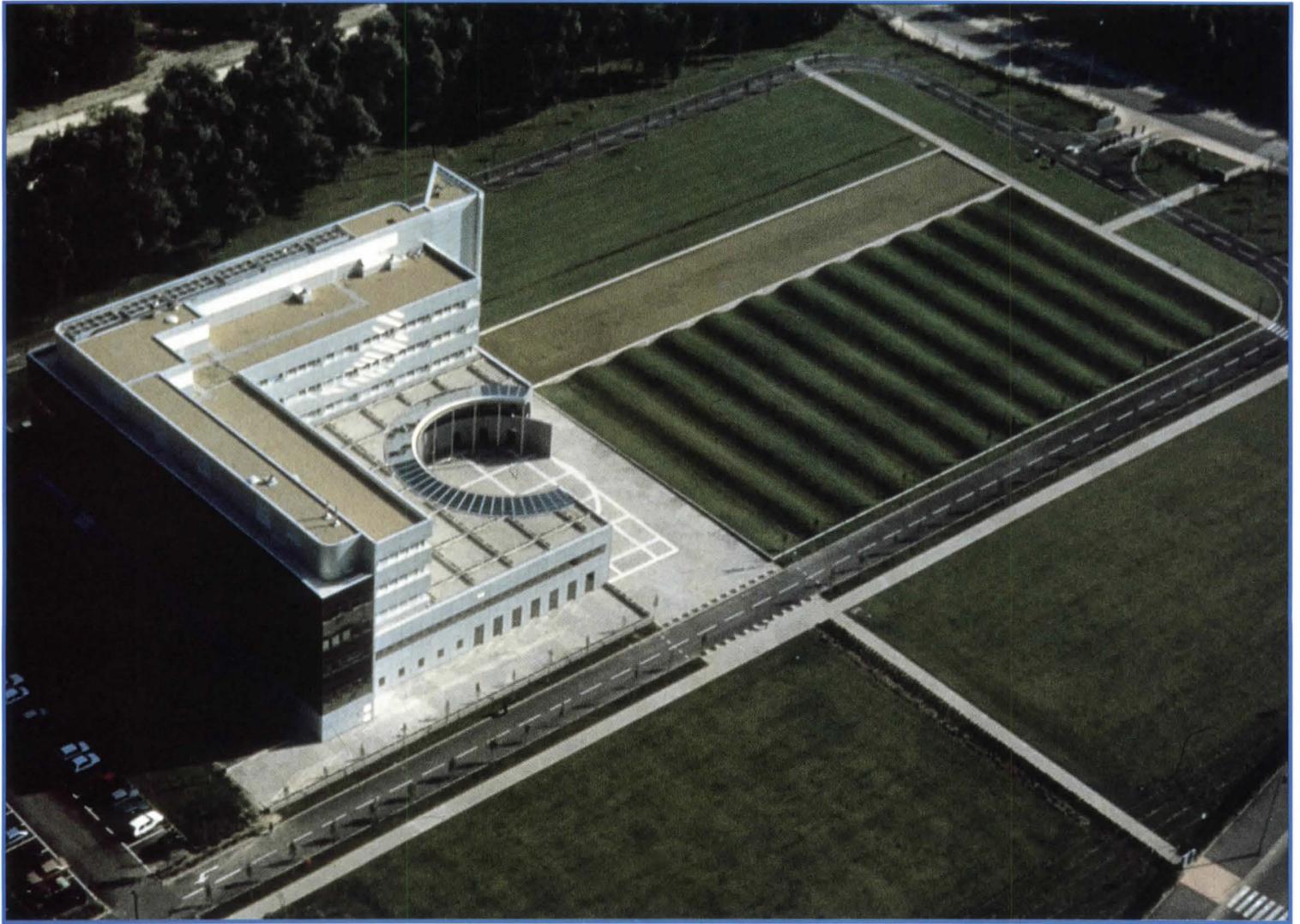
The selection and review process is slightly different for IBM's joint-venture projects, in which the company typically participates as both anchor tenant and partner with a major developer. In drawing up a list of firms to interview, for example, "the name architects have a slight advantage," says Kistler, "since name recognition helps in leasing and future marketing. In our own projects, we try not to always gravitate to the already well-established firms, but in the joint ventures, we have to balance our own needs with those of our partners and of the marketplace."

The level of design review also is somewhat abbreviated. "I don't spend as much time on the joint-venture projects or go into as much detail," says McCue, "because both IBM and its partner are working together to guide the architect's design." A primary reason that IBM enters into joint-venture partnerships as opposed to direct lease situations, says Kistler, "is that it allows us to retain a substantial role in the design decision-making process."

The emphasis on design quality emerges in all discussions with IBM people as well as with architects who have done company facilities. "We try to do what's right for the business," says Kistler, "while at the same time making the right design decision. We don't have one image, one aesthetic that we push on architects. If IBM has a single style, it is simply excellence."

Tom Fisher, James Murphy

IBM, once a strong proponent of Modern architecture, has become more open in the style of work that it commissions. One example of that is Atlantic Center, in Atlanta (above left), which was a joint venture between IBM and Prentiss Properties. Designed by John Burgee Architects with Philip Johnson in association with Heery Architects & Engineers, the tower's Gothic detail is a far cry from the company's former Modernist image but very much in keeping with IBM's interest in leading-edge design by some of the country's leading architects. 2300 Windy Ridge, a joint venture between IBM and Cousins Properties, also in Atlanta (top), was designed by Cooper Carry & Associates. What distinguishes the design is the semicircular entry court that is lined with shops and that separates the parking garage from the Modern office block. IBM joined this project after schematics were done. Gino Valle designed a Rationalist headquarters for IBM in Europe (above), which is located in the Défense section of Paris. The entry is defined by a low arch and flanked by a shallow curve in the façade that responds to a circular wing off the back that contains common spaces.



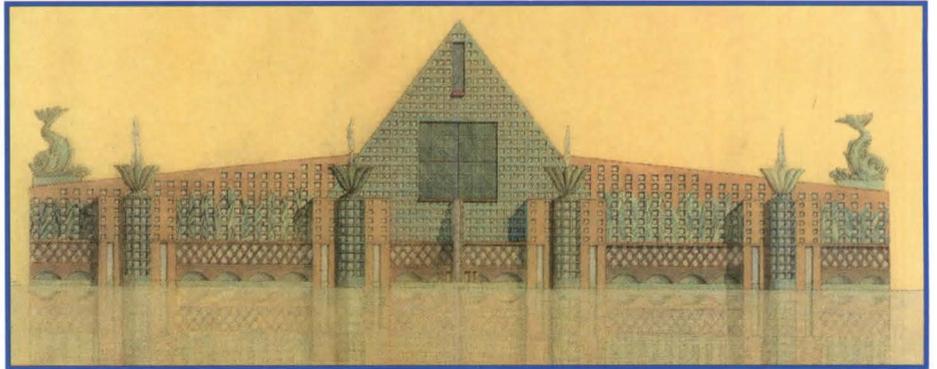
Drawing: Ehan Gerard

IBM's office in Bordeaux, France, was designed by Jean Pierre Buffi. The approach to the building skirts an undulating lawn (above). The entry to the building is through a circular space clad in stone and cut out of the base; a curved cornice and slender columns form a colonnade around that space (below left). The nearly square base contains common facilities and a broad lobby and corridor that makes the transition from the entry court to the elevators at the opposite corner of the building. The L-shaped office block has recessed glazing and horizontal exterior louvers facing south. The north-facing walls have flush glazing (above left).



Photos courtesy of IBM

Mickey the Talent Scout



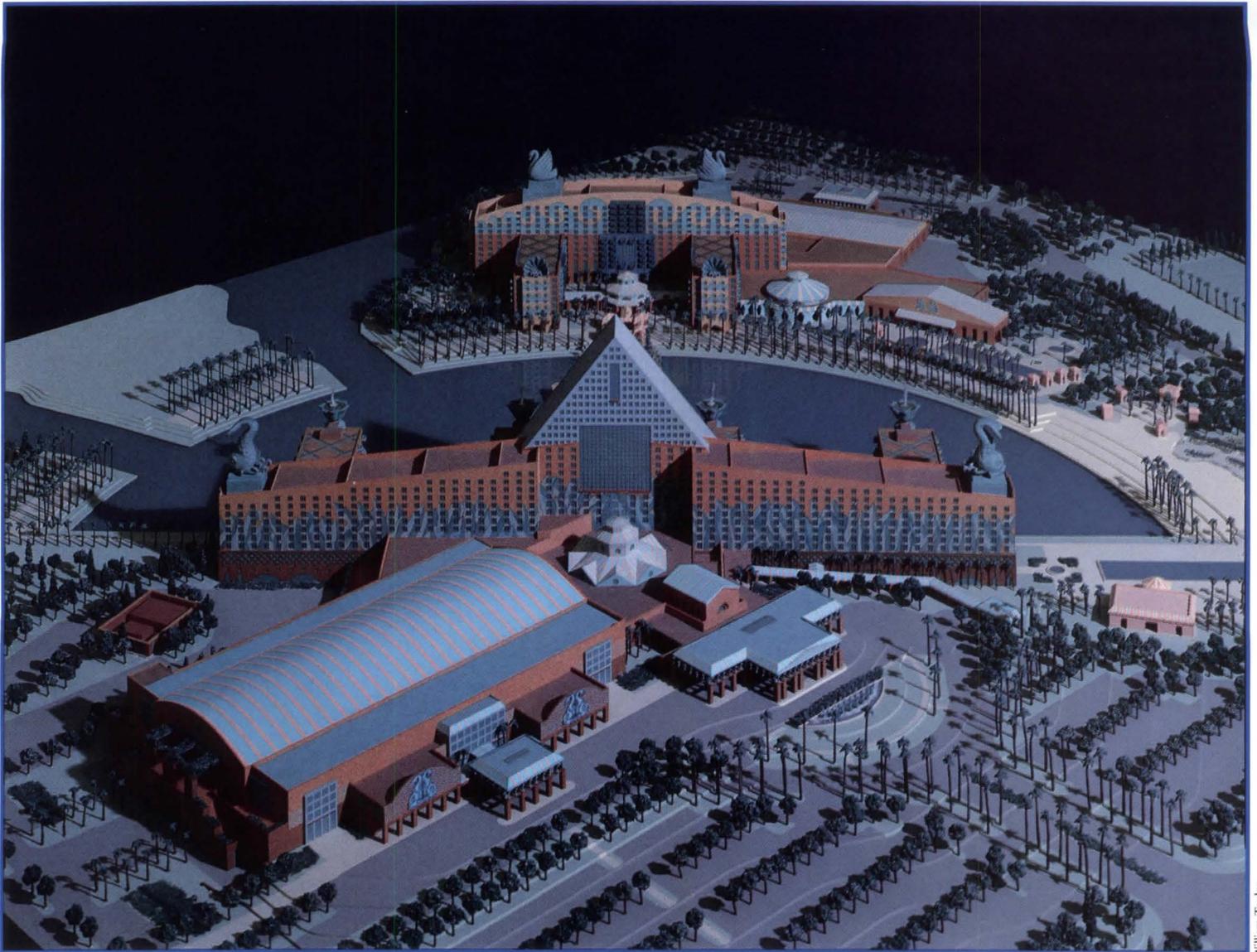
The real-estate branch of Disney's entertainment empire is recruiting high-design architects to create cost-effective buildings around Disney's booming theme parks.

IN just four years, the Walt Disney Company has changed from a Hollywood has-been to the hottest movie studio in the country—hot enough to land its animated icon, Mickey Mouse, and its CEO and chairman, Michael D. Eisner, on the cover of *Time*. Motion picture, television, theme park, and merchandising operations have all contributed to the success of Disney's \$3 billion entertainment empire; now the mouse that roars wants to make it big in real estate. Disney Development Company, a wholly owned subsidiary of WDC, was formed three years ago with the express purpose of making more profitable the land that Disney owns around its theme parks. That's a lot of land: 28,000 acres (of which only 4500 have been developed) in Orlando, Florida, home of Walt Disney World and Epcot Center; and just under 5000 acres in France, where the \$2 billion Euro Disneyland will open in 1992. In the next two years, DDC will have \$400 million of construction in the works, for which it is energetically enlisting a star-studded roster of guest architects, much as the parent company assembles the talent for its movies. Michael Graves, Robert A.M. Stern, Arata Isozaki, Frank Gehry, Andres Duany and Elizabeth Plater-Zyberk, Venturi, Rauch & Scott Brown, and Gwathmey Siegel are some of the names in this glittering cast.

The first of these projects to be unveiled, however, is one for which Disney is not the actual client. The \$375 million Walt Disney World Dolphin and Swan hotels (P/A, March 1988, pp. 37–38) were developed and financed by a joint venture team that includes Metropolitan Life Insurance Co., Tishman Realty & Construction Co., and Aoki Corp., with Tishman as managing partner. The

two convention hotels, which will be located next to Epcot Center and which, when they open over the next two years, will have a total of 2300 rooms, were designed by Michael Graves Architect, Princeton, New Jersey, with Alan Lapidus Architect, New York, responsible for design development and working drawings. The development/financing team, which, as the client, is actively involved in the design process, leased the land from the Walt Disney Company under Disney's direction, and Disney Development was responsible for the master planning, as well as for bringing the Graves office into the deal and negotiating its fees.

If this sounds complicated, it is. To make a long story short, this project, while atypical of Disney's development efforts, exemplifies its corporate philosophy of "entertainment architecture." The phrase, coined by DDC president Peter S. Rummell, characterizes Disney's belief that the architecture outside the boundaries of Disney's theme parks should embody the same fantasy and sense of place as that within. The theme parks themselves are designed and built by Walt Disney Imagineering, another WDC subsidiary (with outside architects for technical backup). The 80-person Disney Development group, however, does no in-house design; the dozen or so architects it does employ serve as project managers working with outside designers. The aforementioned list of major architects is Disney's intended key to creating a corporate and commercial development kingdom—of hotels, resorts, shopping centers, and office buildings—with as much magic as that of the theme parks. As Michael Eisner succinctly puts it, "I don't want to drive by a bad building every day."



William Taylor

But how does Disney go about getting good buildings—and good architects? The research process seems to be an informal one, with executives from both DDC and WDC, including Eisner, doing a lot of reading, looking, and asking around. “Who’s doing good work?” is a question they often ask, although chances are that they already know. “I gave them the names of several young architects,” recalls Michael Graves, “and they [Disney] had talked to all of them. They’re amazing.”

Once an architect begins to work with Disney on a project and is given the program, initial meetings stress creativity and brainstorming. According to Wing T. Chao, the architect/planner who is DDC’s vice president in charge of master planning and architecture, Disney encourages designers to “show us everything; nothing is too wild or crazy to look at.” Some of the wildest ideas have reportedly come from Eisner himself, who sees his role as that of “cheerleader and challenger.” For a CEO, Eisner maintains an extraordinary degree of involvement in every step of the design process. He hastens to add that he doesn’t want to be an impediment; rather, he aims to protect the architect by “not allowing the process to take over” from the design concept.

Working with the company, however, is not always a day at Disneyland. DDC may be committed to quality architecture, but it is also committed to budgets and schedules, both of which can run tight. In the movie business, Disney’s skinflint reputation is legendary; architects may find the company equally tough. Michael Eisner believes that quality “is not always related to cost per square foot; imagination is the key.” Easier said than done, perhaps.

Disney spends millions to build the theme park attractions for which it is renowned, but can justify the investment because the attractions generate big returns. Outside the theme parks, however, the economics change. As Peter Rummell explains, “You lose the protection of the gate [admissions],” so DDC’s architects don’t have the luxury of the Imagineers’ budgets. “Our hotel has to compete with the Hyatt down the street,” Rummell adds. This makes DDC extremely hard-nosed when negotiating contracts and fees, but the company admires architects who can stand the heat. “I don’t know whether we’re a lot of fun to work with,” muses Rummell. “But we respect people who have the guts and sophistication to defend their ideas, who don’t change to please the client.”

This no-nonsense attitude also characterizes the client group at Tishman for the Dolphin and Swan hotels. Tishman, which built Epcot Center and the Hilton hotel at Disney World, confers frequently with Graves, Lapidus, and DDC to ensure that its schedule and budget goals are met. Thomas Marchisotto, an architect who is a vice president at Tishman Construction, notes that planning and budget considerations have been a top priority from the outset.

Disney is moving on to other projects, including an office building and hotels for the Stern office, and another Graves design, for its own corporate headquarters in Burbank. But will it be able to produce the magic of Disney in today’s competitive real estate market? Will entertainment architecture be good architecture? Stay tuned.

Pilar Viladas

When they are both open in 1990, the Walt Disney World Dolphin and Swan hotels, designed by Michael Graves, will form the largest convention/resort hotel complex in the Southeast. The 26-story, 1510-room Dolphin (above, foreground, and facing page, Crescent Lake façade) will be operated by The Sheraton Corporation. An octagonal rotunda lobby serves as a circulation hinge between the hotel lobby and that of the 165,000-square-foot, barrel-vaulted convention center (left foreground). The hotel, with its commanding central pyramid, is painted in shades of blue-green and coral, with a pattern of banana leaves, and adorned at each end with a 55-foot-high dolphin. Four nine-story guest-room wings project out into the man-made Crescent Lake; each wing is topped by a verandah with a lighted fountain.

Connected to the Dolphin by a pedestrian bridge across the lake, the 12-story, 760-room Swan (background) will be operated by Westin Hotels and Resorts. The building is topped by a pair of 47-foot-tall swans, and its exterior is painted with a pattern of waves. The two hotels will share a “themed” grotto pool, eight tennis courts, and a 150-foot-long beach.



SITE PLAN N ↑ 400'/120

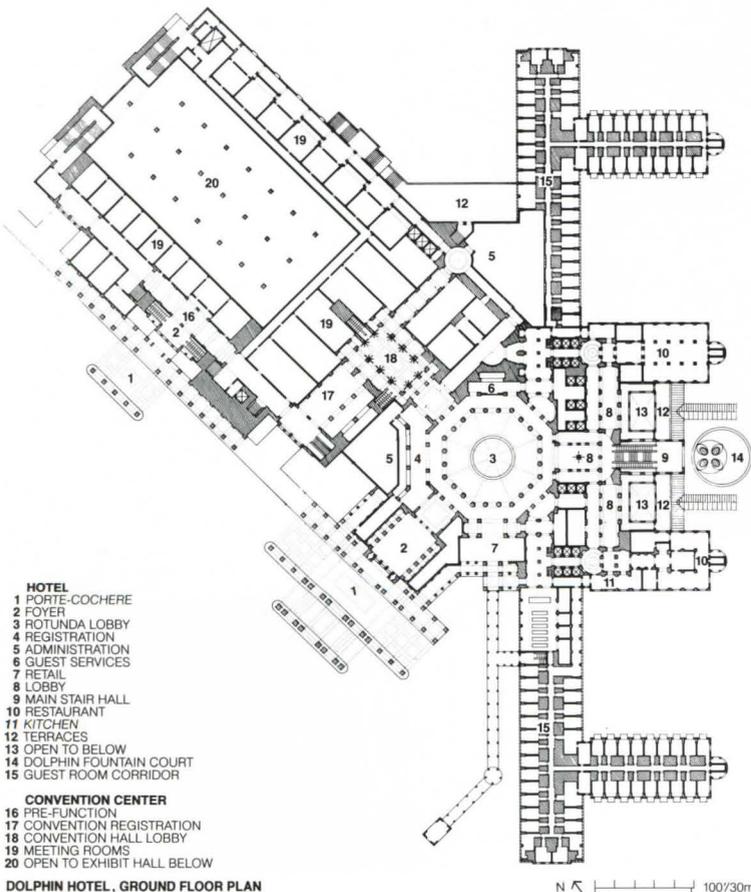
The Dolphin and Swan hotels will be located on a 150-acre site just to the west of Epcot Center's World Showcase (to which they will be connected by waterways), and to the north of the Disney/MGM Studios, which will open in 1989.

The Dolphin is the largest structure on Walt Disney World's 28,000 acres, and to accommodate so many guest rooms, there was no way to avoid making the building big. It had been a Disney rule that no building outside the theme parks should be visible from inside them; out of necessity, the Dolphin is the first to break that rule, and Michael Graves's pyramid design (a "mock mountain") is dramatic enough to turn bigness into theatricality.

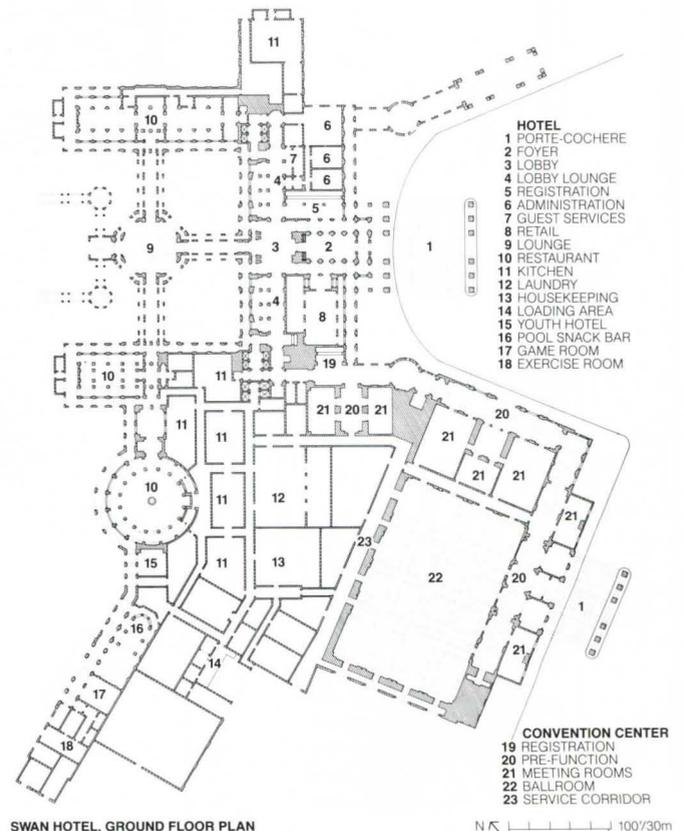
Although the Dolphin and Swan will exemplify state-of-the-art convention/resort hotel design, they also contain an impressive amount of fantasy, supplied by Michael Graves and his office, who worked with hotel designers Trisha Wilson & Associates. The Dolphin (facing page, 1, view across causeway from Swan) has a cascading fountain that ends in a clamshell pool supported by four dolphins. The Dolphin Fountain Court is lined with the hotel's seven restaurants. Its barrel-vaulted foyer (2) leads to the three-

story-high, octagonal rotunda lobby, with lattice columns and walls, and a tented fabric ceiling. The Coconuts Lounge (3), a cocktail lounge/brasserie, features thematic cutouts of palms and large pieces of fruit: the watermelon and cantaloupe are drink rails; the bananas are the bar; and the pineapple is the d.j.'s booth. The Dolphin's Coral Cafe (4), with its wave-stencil murals and coral-patterned carpet, features large cutouts of "caricature" fish, including dogfish, catfish, tilefish, and of course, mousefish. The ballroom (5), on the second floor of the convention center, is adorned with large-scale flower murals above a "paneled" wall base.

Whimsy is no less prevalent at the Swan (6). Its lobby (7), a tall space with a tented fabric ceiling, is punctuated by columns of gathered "papyrus reeds" with palm-frond capitals. The guest room corridors (8) are designed to break up the usual endless expanses of wall with a painted beach scene of sand and palm trees; guest room doors are painted to look like cabanas. In the Swan's grand ballroom (9), shuttered "windows" above a "paneled" base open onto a mural depicting views of a tropical landscape.



