



# “The innovations you expect...”



## The solutions you need”



### DESIGN VERSATILITY

- ✓ Over 4,000 choices
- ✓ Innovative visuals
- ✓ Custom possibilities
- ✓ Design-enhancing grid



### PRODUCTIVE SPACES

- ✓ Acoustical solutions to reduce noise distraction
- ✓ Superior light reflectance
- ✓ Tackable walls



### SAFETY

- ✓ UL fire-resistive
- ✓ Seismic-rated
- ✓ USDA-acceptance
- ✓ Microbe-inhibition



### DURABILITY

- ✓ Impact-resistance
- ✓ Humidity resistance
- ✓ Corrosion-resistance
- ✓ Chemical-resistance



### CONVENIENCE

- ✓ Single-source ceilings/grid
- ✓ Knowledgeable local reps
- ✓ Largest global network, distributors/contractors

# story on copper... and specifications.

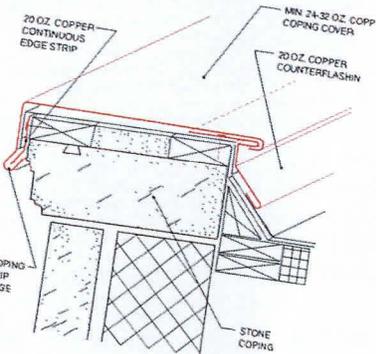
...vers and Screens  
...all Panels and Wal  
...ors, Windows, an  
...urniture and Furni  
...anters.....  
...oods and Firepla

...pecificatio

...heet Copper B  
...opper Flashir  
...opper Pre-Pi  
...Manufacture  
...tanding Se  
...atten Sean

Details

## Flashings and Copings



A. Coping

## Section 07612/Sheet Copper

THIS SECTION USES THE TERM "ARCHITECT" FOR THE ACTUAL TERM USED TO IDENTIFY THE ARCHITECT AND SUPPLEMENTARY CONDITIONS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions Division-1 Specification Sections

#### 1.2 SUMMARY

- A. This Section includes the following

EDIT LIST BELOW TO SUIT PROJECT:

- 1. Flat-seam copings

Specifications

## Standing Seam Roof Panel Test

Report Number: C.C.L. Performance Test Report #90-1056  
Report Date: 1 February 1991 Revised: 7 March 1991

### Introduction

A Mock-Up Test Specimen consisted of a 16 oz. copper, cold rolled temper, 1" high standing seam roof section, sloped to a 4" in 12" pitch. The specimen was tested in accordance with SMACNA Roof Panel Test clarifications at the direction of SMACNA. The following text is an abbreviated description of testing procedures.

**Air Exfiltration Test**  
The exterior face of the specimen was impervious visqueen membrane were sealed to allow no air to pass. The exterior face of the specimen was subjected to a negative static air pressure of 5.20 p.s.f. The measurement of air exfiltration through the channels was zero.

# FAX ME!

(212) 251-7234

Please send me:  the CDA Copper in Architecture Handbook - \$85  
 Details and Specifications Disks (IBM, 3 1/2") - \$40

Name \_\_\_\_\_  
Title \_\_\_\_\_  
Company \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Telephone \_\_\_\_\_ Fax \_\_\_\_\_

Bill me  Check enclosed with mailed order form

**COPPER DEVELOPMENT ASSOCIATION INC.**  
260 Madison Avenue • New York, NY 10016

Complete specifications are also included in the *Handbook* and on disk. Specifications conform to AIA MasterSpec®.

### Automatically updated and expanded.

The Copper Development Association automatically sends you additional sections and updates as soon as they're published. So your copper information, technology and methodology will always be kept current.

Here's an invaluable resource that belongs in every architectural library. **Order by phone: 800-CDA-DATA, or mail or fax the coupon: (212) 251-7234.**

MasterSpec is a registered trademark of the American Institute of Architects.

Circle 2 on inquiry card

**More Trouble in River City**

The article, "Trouble in River City" [RECORD, March 1995, pages 22-23], was excellent, but there is more.

The proposed casino was designed with such a large footprint that it could not fit on the site, necessitating the destruction of the Place de France, a small park situated between Rivergate and the Trade Mart, which contains the Joan of Arc Statue donated to the city by France. The park was built with federal funds using HUD's Legacy of Parks Program. Its demolition began without approval from the Department of the Interior and without a city demolition permit. As a result, the Louisiana Landmarks Society filed suit against the city and Harrah's and was successful at obtaining a court-ordered injunction on any further degradation of the park.

Harrah's now has three options: Appeal the ruling in a higher court; seek and obtain permission from the Secretary of the Interior to take the park, as required by federal law; or redesign the casino. They haven't appealed the ruling and they haven't been in contact with the Secretary of the Interior, which leads one to believe that they are redesigning the casino.

The ruling on this lawsuit has not slowed nor halted the demolition of Rivergate. This architecturally significant building is being razed and replaced with who-knows-what. Despite objections from the State Casino Board, the casino is now being constructed via design-build (or more accurately, build-design). On one end of the job site they are driving pilings and cutting openings in the existing foundations as per

the original plans; the other side is on hold. Whatever is built, it most likely will be a compromise from the atrocity depicted in the photo at the bottom of the article, if one can imagine such a thing. *Michael Rouchell, Architect Member, Friends of Rivergate New Orleans*

In response to the Observations article in your March issue [RECORD, pages 22-23], we would like to clarify certain points. There was a time in the early planning phases of the New Orleans casino project when the Rivergate building might have been saved. Our firm's (Perez Ernst Farnet Architects and Planners/Modus, Inc.) initial design proposal to the city was to preserve and retrofit the building for casino use. There was a scant response from the professional community at that time.

As a point of information: Rivergate sat virtually empty, blighting its "urban assemblage" for the past 10 years, during which time there was not so much as a whisper of concern for its future or a ground-swell of support for its preservation. Every serious redevelopment proposal for the site involved the demolition of the Rivergate building. What alternative uses are there for a convention hall of limited size, made obsolete by the construction of one of the nation's largest convention centers? The use of the building for a casino seemed appropriate initially, but ultimately it proved to be unsuitable for many reasons.

It is incorrect to state that, "it has all happened without a serious planning body really involved in the process." Be assured, the City of New Orleans was not irresponsible in the exer- *Continued on page 119*

**Through June 24**

"Temple of Liberty: Building the Capitol for a New Nation" exhibition in the Madison Gallery of the Library of Congress, James Madison Building, traces the effort to create a building reflecting the new nation's ideals. Bicentennial event features newly commissioned models of the Capitol and nearly 200 original documents. Call 202/707-2905.

**July 1-14**

• "The Art of Architecture: Works by Laureates of the Pritzker Architecture Prize," Columbus Gallery, Indianapolis Museum of Art. Call 317/923-1331.

**Competitions**

- Entries for the Precast/Prestressed Concrete Institute's design awards program are due June 30. Call 312/786-0300 or fax 312/786-0353 for details.
- Extension and Replanning of the Prado National Museum (Madrid). Registration due June 12 for a \$215 fee. Call 34-1/435-77-23 or fax 34-1/575-38-39 for more details.
- The entry date for the Design for Transportation Awards Program has been extended to July 20. Projects completed between January 1988 and March 1995 in the U.S. and possessions are eligible in the following categories: architecture (passenger and freight terminals, stations, ports, other structures); historic preservation; urban design and planning; special interest (ADA provisions; mixed-use development). Call 202/682-5437 for more information.
- Society of American Registered Architects invites architecture students to submit work done in conjunction with school or independently. Entrants must register by Oct. 6, and submit projects by Oct. 13. Write SARA at 1245 South Highland Ave., Lombard, IL 60148, or call 708/932-4622 for details. ■



ARCHITECTURAL RECORD (Combined with AMERICAN ARCHITECT, and WESTERN ARCHITECT AND ENGINEER) (ISSN0003-858X) June 1995, Vol. 183, No. 6. Title © reg. in U. S. Patent Office, copyright ©1995 by The McGraw-Hill Companies. All rights reserved. Indexed in Reader's Guide to Periodical Literature, Art Index, Applied Science and Technology Index, Engineering Index, The Architectural Index, the Architectural Periodicals Index, the Avery Index to Architectural Periodicals, and the Construction Index. Available on-line on Dialog (AR), Dow Jones (ARCH), NewsNet (BC13), Call 609/426-5523.

Every possible effort will be made to return material submitted for possible publication (if accompanied by stamped, self-addressed envelope), but the editors and the corporation will not be responsible for loss or damage.

*Executive, Editorial, Circulation and Advertising Offices:* 1221 Avenue of the Americas, New York, NY 10020, 212/512-2594.

*Officers of The McGraw-Hill Companies:* Chairman: Joseph L. Dionne. President and Chief Operating Officer: Harold W. McGraw III. Executive Vice President, General Counsel and Secretary: Robert N. Landes. Senior Vice President, Treasury Operations: Frank D. Penglase.

*Associated Services:* Sweet's Catalog Files (General Building, Engineering, Industrial Construction and Renovation, Light Residential Construction, Interiors), Dodge Reports and Bulletins, Dodge/SCAN Microfilm Systems, Dodge Construction Statistics, Dodge regional construction newspapers.

Subscription rates are as follows: U. S. and Possessions \$54.00, Canada \$65.00 (payment in U. S. currency, GST included); all other Foreign (including Air): \$160.00, add \$60.00 annually for air-freight delivery. Single copy price \$7.00; For Foreign: \$10.00. For Subscriber Services: 800/525-5003 (U.S. Only), 609/426-7070 (Outside the U.S.). Fax: 609/426-7087.

*Change of Address:* Forward changes of address or service letters to Fulfillment Manager, ARCHITECTURAL RECORD, P.O. 566, Hightstown, NJ 08520. Provide both old and new address with zip codes; attach issue address label.

*Guarantee:* Publisher agrees to refund that part of subscription price payment to unfiled part of subscription if service is unsatisfactory. Publisher reserves right to accept or reject any subscription.

*Copyright and Reprinting:* Title © reg. in U. S. Patent Office. Copyright ©1995 by The McGraw-Hill Companies. All rights reserved. Where necessary, permission is granted by the copyright owner for libraries and others registered with the Copyright Clearance Center (CCC) to photocopy any article herein for personal or internal reference use only for the base fee of \$1.50 per copy of the article plus ten cents per page. Written permission must be secured for copying. Write Reprint Manager, 1221 Avenue of the Americas, NY NY 10020; Fax: 212/512-4256. For reprints in bulk-orders, call 609/426-5494.

*Subscription List Usage:* Advertisers may use our list to mail information to readers. To be excluded from such mailings, send a request to ARCHITECTURAL RECORD, Mailing List Mgr., P. O. Box 555, Hightstown, NJ 08520.

ARCHITECTURAL RECORD (ISSN0003-858X) is published monthly by The McGraw-Hill Companies. Second class postage paid at New York NY and additional mailing offices. Postage paid at Montreal, Quebec, Canada. Canada Post International Publications Mail Product Sales Agreement No. 245655. Registered for GST as The McGraw-Hill Companies. GST Number R123075673

*Postmaster:* Please send address changes to: ARCHITECTURAL RECORD, Attn: Fulfillment Manager, P. O. Box 566, Hightstown, NJ 08520. This issue is published in national and separate editions numbered or allowed for as follows: 56E

PRINTED IN U.S.A.

## Architecture by Jury

### Editor

Stephen A. Kliment, FAIA

### Managing Editor

Carolyn De Witt Koenig

### Senior Editors

Charles K. Hoyt, FAIA

Karen D. Stein, (Managing)

James S. Russell, AIA (Managing)

Charles D. Linn, AIA (Managing)

### Associate Editors

Joan F. Blatterman

Clifford A. Pearson

### Design Director

Anna Egger-Schlesinger

### Design Associate

Matthew Dvorozniak

### Acting Production Manager

Janna L. Robinson

### Architectural Illustrators

Peter M. De Witt

Muriel Cuttrell (Consultant)

### Design Consultant

Massimo Vignelli

### Editorial Advisory Panel

William J. Stanley, III, AIA

Ivonne Love-Stanley, AIA

### Contributing Editors and Consultants

David Ballast, AIA

Robert Campbell, FAIA

Kristine Fallon, FAIA

Phillip Kidd, Finance

Robert Murray, Economics

Peter Piven, FAIA

Steven S. Ross, Computers

Norma Sklarek, FAIA

### Correspondents

Aaron Betsky, Los Angeles

David Cohn, Madrid

Claire Downey, Paris

Beth Dunlop, Miami

Pam Kinzie, AIA, San Francisco

Nancy Levinson, New England

Tracy Metz, Amsterdam

Gerald Moorhead, FAIA, Houston

Naomi R. Pollock, AIA, Tokyo

### Group Director, Circulation

Dawn Downes-Cosgrove

### Director of Classified Advertising

Gabrielle Boguslawski

### Director, Special Projects

Charles T. Pinyan

### Director of Business and Production

Joseph R. Wunk

### Director, Financial Operations

Helen Lísica

### Business Manager

José Quiñones

### Publisher

Howard M. Mager

Inquiries and submissions of work for publication may be sent to the editors listed below who are responsible for the subject areas named:

Carolyn De Witt Koenig, design news

Karen D. Stein, buildings, interior design

Clifford A. Pearson, observations, books

Charles K. Hoyt, at large

James S. Russell, technology, practice

Joan F. Blatterman, new products

Charles D. Linn, RECORD LIGHTING

Editorial Offices: 212/512-2594

Editorial Fax: 212/512-4256

Subscriber Service: 609/426-7070

Subscriber Fax: 609/426-7087

E-Mail: JSRRecord@aol.com.

With national conventions and announcements of design awards in high season, it's a good time to take some of the mystery out of the judging process and to assess some of the criteria used, rightly or wrongly, by the judges.

Here are six common concerns:

**1. Design quality vs "motherhood."** Dr. Johnson is said to have remarked, on seeing a dog walk on its hind legs, that one didn't expect it to do it well, but one was happy to see it do so at all. Much the same argument is often applied when judging an entry of high social, ecological, or contextual import—a street clinic, affordable housing, a regional corporate headquarters made entirely out of recycled products, perhaps a multi-use community facility in a rundown location. All are hard-to-attain buildings whose very existence merits bouquets. But if it's design you're judging, that should prevail as the main determinant (the same argument holds for technological brilliance, which should not be allowed to compel an award, say, for a building that is otherwise poorly planned).

**2. Impressive photography, lavish presentation.** If budgets permit, go look at the building; don't be taken in by images. You may encounter a mediocre facade or poor details which the photos failed to show. Scale, intimate on the photos, may be gargantuan in reality. And so on.

**3. Too big a budget.** Oddly enough, too much money can hurt a design as much as a shoestring budget. This past year one jury went to inspect a Modernist single-family house on which so many dollars had been lavished that it broke the design's back: not that the design was in bad taste, but its vociferous richness, from wall textures to furnishings to landscaping to needlessly elaborate detailing, all tied to a structural system that could have supported a small high-rise—added up to a cholesterol-laden concoction such as to enforce visual dieting for weeks.

**4. Not enough money.** That one is easier to handle, because it is here that the architect's skills are stretched to the utmost. The great Jean Labatut used to drum into his students that one of the architect's supreme accomplishments is to achieve "the maximum with the minimum."

**5. The tyranny of context.** Buildings should be polite to their neighbors, but not to the extent of depriving the newcomer of its architectural soul. Will future generations praise such a solution, or condemn it for not making a strong enough statement about its day and age? What if the context is demolished?

**6. Originality vs. conformity to trends.** Originality of form can be a great architectural virtue, but carried to extremes will have the same long-term disturbing impact as an overdose of technological, social, environmental, or contextual zeal.

The road to architectural excellence is dotted with the landmines of single-vision issues. It speaks well for the judging system that it has uncovered so much that is good. *Stephen A. Kliment*

# Introducing AutoCAD Release 13. The most powerful AutoCAD ever.

The screenshot displays the AutoCAD Release 13 interface. At the top, the menu bar includes File, Edit, View, Data, Options, Tools, and Help. Below the menu bar is a toolbar with various icons for file operations, editing, and drawing. A floating 'Modify' toolbar is also visible. The main workspace shows a technical drawing with a red 3D Polyline being edited, indicated by a yellow tooltip. A dimension line is shown with a value of 76.9620. A green hatched area is shown with a tooltip explaining associative hatching. A Command Window at the bottom shows the command line with the text: 'Command: \_toolbar', 'Show/Hide/Left/Right/Top/Bottom/Float:', and 'Command:'. A table in the bottom right corner lists material types and their IDs.

**INTUITIVE USER INTERFACE** — leverages your Windows skills, giving you immediate access (via toolbars and tool tips) to the features you use most.

**FLEXIBLE DIMENSIONING** — graphic previews make customizing dimension styles easy; automated layout and editing speed up the dimensioning process.

**ASSOCIATIVE HATCHING** — updates automatically whenever boundaries change; no more tedious rehatching.

**COMMAND WINDOW** — you still have direct access to the Command Line, now a floating or docked window that supports cut and paste.

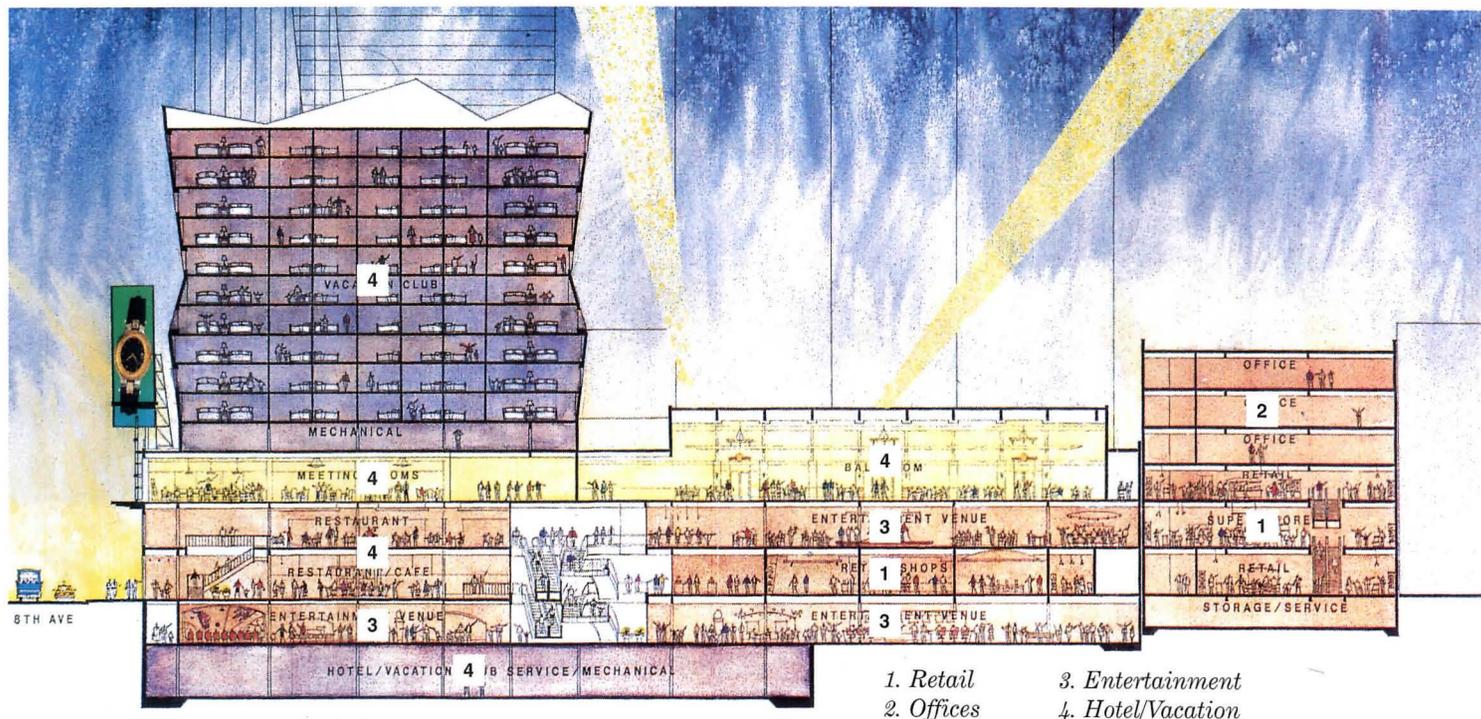
ID	Type
P-1	Jackson Paints
P-2	Ishimaru Paint
WC-1	Softex Wall co
CT-1	Euro-Tile, #50
C-1	Sharp Carpet, #