DOLPHIN HOTEL, GROUND FLOOR PLAN N ↙ 100'/30m



SWAN HOTEL, GROUND FLOOR PLAN N ↙ 100'/30m

- HOTEL**
- 1 PORTE-COCHERE
 - 2 FOYER
 - 3 ROTUNDA LOBBY
 - 4 REGISTRATION
 - 5 ADMINISTRATION
 - 6 GUEST SERVICES
 - 7 RETAIL
 - 8 LOBBY
 - 9 MAIN STAIR HALL
 - 10 RESTAURANT
 - 11 KITCHEN
 - 12 TERRACES
 - 13 OPEN TO BELOW
 - 14 DOLPHIN FOUNTAIN COURT
 - 15 GUEST ROOM CORRIDOR
- CONVENTION CENTER**
- 16 PRE-FUNCTION
 - 17 CONVENTION REGISTRATION
 - 18 CONVENTION HALL LOBBY
 - 19 MEETING ROOMS
 - 20 OPEN TO EXHIBIT HALL BELOW

- HOTEL**
- 1 PORTE-COCHERE
 - 2 FOYER
 - 3 LOBBY
 - 4 LOBBY LOUNGE
 - 5 REGISTRATION
 - 6 ADMINISTRATION
 - 7 GUEST SERVICES
 - 8 RETAIL
 - 9 LOUNGE
 - 10 RESTAURANT
 - 11 KITCHEN
 - 12 LAUNDRY
 - 13 HOUSEKEEPING
 - 14 LOADING AREA
 - 15 YOUTH HOTEL
 - 16 POOL SNACK BAR
 - 17 GAME ROOM
 - 18 EXERCISE ROOM

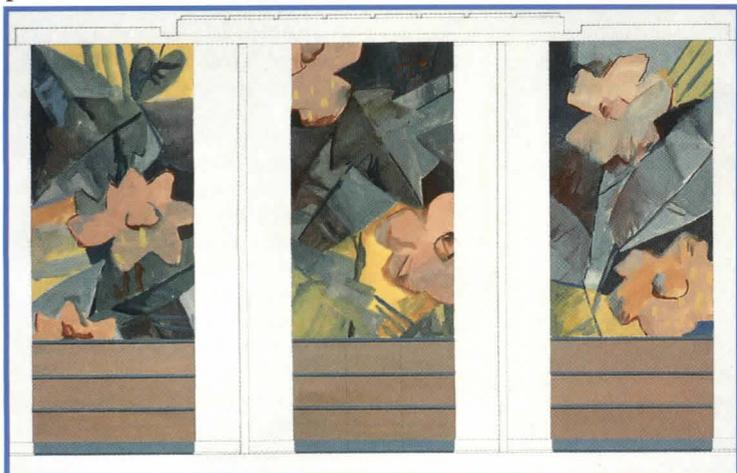
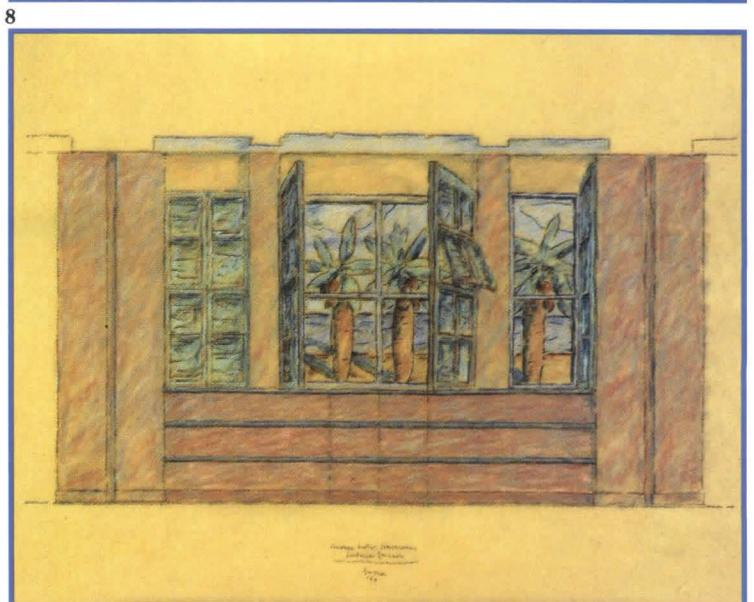
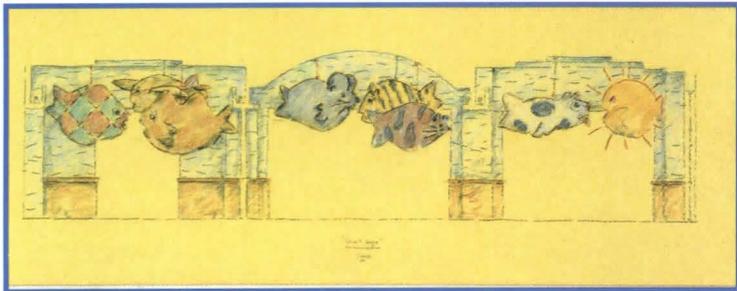
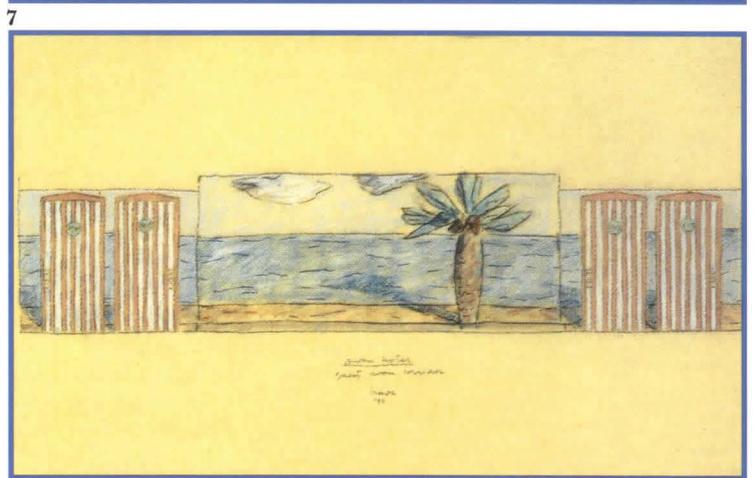
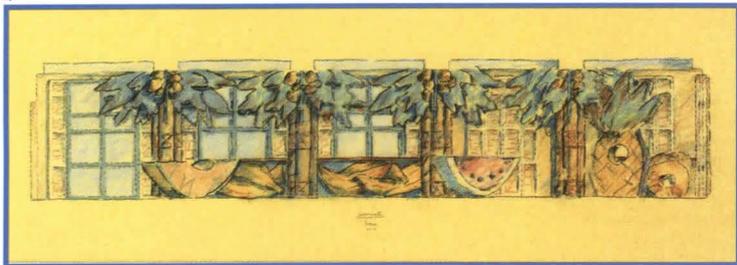
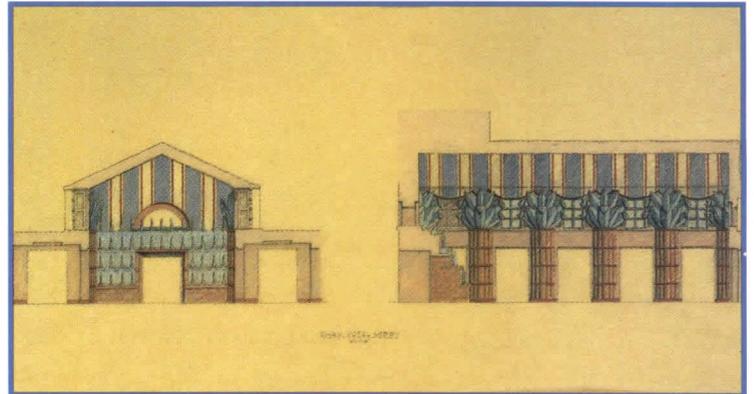
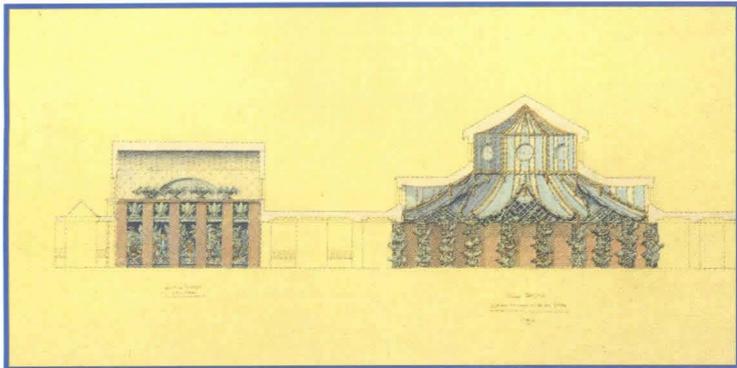
- CONVENTION CENTER**
- 19 REGISTRATION
 - 20 PRE-FUNCTION
 - 21 MEETING ROOMS
 - 22 BALLROOM
 - 23 SERVICE CORRIDOR



William Taylor



William Taylor





P/A Inquiry Inside the Hotel Guest Room

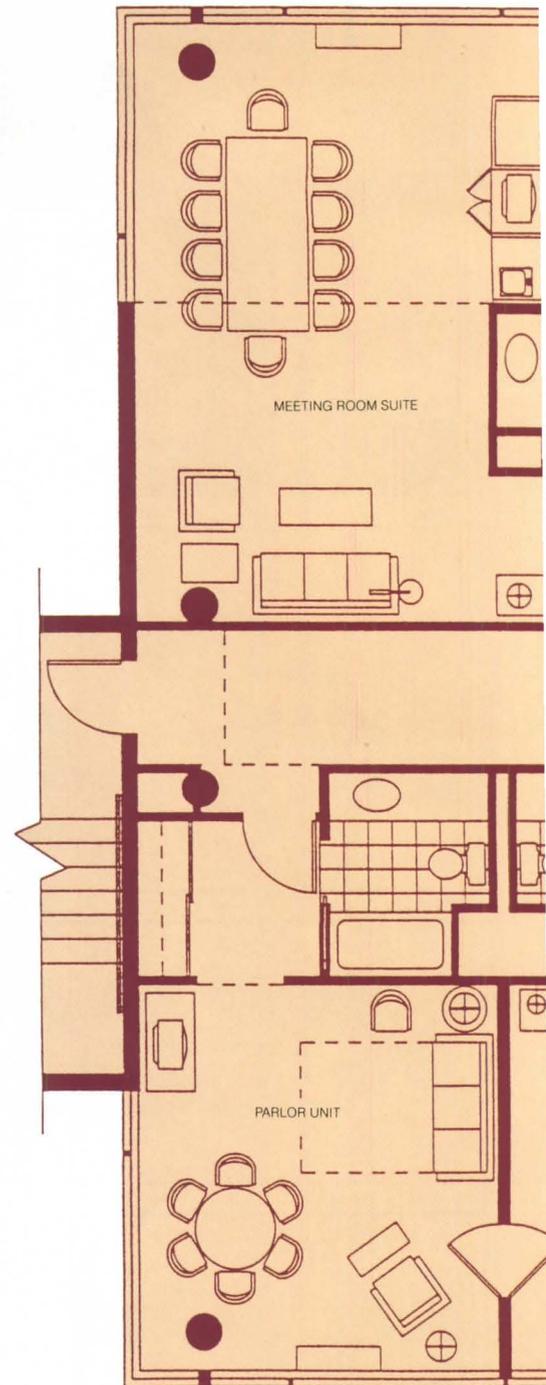
The competitive scramble to win a piece of the lodging market results in hotel rooms that are varied to fit particular types of guests.

AS the hotel industry begins paying more attention to variations in the profile of overnight guests, so the notion of good guest room design becomes more complex—and more pluralistic. Presented with the old saw, “You are what you eat,” today’s hotel designers would likely draw on prevailing wisdom in the industry and counter with a maxim of their own: “You are where you sleep.”

Close scrutiny of hotel guest demographics, combined with saturation of the convention-based mega-hotel market, has prompted hoteliers to reevaluate their expansion plans and look for ways to lure a diverse group of travelers that includes professional organizations, vacationing families, free-spending singles, and traveling business people. The result is increased fragmentation of the fiercely competitive lodging industry, which runs the gamut from the plush Waldorf-Astoria to McSleep Inn, the latest entry in the super-budget category. Most of the major hotel chains have introduced new lodging types each designed to appeal to a different consumer, identified either by income, lifestyle, or some combination of the two.

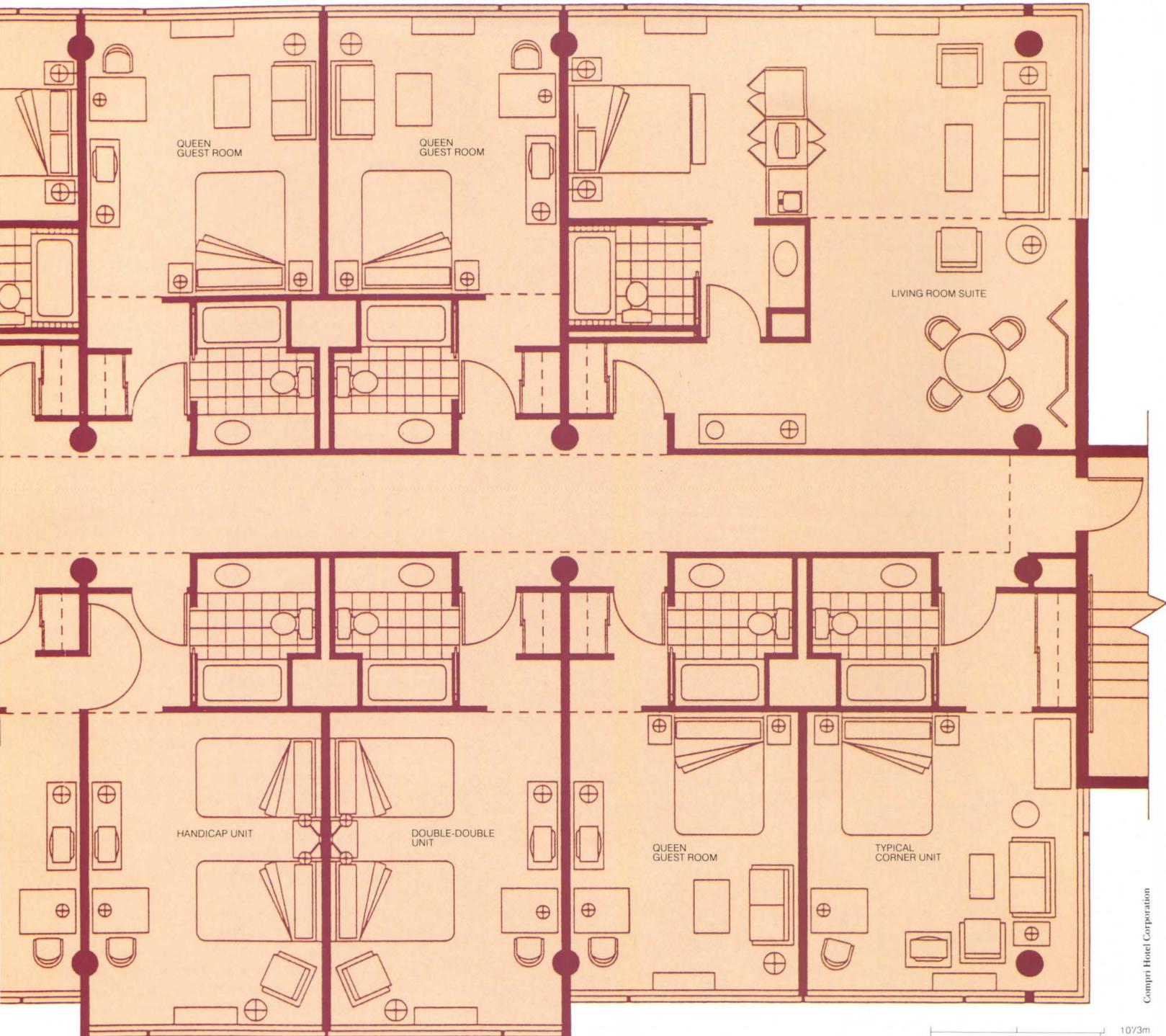
The All-Suites Concept

Hence the rapid introduction of the all-suites hotel, which made its first appearance in the early 1980s when Holiday Corporation introduced Embassy Suites. Several factors led to the proliferation of hotel suites, defined generally as rooms that include separate spaces for sleeping and entertaining (or working), often incorporating a kitchen. The tremendous influx of women into business was one incentive. “Women, especially, are sensitive to having the bed staring everybody in the face when



GUEST ROOM PROTOTYPE FURNISHING PLAN

While not indicative of the typical guest room floor, this prototype plan for the placement of fixtures, furnishings, and equipment in Compro Hotels illustrates how a variety of room types are accommodated within a regular structural grid. Bathrooms typically are consolidated to minimize plumbing costs. Recessed room doors give a sense of private entry and add variety to the corridor, which may be up to 20 rooms long. Connecting units and suites are located on the building corners, while guest room units are extended lengthwise to provide the additional space needed for two



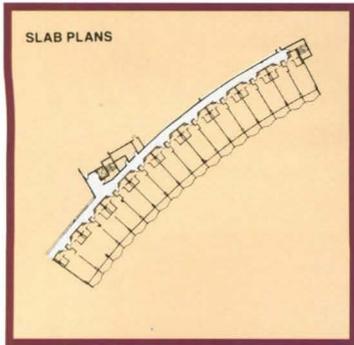
Comptel Hotel Corporation

double beds. The fact that guest room floors represent between 65 and 85 percent of the total hotel area guarantees they will be closely analyzed for wasted space or poor layout. The room plans illustrated here are typical in their creation of discrete zones for sleeping, working, bathing, and relaxing. Often because a room is occupied by more than one person, this separation of activity zones helps to reduce conflicts between occupants and allows more than one activity to occur at a time. The conventional double-double room in a hotel with interior corridors places the bathroom and

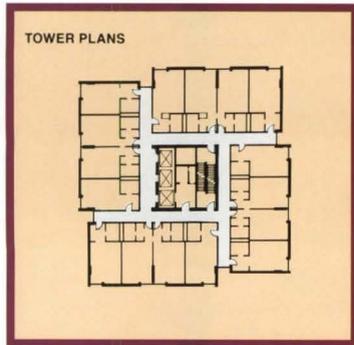
dressing areas near the entry, the beds in the center of the room, and seating and work tables beside the window for better light and views. Variations in room layouts are achieved by combining or separating these zones in new ways. Compartmentalized bathrooms, for example, are created by isolating the bathtub and toilet from the sink and dressing area.

10/3m

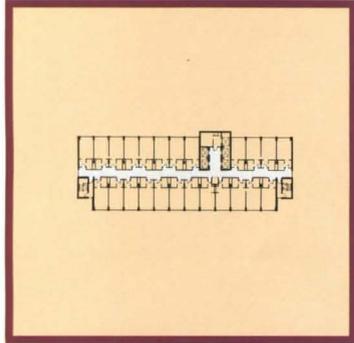
P/A Inquiry
The Hotel Guest Room



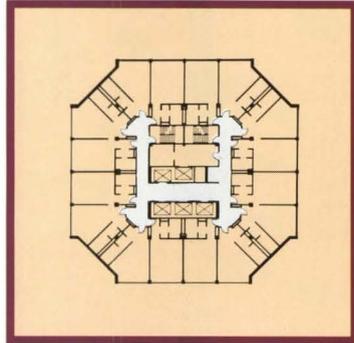
1 ALAMEDA PLAZA—KANSAS CITY, MO.



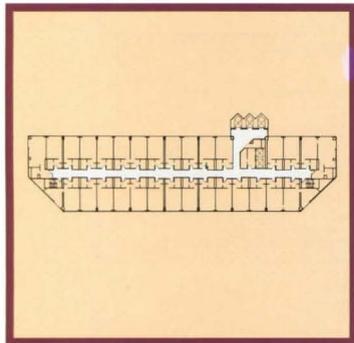
6 BERKSHIRE COMMON—PITTSFIELD, MA.



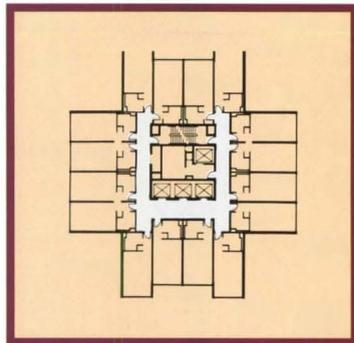
2 SHERATON HARTFORD—HARTFORD, CT.



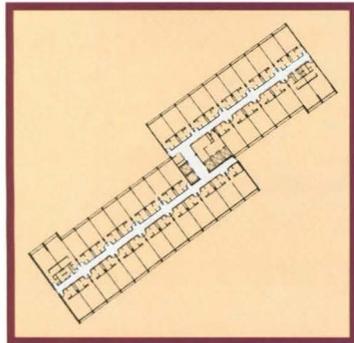
7 NOBLE INN—TAMPA, FL.



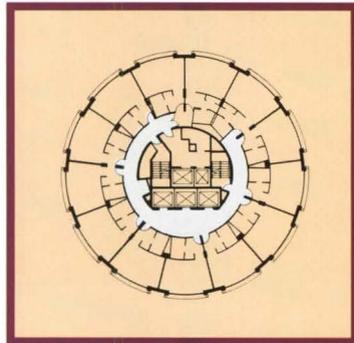
3 HYATT REGENCY—FLINT, MI.



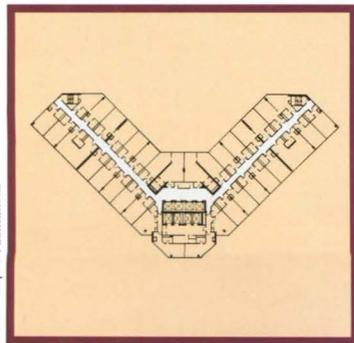
8 HOLIDAY INN—ONTARIO, CANADA



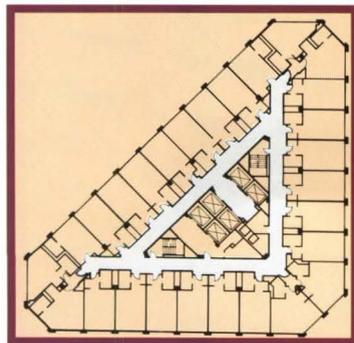
4 WESTIN—TULSA, OK.



9 WESTIN—SEATTLE, WA.



5 BOSTON MARRIOTT/COPLEY PLACE—BOSTON, MA.



10 NEW OTANI—LOS ANGELES, CA.

100/30m

40/12m



they are sitting down for a business meeting,” says Hank Brennan, a partner at Brennan Beer Gorman Architects, of New York. The firm designed the prototype for Sheraton Suites, working first with ideas gleaned from financial analyses and customer surveys, then with results from critiques of full-scale mockups.

Sheraton opted to go with suites composed of side-by-side rooms. The original model followed by Embassy Suites was an in-line suite—resembling a “shotgun house” in concept—that was developed by Walter Rutes, a former design director or vice-president at such hotels as Sheraton, Ramada, Inter-Continental, and Holiday Inns, and author of the 1985 book, *Hotel Planning and Design*. “It took us a long time to figure it out,” Rutes says. “But we finally discovered we could give customers a lot more in two rooms than we could in one.” Rutes, now chairman of 9 Tek Ltd. Development Corporation in Scottsdale, Arizona, has seen his thoughts on suites evolve. After proposing the in-line suite, he developed a side-by-side suite arrangement, which is less efficient than the in-line model (by adding more corridor and more perimeter to the building, for example) but adds more privacy to the suite. Because much of the cost of hotel rooms lies in the HVAC systems and bathrooms, particularly in tilework and plumbing, building a bedroom suite typically costs only 10–15 percent more than conventional rooms. Rates for suites average 20–25 percent more than for conventional rooms, offering an attractive profit potential.

As side-by-side suites fast become the standard, Rutes already is touting ideas for a third variation: the bi-level suite. “It’s cost efficient, more impressive spatially, and more economical to build,” he says. By offering suites with the living and sleeping areas on separate floors, hotels will be giving consumers accommodations that don’t look like hotels, which is one of Rutes’s formulas for success. He is introducing bi-level suites on the top level of a hotel now in the works in Orlando, but says he believes an entire hotel done with bi-level suites would be both marketable and extremely efficient.

But developing new niches in the lodging industry, even slight variations on proven themes, is something industry giants approach with care. Exhaustive feasibility and marketing studies are commissioned often before the first thoughts are given to design.

Experimental Mock-Ups

The most common tool used to test new ideas is the full-scale room mock-up. Two mock-ups built for the development of Sheraton Suites were used to sample the opinions of subjects who were asked to rate the rooms on such areas as dimensions, finishes, colors, and psychological comfort. Similar mock-ups, while not tested so rigorously, are used routinely by hotels whenever new interior designs are introduced. “It’s a living specification,” says interior designer Howard Hirsch of Hirsch/Bedner

and Associates, of Santa Monica, California. Mock-ups are built to evaluate the qualities a finished room will have. Visual cues might demand that the dresser height be raised slightly or the mirror made smaller. "Plus if you can change a detail that makes it easy for the tradesman to do his job—if you can cut a half-hour of labor for each room—that begins to add up real quick," says Steven R. Schnoor, director of design for Westin Hotels and Resorts.