New AutoCAD® Release 13 has more power and more new features and enhancements than we can show you here. And it's available via a multiplatform license on Windows™, Windows NT®, and MS-DOS®. What more could you want? How about a

© Copyright 1994 Autodesk, Inc. All rights reserved. Autodesk, the Autodesk logo, and AutoCAD are registered trademarks, and AutoVision is a trademark, of Autodesk, Inc. MS-DOS and Windows NT are registered trademarks, and Windows is a trademark, of Microsoft Corporation. All other brand names, product names, or trademarks belong to their

New York City

## 42nd Street's Glitz and Grit Meet Arquitectonica's Punchy (And Punchout) Times Square Design



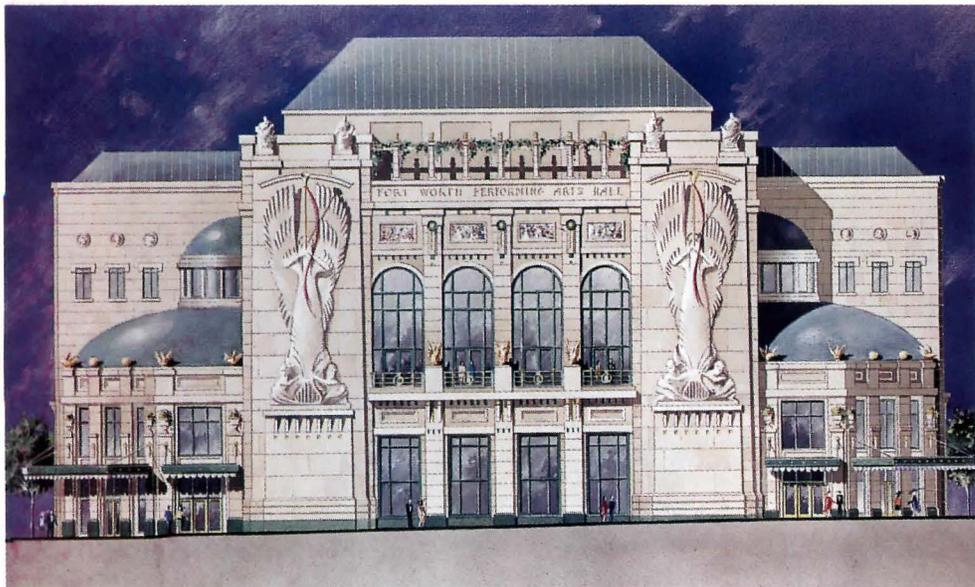
Arquitectonica's design for a 47-story hotel will become a new gateway to Times Square. The Miami firm—which was hired by Tishman Urban Development Corp. and Disney Development Co.—beat out two other teams: Zaha Hadid paired with Milstein Properties and Weiler Arrow management; Michael Graves teamed with Marriott International.

The three designs were radically different. Arquitectonica designed a sweeping tower sliced in two by a gently curved bolt of light (left). The beam of light is meant to visually connect the skyline to the streetlife below. The tower is pushed back 100 ft from the street and is entered from the less-traveled 43rd St. side. On 42nd St, a sculptural, block-like building (above) will house Disney's Vacation Club. The building is covered in an elaborate mural that shows scenes from New York attractions—the Guggenheim and South Street Seaport among them.

Diller and Scofidio will design a corner video display meant to suggest the famous Times Square news ribbon a block away. (The team was the designer of one of the more memorable interim projects: a pair of lips that harangued passersby from the doorway of an abandoned theater.) Here, they will tone it down to meet the "family standards" of Disney and Tishman. At street level, glitzy retail stores and signage were designed by D'Agostino, Izzo, Quirk, of Boston.

The Hadid project attempted to tie in more directly with the dynamics of the Port Authority across the street. Her futuristic tower was designed as a vertical street that locked into subway and underground passages. Graves, on the other hand, looked nostalgically to the past with a clock tower that seemed inspired by Raymond Hood's (former) McGraw-Hill Building farther down the block. *Nicolai Ouroussoff*

## Paris on the Seine—or Fort Worth On the Trinity?



David M. Schwarz/Architectural Services Inc. has designed a traditional music hall in Fort Worth, Texas, inspired by the grandeur of Carnegie Hall and the Théâtre des Champs Élysées—two of Schwarz's favorite theaters. In Fort Worth, the site was tight: a

40,000-sq-ft downtown city block. The two main entrances are pushed to the corners, one used mainly for pedestrian access and the other leading to a parking lot. A coffered and domed ceiling dominates the theater. Construction begins this month. ■

### Los Angeles

## From Auto-Body Repair Shop to Children's Art Oasis



Marmol & Radziner Architects and Michael Maltzan Architect have transformed an auto-body shop in Central Los Angeles into an oasis for art and ceramics for children. The 8,000-sq-ft building's elegant, exposed-wood bowstring trusses dominate the open-floor plan. Offices are tucked away in a loft space, leaving the main space open for performances. Rolling glass doors, which replaced



the original garage doors, look out onto a courtyard dotted with several palm trees. At the center of the garden, the sculptural form of the ceramics studio seems a more contemplative retreat. A 30-ft light well bathes the space in daylight. The Mark Taper Center/Inner City Arts will provide various art classes for over 4,000 elementary-school students. *Nicolai Ouroussoff*

## Briefs



### Restorations

• Severe structural problems and a subsequent 10-year closing were the latest upsets in the turbulent history of Paris's Panthéon (above). Built on the brink of the French Revolution, Soufflot's neo-classical building endured changes with each new government. Almost immediately, the 42-nave windows were blocked in, as the building went from church to mausoleum. The building's dome has long had structural problems caused by rusting and enlargement of iron framework supporting the masonry. Stones in excess of 19 pounds came crashing into the nave, initiating a \$62-million interior and exterior renovation. The building reopened this spring, thanks to protective nets hung across the ceiling. In the process, 500 original plans and drawings were found. Work continues until 2010. *Claire Downey*

• Madrid's Prado will finally get equal time with the Louvre in Paris and London's National Gallery. The Spanish government has agreed to provide funds for an extensive renovation and the addition of two new buildings to house the museum's impressive collections. The dilapidated building now only has space to show one-sixth of its paintings.

### Seattle Symphony's New Home

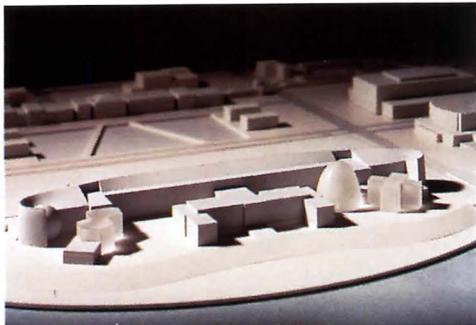
Seattle's city council has agreed to spend \$40 million on a new Concert Hall. The Seattle Symphony must raise an additional \$54 million, and \$8 million more will come from public/private sources. Loschky Marquardt and Nesholm were hired as project architects in 1993. The concert hall will include a 2,500-seat main hall and a 600-seat auditorium.

### Carlsberg Award

• Juha Leiviskä is the winner of the 1995 Carlsberg Architectural Prize. The 59-year-old Finnish architect—who is almost unknown outside his native country—won over the likes of Alvaro Siza, Jean Nouvel, Renzo Piano, and Christian Portzamparc. Queen Margrethe of Denmark presented the coveted \$250,000 award.

Ohio

## Isozaki Shapes the 21st Century



Arata Isozaki & Associates with NBBJ and Moody/Nolan will design a "twenty-first century" science and technology center in Columbus, Ohio. In the schematic proposal, an existing Central High School building will become part of an elliptical central building (far left in model above). The old structure will house educational facilities, shops, and a restaurant with a river view, while exhibition spaces will occupy most of the new construction. Additional odd-shaped "pavilions" will plug into the main building. The \$120-million center should be completed in 1998. Over 1-million visitors are expected to visit the center annually. ■

Toronto

## High-Style 'Shoe Box' Museum Leaves A Fashionable Footprint



Toronto's Bata Shoe Museum is a subtly designed limestone case for the world's largest shoe collection. In Moriyma & Teshima's design, a copper-clad roof rests on the building like the lid of a box. Two exterior walls are subtly canted inward, creating a

sense of outdoor spaciousness and an intimate interior. The main entrance seems to burst out of the facade, a glass wedge opening onto the central circulation space, where a cantilevered steel-and-glass staircase leads to galleries. The museum opens this month. ■

New Jersey



## Caged in Princeton's Shadow

Architect Schmitt Anderson's design of a residence in Princeton, New Jersey, tucks a traditional redwood shake and stucco home behind an aluminum grid frame on a tight, 2,000 sq-ft site. The aluminum metal panels give an eerie formality to the house's exterior, which sits on a site overlooking the pastoral setting of Princeton's campus. The wood and stucco cladding also masks a concrete-floor-slab construction. An elevator shaft rises above like a bell-tower and anchors the structure. On the roof, a thin lap pool becomes a "dark space," creating a transitional space between the project and a neighboring house. The 3,200-sq ft house is expected to be completed this summer. ■

If it did less, you could call it a workstation.

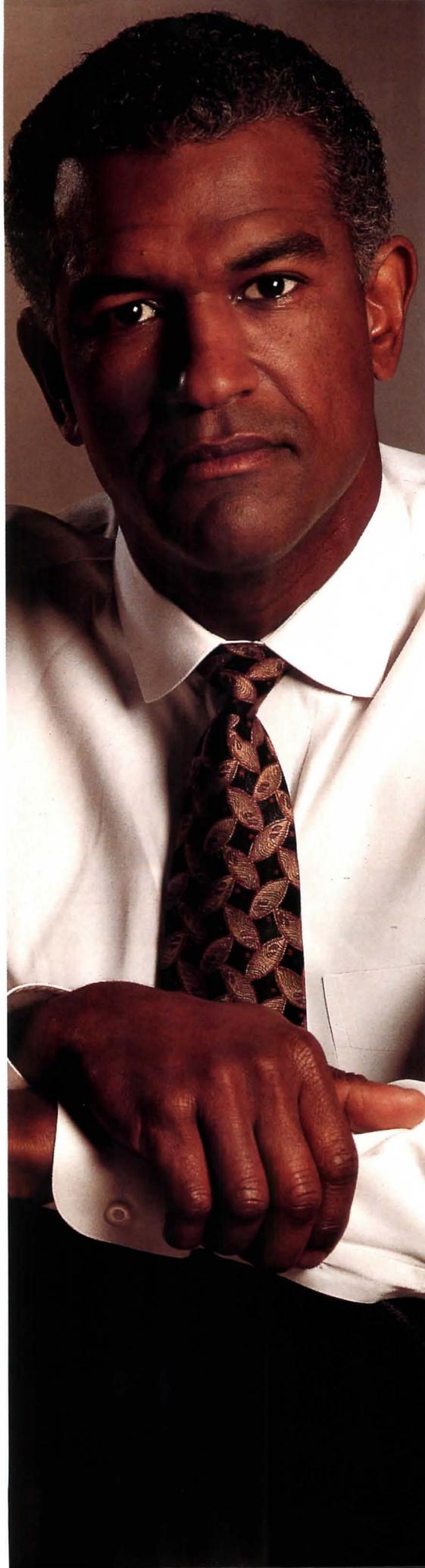
The Power Macintosh™ is one of the most powerful PCs in existence. It runs the Mac OS, of course. DOS and Windows, too.\* It can run UNIX.\* It runs all kinds of advanced design, engineering and analysis software at accelerated speeds — from CAD and 3-D modeling to data acquisition and analysis. Ethernet compatibility is built in. And, because it employs a high-speed RISC microprocessor, it outperforms Pentium-chip-based PCs by up to 92%†

In short, it does everything you'd expect a higher-priced, dedicated workstation to do.

Only it's a Macintosh.\*

Which means you can sit down, turn it on and get to work. You can connect to printers, plotters, modems and more, simply by plugging them in. You can share information with colleagues across the hall. Across continents. And, best of all, across computing platforms.

All of which adds up to a unique kind of power no workstation can ever hope to match. That's right. The power to be your best.\*



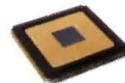
With Power Macintosh and the Mac OS, you can use multiple monitors at once. So, for example, you can work with two levels of a design, each on its own monitor. Or track automated analyses on one screen. While you express your ideas on another.



Every Power Mac™ can read, write and format disks for DOS, Windows and OS/2. And every Power Mac lets you open and work with DOS and Windows files. If you need more compatibility than that, the Power Macintosh 6100/66 DOS Compatible includes both a 66 MHz 486DX2 and a PowerPC™ 601 chip in one PC.



Power Macintosh has the raw horsepower you need to accomplish the most amazing things. Like desk-to-desk videoconferencing with our innovative new QuickTime™ Video Conferencing. And 3-D visualization with QuickTime VR and QuickDraw™ 3D.



At the heart of every Power Macintosh is a RISC-based PowerPC microprocessor. It runs cool. Efficiently. And fast. So fast, in fact, that it outperforms Pentium.



Hundreds of scientific, engineering and design programs — such as MiniCAD, MicroStation, LabVIEW, Vellum, Sketch!, Mathematica, Photoshop, StatView and more — have been accelerated for Power Mac.



Discover the PC that does more. To learn more about how Power Macintosh brings workstation power to your desktop, call 800-487-6813 to receive info by fax.

Or call 800-554-3848, and ask for ext. 750 to receive a free Power Mac Solutions Kit by mail.

Power Macintosh.  
The business Macintosh.™



\*The Power Macintosh 6100/66 DOS Compatible, and other Power Macintosh models using SoftWindows from Insignia Solutions, run MS-DOS 6.2 and Windows 3.1. †For proof, ask for the 1995 Ingram study comparing Power Mac computers to Pentium-processor-based computers running Windows. © 1995 Apple Computer, Inc. All rights reserved. Apple, the Apple logo, Macintosh, QuickTime and "The power to be your best" are registered trademarks of Apple Computer, Inc. Mac, Power Mac, Power Macintosh and QuickDraw are trademarks of Apple Computer, Inc. PowerPC is a trademark of International Business Machines Corporation, used under license therefrom. All Apple products are designed to be accessible to individuals with disability.

## AIA Convention



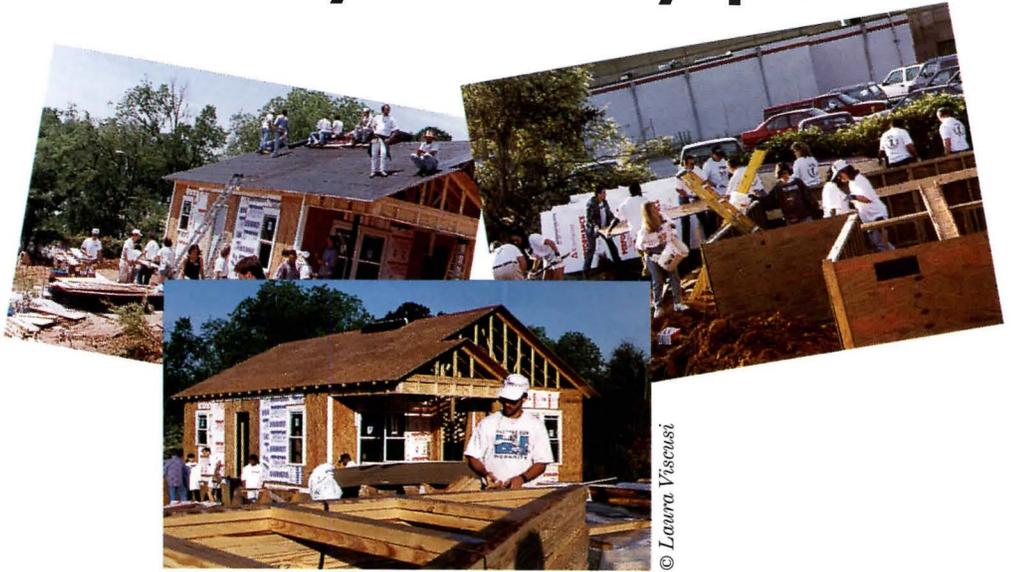
Raj Barr-Kumar

"Seeing ourselves as collaborative partners" was the theme of this year's annual convention of the American Institute of Architects held in Atlanta, Georgia, May 5-8. The goal was to help architects take "a leading role" in changing project delivery systems, new technologies, and the fluctuating economy. But it became clear in the end that there were many ideas on what architects' "leading role" meant. Former AIA president Donald Hackl saw the profession still taking ultimate responsibility for its projects: "The architect is best qualified to develop a project team. There is too much talk about process instead of product."

The business sessions produced a heated contest for AIA's new first vice president. Winner in a field of six candidates: Raj Barr-Kumar. Among resolutions voted down was one to remove the mandatory requirement for continuing education. Winner of the annual DuPont Benedictus Award was Design Antenna for the first all-laminated glass building.

New Urbanists and Neotraditionalists squared off in a seminar billed as "Housing: The Market, the Industry, The Client, The Practice." The debate was muddled because neither side seemed to have a clear and distinct definition of the two movements, but Memphis architect J. Carson Looney did decry patterns of streets "dominated by garages and driveways." He defended on-street parking on residential streets on the ground that it made for greater safety. For his part, Barry Berkus, of Santa Barbara, Calif., attacked linear streets as "dangerous," championing a variety of street patterns. He reminded the audience that 20 percent of American families are headed by single parents, and that the design of houses and communities did not properly reflect this statistic. ■

## \$45,000 Houses Built by Volunteer Help Will Be Ready for 1996 Olympics



© Laura Viscusi

Volunteers from four sponsoring organizations, as well as the future owners, worked in a hot May sun last month to erect three 1,300-sq-ft houses, part of a 100-house program for Habitat for Humanity to be completed by the start of the 1996 Summer Olympic Games in Atlanta. The three houses were designed by Design Traditions, which

won a competition for a house buildable by amateur help, accessible, and selling for under \$45,000. Sponsors were Georgia-Pacific Corp., which contributed engineered lumber and other products; MBNA America; The McGraw-Hill Companies' Construction Information Group, which includes ARCHITECTURAL RECORD; and AIA/Atlanta. S.A.K.