Refinements continue even after the hotel is built and in operation. Ever wonder if anyone takes seriously those customer response cards left conspicuously on the nightstand? Believe it, they do. Sometimes comment cards, in fact, are used to assess users' reactions to new amenities. "A lot of these things—say, hair dryers—we will include in the room and see if people comment on them being there," says Richard Emrick, vice-president for new construction of Quality International.

In addition to reviewing guest's reactions, the Marriott Corporation employs a formalized internal feedback system. After a Marriott hotel has been in operation six months, the hotel's executive staff and regional managers meet with the designers and contractors to discuss the building's performance. Further information regarding acceptability, durability, and utility of materials, systems, finishes, and construction means and methods is fed back to the corporation's Architecture and Construction Division, which uses such data to update its hotel design guides. Marriott design, procurement, and construction staff also works directly with manufacturers to improve products or develop new ones to fit Marriott's needs.

Listening to Guests

One issue that creeps up in conversation with hotel design chiefs is "perception of quality," something that user feedback systems help to gauge. User feedback helps hoteliers decide where in the room their money is best spent. "We're trying to create the feeling of an executive hotel without the cost of that," Brennan says. Guest responses have prompted a general upgrading of hotel rooms, particularly in the higher-end hotels that cater to discriminating guests and in resorts, where hotel corporations are investing heavily. In those properties, ceramic tiles are taking the place of vinyl tiles. Bathrooms are getting larger, often featuring longer vanities. And, in deference to the large number of guests who work during some portion of the day in their room, work space is getting a second look, featuring larger tables, better chairs, and lighting that can be adjusted for the task. "People want more," Hirsch says. "They want to travel in a style to which they would like to be accustomed, even if it's one to which they are not."

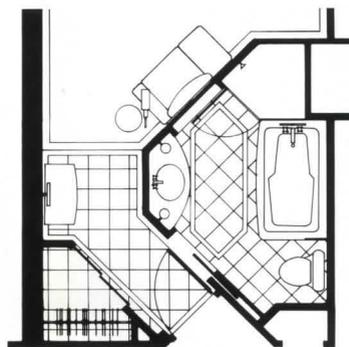
So when it comes to hotel design, the guest room is king. "The architecture of the lobby may grab their initial interest, but it's the guest room that keeps them coming back," says Rutes. Yet, the economics of hotel construction often supersede innovation in the design of individual rooms, says



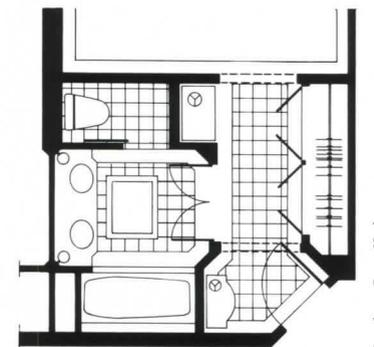
Brennan Beer Gorman Architects



Quality Suites



13 PROPOSED PLAN



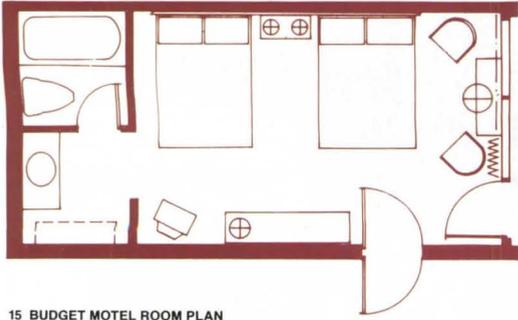
14 RESOLVED PLAN 107/3m

Drawings: Garry Hanley

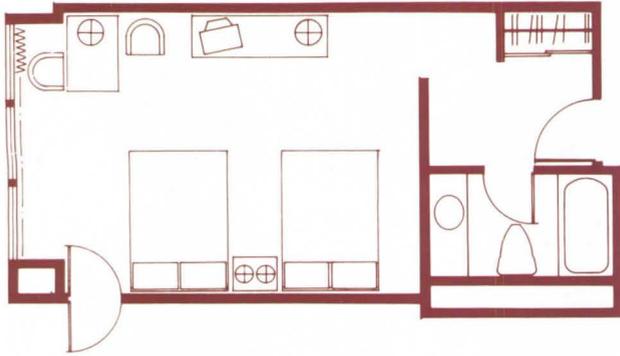
Prior to design of individual hotel rooms, alternative guest room floor schemes are studied. Single-loaded corridor plans (1) are rare because of the amount of corridor required per room. Double-loaded plans may embed the elevator core in the slab (2), or separate the core from the main structure (3). Slab plans can be made more efficient by offsetting the corridor (4), which reduces building perimeter and combines guest and service cores. The L-shaped slab (5) maintains guest rooms along the entire building perimeter. Tower plans (6–10) require a compromise between the de-

sirable number of rooms per floor and the core and corridor space required to serve them. Once designers turn their attention to individual guest rooms, they often rely on full-scale mock-ups (11) to evaluate dimensions and specifications. Today furnishings are being specified to make hotel rooms resemble homes (12). One effort to open the room spatially began with this proposal (13) by Hirsch/Bedner & Associates and led to a compromise scheme (14) that satisfied both the investor, who liked the angled entry, and the operator, who preferred rectilinear walls in the room.

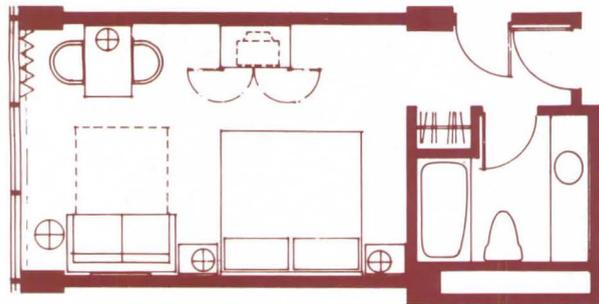
P/A Inquiry
The Hotel Guest Room



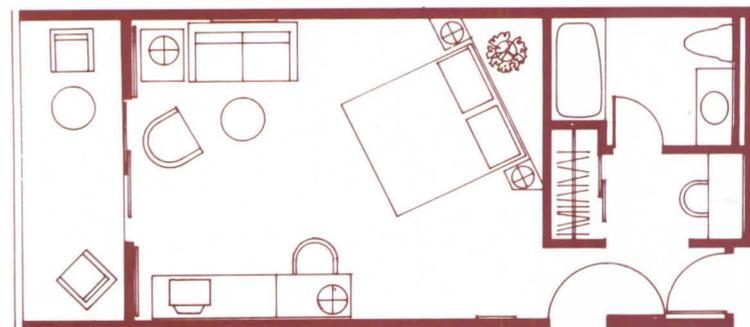
15 BUDGET MOTEL ROOM PLAN



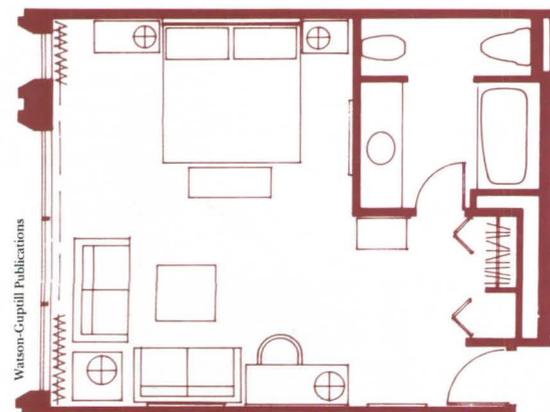
16 STANDARD DOUBLE—DOUBLE ROOM PLAN



17 KING—STUDIO PLAN



18 RESORT ROOM PLAN



19 LUXURY ROOM PLAN

Watson-Cappell Publications

10/3m



Hyatt's John Nicolls, vice-president of technical assistant services. "It turns out that we rely more on the furnishings, where there is more room for flexibility within the same budget," Nicolls says. Hotels also change interior schemes to introduce a regional flair to otherwise universal construction.

If any trend is shared by all the chains, it is the move to make hotel rooms look more like home. Furnishings, for example, have taken on a decidedly residential look. But, more than the architecture, hotels rely on small comforts to win repeat customers. Non-architectural bonuses such as hair dryers, second televisions, free breakfasts, and cocktail hours become the point of difference most hotels use to lure guests. Largely invisible improvements—for example, the fire-resistant materials in beds, chairs, and draperies that became more widespread in the past few years—are touted by hotels but lack in sex appeal.

"Everyone in the hotel business thinks they have the best rooms, but there really aren't many differences," says John Hardy, vice-president of architecture for Interstate Hotels, a Pittsburgh-based hotel development and management company. "A room's a room, for the most part."

Assembly-Line Strategies

To a great extent, that's desirable in an industry that churns out hotel guest rooms the way Detroit rolls cars off the assembly line. Economies of scale are ever-present in an industry that employs techniques of mass production. "We're looking for nickels," says Bob Dacey, senior vice-president for design at Marriott Corporation. Alternative plans for guest room floors are studied in the early stages of a hotel's design. Typically the schemes range from variations on a linear slab (with double-loaded corridors) to tower plans to atriums. Each is analyzed for efficiency, which translates to dollar investment. But, despite the limitations of cost control, Rutes insists that hotel rooms—even within the same building—need not be as repetitive as they are. Many variations can be made on the same floor without financial penalties, he says. It's only when variations occur vertically that the alignment of plumbing stacks, for instance, is threatened and construction costs soar. In practice, though, rooms are generally standardized within a given hotel.

Twelve feet (which was once the maximum width of commercial carpets) became the norm for room widths after its introduction by Holiday Inn in the mid-1950s. That dimension varies today from 11'6" for budget inns to 15 feet or more for luxury hotels. Attempts to differ from these dimensional rules of thumb usually invite frustration, simply because guest room size, quality, and room rate are closely interdependent. The three factors rise and fall in conjunction, due largely to the impact of construction and furnishing costs. The break from that pattern inherent in the configuration of hotel suites, which often are twice the size of conventional rooms at nowhere near double the rate, is compensated for by cutting back on public areas

such as lobbies, restaurants, and lounges. These scaled-back public spaces are treated as amenities meant primarily for guests; patronage by outsiders is not encouraged.

Becoming One's Own Supplier

To further reduce room costs, Marriott's staff designs bedspreads, draperies, and carpets that outside contractors produce under the corporation's supervision. Carpeting, for instance, that might cost \$16 per yard at the discounted market price can be manufactured for between \$3 and \$4 per yard. Hirsch knows the scenario all too well. "If the project starts coming out high," he says, "the first thing they look at cutting out are the multiples. If you can save \$5 on a bedspread, and you multiply that by 1000 rooms, then that gives a saving of \$5000."

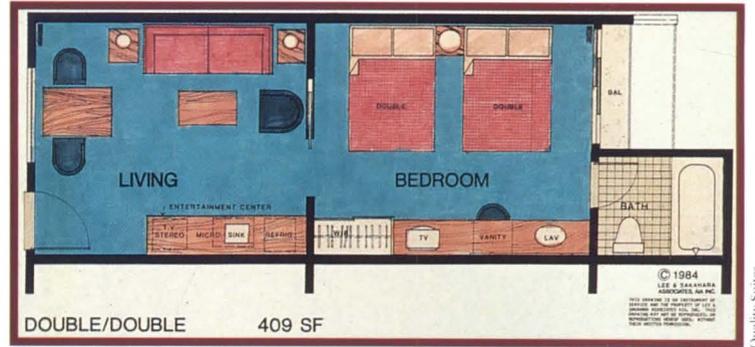
At Hyatt, furniture and finishes are bid for each new hotel. Dressers, tables, lamps, and chairs are designed for each hotel and custom-made expressly for that hotel, a practice that costs the company significantly more in time than in money, says Nicolls. In Marriott's case, standardization is justified as a way of ensuring quality, as well. The company's procurement department maintains a library of materials and finishes that have been tested against the corporation's durability and safety standards (checking floor tiles for slipperiness, for example). And only those items may be specified in Marriott hotel rooms. In general, hotel room interiors must survive five years before they are refurbished. Durability counts, so striking the balance between institutional toughness and residential comfort is a constant struggle, Hirsch says. "The ideal room for some operators would be stainless steel," he adds.

Those are the compromises of which hotels are made. Rooms become a trade-off between the spaciousness guests adore and the economy required to make hotels profitable. In the final analysis, says Hyatt's Nicolls, the overriding concern is that "the guest should be able to live more comfortably in a hotel than at home." Room service, anyone?

Vernon Mays ■

Further Reading

For more information on the design of hotel guest rooms, consult *Hotel Planning and Design*, by Walter Rutes and Richard Penner (Whitney Library of Design, 1985). For ordering information, please write Watson-Guptill Publications, 1515 Broadway, New York, NY 10036). Also available on the subject are *Principles of Hotel Design*, edited by the *Architect's Journal* (The Architectural Press, London, 1970) and the annual *Hotel Specifications International* (Pennington Press, London). Numerous source lists regarding hotel and resort architecture and interiors are available from Vance Bibliographies, 112 N. Charter St., Monticello, IL 61856.



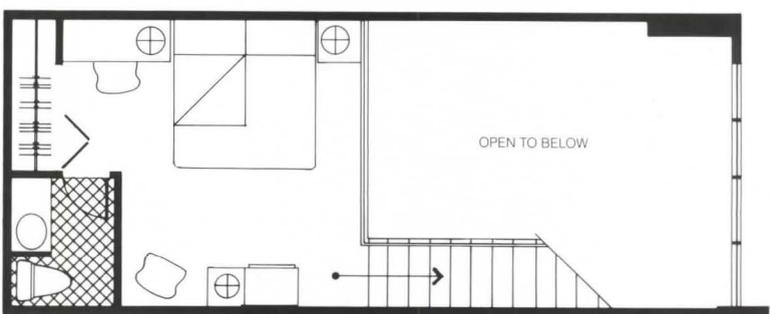
20



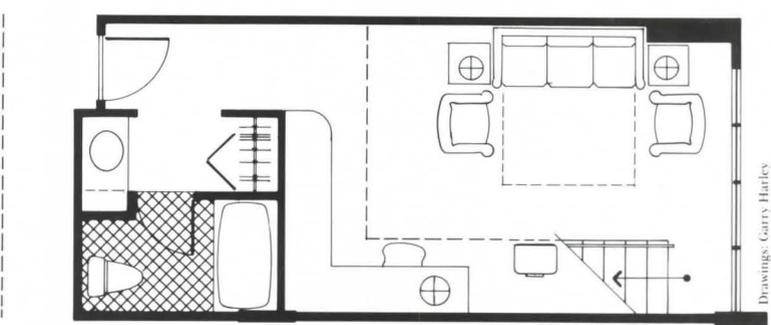
21



22



23 BI-LEVEL SUITE, UPPER FLOOR PLAN



23 BI-LEVEL SUITE, LOWER FLOOR PLAN

Room layouts and dimensions change with the profile of the guest. The basic budget motel room (15) features a small layout, limited seating, and a sink and clothes rod in the dressing area. The standard double-double hotel room (16) provides space for a table or desk, and a self-contained bathroom. The king-studio (17) frees the room for living space with a convertible sofa and, in this case, conceals the TV in an armoire. Resort rooms (18) often have expanded dimensions, balconies, and more informal room layouts. Some luxury rooms (19) offer longer window walls and four-fixture bathrooms.

Evolution of all-suites hotels began with rooms that followed the "shotgun" model (20). Prototypes for Sheraton's side-by-side suites, which offer more privacy while suffering slightly in efficiency, include options for a luxury king room with Jacuzzi (21) and a double-double room with convertible sofa (22). Independent designer and developer Walter Rutes, of 9 Tek Ltd. Development Corporation, has gone a step further with bi-level suites (23) featuring separate living and sleeping floors. The stacked rooms will occupy the top layer of a hotel Rutes is developing near Orlando.

Quality Suites

Drawings: Brennan Beer Gorman

Drawings: Garry Harley

Curtain walls are ubiquitous. They also are exacting and require careful design and detailing and adherence to recommendations of manufacturers.

P/A Technics Up Against the Wall

THE diagnosis and repair of problems in curtain wall systems has become a realm of professional practice unto itself. Curtain walls are not inherently flawed or more prone than other building systems to problems; indeed, the broad range of nonstructural enclosures—each constituting some form of curtain wall—are among the most refined and exactly designed of construction systems. When properly designed and installed, many represent the best walls the building industry can produce.

But, like most other parts of buildings, curtain walls are affected by age. A generation of Miesian steel-and-glass curtain wall buildings is now 35 years old and more, giving rise to an area of specialization that one engineer calls “building exterior gerontology.” Also, some buildings of that era pressed too hard on the limits of building science. (Our understanding of such phenomena as high-level urban winds, for example, was in early stages of development.)

Remedial interventions for old or new curtain walls may be simple, but rarely are they easy or inexpensive. In extreme cases, the cost of the remedy (say, complete removal and replacement of an exterior wall system) is matched only by the potential enormity of the problem it is designed to solve (say, crumbling pieces of stone and concrete, or shards of glass, spilling to the street below). Fortunately, most such problems show warning signs long before disaster strikes; and all can be averted by careful design.

Water, Water, Everywhere

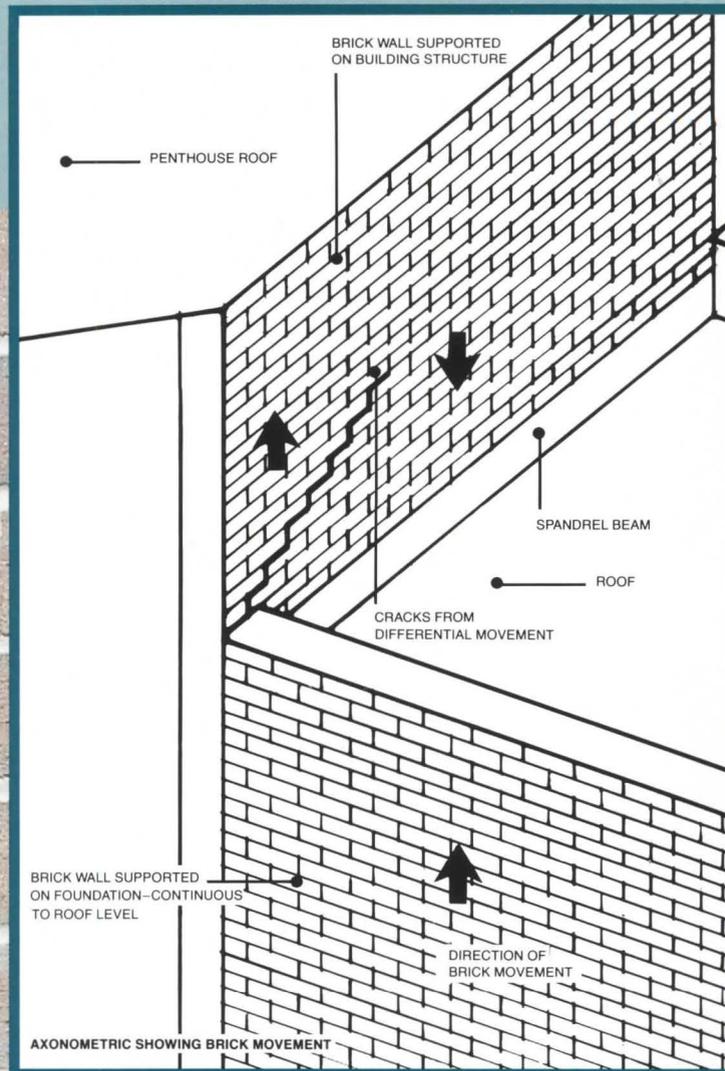
Water leakage is by far the most common complaint levied against virtually all kinds of exterior non-load-bearing wall construction, both old and new. Leaks are usually a precursor to more serious difficulties; where there is unwanted water, more trouble is on the way.

One approach advocated by curtain wall design consultants, for both new designs and for repairs, is to provide a secondary water-management system behind a building’s primary, outer shell. This entails additional flashing and sealing, on the premise that moisture and water will inevitably find its way behind even the best of outer walls. In older buildings, such secondary water-shedding systems have been built after the removal and eventual replacement of reconditioned exterior components.

In newer buildings, most problems can be traced to oversights or flaws in original design and construction. The offenses to guard against are acts both of commission and omission:

Brick Curtain Wall

The entire gravity load for a brick veneer wall, from bottom to roof level, extended to a foundation wall edge, with no load-bearing ledges or tiebacks to the building's primary structural frame. Serious problems arose where a brick penthouse, resting on spandrel beams and the primary structural frame, joined the unattached brick curtain wall. Fractures developed along mortar joints where the walls intersected; interior water leaks worsened, despite attempts at remedial caulking of the damaged joints. In general, brick assemblies tend to grow over time as a consequence of accumulating moisture and debris that fills micropores and tiny cracks. Thus, the brick curtain wall tended to move upward, especially at its top; the penthouse assembly tended to move downward. The remedy: rebuild the brick curtain walls, carrying loads from the structure.



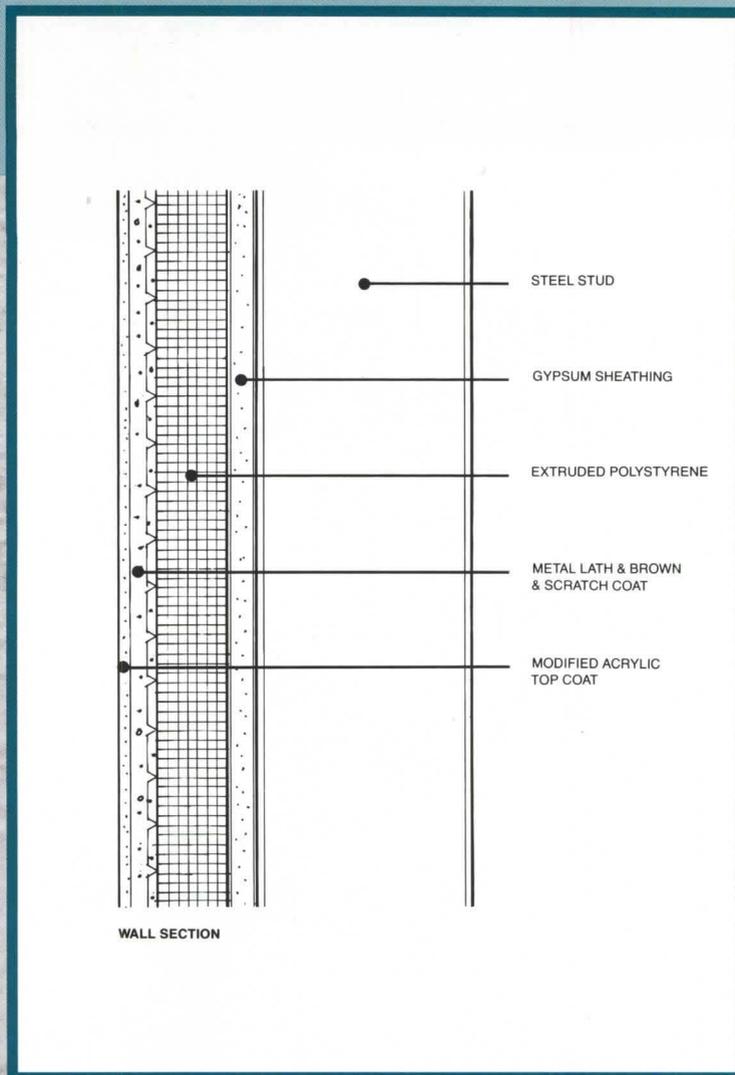
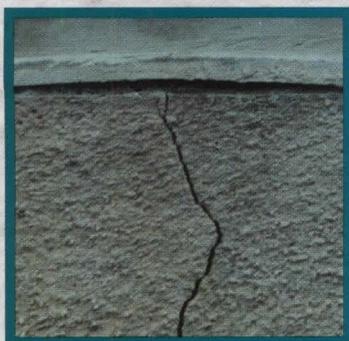
- **Flashing.** Many details are conceived on the drafting board's neat world of two-dimensional representation. Unfortunately, wind, water, frost, and a host of other elements operate in three dimensions, recognizing few of the pencil point's boundaries. Flashing details must anticipate all paths that water might take. Also, intended design details must be effectively communicated to those responsible for construction. Usually, these aims are best accomplished by drawing axonometric and isometric views, not sections.