### AIA Convention

## Learning from Atlanta

"If the north is Hamiltonian, the south is Jeffersonian," says James R. Vaseff, Georgia Power Company's manager of "external issues," which in Atlanta means urging the private sector to provide facilities and services that people elsewhere expect from government. Architects who failed to explore their host city during the AIA's 1995 annual convention missed practical lessons in its theme of collaborative effort. By northern standards, Atlanta is a city where entrepreneurs thrive under loose reins. Not surprisingly, it is the home of America's most visible architect-developer, John Portman, who singlehandedly changed hotel design around the world with his 1967 Hyatt Regency Hotel's soaring lobby. In part, low taxes and lack of regulatory controls make this city a magnet for high-tech service industries, corporate central headquarters

(CNN, Coca-Cola, Holiday Inn, UPS), and countless regional headquarters. Such laissez-faire civic policy could produce urban chaos and, indeed, modern development did wipe away much of the downtown's earlier character. Today, citizen groups get involved. "We look for economic growth that supports conservation," says Carolyn Boyd Hatcher, president and CEO of the Georgia Conservancy. "People who talk about a simple choice don't understand realities very well." One example of how citizens get results is the 1996 Olympics—a \$1.5-billion venture using no public monies. Infrastructure director Randal Roark and developer Starling Sutton are utilizing enthusiasm over the event by getting corporations and institutions to carry out neighborhood-revival projects in a "Cultural Ring" linking Olympic sites around the city. Charles K. Hoyt

A L P O L I C

Face Your

Potential



Design

*A coat of  
many colors*

When your design calls for bright, clean colors, metallic finishes, reflective surfaces or the look of real stone, ALPOLIC® aluminum composite materials present a universe of choices. ALPOLIC's remarkable new fluoropolymer coating provides a rich palette of brilliant colors, a broad spectrum of gloss levels, and economical small quan-

tities of custom colors never before possible with PVDF finishes.

Expanding the design possibilities of mirror-type surfaces, ALPOLIC's unique A-LOOK series offers a bendable, unbreakable, lightweight panel available in a broad array of colors, etched

patterns, tambours and grids.

The Stone Series combines the rich textures of granite and marble with ALPOLIC's lightness, durability and ease of fabrication for less than half the cost of real stone.

With the design freedom of solid sheet panels and the cost advantages and strength-to-weight characteristics of laminated systems, ALPOLIC offers you

unlimited creative opportunities. Face your design potential. For more information, call the ALPOLIC Hot Line, **800-422-7270**.

Mitsubishi Chemical America, Inc.  
1214 Progressive Drive, Suite 101  
Chesapeake, VA 23320

▲ MITSUBISHI CHEMICAL AMERICA, INC.

**Circle 9 on inquiry card**

## Reviewing the State of Sustainable Design

**Gray World, Green Heart: Technology, Nature, and the Sustainable Landscape**, by Robert Thayer. New York: Wiley, 1994, 370 pages, \$40.

**Futures By Design: The Practice of Ecological Planning**, edited by Doug Aberley. Philadelphia: New Society Publishers, 1994, 224 pages, \$15 (paper).

Reviewed by Susan Maxman

As we struggle to define "sustainable design," two recent books have emerged that help chart the new terrain. Robert Thayer's *Gray World, Green Heart* is aptly named, as it describes the conflict inherent in today's environmental crisis: our love of technology versus our love of nature and our fear of the negative side-effects of technology. "We struggle with a collective green heart in an ambivalent technical gray world," says Thayer in this highly quotable book.

In *Futures by Design*, Doug Aberley compiles a series of articles from some of the best minds that have addressed the issue of ecological planning. This short book is meant to serve as a "trail marker" or guide to the pursuit of new patterns of development that create harmonious relationships with nature. Both books provide insight into the obstacles to and opportunities for achieving a balance between nature and technology.

Thayer's book deals with the landscape as "the broad physical and experiential arena in which human activity occurs." Its specific subject is the "taste-free" space within the American landscape which is created without professional designers. Its premise is that we all prefer landscapes that show no signs of human intervention and that our affection for nature creates resentment for technological additions to the land. As he states, "we have yet to allow technology a similarly favored place in our hearts. The land is our true love, but technology is merely a concubine."

We are, however, controlled by technology so that instead of it serving as a means to suste-

*Susan Maxman is a principal of Susan Maxman Architects in Philadelphia and a past president of the American Institute of Architects.*

© Paul Gipe



*Technology that takes advantage of a renewable resource—wind—shares the landscape with an old-fashioned power plant.*

nance, it has become an end in itself. To quote Leo Marx's paraphrase of Thoreau, "We have become the tools of our tools." For Thayer, the true dilemma is that though we cannot live without our addiction to technology, we feel guilty about its negative effects on nature. But still, as he puts it, "One can hardly imagine a political, social, or ecological crisis powerful enough to wrench American hands from the steering wheel," even though our addiction to automobiles has totally altered our landscape.

Because we feel guilty for these perpetrations on the land but cannot change our habits, we create make-believe landscapes. We are in the process of "theming" the entire country and of developing "virtual landscapes," says Thayer. "With a creative vision of paradise, we have begun to create a hell on earth," states Thayer. We have denied the harm being done to our eco-systems because much of it is invisible damage, such as the affects of acid rain.

What's the long-term solution? Thayer believes that only with the creation of sustainable landscapes can we resolve the conflict between technology and nature. We

need to drastically change our culture from one dominated by technology unbridled to one with an environmental ethic, says Thayer. In his view, we cannot have "business as usual." This is not a book that spells out how to plan or politically achieve reform, but makes us aware of what we as designers must do to turn the tide that threatens ecological destruction to our planet. At least with me, he succeeded in creating a keener understanding of the human behavior that leads to the mess we find ourselves in. The solution becomes clearer because the root of the problem is clearly defined.

In *Futures By Design*, Doug Aberley celebrates the accomplishments of those people successful in ecological planning. Read together, this book and *Gray World, Green Heart* make for a powerful pair. Having read Thayer's call to action and then learned of the remarkable accomplishments of some pioneers in the field of ecological planning, we begin to sense that all of this is doable.

As one who has been urging my profession to re-direct its energies to conservation and design that promotes sustainability, I am most encouraged to see assembled in one book the amazing thoughts and accomplishments of so many brilliant minds. Whether it be the work of the Greater Ecosystem Alliance for the increased protection of the North Cascades, a description of the planned community of Cerro Gordo, or the Silva Forest Foundation and its work in setting bio-regional standards to certify wood products, these initiatives chronicle the widespread efforts to protect and restore ecological systems.

Aberley organizes the various projects into six interrelated sections. The Introduction defines ecological planning and lays out for the reader "an ecological world view." This is followed by three sections that describe efforts around the country to create sustainable human settlements. The book ends with a comprehensive guide to effective ecological planning, supplemented with an extensive bibliography of essential ecological planning texts and journals. While *Gray World, Green Heart* can be seen as a "call to arms," *Futures By Design* is, as its author says, "a book that has been created to be used." ■

I N T R O D U C I N G

FM

APPROVED

# TITE-LOC COPING

*Whatever the weather, this coping stays put.*

Ideally suited for use on industrial plants, schools, hospitals and other types of commercial construction, the Petersen TITE-LOC Coping System features a built-in sealing mechanism incorporated into the splice plate. This proprietary feature serves to add rigidity and insure a weathertight joint.

And now TITE-LOC Coping is available with a reinforced hold down cleat that has been Factory Mutual tested to meet the rigid requirements of the FM I-90 test for wind uplift. Specify TITE-LOC Coping and you can rest assured... whatever the weather, this coping stays put!

## Features

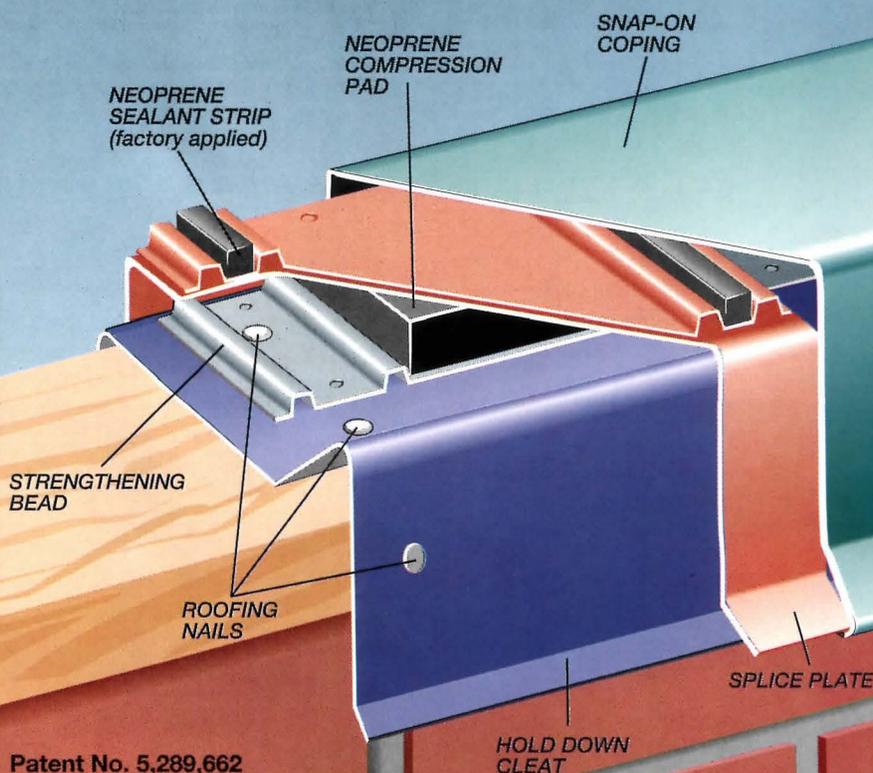
- Innovative new gutter splice plate
- Available in .040 - .125 aluminum and 24 ga. steel
- Finishes include Kynar 500<sup>®</sup>, anodized coatings and a wide variety of custom post-finished options
- Available in up to 14 foot lengths
- Also available with metal compression strip
- Produced at all three Petersen locations
- Available with reinforced hold down cleat for FM I-60 and I-90 approval

**PAC** Petersen Aluminum Corporation

1005 Tonne Road  
Elk Grove Village, IL 60007  
1-800-PAC-CLAD  
FAX: 1-800-722-7150

Other Plant Locations:  
Annapolis Junction, MD: 1-800-344-1400  
Tyler, TX: 1-800-441-8661

Circle 12 on inquiry card



Patent No. 5,289,662

**Computers in the Professional Practice of Design**, by Karen M. Brown and Curtis B. Charles. New York: McGraw-Hill, 1995, 227 pages, \$32.