- **Workmanship.** Newer curtain wall systems, because they are lighter, thinner and less redundant than their antecedents, are less forgiving of faulty workmanship. Some architects and engineers now advocate designs that anticipate wide variations in the quality of field installation. "Assume that the worst that can happen on the jobsite will happen," says one consultant who has examined hundreds of cases, "and design from there."

- **Expansion and relief joints.** Most architects and engineers, knowing that building materials and components will move once in place, design accordingly. Actual movements, however, can easily outstrip design assumptions. Also, expansions and contractions occur in all directions—not just vertically or horizontally over an expanse of wall, as is too often assumed. Experts say that common details often overlook this fundamental truth.

- **Surface-applied sealants.** While this is surely an era of unprecedented advances in exterior sealants, adhesives, and mastics, even these remarkable new materials cannot perform miracles. Where roof overhangs, architectural reveals, and setbacks at windows once provided a safety barrier—reducing the frequency and extent of exposure to water and sunlight at the most vulnerable points—sealants are now expected to suffice; too often, this strategy doesn't work. According to one prominent curtain wall troubleshooter, the performance of many of these new materials depends on ideal conditions and difficult application procedures.

- **Complex movements and interactions.** Contemporary curtain wall systems involve combinations of differing materials and components whose interactions are not well understood. Thus, what works in theory (or appears to work in a small test assembly) may fail when placed in service. It is difficult with a mockup to predict the effect of the sun's heat on the expansion of various surfaces and materials over a broad area. Wind tunnel tests also do not replicate precisely the actual conditions that will be experienced, especially when combined with the ravages of wildly fluctuating temperatures and rain. Materials shrink and expand over time; these



Exterior Insulation and Finish System

The acrylic topcoating on this exterior insulation and finish system showed random cracks all over. The most severe cracks appeared at joints and edges. The topcoat had been applied too thickly over the thinner brown and scratch coats; shrinkage of the topcoat caused the base coat to crack. It also pulled away from screed members, some of which were poorly joined. The remedy was reapplication, including more expansion joints, flashing, and wire mesh reinforcement, with painstaking inspection of reinforcing and gypsum substrates prior to application of base- and finish-coats in the proper thicknesses. Problems in external insulation and finish systems can usually be traced to flaws in workmanship; specialists say that details and contractual provisions for field progress inspections must recognize that workmanship will be uneven.

changes can become permanent, causing changes in the static and dynamic behavior of subsystems and whole assemblies.

Unsuspected Culprits

Careful attention to the advice and experience of manufacturers, fabricators, contractors, and consultants will help avoid most of these problems. Several other factors, not as widely recognized or well understood as those above, also contribute to curtain wall problems:

- **Dirt and debris.** These are always in abundant supply during construction. They may taint surfaces and materials, resulting in improper bonding and sealing. Even a thin film of dust can ruin the performance of the highest-grade caulks, adhesives, and sealants.

Airborne dirt and debris also exacerbate problems that arise long after construction is complete. Relatively small and harmless cracks created by natural thermal expansion can become clogged with wind-driven materials, preventing them from closing as they might otherwise do. This in turn leads to further water penetration and widening of cracks due to freezing. The cycle grows worse with each season, eventually requiring extensive repair. Total replacement may be necessary for a brick veneer wall on which a number of mortar bonds have been broken.

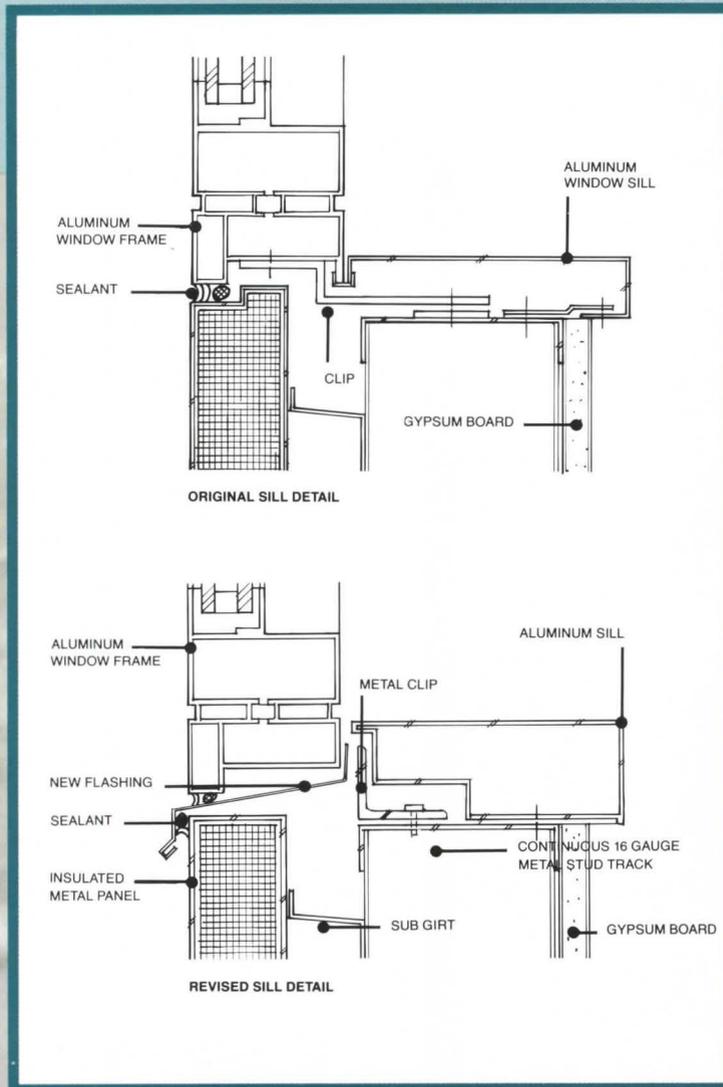
- **Interactions with building mechanical systems.** Excessive negative pressures in interior spaces, caused by improperly designed or operated mechanical systems, can result in the induction of moist air and rainwater at exterior cracks and seams that might otherwise remain relatively benign. Under such circumstances, a building can literally "suck" the outside in.

In a hotel built in the mid-1970s and clad in metal panels, mechanical inducement of rainwater and moist air through panel joints led to severe corrosion and eventual deterioration of the unprotected panel backings; after replacement of deteriorated panels and remedial caulking, further problems were averted by adjusting the mechanical systems to balance interior and exterior air pressures.

- **Misdiagnosis and superficial or improper treatment.** What appears on the inside to be a leak coming from one source may in fact be the result of a leak someplace else, far away. Water is insidious and its paths are difficult to trace—especially where vast areas are concealed from examination. Large volumes of rainwater cascading from upper levels can cause problems below, whose source may not immediately be apparent.

Courtesy: Simpson, Campertz & Heger

Drawing: Eahan Gerard



Drawings: Ethan Gerard

Insulated Metal Panels and Strip Windows

Serious water leaks developed almost immediately at various points near horizontal bands of windows in this high-rise. Too much reliance was placed on surface-applied sealants and adhesives, particularly where the window frames met insulated metal panels and at panel-to-panel gaskets. Movement in the overall curtain wall assembly had caused the sealant bonds to fail and may have contributed to the opening of metal window corners and expansion joints. Investigators identified five generic places that water was able to enter the system, damaging interior finishes. The remedy is termed "experimental" by its designers, but it resorts to traditional means of protecting against water: Flashing was introduced at the window sills and heads. This was accomplished by cutting, rebuilding, and reinstalling the insulated metal panels.

Applying new surface sealants—plugging the apparent leak—at the wrong site can compound problems, because water is prevented from drying or passing back to the outside. Even where treatments appear to solve problems seen on the interior, water and moisture can continue to wreak havoc in areas that are not readily seen.

Tests of Time

One consequence of problems experienced in curtain walls of relatively recent vintage is a requirement by many construction lenders for thorough, independent design reviews, tests, and evaluations prior to bidding. This is true also for proposed repairs, replacements, and remedial treatments.

Yet even the construction and testing of full-scale mockups cannot always provide insurance. Prototypes and test assemblies are typically fabricated under the best of circumstances. They receive careful scrutiny at all stages from the architects, engineers, consultants, manufacturers, and technicians involved.

Such ideal conditions rarely exist in the field. What's worse, some engineers say, is that when problems surface in a prototype, there is a tendency to prescribe patches or other repairs that leave basic design flaws untouched.

Tests intended to accelerate the aging process and thermal cycling cannot simulate the full range of complex and significant (and sometimes unforeseen, or unforeseeable) environmental factors that will actually wear on a wall. As a further safeguard, some specifications—including those for remedial treatments—now call for painstaking post-installation tests and inspections.

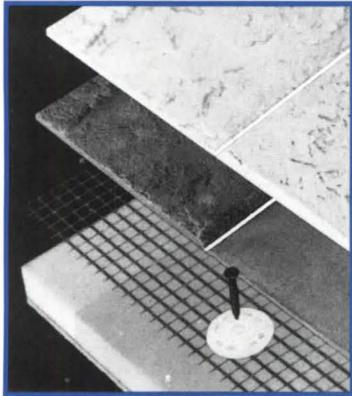
Even then, however, in the wistful words of one seasoned curtain wall repair consultant, "The only true test is that of time." And, as we all know, time takes a toll, too. *Thomas Vonier* ■

Acknowledgements

P/A wishes to thank the following firms and individuals for their contribution to this article: Thomas Schwartz, Simpson Gumpertz and Heger, Inc.; John Hoffman, Hoffman Architects; Robert Landsman, Swanke Hayden Connell; and Jerry Stockbridge, Wiss Janney Elstner.

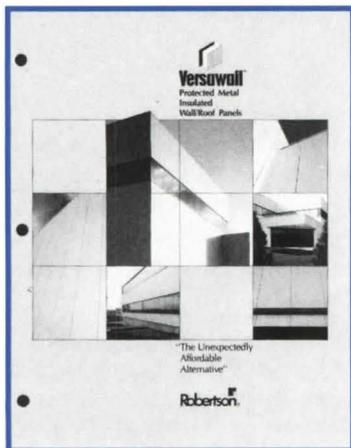
The author is an architect in Washington, D.C. He serves as P/A's correspondent there.

Technics-Related Products



The Ultralation exterior insulation and finish system is mechanically fastened and can be installed over a wide range of insulation boards and substrates. The system consists of the exterior finish, a specially designed fiberglass reinforcing mesh, corrosion-resistant mechanical fasteners, and an acrylic base coat. Forty-eight standard colors and a variety of textures are available. Dryvit.

Circle 138 on reader service card

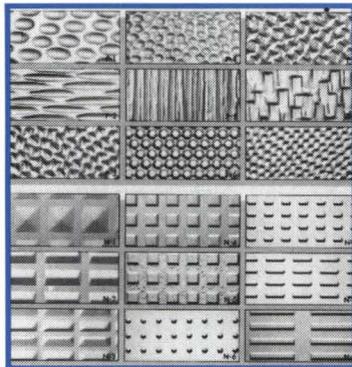


Versawall metal panels are insulated and factory-assembled for use in wall or roof systems. The panels consist of a galvanized steel facing, an insulating foam core (available in three thicknesses), and an interior liner that can be finished for use as an interior wall. The facing comes with either a smooth or striated profile, and a variety of standard and custom colors are available. H.H. Robertson.

Circle 139 on reader service card

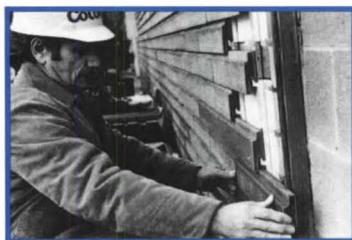
The Graphiclad ornamental panel system transfers computer-generated designs onto aluminum panels by a halftone photographic process, which permits the illusion of depth in a flat panel. The panels—and the designs on them—come in a variety of colors. Cupples.

Circle 140 on reader service card



Excel metal wall panels come in two series of textural designs. The P Series, meant to recall solid cast metal work without the weight and cost, is available in aluminum, stainless steel, copper, or bronze. The N Series features sharp-lined geometrical patterns and is designed for execution in aluminum. The Excel panels and other curtain wall products are included in an eight-page brochure. Tajima.

Circle 141 on reader service card



Interlocking concrete stones provide sealed joints without the use of mortar or other adhesive in this façade system developed in Sweden. The stones, which are four inches high and two feet long, can be suspended from aluminum hangers attached to building walls. They are easily cut with a masonry saw and come in seven colors. Coloroc USA.

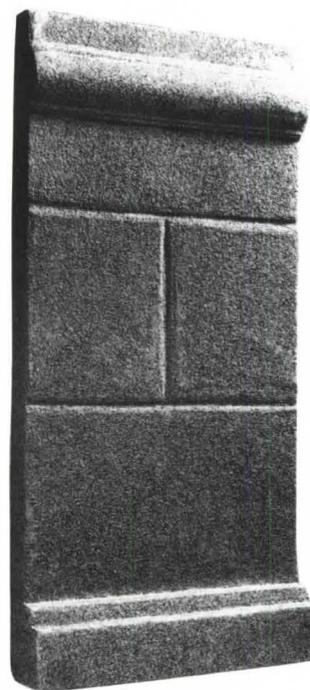
Circle 142 on reader service card

The Dimension Series curtain wall system can incorporate two-inch Foamwall, aluminum, or three-centimeter granite spandrels within the same basic structure. This flexibility permits late changes in spandrel material and also facilitates the combination of different materials on the same façade. E.G. Smith, Inc.

Circle 143 on reader service card

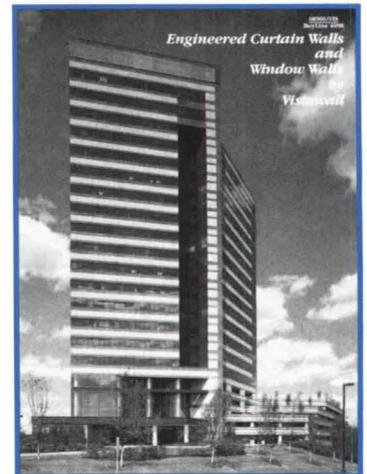
Seven glass curtain wall systems are described and illustrated in a 12-page brochure. Each system is tailored for low-rise, mid-rise, or high-rise structures. The brochure offers detail drawings, color photographs, and sample specifications. Amarlite Architectural Products.

Circle 221 on reader service card



The Aurora Matrix finish system can be used in curtain wall assemblies to simulate granite or marble. The three-part system involves a base coat of colored matrix, a spray of colored aggregate, and an acrylic sealer that produces a monolithic surface. The system can be prefabricated or applied on site. Senergy, Inc.

Circle 144 on reader service card



Curtain walls, window walls, and ribbon windows are featured in this 12-page company brochure. Detail drawings and photographs describe the available systems and illustrate their use on a "case study" basis. The booklet includes sample specifications. Vistawall Architectural Products.

Circle 222 on reader service card



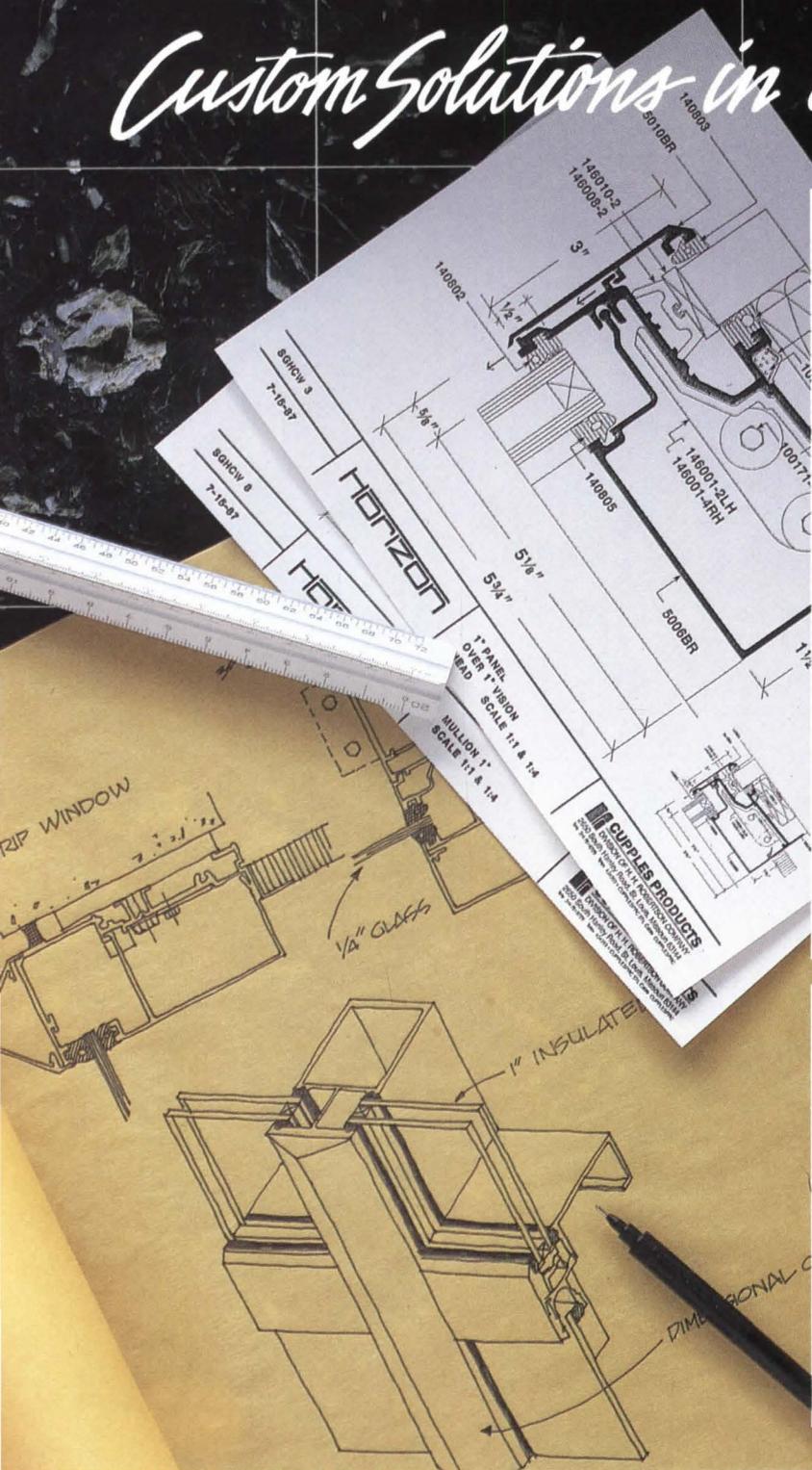
Curtainwall Screw Stud Framing systems are detailed in a 12-page technical bulletin. The booklet includes specifications, detail drawings, maximum span height tables, and data on insulation values. Also discussed is the COM-X exterior insulation system. Gold Bond.

Circle 223 on reader service card

(See Technics, Curtain Wall Cautions, p. 114)

HORIZON™

Custom Solutions in a Standard System



Put forty years of experience in custom curtainwall solutions to work on your next curtainwall project. The design technology for pressure-equalized and thermally improved walls has been pre-engineered into Horizon

systems. Choose conventional or silicone glazing, curtainwall or strip window, glass, stainless, stone or aluminum. Incorporate patterns using Graphiclad™ panels with Duragraphics™, a fluoropolymer coating by PPG.

engineering, pre-testing and a vast range of problem solving in one standard system supported by dealer distribution for quick delivery. For the Horizon dealer nearest you contact Phil Moran at Cupples (314) 781-6729.

CUPPLES PRODUCTS
DIVISION OF H.H. ROBERTSON COMPANY

2650 South Hanley Road
St. Louis, Missouri 63144
(314) 781-6729
Telex #: 434393 CUPPLESPRC STL
Cable #: CUPPLESPRC

The Horizon system combines low-cost, high quality, pre-



THE
ROOFING
COLLECTION
CertainTeed

Product shown is Horizon Shingle[®], Graystone

Singular Shingles.



The CertainTeed Roofing Collection. It's easy to create standout roofs with help from CertainTeed, because CertainTeed shingles are like no others. From economy grade to luxury, you'll find an innovative answer in the CertainTeed Roofing Collection—America's most complete line of shingles.

Here are just three ways CertainTeed can put your work a notch above.



Hallmark Shingle® The original laminated shingle... with a unique design inspired by the natural beauty of wood shakes. Backed by an unmatched 30-year limited warranty, transferable from homeowner to homeowner.



Horizon Shingle® Horizon's design* gives it the deep, textured look of a laminated shingle at an economical price... with the ease of application of a standard 3-tab shingle. 25-year limited, transferable warranty.



Hearthstead® Exclusive* 4-tab shingle construction and shadowing give a richer appearance to any roof... for little more than the cost of commodity shingles. Outstanding 25-year limited warranty, calculated using replacement cost.

For more information about Hallmark Shingle, Horizon Shingle, Hearthstead, or any of the other members of the CertainTeed Roofing Collection, write CertainTeed Corporation, Shelter Materials Group, PO Box 860, Valley Forge, PA 19482. Or call 1-800-322-3060

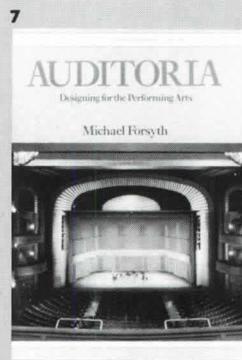
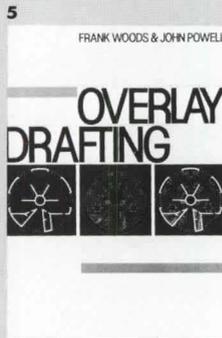
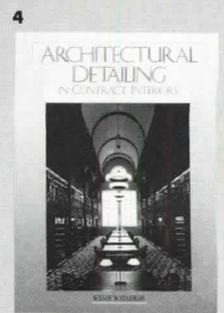
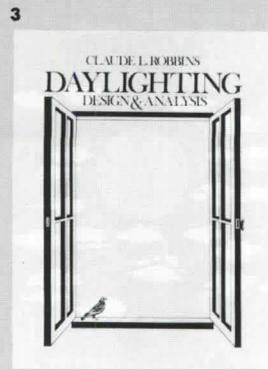
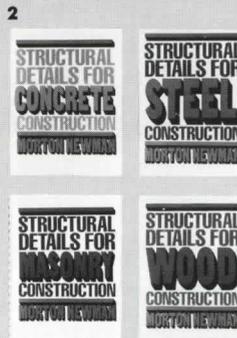
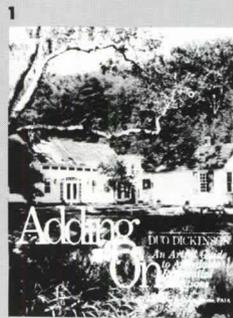
CertainTeed 

*Patent pending. © 1988, CertainTeed Corporation

Circle No. 319 on Reader Service Card

P/A

BOOKSTORE



Order Information

To receive books, circle appropriate numbers on the Reader Service Card in the back of this issue. Payment must accompany orders being shipped to P.O. Box numbers. Please allow 6-8 weeks delivery. Prices subject to change. Orders good only for U.S. addresses.

Send the card in an envelope to:

Paul McKenna
Progressive Architecture
P.O. Box 1361
Stamford, CT 06901

P/A Back Issues

A limited supply of the following issues are available at \$7.00 a copy. Check MUST accompany order!

May

Som/Nouvel/Vitra/University of California/Office Chair

April

Preservation/Rehabilitation/Computers

March

New Urban Design/Gwathmey Siegel/Andrée Putman/Back Offices/Glass

February

Two Portland Award Winners/Pelli/Sartogo/Graves/Wood Framing

January

35th Annual P/A Awards

October

Charles Moore/Japan/Uses of Stone

September

Interior Design/Outdoor Lighting

July

Special Issue: Paris/Uses of Steel

1 Adding On, An Artful Guide to Affordable Residential Additions

by Duo Dickinson, 177pp., illus. (\$39.50)

This book offers a multitude of ideas to help both architect and homeowner. Rejecting the inevitability of standardized design solutions, the author proves that the thought and care of good design can create unique, effective and beautiful improvements that meet today's needs.