**The CAD Rating Guide, 4th Edition**, by W. Bradley Holtz. Bethesda, MD: ZEM Press, 1994, 600 pages (plus disk), \$150 (\$49 for owners of previous editions).

Reviewed by Steven S. Ross

As computerization has swept through architectural offices, the last holdouts have been concentrated at the top—designers who insist on working with sketchpad instead of CAD, a small address book instead of a client marketing database, and a cloth-bound checkbook rather than bookkeeping software.

Karen M. Brown and Curtis B. Charles are the latest in a long line of design professionals who have written books to change the holdouts' minds. They do a good job. Their book is a small one, with short, easily digested chapters.

They cover all the bases for small practices, except production drafting, and all aspects of the issues involved except details on the cost of new computer toys. Although they don't ignore the alternatives, they concentrate on the Macintosh platform, which is well-suited to the creative side of the business as well as to small offices.

It is the kind of book a frustrated, computer-savvy young associate gives to a 55-year-old boss. Unlike most books on the subject, it actually explains the functions of high-resolution monitors, digitizers, 3D modeling and animation software, client databases, spreadsheets, project-management packages, and so forth.

As is true with most books on the subject, it extols the idea of teamwork—of avoiding the all-too-common practice of having designers design, drafters use CAD, and managers do the books. It also extols the idea that presentations often have to be in 3D, and maybe even animated.

That's not surprising, given the authors' backgrounds. Brown is chief executive officer

of C4 Studio, a firm that consults on computerizing architectural and design firms and does presentations. Charles works at C4 and lectures at the University of Miami. But beware! Clients want 3D presentations, but don't always want to pay for them!

And where do you get the details on exactly what CAD package to use, what add-on design tools might be available, what equipment brands to focus on? That's where Brad Holtz comes in. This latest version of his rating guide (the first was published in 1989) details 148 hardware and software systems from 109 vendors—and lists over 300 other products and vendors as well.

And what details! For the key 140 or so, you get a few paragraphs of descriptions, pricing, optional add-ons (sometimes pages of them), a vendor's statement about matters such as differentiation from competitors, and comments from users (again, sometimes pages of them).

The idea is to help you narrow your choices before calling dealers, and to help find add-ons for a system you may already be using. Facts are current to roughly this past Thanksgiving; AutoCAD 13 is included.

There are also about 40 pages on managing CAD and approaching the design process, along with a detailed glossary. Endless tables allow you to scan features of competing systems quickly. The tables are also on disk for use with spreadsheet or database software.

Everything is clear and concise, but the tone is that of a reference to help the already converted—not that of an evangelist.

By the way, both of these books concentrate on architectural practice, but aim for a wider market by making asides to engineering design. You can live with it. ■

## Briefly Noted

**They All Fall Down: Richard Nickel's Struggle to Save America's Architecture**, by Richard Cahan. Washington: Preservation Press, 1994, 262 pages, \$25.

Cahan tells the gripping tale of Richard Nickel, a photographer who spearheaded the preservation movement in Chicago in the 1950s and '60s and who died in an accident while salvaging items from Louis Sullivan's Stock Exchange Building in 1972. Nickel was a key figure in reviving the reputation of Sullivan and in fighting the destruction of Chicago's architectural legacy. The book is meticulously researched and engagingly written to appeal to a broad audience. It also includes some of Nickel's straightforward yet haunting black-and-white photographs of landmark buildings, many of which have been lost to the wrecking ball.

**Alvaro Siza: City Sketches**, by Alvaro Siza and Wilfried Wang. Basel, Switzerland: Birkhäuser Verlag, 1994, 248 pages, \$72.

Organized by city into 10 chapters, this sketchbook by the Pritzker Prize-winning Portuguese architect offers views of projects he has worked on, as well as street scenes and urban settings that have shaped his designs. As Sir Norman Foster says in his Foreword, sketches are "a path into the inner thoughts of the person at that time," and can be more revealing than final presentation drawings. Siza's loose-lined, free-wheeling sketches capture the architectural essence of cities such as Lisbon, Barcelona, Paris, Berlin, and Macao.

**The Total Package: The Evolution and Secret Meanings of Boxes, Bottles, Cans, and Tubes**, by Thomas Hine. Boston: Little, Brown, 1995, 302 pages, \$25.

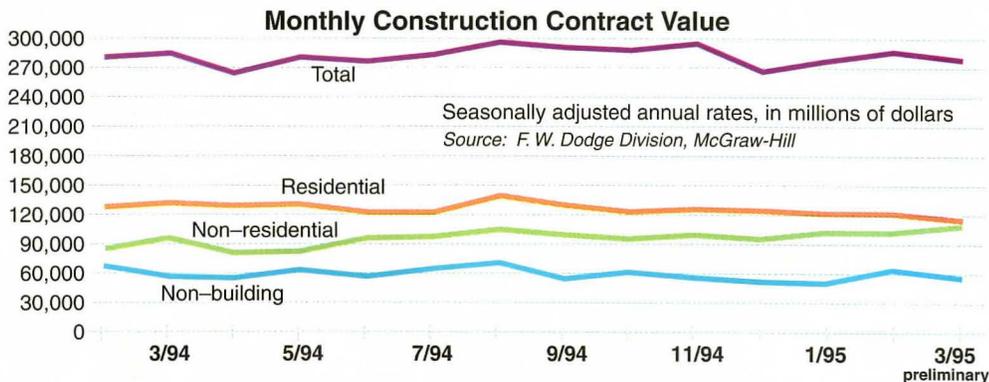
As he did in his previous book, *Populuxe*, Thomas Hine peels back the surface reality of familiar objects to examine what's really going on. Having addressed popular culture and design in the 1950s, he now focuses on the history, design, and impact of packaging on today's world. It's a fascinating subject because packaging's all-pervasiveness lets it fly, says Hine, "beneath nearly everyone's analytic radar" and because it says so much about us. Like ourselves, packaging can be wasteful and misleading, but also clever and inventive, he says. This is a fun book that reveals a lot about our consumer society.



Indicators

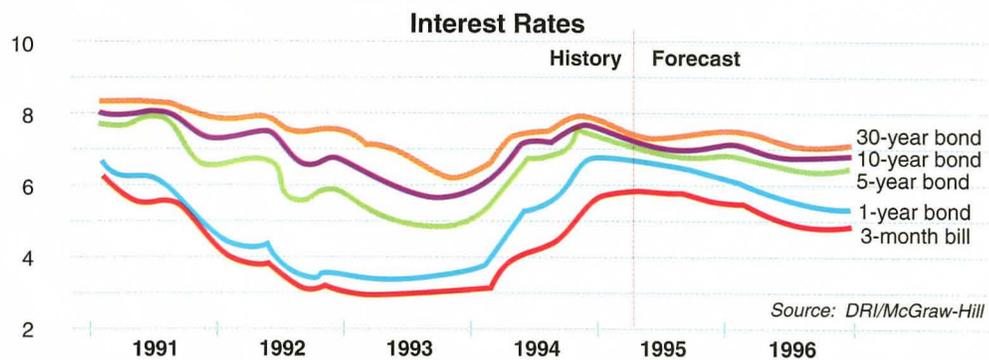
Schools are up though housing weakens

First-quarter construction-volume figures show predicted weakening in single-family construction (though apartments continue to strengthen). Schools are a bright spot as districts respond to growing enrollment. Volume rivals the early 1970s boom, says F.W. Dodge. Warehouses and office buildings showed continued gains, offset by stores. On an unadjusted basis, construction was 4 percent lower than 1994's first quarter, with residential down 13 percent and nonresidential up 8 percent. ■



Good news and bad news

The good news is that DRI, the economic-forecasting arm of McGraw-Hill, sees sliding interest rates in most of 1995 and 1996, which should loosen private clients' purses. The bad news is that a combination of deficit-reduction fever and constrained local-government receipts means that public-sector work will likely weaken. DRI assumes that construction won't be cut as much as deficit hawks want. The forecasts predict the middle of 1995 will be weakest for housing, with renewed strength later. ■



What design is worth

Though it focuses on landscape amenities, such as native plantings and ponds, an intriguing report, "Value by Design: Landscape, Site Planning, and Amenities," shows a bottom-line value for hard-to-quantify esthetic qualities. Researchers interviewed developers and reviewed cost data on 11 developments to verify findings. (They represent a range of residential types and locations, but almost all are suburban.) The amenities usually helped the project sell or added profits. Info: 202/624-7000 ■

Value of Landscape and Amenities

Evidence suggests amenities added to developer's profits	■	▲	▲	▲	●	■	▲	■	■	●	▲
Developer believes (or evidence suggests) that amenities generated a sale or rent premium	▲	▲	▲	▲	●	■	▲	●	▲	■	▲
Project planning and amenities had positive effect on developer's reputation	▲	▲	■	■	▲	■	▲	■	▲	■	▲
Amenities quickened sales and leasing	▲	■	▲	▲	●	■	▲	■	■	■	■
Landscape and amenities gave project an edge over competition	▲	■	▲	▲	■	■	■	■	▲	■	■
<b>KEY</b> ▲ High   ■ Medium   ● Low Note: High, medium and low represent the researchers' overall impression of the degree to which the statement is supported by evidence											
	The Woodlands	Straw Hill	Blackhawk	7979 Westheimer	Andover Park	Harbour Ridge	Mountain Park Ranch	The Terraces	Carnegie Center	Reston Town Center	Del Mar Plaza

Source: Urban Land Institute

Charts prepared by Leonor Glynn

Short Takes

• **The Power of Architects:** If you accept the widely held notion that architects' value is little perceived, turn to the May 15 issue of *Newsweek*. The cover story describes the increasing acceptance of "New Urbanist" prescriptions for fixing suburbs [RECORD, May 1994, pages 28-33]. These ideas came out of architects' unique skills and point of view, not from planners or developers—the presumed experts. The secret to success? Proponents—Andres Duany, Elizabeth Plater-Zyberk, Peter Calthorpe, and others—have relentlessly proselytized their

ideas, targeting planners, bankers, developers, and builders.

• **Web Surfers:** The animation that won first-prize in RECORD's Computer Delimitation Award has been posted on the Internet (to view it, you need a web browser): <http://sap.mit.edu/projects/mpp/mpp.html>

• **HVAC and CFCs:** The phase-out of ozone-depleting refrigerants can cause hvac equipment-management headaches. Carrier Corp. offers a free 100-page handbook to help. Write Refrigerant Handbook, ACLS, Dept. 819-108, Liverpool, NY 13088. ■

## Choosing Our Words Carefully

By Robert Spencer Barnett

Until the 1940s, drawing notes sufficed as a project specification. Today's weighty project manuals coincide not only with the information explosion of our age but also with expanded liability concerns and the realities of on-site labor skill. The gap may be widening between the tidy world conveyed by the specification text and the increasingly volatile reality of leapfrogging electronic documentation and evolving project-delivery methods.

### Specifying risk

Ever-fatter project manuals are often driven by architects' fear that the slightest defect or omission may expose the specifier to liability. When editing office master specifications or proprietary master specifications like the Construction Specifications Institute's SPECTEXT or the far-more-voluminous MASTERSPEC (licensed by the AIA), there's a tendency to leave information in—in case it covers something the writer didn't anticipate—rather than edit it out. Such an

approach leads to elaborate documents that sometimes defy rather than enhance contractor comprehension. “The biggest specification problem is saying too much,” comments Jerry Farquhar, consulting attorney with CNA/Schinnerer, a professional liability insurer. “It infers a lack of coordination with drawings.” An example? “Projects designed specifically not to have expansion joints that have a whole section on expansion joints.” The needed coordination occurs, according to Farquhar, when firms create specs in tandem with drawings.

*The specifier “walks a fine line between providing too much information and too little.”—Kimball Beasley, Wiss, Janney, Elstner*

approach leads to elaborate documents that sometimes defy rather than enhance contractor comprehension. “The biggest specification problem is saying too much,” comments Jerry Farquhar, consulting attorney with CNA/Schinnerer, a professional liability insurer. “It infers a lack of coordination with drawings.” An example? “Projects designed specifically not to have expansion joints that have a whole section on expansion joints.” The needed coordination occurs, according to Farquhar, when firms create specs in tandem with drawings.

Ann Fitzgerald, a principal at Richard Rauh Associates, in Atlanta, uses trade-association

*Robert Spencer Barnett is assistant director of the Office of Physical Planning at Princeton University. He was formerly director of design technology at The Hillier Group.*

specifications as master specifications wherever possible, because subcontractors know what's in them and where to find information. “Many associations have a technical person I can use as a resource to work out issues in custom fabrication,” she says.

Kimball Beasley, senior consultant at Wiss, Janney, Elstner Associates, an A/E firm specializing in engineering investigations, has examined over 700 failures in his 25-year career. He describes three areas where specifications are most often implicated in failures:

- when the documents are contradictory;
- when the designer specifies a proprietary system based on manufacturer's information without turning to independent sources to verify performance;
- specifying nonproprietary systems when compatibility with other systems is critical.

Beasley observes that the specifier “walks a fine line between providing too much information and too little.” A tight specification can be seen as restrictive, intruding on the

contractor's responsibility to control the “means and methods” of construction. On the other hand, specifications that lack latitude can shut out the expertise and talent possessed by custom fabricators of complex systems such as curtain walls. Fitzgerald, whose firm often designs special components within low-budget projects [like the O'Neal Cinemas, RECORD, January 1995, pages 78-81], specifies “strategically”: “If I have a really special system—like specialty handrails—I'll do a separate ornamental-railing-system section, instead of including them under miscellaneous metals. By flagging it in this way, I tell the contractor to pay special attention.” Fitzgerald will also name and list such specialty items on both drawings and specs.

A too-loose specification can open the field to possibly inferior products and installers.

When it's the architect's word against the contractor's, a consultant with considerable forensics or failure experience, like Wiss, Janney, Elstner, or Arlington, Mass.-based Simpson Gumpertz & Heger, can advise on a system's past performance.

### New-product dilemma

In finding the best way to respond to clients' needs, architects must remain open-minded about new products. But little-tried or unfamiliar technologies create additional burdens on the designer. Does the added value of the new product compensate for the additional evaluation effort? Do new technologies expose the specifier to greater liability? These issues become further complicated when the owner or the contractor is pressuring the architect to specify the product. “The Contract Guide,” by the DPIC Companies (a liability insurer), proposes that you “specify only products and technologies that you know will do the job, that are time tested, and proven in a particular application.”

This advice is certainly prudent, but innovation need not succumb to fears of liability. DPIC's advice in considering new products or technologies is, “Do your research. Your goal is to be able to demonstrate that you made a reasonable professional effort to explore the suitability and reliability of the product.”

Here's what one firm did. The trustees of the Museum of Contemporary Art in Los Angeles asked Arata Isozaki, architect of its new building, to replicate the quality of light in the Louisiana Museum in Copenhagen, which the trustees (after a worldwide tour) deemed best for art. Gruen Associates, the executive architect, found that the skylight material, Okalux, by a German glass manufacturer, was primarily responsible for the quality of the light. Months of meetings with code officials, testing labs, fabricators, and contractors produced a specification for a product that was not only “sole source,” but new to the U.S. market. The installation was a great success, and there were no claims. Not every project, nor every product, requires this level of commitment, but the German manufacturer created confidence by providing excellent technical support, including personal appearances by its owner at key meetings.

*Practice trends, from risk management techniques and evolving project delivery to electronic documentation, are altering the way specifications are—or should be—written.*

### New project delivery demands new rules

As manufactured products replace handcrafted ones, ever more complete and detailed documents have been required to maintain quality control. But as owners have moved to alternate project-delivery methods, documents that are complete and fully coordinated prior to bid and construction are becoming rarer.

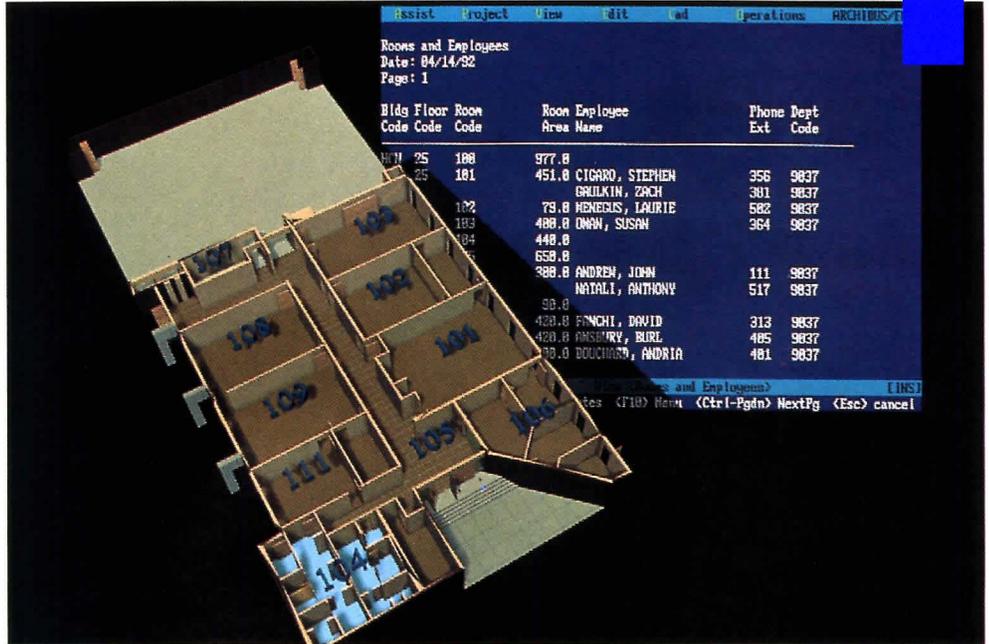
This has led to a more fragmented specification process. The “outline specification,” also known as “design development” or “preliminary” specification, is now more important:

- *In a construction-management arrangement, it, along with the design-development drawings, is a contract document that permits the establishment of a Guaranteed Maximum Price (GMP) through negotiations with the CM.*

- *When a design architect is associated with a production or “executive” architect, the outline specification forms a “contract deliverable,” i.e., an instrument of service, conveyed to the succeeding design firm responsible for production of full construction documents.*

The outline specification is organized like the typical full specification under MasterFormat (introduced by CSI in 1963), which classifies systems by narrowly defined, product-oriented sections within 16 divisions. (MasterFormat has gained almost universal acceptance in the building industry in North America.) According to Marty Bloomenthal, head of the specifications department at The Hillier Group, each outline section usually contains a complete Part 2, in which products are described, as well as the quality-assurance sections of Part 1 (General), but excludes Part 3, Execution.

Another departure from traditional procedure is the “preliminary project description,” also known as a “narrative” or “schematic” specification. It is fundamentally different from MasterFormat. In 1992, CSI and Construction Specifications Canada published Uniformat, based on a British method of conceptual estimating, which classifies information under systems and assemblies rather than products. Its categories include substructure, shell, interiors, and services. Uniformat is well suited to early phases of a



*Archibus/FM shows the converging of specs, drawings, and facilities-management data.*

project, where broad-scope documents are called for: design/build competitions and bridging arrangements, where an “owner’s” architect is responsible for interpreting needs into a biddable combination of design drawings and performance specifications that then will be fully documented by a design/build entity. [For more on alternative project-delivery methods, see RECORD March 1995, pages 30-35.]

The tradeoffs of such arrangements must be fully understood. For every aspect of the project that is not under the control of the design practice, there is opportunity for error or misunderstanding. On the other hand, the division of responsibility between design and detailed documentation can put specification of each system and component in the hands of those who do it best.