Circle B601 under Books

2 Structural Details For Concrete, Steel, Masonry, and Wood Construction

by M. Newman, illus. (\$22.50 each—except Masonry book, which is \$19.50)

This four-part series provides a variety of details for the four primary construction materials. The workbook format makes it a handy reference in the office or at the job-site. All material has been updated to reflect recent code changes.

Concrete **Circle B602 under Books**
Steel **Circle B603 under Books**
Masonry **Circle B604 under Books**
Wood **Circle B605 under Books**

3 Daylighting Design & Analysis

by C. Robbins, 877pp., illus. (\$84.95)

This book looks at how daylighting can be integrated with the building design process, from initial concept to the final design. The book includes for reference 18 appendices providing the data necessary for analyzing daylight and energy performance of buildings.

Circle B606 under Books

4 Architectural Detailing In Contract Interiors

by W. Staebler, 256pp., illus. (\$49.95)

This book is a compilation of exemplary details in commercial and public buildings done by leading architects and designers. Each detail drawing is accompanied with information on its design process, materials, and integration into the total design scheme.

ALL ORDERS MUST BE PREPAID
Circle B607 under Books

5 Overlay Drafting

by Frank Woods & John Powell, 102pp., illus. (\$15.95)

This book presents a time-saving method for doing working drawings.

The technique and definition of overlay drafting are explained, followed by a detailed look at the equipment, techniques, and the equipment required. The reader is given step-by-step guidance on introducing the system into an architectural office.

Circle B608 under Books

6 Design Simulation

by E. Burden, 232pp., illus.

(\$24.95) Learn how to use CAD and advanced photography methods to create two- and three-dimensional presentations at low cost. The book is based on actual projects and shows applications of traditional simulation methods as well as all new technologies from computer models to photogrammetry.

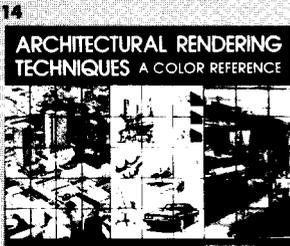
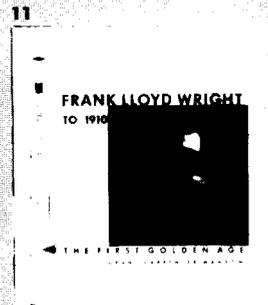
ALL ORDERS MUST BE PREPAID
Circle B609 under Books

7 Auditoria

by M. Forsyth, 212pp., illus. (\$49.95)

The book is intended for design professionals involved with performing arts facilities. It provides the reader with a concise introduction to techniques used in designing auditoria and updates him with numerous changes affecting auditoria design during the past decade. Design solutions are discussed for facilities ranging from multi-use to special purpose halls.

Circle B610 under Books



8 Structural Systems

by H.J. Cowan & F. Wilson, 256 pp., illus. (\$19.95)

This comprehensive guide to preliminary structural design uses a minimum of mathematics and numerous illustrations to describe structural forms and their mathematics. A strong emphasis on graphic presentation and an instant-access reference to structural design.

Circle B608 under Books

9 The Small House, an Artful Guide to Affordable Residential Design

by Duo Dickinson, 196pp., illus. (\$34.95)

This handsome work features houses representing all regions of the U.S. and includes examples of primary and vacation or second homes. The designs prove small houses can be built to accommodate a variety of sites, budgets, family size and aesthetic sensibilities.

Circle B609 under Books

10 Italian Gardens of the Renaissance

by J.C. Shepherd & G.A. Jellicoe, 144pp., illus. (\$45.00)

Originally written in 1925, this book still stands today as the classic work. It traces the evolution and development of Italian garden design from the early Renaissance work of Michelozzi, Bramante and Rossellino. Twenty-six of the finest and most important Italian villas are featured, each with plans and principal elevations.

Circle B610 under Books

11 Frank Lloyd Wright to 1910

by Grant Carpenter Manson, 238pp., illus. (\$22.95)

A guide to Frank Lloyd Wright's life up to 1910—the decisive turning point in his career. Depicts his childhood and family influences, his scanty formal training, and the beginnings of his architectural work under Lyman Silsbee and Louis Sullivan. Photographs, drawings and plans included.

Circle B611 under Books

12 The New Atrium

by Michael J. Bednar, AIA, 238pp., illus. (\$40.00)

This book covers the new atrium thoroughly and in detail—from its historic and contemporary evolution to its role in urban planning, architectural design, and historic preservation. An authoritative reference guide and an invaluable source of inspiration, it provides timely information to help to conceptualize, design and execute a successful atrium building.

Circle B612 under Books

13 Perspective For Interior Designers

by John Pile, 160pp., illus. (\$24.95)

Learn to draw interior perspectives through the use of a basic formula. The author offers an easily accessible and quickly learned method that will serve every designer's drawing needs. Step-by-step demonstrations, analyses of constructed layouts, and illustrations of completed works make this book a complete and accurate guide.

Circle B613 under Books

ALL ORDERS MUST BE PREPAID

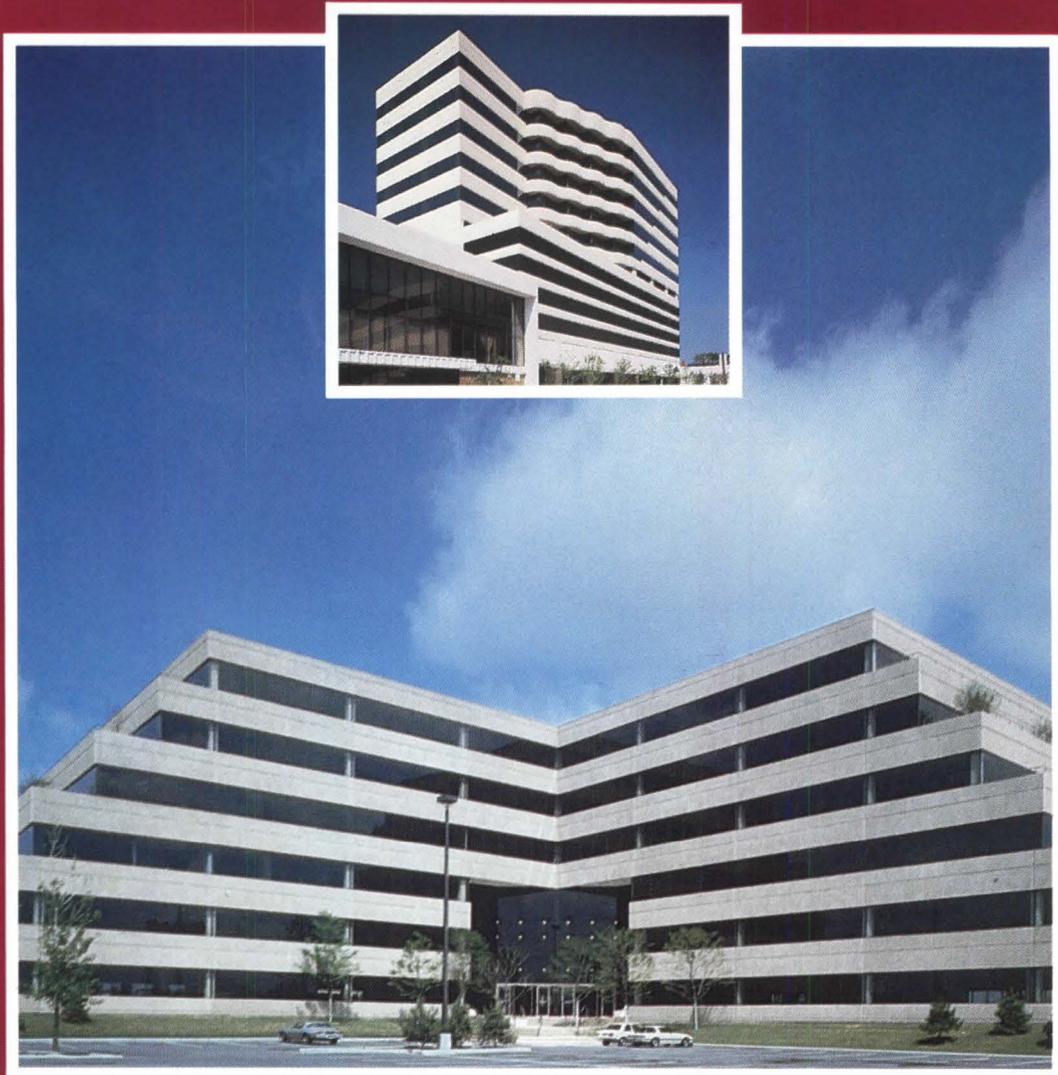
14 Architectural Rendering Techniques: A Color Reference

by Mike W. Lin, AIA, 253pp., illus. (\$43.95)

All major types of architectural drawings fill this comprehensive guide to rendering media, styles and execution times. Examples displayed can be traced or studied to improve technique and generate new ideas. Architects and designers at all levels of expertise can improve their graphic and architectural rendering by following the presented methods.

Circle B614 under Books

NEW SPACE, NEW OFFICE, ON TIME...



With Precast/Prestressed Concrete

The building must be ready. The space available and productive—on time.
With precast/prestressed concrete you can keep your space program on schedule.
Quick construction time, advantageous interim financing and on time occupancy
are only three of the precast/prestressed concrete benefits package.
The appearance of your new building is limited only by the imagination.
Energy efficiency is a given. Fire protection is a promise.
Precast/prestressed concrete is the beautiful and economical way
to complete your space program on schedule.

Your next parking project... think about it in concrete terms.



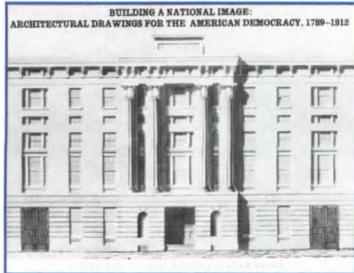
Prestressed Concrete Institute, 175 W. Jackson Blvd., Chicago, IL 60604

PCI Plant Certification—Your guarantee of confirmed capability to produce quality precast/prestressed concrete products.

Circle No. 358 on Reader Service Card

Building a National Image: Architectural Drawings for the American Democracy, 1789–1912, by Bates Lowry, edited by Irene Gordon. *Penshurst Press, Ltd., Great Britain, 1985; underwritten by United Technologies.* 228 pp., illus., \$75.00; paperback, \$45.00.

The Spirit of H.H. Richardson on the Midland Prairies, Paul Clifford Larson, editor. *Ames, Iowa, Iowa State U. Press, 1988.* 174 pp., illus., \$24.95 paper.



Federal Building

How does a building embody the noblest aspirations of a young country? What visual forms express the pursuit of life, liberty, and happiness? These questions have confounded some of America's most prominent architects since Pierre L'Enfant designed the Federal Hall for the meeting of the First National Congress in 1788, and *Building a National Image: Architectural Drawings for an American Democracy* documents that struggle.

Published as the catalog for the premiere show of the National Building Museum in Washington, D.C., this book contains an introductory essay by architectural historian Bates Lowry, and 107 color and many black-and-white plates of original drawings for the buildings erected by the Federal Government from the period between 1789 and 1912. We see submissions to architectural competitions, presentation drawings, working drawings, and "napkin" sketches. Together they lay out the seemingly infinite stages of the design for the U.S. Capitol and the Library of Congress, and give views of final schemes for an array of Federal projects, including the White House (originally referred to as the "President's Palace"), the Treasury Building, and the Patent Office Building. The book also contains drawings for the numerous projects that receive little or no attention in the standard architectural histories: The post offices, custom houses, and courthouses that seem relentless backdrops to any trip through the American landscape.

What these drawings show is that, as in politics, so also in architecture: Our national dream is not, and never was, one vision but the continuous intersection of wildly differing visions, with results sometimes fortuitous and sometimes not. In the plan for Washington, D.C., for example, we see the desires of the founding fathers meeting those of architect Pierre L'Enfant, the

(continued on next page)

A Plains Legacy

By examining the work of a number of Plains architects, the six authors who contributed essays to *The Spirit of H.H. Richardson on the Midland Prairies* seek to continue revising the Modernist assessment of Richardson's legacy. Editor Paul Clifford Larson takes issue with what he calls Modernism's "anointment (of Richardson) as a precursor of modernism." The book demonstrates, through diverse essays and a wealth of illustrations, that Richardson was at least as important, and probably more so, for his innovations in late Victoriana as he was for his contributions to the birth of Modernism.

In explaining the rise of Richardsonian architecture on the Plains from the 1880s to the turn of the century, the essays—especially Richard Longstreth's on Richardsonian work in Kansas and Judith Martin's on the prairie city—emphasize the suitability of the style for the expression of optimistic urban aspirations. They demonstrate how architects from Minnesota to Texas borrowed from Richardson, whether blatantly, as in the Minneapolis City Hall, or slightly, as in the many Richardsonian details that were grafted onto buildings of other styles. In either case, the motive seems to have been to establish a sense of monumentality and permanence in a new land.

Besides the above-mentioned essays, the book includes a discussion of Richardson's influence on Chicago by Thomas J. Schlereth, a survey by Kenneth Breisch of the many Richardsonian courthouses and public buildings of Texas (where the style often took on a Hispanic tone), and a study of the natural resources of the region—the various clays and stones that made the Richardsonian style possible—by John C. Hudson.

The publication of the book coincides with a recent exhibition at the University of Minnesota Art Museum.

Mark Alden Branch ■

Photographing Buildings Inside and Out by Norman McGrath. *New York, Whitney, 1987.* 176 pp., illus., \$32.50. McGrath, a noted architectural photographer, teaches through examples of his own work in this book. His readable prose includes information on equipment, lighting, and special situations.

The Architectural Index for 1987 ed. by Ervin J. Bell. *Boulder, Colo., The Architectural Index, annual.* 118 pp., \$19.00.

1987 marks the 38th year of publication for this helpful guide to the architectural press. The year's editorial content for ten major architecture and interiors magazines is listed by architect, building type, subject, and location.

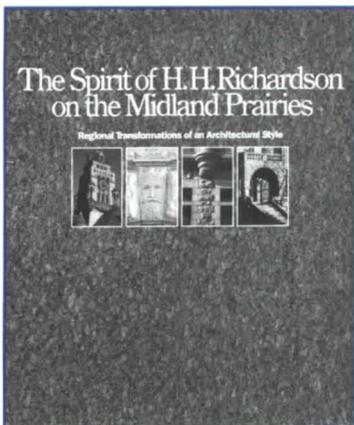
A New Theory of Urban Design by Christopher Alexander, Hajo Neis, Artemis Aninou, Ingrid King. *New York, Oxford Press, 1987.* 251 pp., illus., \$39.95.

The authors offer seven rules meant to define "wholeness" in cities, and document a graduate-school project in which the rules were applied.

Encyclopedia of Architecture, vol. 1 ed. by Joseph A. Wilkes. *New York, Wiley & Sons, 1988.* 748 pp., illus., \$200.00. Volume 1 (Aalto to Concrete) of this ambitious reference work includes articles on history, technics, and design in a language suited both to professionals and to the general public. The four remaining volumes will be released over the next year.

Security by Neil Cumming. *New York, Van Nostrand Reinhold, 1987.* 413 pp., illus., \$103.95 paper.

Another of the consistently informative technical books from Britain's Architectural Press, *Security* includes a step-by-step guide to security systems and a detailed look at system components.



(continued from page 125)

former wanting a plan for the Capitol City that symbolized the democratic aspirations of the young country, and the latter delivering a scheme that came directly out of the theories developed to celebrate the monarchy in France. Not only does L'Enfant's plan, a network of broad avenues cutting diagonally through a grid of streets, recall the designs of Versailles and the Place de la Concorde, but his idea for 15 squares (one designated for every state and each embellished with monumental public sculpture such as statues, columns, or obelisks) probably responded to a suggestion made by the Abbe Laugier for Paris in his *Essai Sur L'Architecture*.

By tracing the symbolic interpretations of the L'Enfant plan, Lowry suggests that its success (insofar as it was completed) is due far less to its embodiment of the aspirations of any of its progenitors, but to the flexibility of its form, which has encouraged successive generations of viewers to adopt it as expressive of their own needs. In 1795, the symbolism was political, as one writer interpreted the city's diagonal avenues as luminous rays shining from the Capitol to all parts of America, "signaling that Congress will always be informed about the true interests of the nation." In 1859, the symbolism was historical, each avenue representing one of the original 13 states with

Pennsylvania Avenue "the keystone in the arch."

Equally important was the design for the U.S. Capitol, which was to be, in the words of Thomas Jefferson, "the finest temple dedicated to the sovereignty of the people, embellishing with Athenian taste the course of a nation looking far beyond the range of Athenian destinies." Its endless redesigning is illustrated here in copious detail. The building was worked on from 1790 to 1828, and the story of its construction reveals why it remains a series of unusually disjunctive incidents, sometimes brilliant, sometimes run-of-the-mill. During those years, most of the nation's major architects had a hand in its de-

sign, and we see here the tentative, unprofessional drawings of Stephen Hallet and William Thornton (the two original designers), behind which Lowry claims lay the ideas of Thomas Jefferson and L'Enfant. We see as well the understated idealism of Benjamin Latrobe and Charles Bulfinch, working in the sparse Neoclassicism then popular, but also in fear of excessive grandeur. Lowry quotes one congressman who in 1824 voiced a concern that has become a constant in the history of American public building: "Of all governments a republic ought to appear with sober pomp and modest splendor. Not the dazzling radiance of a throne is here reflected, but the mild lustre, the serene majesty of the sovereign people."

When the Capitol was completed in 1828 it seemed that serenity had won out a little too forcefully over majesty, and the designs for remodeling and expansion in the mid-19th Century by Robert Mills and Thomas U. Walter show increased pomp—not to mention increased scale—in every direction. Real discoveries here are the drawings of Thomas Walter's draftsman, Auguste Schoenborn, which display incredible control, unusual sensitivity to color and light, and a delight in conceptual tricks. On one drawing showing the construction of a number of cast-iron pieces, a detail is depicted as if it were on a separate piece of paper laid atop the main drawing. On another, an ink and watercolor drawing for the interior of the Senate Chamber, Schoenborn sketches in pencil the feet of a niched figure that are masked by the penultimate row of seats.

Thomas U. Walter also designed the dome we see today. Throughout the history of the Capitol, the dome was recognized as the premier symbol of the American republic, and it was obsessively reworked: From Stephen Hallet to Thomas Walter, we see colonnaded domes, low-pitched domes, and gold domes. Although most of the designs are more in keeping with the building underneath it than Walter's shrill, high-pitched rotunda, his design has served well as a national symbol. An 1898 observer wrote: "None tread beneath this matchless dome, but feel the pride of country in the thrill of patriotic fervor . . . Nowhere upon the earth's surface can its proportionate and stately grandeur be equalled."

(continued on page 129)

AMOCO CARPET BACKINGS

ARCHITECTURAL PROFILE: Unique Construction

Dimensional stability

Unique structure provides stability and support for face yarn

Won't fray or ravel

Special interlocked construction gives you clean cut edges

Moisture resistant

Won't stretch, shrink, or rot

Easy installation

Absorbs and bonds strongly

ActionBac® secondary synthetic carpet backing gives you all the strength, flexibility and uniformity you need for the carpet you specify.



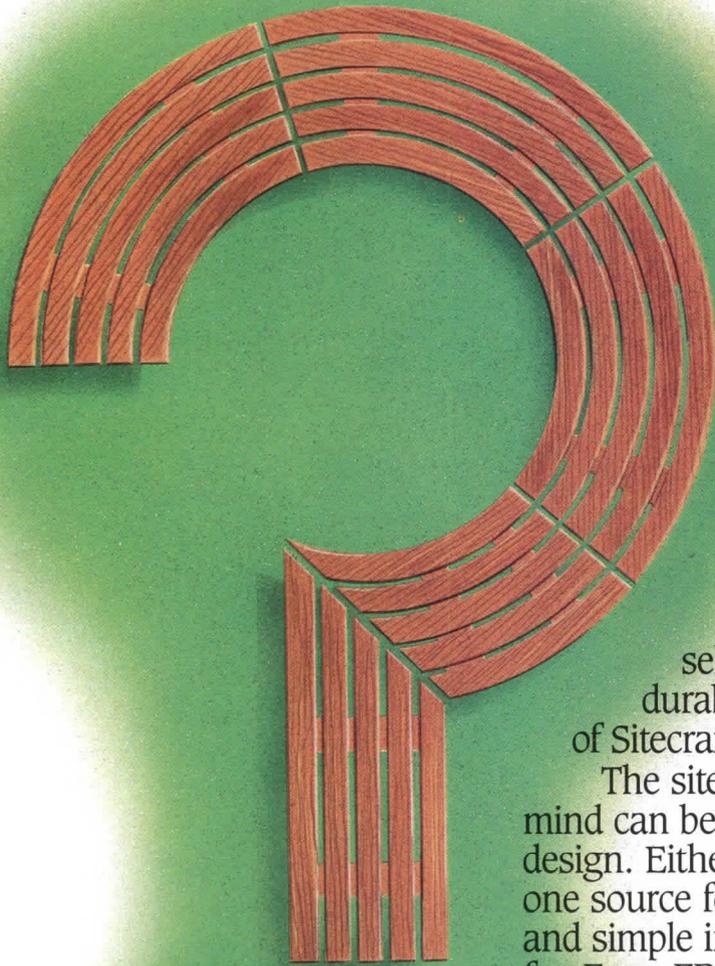
Amoco Fabrics and Fibers Company

240 Peachtree Street, NW
3-G5 Atlanta Merchandise Mart
Atlanta, Georgia 30303

For further information, contact: Bob Turpen, 404-581-9726.

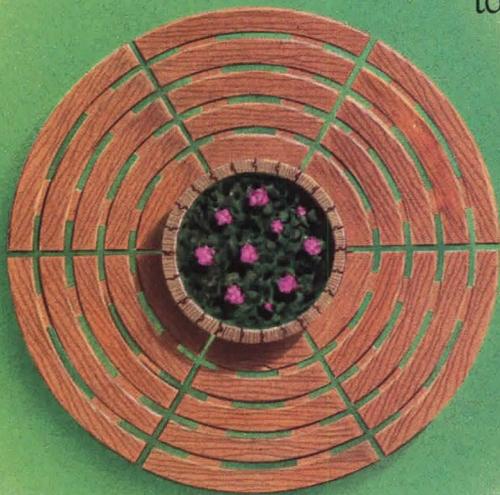
Circle No. 311 on Reader Service Card

Throw us a curve.



Are you getting a little tired of the straight and narrow? Try throwing us a few curves on your next site furnishings project. We're the world's foremost specialist in turning ideas into reality because we've been doing it for professionals like you for generations. Whether it's seating, planters, decking, receptacles or accent furnishings, you'll select from the world's finest, most durable woods and get the benefits of Sitecraft's experience and craftsmanship.

The site furnishings you have in mind can be standard or custom design. Either way, Sitecraft is the one source for the quality, beauty and simple installation you're looking for. For a FREE copy of our Sitecraft IDEA BOOK, call or write today. You know how good we are on the straightaway, now see how we handle the curves.



40-25 Crescent Street, Long Island City, NY 11101
1-800-221-1448 Toll Free (In NYS, 718-729-4900)

Who says imagination doesn't grow on trees



Circle No. 371 on Reader Service Card

The Conde House collection includes



chairs and tables, for contract and residential use, designed for us by architects and designers from the East and the West.



It is a diverse collection with a common focus



on fine design, craftsmanship and exceptional wood finishes.



Call your nearest Conde House representative for more information.

Circle No. 381

Conde House 200 Kansas Street #225
San Francisco CA 94103 Telephone 415 864 8666
Birmingham, MI: 313 646 0097. Boston: 617 268 5020. Charlotte, N.C.: 704 365 3500. Dallas: 214 698 9296.
Houston: 713 961 9220. Los Angeles: 213 652 7090. New York: 212 753 8906.
St. Louis: 314 241 3324. Smithfield, N.C.: 919 934 3773.



(continued from page 126)

These earliest projects for America's monumental Federal architecture were idealistic and symbolic. As a government expanded and the need for the occasional icon was overrun by the steady demand for post-offices, custom houses, and courthouses, Federal building became business as usual. In part because of this need to produce so much (35 buildings were erected in one year, 1855-56) and in part because stylistic fashion tended toward the historicist, the search for forms that would embody universal values was lost in a whorl of individualizing eclecticism. In this period, we see the beginnings of a new stage of mass production in architecture, with chief architect of the Construction Branch of the Treasury Ammi B. Young repeating some of his Italian Renaissance palazzo designs as many as ten times, changing only the details.

This development had an important impact on the representation of architecture in these drawings. As details were increasingly drawn in the main office to be executed on site, they, rather than the buildings themselves, often became the architect's primary means of self-expression. *Building an Image* shows wood, plaster, and cast-iron ornaments painstakingly drawn with pencil, ink, wash, and watercolor. The interest in pictorial presentation is striking, especially in the drawings of Alfred B. Mullet and William A. Freret: Scales are enlarged, perspectives flattened, and contrary details arranged into dynamic patterns.

Idealizing visions for Federal architecture were reinstated with the City Beautiful movement, and in addition to Daniel Burnham's famous MacMillan Commission plan we see a series of outrageous proposals by, of all people, John Russell Pope for the Lincoln Memorial. These seven drawings, for ziggurats, pyramids, funeral pyres, and stark, blank colonnades not only show that Pope had a little Ledoux in him, but also point to one of the major flaws in the book. Why is the Federal architecture that we see so often conventional, flat, and outdated? It is a question Lowry, in his enthusiasm, never asks, although he answers it inadvertently. Building commissions are granted and retracted by the way the political winds blow. So many politicians are involved in the design of any major building that it is nearly impossible to end

up with anything but dishwasher. (Indeed, it is a miracle that the U.S. Capitol looks as good as it does judging from the story we read here.) Lowry neglects to tell the very revealing story told by William Pierson in *American Buildings and Their Architects* of how Robert Mills, having attempted some structural innovations in his Treasury Building, faced the prospect of its demolition before completion because several senators became convinced that it would not stand up. Politics aside, there also is something intrinsically conservative in monumental architecture. It is this conservatism inherent in the design of any public project, combined with an ingrained national ambivalence about celebrating grandly in an atmosphere of democracy, that makes most savants groan when the topic of Federal architecture is broached. But *Building the National Dream* shows that in addition to the Federal architecture in our various cities and towns, America has a tradition of silent monuments, works on paper expressing visions built.

Sarah Williams Ksajek

The author is a Ph.D. candidate in architectural history at Columbia University.

POULSEN LIGHTING...

a history of excellence and innovation.



**louis
poulsen**

Poulsen Lighting Inc.
5407 N.W. 163rd Street
Miami, Florida 33014-6130
Telephone (305) 625-1009
Facsimile (305) 625-1213

Skot Series
Post Mounted

Circle No. 357 on Reader Service Card

MOVING?

Let us know 6-8 weeks in advance so you won't miss any copies of P/A.

**Affix
Label
Here**

Mail to:
Subscription
Services
Progressive
Architecture
P.O. Box 95759
Cleveland,
OH 44101

New address:
Name
Title
Company
Address
City/State/Zip
Type of firm

O L Y M P I C

OPEN COMPETITION

Architects, Urban Designers, City Planners, and Landscape Architects are invited to participate in a unique, open, international, two-stage competition to design the public environment of a ten block stretch of Los Angeles' famed Olympic Boulevard...and...the architecture of two major private office towers in the district.

REGISTER NOW: To register and receive the program and video cassette, send name(s), address, telephone number and US \$85 to: "Olympic West Competition," 11444 W. Olympic Bl., Suite 1100, Los Angeles, CA 90064 USA

SUBMISSION: First Stage seeks two 30"x 40" boards.

AWARDS: \$50,000 in prizes, plus opportunity for office towers commissions.

PROFESSIONAL JURY: Ricardo Bofill: *architect* Regula Campbell: *landscape architect* John Morris Dixon: *architectural journalist* Richard Meier: *architect* Rai Okamoto: *urban designer/city planner* James Wines: *artist/designer*

PROFESSIONAL ADVISOR: Michael John Pittas

ELIGIBILITY: First Stage is anonymous and open to any interested party. Up to five finalists will be invited to compete in the Second Stage.

SCHEDULE: Program plus video available May 30. First Stage deadline August 26. Second Stage finalists announced September 12.

INFORMATION: Contact Deborah Rosenthal Phone 1-800-451-7270 • 213/312-3600 FAX 213/479-3086

W E S T

THE GARDEN DISTRICT

Circle No. 354 on Reader Service Card



ALPOLIC

The Lightweight, Rigid, Bendable Composite Material.

ALPOLIC combines beauty with superior flatness and easy workability. Used for exterior sheathing, display panels, sign boards, and other applications, it resists weather and corrosion. Used for interior applications such as displays, it will enhance the beauty of your designs.

ALPOLIC is available in silver, light bronze and dark bronze anodized and painted in a range of colors.

A-LOOK EX

The Lightweight, Flexible, Unbreakable Mirror For Exterior Use And Where Humidity Is High.

Indoors and Outdoors, A-LOOK EX supplies the reflective beauty of a mirror. You can bend it, cut it and hang it. It's ideal for store fronts, eaves, entrance areas and signs as well as for any variety of indoor applications including spas, bathrooms and other areas subject to humidity. The fluoride resin surface of A-LOOK EX provides outstanding weatherability and resistance to humidity.



**MITSUBISHI CHEMICAL INDUSTRIES
AMERICA INC. (MCIA)**

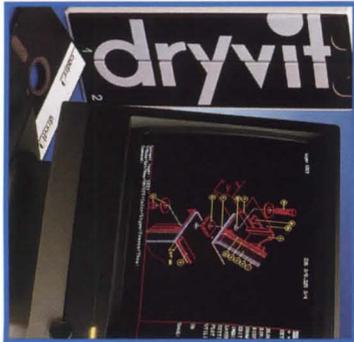
100 Wade Avenue, South Plainfield, NJ 07080.

Phone: 201-757-6900/800-422-7270/FAX: 201-757-6690

Circle No. 350 on Reader Service Card

New Products and Literature

118 Technics-Related Products
132 Products and Literature
continued



Designing with Dryvit is a two-volume encyclopedia of design resources that contains technical information to facilitate the selection, design, detailing, and specification of exterior insulation and finish systems. The information is also available on a disk for use with AutoCAD, which is supplied as part of the two-volume set. Dryvit.

Circle 200 on reader service card



Architectural Lighting Solutions catalog illustrates ideas for illuminating parking and landscape areas, building façades, and security and exit signage. This hard-back book also addresses low-level lighting needs and contains registration cards for architects and specifiers to place themselves on mailing lists for up-to-date product announcements. Devine Lighting.

Circle 201 on reader service card



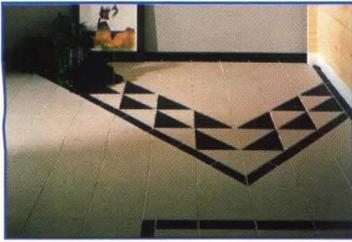
The Velux 4 chair from Morso's Dinamic Collection innovatively combines wood, metal, wicker, and leather. Bolognese architect Massimo Iosa-Ghini designed the collection to reflect the Bolidismo movement's influence on design. Curvilinear, streamlined shapes accentuate the 16 tables, chairs, and upholstered pieces that make up the collection. Palazzetti.

Circle 101 on reader service card



The Sally 1987 side table designed by Shiro Kuramata rests on casters and stands 29½ inches high. The metal and glass table is part of the Memphis Milano™ collection introduced at the Milan furniture fair. Artemide.

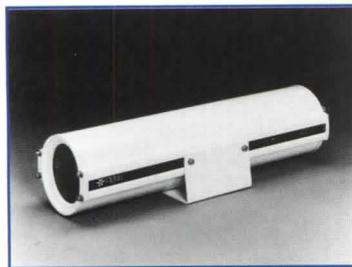
Circle 100 on reader service card



The Triangle Series of frost-proof, commercial-grade tiles features labor-saving precut triangles with matching 10" x 10" field tiles and trim. Color choices include black, white, blue, gray, and rose. United Ceramic Tile.
Circle 102 on reader service card

Gypsum wallboard drywall products are described in a 52-page, full-color construction bulletin, whose technical sections detail product characteristics, code approvals, fire/sound ratings, application instructions, and architectural specifications. Gold Bond Building Products.
Circle 202 on reader service card

Vertical atrium applications can make use of the 2800 Trusswall Framing System, featuring rounded vertical extrusions connected with 5/16-inch-thick aluminum webs. Spaced up to two feet on center, the webs are machine welded to the two extrusions, which form a front and rear chord. Kawneer Company.
Circle 103 on reader service card

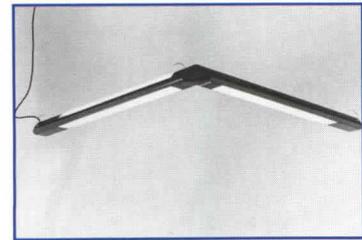


A high performance self-contained camera system, the VC1000 measures only six inches in diameter and 26.5 inches in length. A pressurized seamless aluminum tube houses a one-inch black and white camera that can be used in situations where lighting varies from extremely dim artificial illumination to bright sunlight. Vicon Ind.
Circle 104 on reader service card

BEC open-cell ceiling tiles of Ultra-Light concrete offer natural texture, easy installation, and a wide range of shapes and colors for interiors and exteriors. Ceiling system panels are three-dimensional and range from two to four inches in depth. Architectural Surfaces, Inc.
Circle 105 on reader service card

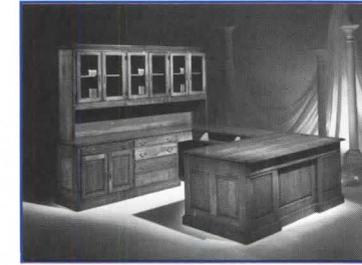
Kinetics floating floor noise control systems for liftslab, wood, and impact floors achieve extremely low sound transmission by resiliently decoupling the airborne noise, impact, or vibratory source from the building structure. A 12-page brochure details these systems as well as the company's capabilities in ceiling and partition noise control products. Peabody Noise Control, Inc.
Circle 203 on reader service card

Omega System III consists of 1-inch-thick wall panels with a foam core. Panels are trimmed and sealed at the factory, eliminating the need to cut and fit moldings at the job site. Laminators Incorporated.
Circle 106 on reader service card



This modular lighting system from Litech, System 133, provides multiple circuit lensed, baffled, or parabolic diffused fluorescent lighting. Finish colors include black, red, Chinese-lacquer red, and clear anodized. Track lighting and embedded halogen lighting are also available. Artemide.
Circle 107 on reader service card

CRYSTALENE cotton fiber tracing paper, transparentized with a high-grade mobile synthetic, enhances reproduction because graphite does not penetrate its fibers. Repeated erasing and redrawing poses no risk of ghosting. Keuffel & Esser Co.
Circle 108 on reader service card



Modular Furniture Systems are a new line introduced by Harden Contract. The Executive Return Desk features a central locking system and center pull-out dictating slide. One pull-out writing table, two box drawers, and a bottom file drawer compose the desk pedestal. Thirty-inch-high beveled glass door units with

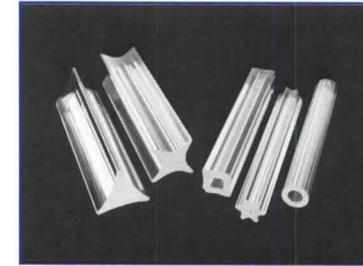
task lighting are offered on the modular hutch system. Harden Contract.
Circle 109 on reader service card



A new CAD Scanning System offers automatic dimensioning/scaling, multiple layers and colors, dynamic text entry, and the ability to create user-defined symbols. Auto-Scan Systems.
Circle 110 on reader service card

POLY-MAR HD solid plastic partitions for schools and public restrooms are described in two brochures that answer questions about product performance in lavatory environments. Santana Products Co.
Circle 204 on reader service card

Six tiny MR-11 display lighting lamps will be added to the Precise line of MR-16 lamps. The MR-11s will be available in narrow spot, spot, and narrow flood beam patterns in 20- and 35-watt ratings, all with maximum diameters and lengths of 35 mm. General Electric Company.
Circle 111 on reader service card



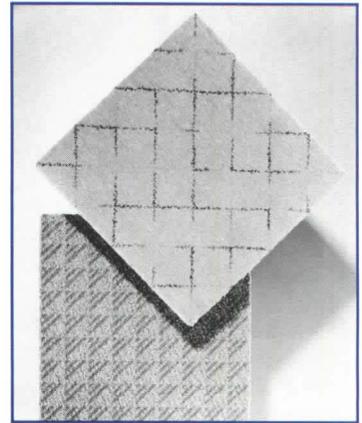
Glass rods and tubes with convex and concave profiles offer interesting optical features for lighting and decorative uses. Available as a soda lime or borosilicate glass, Conturax comes in standard 59-inch lengths and in various diameter profiles. Schott America.
Circle 112 on reader service card

Nylon push-pull handles are designed for heavy-duty use in schools, gymnasiums, hospitals, and shopping malls. Hiawatha.
Circle 113 on reader service card

Wall-hung refrigerated drinking fountains, which meet Public Law 90-480 specifications for wheelchair accessibility, are budget-priced and easy to install. Sunroc Corporation.
Circle 114 on reader service card

Ornamental handrails in wood, glass, aluminum, brass, and stainless steel are detailed in a brochure on the firm's Econo-Rail products. Newman Brothers, Inc.
Circle 205 on reader service card

AAES publications, reports, and reference works are listed in an up-to-date brochure available at no cost. American Association of Engineering Societies.
Circle 206 on reader service card



Modular carpet systems in both cut and loop pile construction are offered in a variety of designs. Ground colors include solids, multicolors, and heather effects. The carpet tiles come in either 18- or 24-inch squares, and there is a choice of three backing systems. Lees Commercial Carpet Company.
Circle 115 on reader service card

Two corner shower door units, the "corner entry" and the "neo-angle," conserve space and are decorative and economical. Kinkead Division, USG Industries.
Circle 116 on reader service card



Powerbond technology affixes soft surface flooring to solid vinyl to make Pro-Fitness, a new aerobic floor covering made from Timbrelle nylon, by ICI Fibres. The benefits include sound control, resiliency, easy maintenance, safety, and resistance to odor and mildew. A range of 24 colors is offered for application in health clubs, shower and locker rooms, gymnasiums, and sports facilities. Collins & Aikman.
Circle 117 on reader service card
(continued on page 134)

Rambusch creates with stained glass, metal, wood, gold leaf, crystal, fabric, paint, lighting . . . and extraordinary skill.



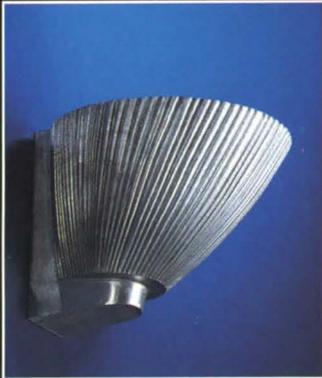
ST. BARTHOLEMEW, NY



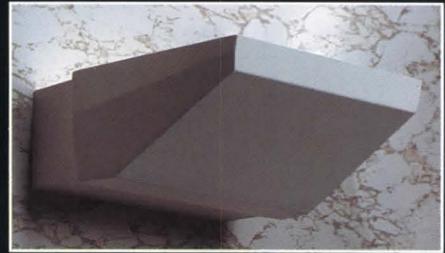
CHATHAM TRUST, NJ MACY'S, NY



PRINCETON UNIV, NJ



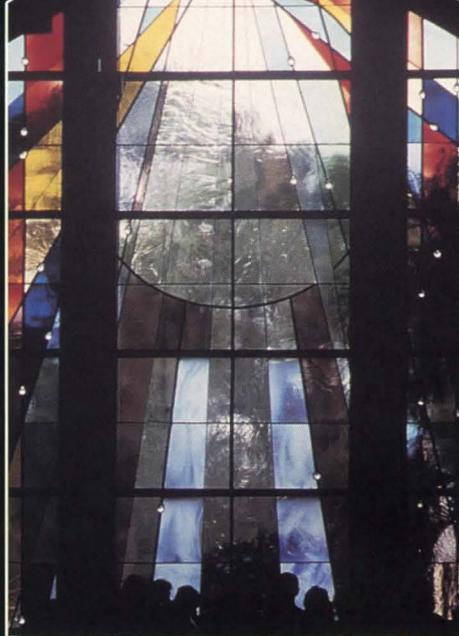
RAMBUSCH U-500 URN



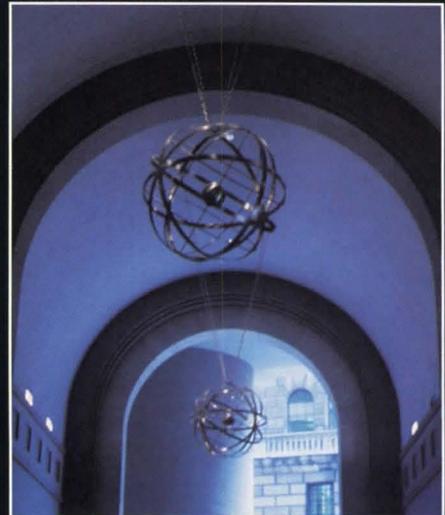
RAMBUSCH PAN-A-LUX



CROCKER MUSEUM, OH



ST. IGNATIUS LOYOLA, FL



35 MAIDEN LN, NY

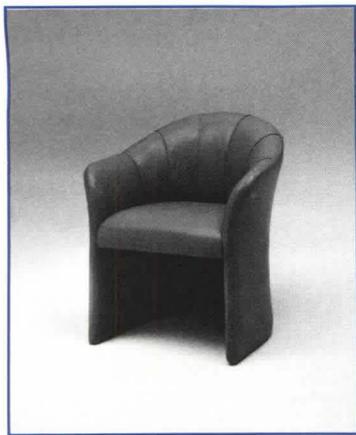
Rambusch restores, conserves and creates. Rambusch rebuilds, relights, paints and refinishes. Rambusch designs that which is original...or executes that which has been designed. For over 90 years, Rambusch has helped to preserve our cultural history, while adding its own distinctive chapters...by enhancing a treasured landmark, lighting a theatre, decorating a palatial new hotel, executing a stained glass window or helping to create an environment. Highly skilled designers, technicians and artisans contribute their expertise to recapture a past glory...or to create that which is new. It is a process sustained by an incomparable reputation for excellence...and four generations dedicated to the integration of architecture, design and engineering.

RAMBUSCH

40 West 13th Street, New York, N.Y. 10011 (212)675-0400

Circle No. 361 on Reader Service Card

(continued from page 132)



The **PETAL armchair** in genuine leather is welted and designed with a pieced cover effect and a slight fluting in the arm. It measures 28 inches wide, 28 inches deep, and 32 inches high. Reynolds Design Group.

Circle 118 on reader service card

Dynamic entrance areas can be created with the Entara system of coordinated components, including aluminum extrusions, framing members, rails, sub-assemblies, stiles, and hardware. A brochure details the system and the company's capabilities. Kawneer Company, Inc.

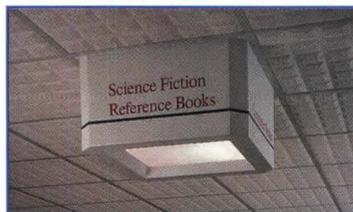
Circle 207 on reader service card

Exterior wood panel and lap sidings are described in an eight-page brochure that explains the association's new performance standards for these products. American Plywood Association.

Circle 208 on reader service card

Foamular extruded polystyrene insulation and related products in tapered roofing systems are described in a six-page brochure highlighting two sloped roofs. UC Industries, Inc.

Circle 209 on reader service card



The **Suspended Ceiling Module** is a lightweight seamless, molded fiberglass panel available in three sizes and three corner shapes to fit standard ceiling grids. Graphics may be non-illuminated or internally illuminated with either permanent or changeable messages. No additional ceiling support is required. Partial downlighting is optional. Apco.

Circle 119 on reader service card

Electric signs for retail outlets and other outdoor advertising are the subject of a six-page brochure which covers sign material, extrusions, and sign-face vinyl. Cooley Sign Systems, Inc.

Circle 210 on reader service card

A **screw fastener** for stucco-like wall systems is bottom-beveled and made of DELRIN instead of polystyrene to resist cupping. The universal fastener is applicable for metal, wood, and masonry. Pleko Products, Inc.

Circle 120 on reader service card

The **Building Systems Automation Manual**, designed to help building system designers, operators, owners, and managers, has 15 chapters grouped into two subject categories. Part 1 presents an overview of building automation from a management perspective. Part 2 concentrates on the technical fundamentals of a building automation system. Individual chapters or the entire manual can be ordered. The Trane Company.

Circle 211 on reader service card

Two 60-page catalogs describe the complete line of Pella® windows, doors, and sloped glazing systems for home and commercial building. The catalogs intro-

duce the new Pella Outswing Traditional French doors and expanded circlehead window offerings. Rolscreen Company.

Circle 212 on reader service card



Tegusol clay roof tiles have a double interlocking design that gives the tile proven weather protection against wind, rain, sleet, or snow. The S-shaped Mediterranean tile passes through 25 cycles of freeze-thaw testing, assuring resistance to moisture absorption and cracking. Stock colors include southern and antique red. Terra Cotta, antique Terra Cotta, sand, and brown may be custom ordered. Supradur.

Circle 121 on reader service card

(continued on page 136)

For the architect who hates to wait.

Dataprint has thousands of brand name drafting supplies at 20-50% off — ready for same day shipment.

Call us by 2 PM, we'll ship your order by 5 PM the same day! We carry the top quality items you want *in stock*, at discount prices, with guaranteed satisfaction. So if you're an architect who hates to wait, call Dataprint today. **FREE CATALOG ON REQUEST.**

DATAPRINT® Drafting, Print and Plotter Supplies
(800) 227-6191



Corporate Office: 700 S. Claremont St., P.O. Box 5910, San Mateo, CA 94402 • Distribution Centers located throughout the U.S.

Circle No. 386 on Reader Service Card

Our collection of 36 gracefully sculptured pieces of indoor/outdoor furniture, inspired by designs found at a turn-of-the-century estate in Maine, is built by skilled craftsmen using yacht joinery and

WEATHEREND[®]

ESTATE FURNITURE

fine furniture techniques with the best materials: clear or painted Honduras mahogany or bare Burmese teak.

For our portfolio, write or call: Weatherend[®] Estate Furniture, P.O. Box 648, Dept. PA, Rockland, ME 04841; 207•596•6483.

Circle No. 379

©1988 Imagineering, Inc.



We'll give you 6½ acres...

in Suffolk County, Long Island, New York

Why?

As a location to design a unique and lasting memorial to all Vietnam veterans. This is an open competition with a top award of \$15,000.

Can you transform 6½ acres into a memorial that will last for generations to come? If the answer is yes, write for details today.

Fact Sheet • Suffolk County Vietnam Veterans Memorial Commission
Competition Liaison • Veterans Service Agency
65 Jetson Lane • Central Islip, NY 11722



**Suffolk County Vietnam Veterans
Memorial Commission**

Circle No. 385 on Reader Service Card

INFORMATION

○ For additional information about any product or service featured, please circle the appropriate reader service number on the postage-free card at the back of the magazine.

P/A

(continued from page 134)



Water sculptures and landscape elements enhance public and commercial environments. Designs include calm reflecting pools, computer-controlled bowing archways, and fire fountains, an interaction of sound, fire, and water. Underwater light fixtures illuminate without hot spots or conspicuous hardware. Water Entertainment Technologies.

Circle 122 on reader service card

The OADC Intelligent Image Scanner converts text or graphics into binary code for processing by several IBM, IBM-compatible, and Apple Macintosh personal computers. Microsystems International.

Circle 123 on reader service card

The 1500 S.T. (straight transition) is a complete sloped silicone glazing system with a minimal transition sightline. Recommended for smaller installations and remodeling applications, it is flexible enough to handle end walls and hip corners. Kawneer Company, Inc.

Circle 124 on reader service card



A stacking guest chair, Fianco is made from one piece of plywood, cut and folded. The simple shape offers a comfortable seat and arm position. Kasprians, Inc.

Circle 125 on reader service card

Cement roofing slates containing no asbestos meet ASTM E-108 (83) requirements for Class A usage. The rigid, fiber-reinforced, textured blue-black and gray-green slates can also be used for fascias, mansards, and façades. Eternit Inc.

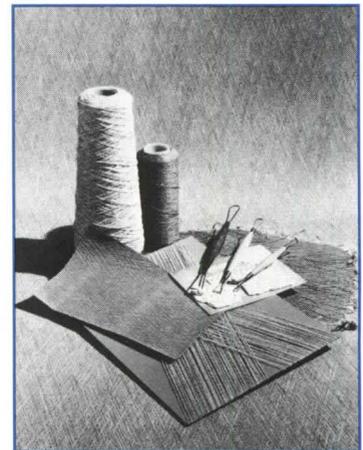
Circle 126 on reader service card

Uses of plywood in large-scale shelving are illustrated in a revised guide covering panel grades and specifications, design criteria, fabrication, and finishing techniques. American Plywood Association.

Circle 213 on reader service card

Weather Perfect acrylic flat exterior house paint is easier to apply and has better masking properties than in the past. Performance of the improved product is covered by a limited six-year warranty. Sherwin-Williams Stores Group.

Circle 127 on reader service card



Diamond Weave vinyl wallcovering has had 24 colors added to the collection. Saturated jewel tones, an extended range of gray, and new neutrals complement the color selection offered for these 54-inch fabrics. Genon.

Circle 128 on reader service card

The STOR-A-DOOR hinge permits appliance doors to swing open, then slide back into the closet along side walls. The hardware comes fully assembled on plywood panels and needs only to be fastened to closet walls. Stor-A-Door Division, J&J Peterson Co.

Circle 129 on reader service card



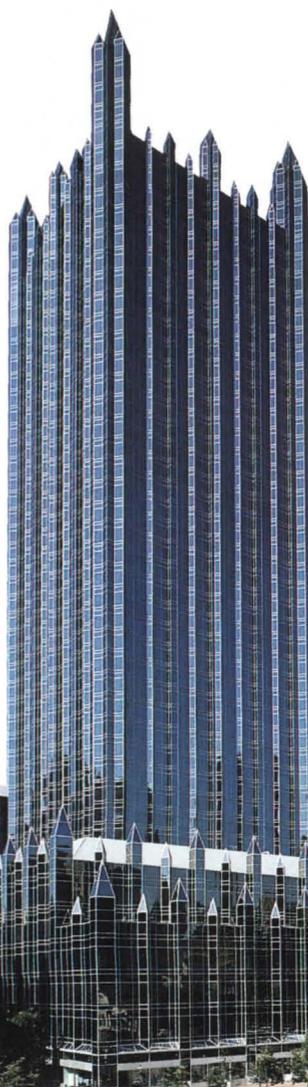
Mero NK System, a patented direct glazing space frame system, is described and illustrated in a new brochure. This system eliminates the need for skylight rafter or purlins, allowing the acrylic glazing system to attach directly to the outer chord of the space-frame structure. Mero.

Circle 214 on reader service card

(continued on page 138)

TCS and the Corporate Ediface

Procter & Gamble General Office
Cincinnati, Ohio
Architect: Kohn—Pedersen—
Fox Associates
New York, NY
Roofer: Imbus Roofing Company,
Cold Spring, KY



PPG Place, Pittsburgh, PA
Architect: Johnson/Burgee
New York, NY
Roofer: Warren, Ehret-Linck
Company
Pittsburgh, PA

There are many striking examples of how TCS (terne-coated stainless) has become an integral part of a total architectural concept...expressed so beautifully as roofs on the Procter & Gamble building and on the many roofs of PPG Place. Weathering to a predictable warm, natural gray, TCS blends quietly with the buildings' architectural expression.

Aesthetics aside, however, TCS has impressive functional credentials. Among them are great tensile strength combined with light weight, exceptional resistance to corrosive environments, complete freedom from maintenance... thereby promising a durability measured in generations rather than years. We'll be happy to send you substantiating evidence. Call us toll-free 800-624-6906.

Circle No. 332 on Reader Service Card

FOLLANSBEE
FOLLANSBEE STEEL • FOLLANSBEE, WV 26037

(continued from page 136)



Scandinavian saunas are described in a full-color, 16-page catalog. Installation photos show saunas in bathrooms, exercise rooms, and pool and garden settings. Basic information covers the history of the sauna, how it works, and assembly instructions. Finnleo Saunas.
Circle 215 on reader service card

Glassblock products in the Decora pattern and Essex AA pattern with LX inserts are available as standard rather than special-order products. The LX inserts are thin, fibrous glass sheets fused in place when the two halves of the glass block are joined. They control glare and solar heat gain. Pittsburgh Corning Corporation.
Circle 130 on reader service card

Hydraulic dock levelers save space and are mounted under the deck. A foot-operated latch releases the ramp from the stored position and settles it against the truck bed. A pliable lip can be extended to permit end loading. The five-foot-long, 30,000-pound capacity units

come in six-foot widths as well as six-foot six-inch and seven-foot dimensions for serving wider trailers. Rite Hite Corp.
Circle 131 on reader service card



The new Art Deco Collection, adapted from the archives of both Radio City Music Hall and Schumacher, consists of woven

and printed fabrics, wallcoverings, and floorcoverings. Characteristic of the Collection is Rockettes Border, a vinyl top-coated wallcovering, based on a bronze bas-relief under the Radio City Music Hall marquee, that is available in brass or platinum. Schumacher.
Circle 132 on reader service card

The Bio Chair has a dual axis back which adapts to each posture change without knobs or controls. The cantilevered arms allow unrestricted side-to-side movement. Adjustments include height and tilt tension control. Six different chair types, including matching side chairs, are available. American Seating.
Circle 133 on reader service card

BOSTON

Visions

A National Design Competition
 Architects, urban designers, artists, and other visionaries throughout the US are invited to design Boston's future.

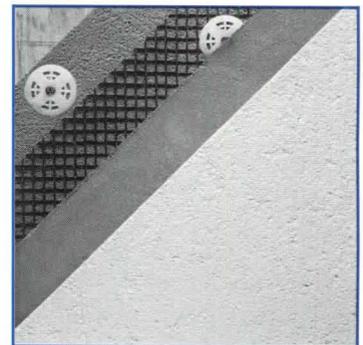
- \$50,000 in prizes
- nationally renowned jury
- registration begins July 15, 1988

For information on registration call or write:
 Boston Visions
 Boston Society of Architects
 305 Newbury Street
 Boston, MA 02115
 617.267.5175

Sponsored by the Boston Chapter of the AIA, and funded by the Boston Redevelopment Authority, the Commonwealth of Massachusetts, the LEF Foundation, and the Boston development community.



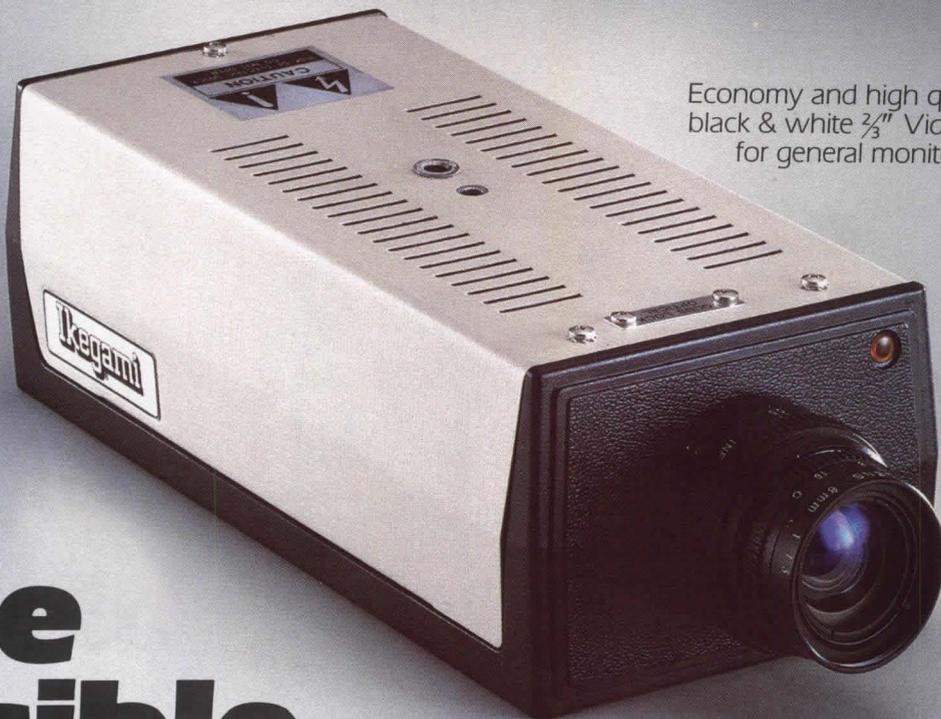
The Edo Collection, designed by Kisho Kurokawa, recalls the Edo period furniture with its high-gloss lacquer finish. Matte black or a combination of matte black and aubergine may be specified for this chair. Other pieces feature a high-gloss lacquer finish. Casaform.
Circle 134 on reader service card



A modified cementitious wall system, STO C-System is applied in the same manner as the STO synthetic systems. The ground coat and finish coats supplied in bag form require only the addition of water on the job site. The C-System provides a rigid surface without the need for expansion joints. The rilled texture finish is offered in eight colors. STO Industries.
Circle 135 on reader service card
 (continued on page 140)

Capability

Aluminum enclosure and die-cast chassis for excellent heat dissipation.



Economy and high quality in a black & white $\frac{2}{3}$ " Vidicon tube for general monitoring.

High resolution for monitoring clarity.

The Visible Difference

ITC-410

Ikegami's advanced technology and skill build responsive capacity and performance into every one of its high quality black and white video cameras. There's a reliable, economical Ikegami camera designed and engineered to fulfill the requirements of any monitoring application.

The easy-to-install ITC-410 featured above, for example, with horizontal resolution of 650 lines or better. ALC of 100,000:1. Automatic beam control for consistent operation, 2:1 interlace and synchronization for compatibility with auxiliary TV equipment. A low-light level version is available. Auto-iris is standard on all models.

There's an Ikegami ultra-miniature ICD-200 solid state chip camera available. Shock- and vibration-resistant, it provides steady, distortion-free performance even in strong magnetic or electrical fields. The ICD-200 even resists sensor burn for long, operational life. Also available in 24 volt AC, line-lock, phase-adjustable configuration.

Need remote capability? consider the ITC-420 $\frac{2}{3}$ " Vidicon camera, which adds low-cost installation to economical price. A single coaxial cable transmits both power and video signals. Automatic beam control circuit assures consistent operation, while a cable length compensation switch provides accurate control.

For excellent performance in a compact, lightweight unit, see the ITC-400, with an ALC range of 20000:1. Plus auto-iris control. Automatic beam control. DC and low-light level options. Vertical phase-adjustable.

And for cost-savings on ultra-high sensitivity and high resolution, Ikegami offers the ITC-510 1-inch video camera. Featuring resolution of 850 lines or better for magnificently clear images. Rugged, heat-dissipating aluminum enclosure. Featuring line-lock and genlock. Low-Light version available, too.

Examine the unique combination of value and performance offered by each Ikegami video camera. And discover how Ikegami capability makes a visible difference in every monitoring application.



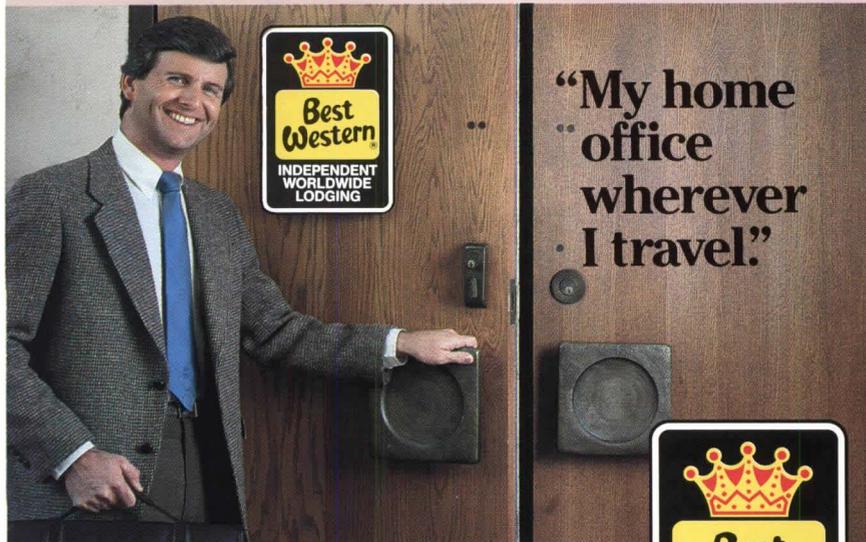
A NAME TO WATCH
Ikegami

Ikegami Electronics (U.S.A.), Inc., 37 Brook Avenue, Maywood, NJ 07607 (201) 368-9171

West Coast: (213) 534-0050 Midwest: (312) 834-9774 Southwest: (214) 869-2363 Southeast: (813) 884-2046 Hawaii: (808) 946-5955

Circle No. 342 on Reader Service Card

What is a Best Western?



The right place at the right price.

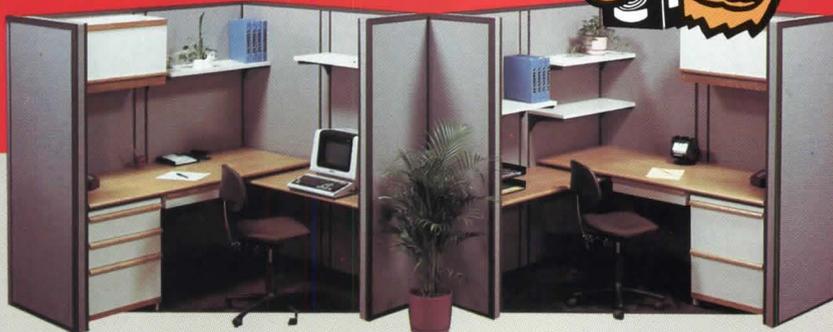
Make reservations at any Best Western, see your travel agent, or call toll-free
1-800-528-1234



"World's largest chain of independently owned and operated hotels, motor inns and resorts"

Circle No. 002 on Reader Service Card

NOW WE CAN SHOW YOU HOW NATIONAL CAN TAKE A BIG BITE OUT OF YOUR PARTITIONING AND WORKSTATION COSTS.



The Innerspace™ Concepts System for office and workstation partitioning and systems furniture is designed for flexibility and economy. Sturdy 3" thick panels in heights to 120"

with full or half glass and pre-hung doors provide complete layout capability. A full line of affordable wall-hung and stand-alone desks, pedestals, storage units and accessories also available.

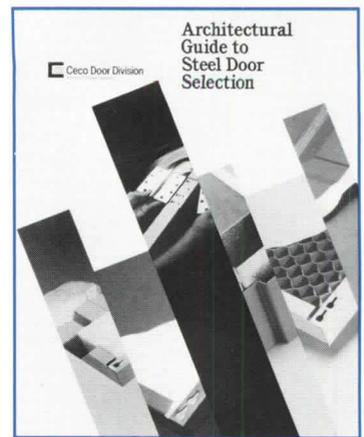


340 W. 78TH RD., HIALEAH, FL 33014

CALL TOLL-FREE 800-327-3697 FOR OUR NEW VIDEO "THE PRACTICAL SOLUTION"

Circle No. 003 on Reader Service Card

Products (continued from page 138)



Steel doors and frames are the subjects of an eight-page catalog which includes detailed specifications and details of the company's manufacturing and installation capabilities. Ceco Door Division.

Circle 216 on reader service card

Batten roofing systems of aluminum, stainless steel, and copper are featured in a metal roof, spire, and steeple catalog describing the company's design, fabrication, and installation capabilities. Overly Manufacturing Co.

Circle 217 on reader service card

Ash & Trash receptacles of fiberglass, steel, and stone for hospitality and other contract interiors are described in a brochure highlighting nine new marbles and granites for stone sand urns. Peter Pepper Products.

Circle 218 on reader service card

The T-Star electronic touch switch with Status Light indicates on/off mode when lighting fixtures are not visible. Lutron Electronics Co.

Circle 136 on reader service card

A compact refrigerator/freezer called the Hot 1 is for commercial applications. It supplies up to 15 pounds of ice per day and has a 5.8-cubic-foot capacity. Marvel Industries.

Circle 137 on reader service card

Plotter supplies, including pens and media, are described in five four-page brochures that stress the system concept to plotting. Bruning Division.

Circle 219 on reader service card

Standing seam metal roofs and complete metal building systems are described in a series of booklets designed to minimize maintenance problems. American Iron & Steel Institute.

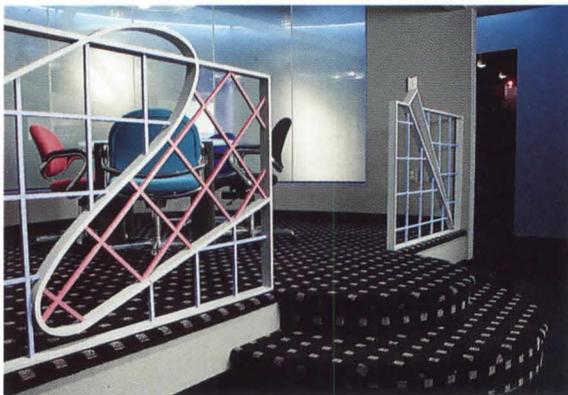
Circle 220 on reader service card

DU PONT SALUTES THE WINNERS OF THE 1988 ANTRON® DESIGN AWARD COMPETITION



PHOTOS: RICHARD HACKETT

GRAND PRIZE. Design Team: Phyllis Martin-Vegue, Lamberto Moris and Cindy Kupka of Simon Martin-Vegue Winkelstein Moris, San Francisco. Client Site: Packard Foundation. Carpet Mill: Patrick. Styles: Tradition, Heritage. Contract Dealer: Conklin Brothers.



OUTSTANDING ACHIEVEMENT, PUBLIC SPACES CATEGORY. Design Team: Jane Garland Lucas, Janice Fanya Lewbin, and Edwin J. Steel of JGL Interiors in association with Stahl Associates, Boston. Client Site: Boyd Corporation's Advantage Showroom. Carpet Mill: Harbinger. Styles: Confetti, Classic Square, Fifth Avenue.

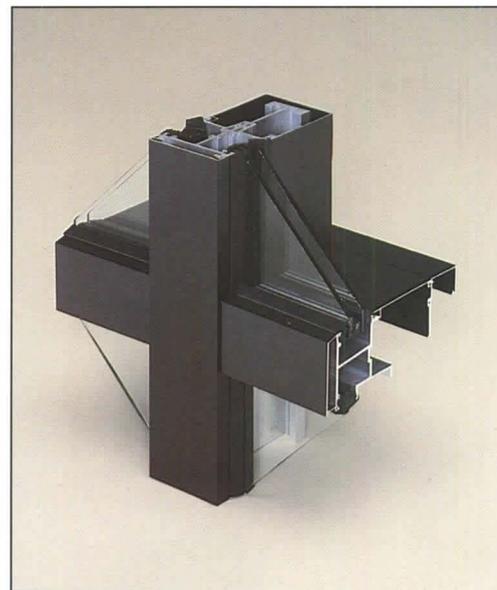
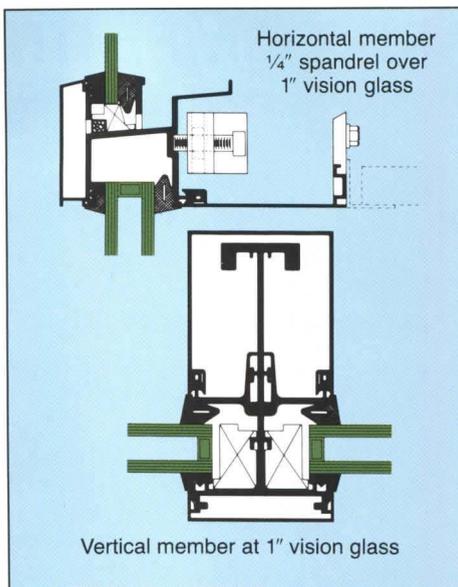


OUTSTANDING ACHIEVEMENT, HEALTH CARE CATEGORY. Design Team: Raymond F. Stainback, Jack Plaxco, and Paula Stafford-Cloutier of Thompson, Ventulett, Stainback and Associates, Inc., Atlanta. Client Site: Ronald McDonald House at Emory University. Carpet Mill: Designweave. Style: Marquis. Contract Dealer: Carnes Brothers.

In recognition of their outstanding achievement in interior design utilizing carpet made of Du Pont Antron® nylon, we congratulate this year's talented winners.



Introducing the Series 3600 Curtain Wall System from United States Aluminum Corporation



Design Features

Thermally Improved — Interior aluminum is thermally isolated from the exterior in the vision areas by $\frac{1}{8}$ " injection molded nylon isolator clips. CRF rating of 67 as tested in accordance with AAMA 1502.7 and 1503.1.

Labor Savings — Completely factory fabricated stick system designed for inside erection and glazing. System allows for reglazing of spandrel lites from the exterior. Adjustable vertical glazing beads readily accommodates $\frac{1}{4}$ " and 1" glazing infills.

Gaskets — Molded exterior closed-cell sponge neoprene gaskets and E.P.D.M. interior wedge gaskets provide a completely dry glazed system.

Horizontals — Lap joint construction of horizontals to verticals provide for positive seal and expansion. Horizontals contain two baffled weeps with snap on exterior covers which have a beveled water shed edge.

Corners — Standard low profile 90 degree and 135 degree outside corners are available.

Performance — Certified test reports that meet or exceed AAMA 501 standard test procedure for ASTM: E-283 air infiltration, E-330 structural performance & E-331 water penetration, are available.

Available in clear, bronze or black anodized finish or custom painted to architect's specification.



For complete information call 1 (800) 527-6440, in Texas call 1 (800) 442-3247, or write:

United States Aluminum Corporation

Manufacturing Facilities

3663 Bandini Blvd.
Vernon, California 90023
Telephone (213) 268-4230

200 Singleton Drive
Waxahachie, Texas 75165
Telephone (214) 937-9651
or (214) 299-5397 metro

6969 West 73rd Street
Chicago, Illinois 60638
Telephone (312) 458-9070

720 Cel-River Road
Rock Hill, South Carolina 29730
Telephone (803) 366-8326



Cedars-Sinai Comprehensive Cancer Center, Morphosis Architects/Gruen Associates.

Buildings Below Grade

The July issue will feature two former P/A award winners: the Lucile Halsell Conservatory in San Antonio, Texas, by Emilio Ambasz & Associates and the Cedars-Sinai Comprehensive Cancer Center in Los Angeles by Morphosis Architects/Gruen Associates. The buildings offer two very different solutions to building underground.

Also in July

Other articles in July will include an examination of various strategies and tools useful in marketing architectural services, a portfolio of three New York buildings by Kohn Pedersen Fox Associates, and an exploration of the uses of brick.

Future Issues

The August P/A will explore in detail the Australian Parliament House by Mitchell/Giurgola & Thorp Architects. Interior Design will be the focus of P/A in September.

FREE YOUR DESIGN IMAGINATION WITH PARAGON SWIMMING POOL EQUIPMENT

Be creative! Don't just settle. Choose from Paragon's huge array of innovative deck and underwater equipment. If you don't see it—we'll fabricate to your exact design.



CATALOGS
(CONTAINING
DETAILED SPECIFICATIONS)
SECTION AVAILABLE!

KDI PARAGON INC.

OVER 30 YEARS OF MANUFACTURING & ENGINEERING KNOW-HOW
PO BOX 256, PLEASANTVILLE, NY 10570 ■ 914/769-6221

Circle No. 343 on Reader Service Card

How many ways to use cedar shingles? How many trees in a forest?



Architect: Bahri & Associates

The possibilities are as infinite as your own imagination. Because the enduring beauty of red cedar shakes and shingles adds striking warmth to any design you create.

To learn why red cedar shingles and shakes are such an excellent architectural solution, send for your free copy of our Architect's Cedar Library. It offers everything you need to know about cedar shake and shingles.



These labels on the bundles of Red Cedar shingles and shakes are your guarantee of Bureau-graded quality. Insist on them.

Red Cedar Shingle & Handsplit Shake Bureau

The recognized authority
Suite 275, 515-116th Ave. NE, Bellevue, WA 98004

Circle No. 363 on Reader Service Card

What's behind Door No. 1? Door No. 2? Door No. 3?



**And
96 other
doors?**

The Dentco II Multiple Door Access System from Detex.

Manage access security for up to 99 doors, and enjoy advanced control features—without complicated programming. New Dentco II Multiple Door system from Detex is easy to install and use.

Door units guard each point of entrance, while a central processor lets you manage access security—from one central location. Use it to change security levels of door units—even print out reports of door transactions.

No other access control system can match the features of new Dentco II MDS:

- Simple two-wire installation.
- Easy to learn and use. Simple to expand.
- 99 door capacity per system.
- Unlimited card capacity.
- Programmable modes let you vary the security level of each door—locked, unlocked, card only, card and personal identification codes.
- Programmable time zones enable you to authorize individual cards

or groups of cards for time periods you select.

- Card-dependent anti-passback feature admits a card only once before the cardholder uses it to exit—prevents the card from being “passed back” to unauthorized users.

Don't leave your security system to chance. Call or write for more information about Dentco II Multiple Door System.



DETEx

Situations Open

DIRECTOR OF ARCHITECTURE -A.I.A.

An award-winning architectural firm in the Northeast is seeking someone to provide creative inspiration and guidance for a staff of talented architects and designers.

The successful candidate must be registered (NCARB registration preferred) with at least 15 years' experience. Candidate must have demonstrated experience and capability to market projects in commercial, institutional, industrial and other mixed use architectural markets. Managerial skills and strong design background desirable. Must be a confident, self-motivated individual with superior speaking, writing, and presentation skills.

Please direct resume and salary requirements to: Progressive Architecture, Job Mart, Box 512. An Equal Opportunity Employer.

MARKETING DIRECTOR MAINE

Maine's largest full service A/E firm seeks exper. marketing prof'l, strong A/E background, demonstrated success in marketing A/E services. Direct full scope of Sales & Marketing efforts. Articulate, leader, team player. Reply to:

HARRIMAN ASSOCIATES
292 Court St.
Auburn, Maine 04210

Emilio Ambasz & Associates

Seeks exceptionally talented individual with minimum 5 years experience for design development and project management position. Send cv, non-returnable portfolio materials and salary requirements to: 632 Broadway, New York, NY 10012, Attn: Dwight Ashdown.

JOHN PORTMAN ASSOCIATES INTERNATIONAL PROJECTS

Atlanta based architectural firm seeks several **entry** and **staff** level architects for career positions. The candidates we seek should have professional degree, excellent drafting, technical and design skills, with CADD experience considered a plus! If you are a motivated team player and would consider yourself a generalist and have an exceptional academic standing as a student or professional portfolio, then give us a call.

Felicia McAleer
1-800-257-1600 or
(404) 956-1600 (In GA)
300 Interstate North Parkway
Atlanta, GA 30309

ARCHITECTURAL - Rapidly Expanding Westchester County firm offers opportunities to excel and advance quickly. Mixed-use projects require a Job Captain with a min. of 5 years experience and a Designer with a min. of 7 years experience. Send resume to:

Nadler Philopena & Assoc.
103 S. Bedford Rd.
Mt. Kisco, NY 10549
Attn: Mr. Rene Mueller.

SENIOR ARCHITECT New York City, New York

Will supervise and oversee architects in the development design, construction, alterations and repair of residential and commercial property. Must supervise and plan layouts of projects and integrate engineering elements for contractors. M-F 9-5, \$32,000 per year. Must have four years of experience including one year of field experience, Master's degree plus 3 years experience also acceptable. Send to: **RVB #165, Room 501, One Main Street, Brooklyn, New York 11201.**

Architectural Engineer - Review architectural design for compliance with building standards, architectural engineering principles, & customers contract specifications. Estimate construction costs & control expenditure. Plan & formulate construction project schedule, & organize staff. BS or MS in Architectural Engineering. 2 yrs exp. for BS or 1 yr exp. for MS in Architectural Engineer or Project Engineer req'd. \$38,400/yr. Job site: San Gabriel, CA. Send resume to: 180 E. Valley Blvd., San Gabriel, CA 91776, Attn: George Chen.

ARCHITECTS

We are seeking Architects with hotel/motel, multi-story condo, hospital, or apartment complex experience. As Project Manager you would be responsible for several projects at once primarily hiring and supervising outside consultants. If you have at least four (4) years experience doing this and a degree in Architecture, call me.

Patrick Evans
Whitaker, Fellows & Associates
820 Gessner, Ste. 1500
Houston, TX 77024
(713) 465-1500

New York State Historic Preservation Office seeks 2 architects. Primary responsibility is plan review for historic preservation grants, compliance, tax certification programs. \$22,289. Resume: David Gillespie, 99 Washington Ave., Suite 2010, Albany, NY 12210.

Services

ARCHITECTS - \$25,000-85,000 GROUP ONE SEARCH

Executive Architectural Recruiters. Superb positions Nationwide at all levels with Regional and National firms. Confidential. NEVER A FEE. P.O. Box 273210, Tampa, FL 33688.
(813) 969-0544

ARCHITECTS: Your career is our business! Claremont-Branan, Inc. is a national recruiting firm specializing in assisting architects in finding that "unique opportunity." Our clients include many of the country's top architectural firms. Senior-level technical and managerial positions available now for qualified professionals. If interested please call or send resume to: Phil Collins or Tracy McNair, **CLAREMONT-BRANAN, INC.**, 2295 Parklake Dr., Suite 520, Dept. "J", Atlanta, GA 30345. (404) 491-1292.

RitaSue Siegel Agency™

A recruiting service to find architects, interior, graphic and industrial designers, marketing and sales support people for consultants and business. Confidential. Nationwide, international.

60 W. 55 St., New York, NY 10019
212/586-4750

Notice

Please address all correspondence to box numbered advertisements as follows:

Progressive Architecture
Job Mart—(Assigned Number)
P.O. Box 1361
600 Summer Street
Stamford, Connecticut 06904

Advertising Rates

Display style \$170 per column inch, per your layout. Maximum 6 inches. Commissionable to recognized advertising agencies. Approximately 35 words per inch. Column width approximately 1 3/4". No charge for use of box number. Situations wanted advertisements: \$65 per column inch. Noncommissionable.

Check or money order should accompany the advertisement and be mailed to Mary Mulach, P/A Classified, 1100 Superior Ave., Cleveland, OH 44114 (Telephone 216/696-7000, Ext. 2584).

Display style advertisements are also available in fractional page units starting at 1/4 page and running to full page.

Insertions will be accepted no later than the 1st of the month preceding month of publication. Copy to be set due seven days earlier.

Do it
out of respect
for the dead.
And the living.

THE AMERICAN HEART
ASSOCIATION
MEMORIAL PROGRAM.



WE'RE FIGHTING FOR YOUR LIFE

American Heart Association

This space provided as a public service.

LET YOUR IMAGINATION SOAR...

PITTSBURGH CORNING
PC GLASSBLOCK®
PRODUCTS

You can transcend right angles . . . or *any* angles . . . when you design with PC GlassBlock®.

Serpentine. Undulating. Cylindrical. These are the forms that tempt you . . . call you . . . when your imagination is freed from the limitations of more conventional building products.

Harness the beauty—and function—of natural light. Or create glowing surfaces with artificial illumination. Design walls that seemingly float . . . unconfined rooms that offer openness with privacy. The patterns, sizes and shapes of PC GlassBlock® invite the unique and daring.

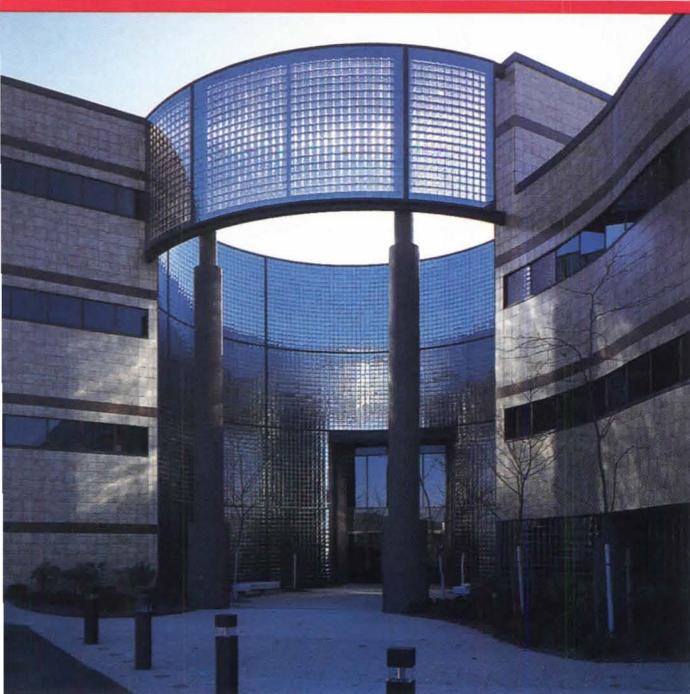
But aesthetic freedom and drama are not its sole advantages. PC GlassBlock® products do so much more. They insulate . . . reducing solar heat gain and noise. Lower interior light requirements. And keep out dirt, dust and drafts.

American-made PC GlassBlock® products have been providing imaginations with boundless design possibilities for over 50 years.

For information, call our PC GlassBlock® Hotline at 800-992-5769 (in Pennsylvania, 800-992-5762). Or write Pittsburgh Corning Corporation, Marketing Department AGB-8, 800 Presque Isle Drive, Pittsburgh, PA 15239. In Canada, 106-6 Lansing Square, Willowdale, Ontario M2J 1T5, Tel.: (416) 222-8084.



LIBERTY CENTER
Troy, MI
Architect: Rossetti Associates
VUE® and ESSEX® AA Patterns



HINES INDUSTRIAL BUILDING
Westborough, MA
Architect: Drummey Rosanne Anderson, Inc.
SOLAR REFLECTIVE Glass Block, VUE® Pattern



SCHOOR DEPALMA
ENGINEERING OFFICES
Manalapan, NJ
Architect: Wayne Lerman Architect
DECORA® Pattern



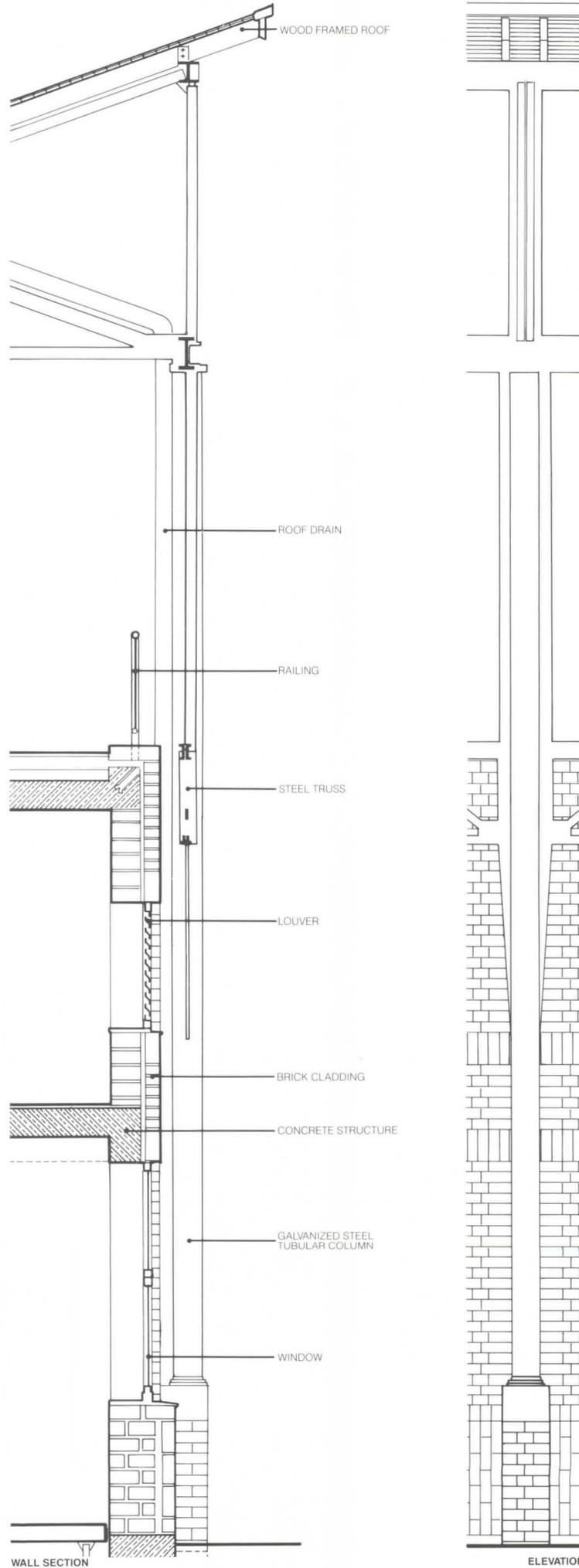
Selected Details



TRAIN STATION FACADE



MODEL OF TYPICAL BAY



Wall Section The Kemperplatz Bahnhof West Berlin

Built as a temporary exhibition structure for a magnetic train system, the Kemperplatz Bahnhof (train station) displays an elegant interweaving of modern and traditional construction. Berlin architects Brandt and Böttcher chose materials that were appropriate to their local climate and that referred to vernacular buildings.

The building's base is constructed of local, golden-colored bricks set in simply laid patterns. Overlapping the brick walls are small steel trusses that support the fenestration system, which is a continuous band of glass and steel windows. The gently folded exposed wood roof is independent of the wall structure and is supported by a system of galvanized, tubular steel columns. The separation of roof and wall permits a flow of air into the station. Roof drainage occurs through leaders that are integrated into the structural steel of the façade. The permanence of brick and steel, the lucidity of glass, the rawness of unpainted wood—in contrasting these materials Brandt and Böttcher have created a simple, but complexly integrated, structure.

Mary Catherine Pepchinski

The author is a New York architect living and working in West Berlin.

PA Advertisers' Index

AllianceWall Corp. 4	Gametime, Inc. 67	Steelcase, Inc. 2, 3	Cleveland, Ohio 44114:
Amoco Fabrics & Fibers Co./Carpet Yarn 32A-32D	General Polymers Corp. 41	Steelcase Design Partnership ... 58, 59	1100 Superior Ave.
Amoco Fabrics & Fibers Co./ Patchogue Plymouth Co. 126	ICF, Inc. 31	Suffolk County Viet Nam Veterans Memorial Commission 136	216-696-7000 Fax 216 696 8765
Andersen Corp. 18-25	ISPO, Inc. 69		John F. Kelly, Western Sales Manager
Apple Computer 48A-48H	Ikegami Electronics U.S.A., Inc. ... 139	Thoro System Products C3	Dallas, Texas; St. Louis, Missouri:
Architectural Area Lighting 40	KDI Paragon 143	U.S. Aluminum Corp. 142	2 Illinois Center Bldg, Suite 1300
Armstrong World Industries C2, 1	Kalwall Corp. 66	Vicon Industries, Inc. 76	312-861-0880 Fax 312 861 0874
Best Western International 140	Kawneer Co., Inc. 6, 7, 72, 73	Wayne-Dalton Corp. C4	Brian Keenan, District Manager
Boston Visions Design Competition . 138	Kim Lighting 10	Weatherend Estate Furniture 135	Los Angeles, CA 91436:
C/S Group 52	LOF/Glass 80A-80D		16255 Ventura Blvd, Suite 300
CTDA/ATFMCA International Ceramic Tile Exposition 123W	Laticrete International, Inc. 80	<i>Note: R or W after numbers denotes material that appears in regional editions only.</i>	818-990-9000 Fax 818 905 1206
Canterbury International 148	Lee Jofa, Inc. 79	Advertising Sales Offices	New York, New York 10168:
CertainTeed Corp. 120R, 121R	Marvin Windows 34, 35, 56, 57	Stamford, Connecticut 06904:	Channin Building, Suite 900
Chicago Metallic Corp. 14	Mitsubishi Chemical Industries of America, Inc. 130	600 Summer Street, P.O. Box 1361	122 East 42nd Street
Columbus Coated Fabrics—Guard .. 44	National Partitions & Interiors, Inc. . 140	203-348-7531 Fax 203 348 4023	212-867-9191 Fax 212 867 5893
Commonwealth Aluminum 78	Olympic West Design Competition . 129	Robert J. Osborn	James J. O'Brien, District Manager
Computerland 71	Pawling Corp. 64	<i>Vice President and Publisher</i>	Philadelphia, Pennsylvania:
Conde House 128	Pittsburgh Corning Corp. 146	Richard A. Strachan,	600 Summer Street, P.O. Box 1361
Cupples Products, Div. of H.H. Robertson Co. 119	Poulsen Lighting, Inc. 129	<i>Sales Manager</i>	Stamford, CT 06904 203-348-7531
D.P.I.C. 62	Progressive Concrete Institute 124	Francis X. Roberts, James J. O'Brien,	Francis X. Roberts, District Manager
Dataprint Corp. 134	Progressive Architecture	<i>District Managers</i>	Paris, France:
Detex Corp. 144	Bookstore 122, 123		Continental Europe
Dover Elevator Systems, Inc. 42, 43	Progressive Architecture Design	Atlanta, Georgia 30326:	12 Avenue Franklin-Roosevelt, 75008
Dryvit Systems, Inc. 46, 47	Awards 53, 54	3400 Peachtree Road, NE-Suite 811	Telephone: 43 59 36 06 Telex: 260717,
DuPont Co.—Antron 60, 61	Rambusch 133	Lennox Tower	Fax: 43 59 76 70.
DuPont Co.—Antron Design Winners 141	Red Cedar Shingle & Handsplit Shake Bureau 143	404-237-5528 Fax 404 237 1372	Yvonne Melcher, Manager
Eagle Window & Door, Inc. 65	Rhodorsil/Rhone-Poulenc, Inc. 26	Harmon L. Proctor, Regional Vice President	Tokyo, Japan 101:
Fiandre Ceramic Granite 36	Roppe Rubber Co. 68	Ronald L. Miller, District Manager	Bancho Media Service
Follansbee Steel Corp. 137	Saddlebrook 48, 49	Boston, Massachusetts:	Dai-Ichi Nisawa Bldg, 5th Fl.
Foremost Manufacturing Co. 33	Santa Fe Collection 120W, 121W	600 Summer Street, P.O. Box 1361	3-1 Kanda Tacho 2-chome
Formica Corp. 12, 13	Senergy, Inc. 77	Stamford, CT 06904 203-348-7531	Chiyoda-Ku
Forms + Surfaces 8	Shaw-Walker 50, 51	Richard A. Strachan,	03-252-2721
Forrer Chemical 70	Sherwin-Williams Co. 55	<i>Sales Manager</i>	Genzo Uchida, President
GE—C&I Lamps 74, 75	Sitecraft 127	Chicago, Illinois 60601:	United Kingdom:
	Southwall Technologies 39	2 Illinois Center Bldg, Suite 1300	Wood Cottage, Shurlock Row
		312-861-0880 Fax 312 861 0874	Reading, RG10 0QE, England
		Patrick J. Carroll, Brian Keenan	0734-343302
		<i>District Managers</i>	Telex 848800 Techno G
		Gail Lisac, Sales Service	Fax 0-734-343848
			Malcolm M. Thiele
			<i>Managing Director, U.K.</i>

CANTERBURY INTERNATIONAL

Architect: Mr. Ron Benoit
Project: Nevada Savings



Jardin Bollards
300 Series

Canterbury International
clock tower and chimes
Circle No. 387

P.O. Box 5730
Sherman Oaks, CA 91413
phone: (213) 936-7111

Catalog available
or
See us in Sweets

Quality & Service



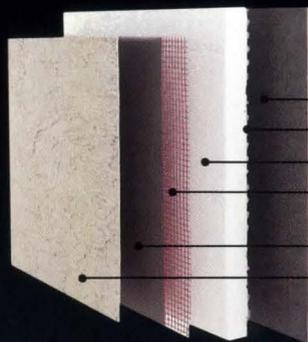
Quality products and technical service are part of what makes our ThoroWall Exterior Insulation Systems so perfect for new construction or retrofit.

ThoroWall A and ThoroWall H both provide those features so important to an insulating wall system; a waterproof, uniform finish, energy efficiency, aesthetically pleasing colors and textures, and excellent long-term weatherability.

All Thoro System products carry a limited material and labor warranty. For quality and service, count on Thoro!

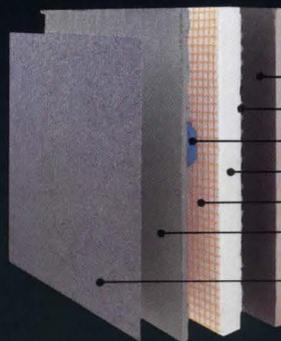
For more information, contact:
Thoro System Products, ThoroWall Division,
7800 NW 38th Street, Miami, Florida 33166.

Visit us at the CSI Show, Booth #1169.



ThoroWall A
Flexible acrylic, polymer base
insulated wall system

- Exterior Gypsum Sheathing
- ThoroWall Primer Base/Adhesive
- ThoroWall EPS Board
- ThoroWall Reinforcing Fabric-117
- ThoroWall Primer Base/Adhesive
- ThoroWall Acrylic Finish



ThoroWall H
High impact, high build,
insulated wall system

- Exterior Gypsum Sheathing
- ThoroWall Primer Base/Adhesive
- Mechanical Fastener
- ThoroWall EPS Board
- ThoroWall Fiberglass Mesh-119
- ThoroWall H Fiberoptic Base Coat
- ThoroWall Acrylic Finish

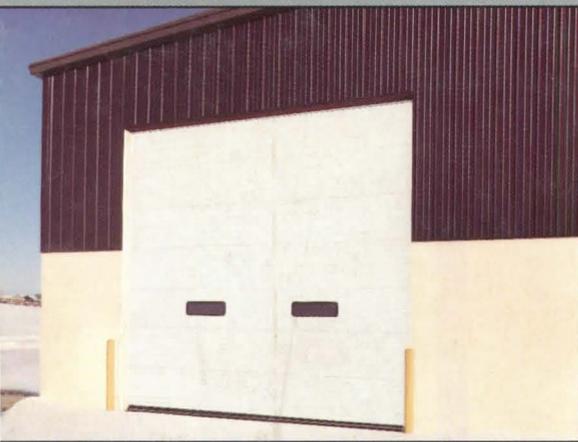


ThoroWall[®] Exterior Insulation & Finish Systems



If you specify insulated steel commercial doors, this ad can prevent serious embarrassment.

Thermospan™ foamed core insulated steel commercial doors are the result of a technological breakthrough in thermal efficiency and quality construction. If you aren't specifying them now, you could be paying too much — and getting too little for your money. Find out now why the Thermospan line is all the door you'll ever need.

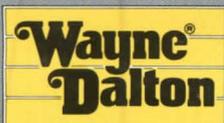


Thermospan 100



Thermospan 100 actually costs less than comparable steel doors with polystyrene insulation. Yet it offers superior foamed-in-place performance.

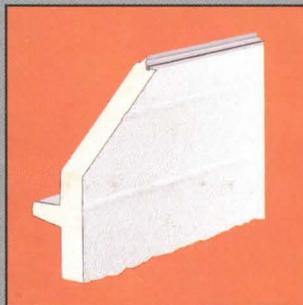
Call or write immediately for complete information (because there's nothing worse than discovering too late that you've paid too much for too little).



Wayne-Dalton Corp.
P.O. Box 67 / Mt. Hope, OH 44660
(216) 674-7015



Thermospan 150



This competitively priced premium door provides more insulating value than any conventional door on the market, making it an efficient system for commercial and industrial applications. Thermospan 150 offers an independently tested installed "U" value of 0.125. This outstanding energy efficiency is combined with an attractive pebble grain finish and quiet, smooth operation.



Thermospan 200



Independent tests prove that Wayne-Dalton's top-of-the-line door permits less heat transfer (installed "U" value of 0.11) than competitive doors nearly twice as thick. Available up to 40' wide, the Thermospan 200 is designed for heavy-duty applications and is built from foamed-in-place prepainted steel/polyurethane/steel sections 2" thick.

Thermospan quality features:

- High tensile steel skin with roll-formed integral struts
- sections bound together by foamed-in-place polyurethane insulation for increased rigidity
- a complete thermal break along joints and endcaps to reduce heat transfer between steel skins
- rubber bulb joint seals and factory-installed top seal to minimize air filtration
- U-shaped bottom seal that won't ice up and seals against uneven floors.

963-105