### When in Rome . . .

American architects working abroad find that many tasks performed by full-service architects in the U. S. are done in other countries by other entities. In the Far East, observes Fred Clarke, a principal at Cesar Pelli & Associates, the architect delivers construction documents that correspond to the completeness of design-development docu-

ments in the U.S. International contractors with imported crews usually construct major projects in developing countries such as Malaysia and Indonesia, and they tend to work out many of the design details in the construction phase. Changes and substitutions are commonplace.

This apparent lack of quality control may be troublesome to those accustomed to the more rigorous practice here in the U.S. Clarke responds that one must be aware of and accept the different construction culture of other countries. Second, his firm produces more complete and more specific design-development documents for use by the local architect. Pelli’s design specifications for foreign projects are comparable to full specifications for domestic ones, he says. Third, the expected level of quality must be communicated to the foreign members of the team from the beginning. (Others have commented that contractors outside the U.S. often have good skills in the often more limited technologies available, meaning the architect’s documents do not require the specificity they need in the U. S.) One technique to achieve consensus on quality and goals, Clarke says, is to invite staff from the local architect to work side by side in the office of the U.S. firm

during the design phase. "The infusion of expertise is well received," and there is a "genuine transfer of technology," he says.

#### **When what's called for isn't supplied**

Manufacturers increasingly claim that architects in the U.S. fail to defend the products they specify. It's not just the "or equal" clause required by public-sector procurement procedures; it's even the traditional proprietary specification, in which products are named. Today clients often ask that every specification section contain a list of alternate acceptable manufacturers.

This open attitude troubles some manufacturers, especially ones that offer unique products or have a large market share. These companies typically commit resources for research, marketing, and technical support—which benefits architects and specifiers. Such interaction is often critical to a properly designed and fully coordinated set of documents. When, after committing time of sales

date these unique requirements. To maintain competition in the bidding phase, the specification also lists alternate acceptable manufacturers. To level the playing field, the specification stipulates that the alternate manufacturers must include in their bid the cost of any design modifications required to accommodate the alternate product.

For some products, a proprietary spec can still benefit from price competition. As Steven Collins, Vice President for Marketing at Dryvit Systems, Inc., observes, the material cost in a system such as EIFS is a small percentage of the installed cost. By bidding among acceptable installers, the owner still receives the specified quality at the best price. For certain products or systems, though, owners simply must accept the fact that premium products, which often have no equal, require a premium price.

In the public sector, and increasingly among private clients, the reality is the non-propri-

Mark Kalin, Director of Specifications at AIA Master Systems, predicts that specifications will be available on-line once the cost becomes competitive with CD-ROM. On-line access permits users to obtain updated information as soon as it's available, rather than waiting for the quarterly updates ruled by the realities of print or disk publishing. Today, AIAOnline users can access MASTERSPEC product evaluations. E-mail will increasingly offer an economical and speedy means of receiving product information or updates directly from manufacturers, but will not likely supplant face-to-face conferences with manufacturer's representatives. According to Kalin, data obtained electronically is useful in the early stages of research, but when the architect and specifier are studying the application of a product to a particular project condition, working meetings with a manufacturer's representative are essential.

#### **Embedding electronic expertise**

To improve quality, many specifiers have turned to proprietary master specification systems, which contain the accumulated wisdom of many experts, and which can be edited to suit each project. MASTERSPEC and SPECTEXT are the two most common guide specifications available.

Recently developed electronic alternatives embed even more expert knowledge. MASTERSPEC Q&A, which came out of the CD-ROM-based SweetSpec and SpecSystem, has been available for 10 years and claims over 400 subscribers. The specifier is prompted to make a series of choices for each section, then Q&A edits the full text to generate a specification tailored to the selections made. The specifier can examine an "audit trail" of choices made, either to verify that decisions were correct or to alter the spec to reflect changed requirements.

Another product, COMSPEC, shown at this month's A/E/C Systems '95 computer exposition, will use a similar method, but also selectively displays the text that will be affected by responses to queries (info: 404/876-4700). With COMSPEC, you may select any part of the spec to work on, beginning, for example, with the products section, rather than Part I requirements. As the specifier makes product selections in part 2, the

## *As owners have moved to alternate project-delivery methods, documents that are complete and fully coordinated prior to bid and construction are becoming rarer.*

reps and technical staff to a particular project, the manufacturer sees an architect succumb to the pressures of other suppliers pitching supposedly comparable quality for a lower price, it's no wonder they see assisting architects as not in their best interest.

The collaborative process that is the key advantage of bridging (versus the adversarial approach of design-bid-build) allows the incorporation of a specialized or clearly superior product as long as overall project goals and budgets are met. Another method of conveying the designer's preference for a product is a type of proprietary specification called "basis of design." For example, an architect may choose to detail and specify a project based on the requirements of a particular elevator manufacturer. Hoistway dimensions, structural members, electrical circuits, and so on, are designed to accommo-

etary spec, which Fitzgerald, of Rauh's office, says is often the only way to get projects in on budget. "To get the best result under these circumstances," she says, "You have to work out final details when you know who is supplying." Shop drawings and submittals are used to verify that spec requirements are met, and documents clearly spell out the contractor's obligation to coordinate related work (without a change order) so that the selected component fits in the overall assembly. "We've found this very enforceable," says Fitzgerald.

#### **Product data goes electronic**

Until recently, product data was available only in print, with Sweet's catalog being the most widely used resource. Now Sweet's, the Construction Specifications Institute's SPEC-DATA, and even manufacturer's information and details are available on disk and CD-ROM.

software generates coordinated edits in Parts 1 and 3, as well as in related sections.

#### **Moving from documents to databases**

COMSPEC, which will be on the market in early 1996, and similar products are intended to lay the foundation for the integrated electronic documentation that visionaries see as ultimately replacing separate drawings and specifications. According to Robert Dean, whose company, Building Systems Design, is producing COMSPEC for the Construction Sciences Research Foundation (CSRF), the product "focuses on the project, not a document." It will be, says Dean, a "family of linked applications" in which CADDLink, will "notify" a related electronic drawing of specifications choices, and vice versa. CostLink will send data to Building Systems Design's estimating products. The key element is a "central module" called ACES (for Administrator for CADD, Estimating and Specifications).

LincSpec, from ARCOM (Architectural Computer Services, the new licensed producer of MASTERSPEC), is another new product intended to electronically attach drawings to specifications. (A demonstration version will be released this summer. Info: 703/684-9153).

As the border between drawings and specs blurs, experts want you to consider the documentation as a single database that more and more people can access in ways that suit their needs. CAD drawings already permit the ability to cut a section through a building wherever the user chooses. The database metaphor simply expands such possibilities. It's not hard to imagine elevator companies "asking" the database to supply the specification text as well as a section through shafts, while a skylight manufacturer (not the architect) slices only through the project's atrium. Instead of receiving "a set" of structural drawings, a steel fabricator might simply query the database, which may soon be able to generate the drawings and text information according to the criteria the fabricator sets out. The database may also be able to generate cost estimates and facilities-management reports. And as standards fall into place, the documentation will remain "live," accessible and updatable for the life of the building.

Such a convergence of documents has obvious benefits in production efficiency and quality control (coordination particularly). It is already opening the way to a different conception of architectural services, one in which the "deliverable" is not a set of documents marking an end point to a design process, but the beginning of a set of building-information services provided by the architect to the owner. Whether the traditional design firm evolves into such a service entity, the new models of documentation certainly herald altered relationships among members of the design and building team.

Edward Smith, who holds an architecture PhD as well as being President of ARCOM, has established the theoretical basis for this revolution in a paper titled, "Virtual Buildings: Knowledge Based CAD Models." His vision is of a "three-dimensional, computer-based modeling system, coupled with a knowledge base containing a complete description of all of the building components, their properties and relationships."

Another pioneer is ARCHIBUS, Inc., president Bruce Forbes, who holds advanced degrees in both architecture and computer science, and is the leading producer of computer-integrated facilities-management (CIFM) software. Forbes illustrates the power of CIFM by this example: after discovering corrosion in a roof drain at one location, the facilities manager locates—through the database—all the other company facilities built the same way, and orders preventative maintenance.

All of the convergence described above builds on commonly used software. It also takes advantage of widespread acceptance of MasterFormat and the pioneering efforts of Jim Freehof and Duke Guzey, who developed the master keynoting system for drawings called ConDoc. Future development will depend on advances in object-oriented programming systems (which help such systems recognize what is to be linked) and acceptance of a common nomenclature for building components. Practitioners have reason to be intrigued by these developments. But, as Hillier's Marty Bloomenthal observes, "With technology, anything is possible, but not everything will happen." ■

## **Specification Systems**

### **MASTERSPEC**

Comprehensive, editable text specifications, updated quarterly, are arranged in the 16-division Masterformat style. Basic sections and specialized supplemental sections are offered. Product evaluation sheets, which are also available on AIAOnline, help the specifier make appropriate decisions.

- *Vendor:* AIA Master Systems, 332 East 500 South, Salt Lake City, UT 84111 (800/424-5080).

- *Pricing:* \$730 covers the basic library (\$830 more for diskettes). Supplemental sections can be purchased individually or as a set.

- *Format:* Hard copy and diskettes or CD-ROM, which are available formatted for most popular word-processing programs.

- *Related products:* Short-Language Version oriented to simpler projects MASTERSHEET-SPEC for small projects; an outline spec, for the schematic-design phase; MASTERSPELL, for construction terminology; MASTERSPEC Q&A, which "writes" the spec according to choices made by the specifier.

### **SPECTEXT**

This system is prepared by the Construction Sciences Research Foundation for the Construction Specifications Institute. Offered by subscription and updated quarterly, it has more than 1,000 users. Over 450 sections are available in 16-division Masterformat. SPECTEXT II is suited to smaller, simpler jobs.

- *Vendor:* Construction Specifications Institute Orders Department, 601 Madison Street, Alexandria, VA 22314-1791 (800/689-2900, 703/684-0300). For electronic versions, Construction Data Services (800/235-3515).

- *Pricing:* Varies according to versions ordered; electronic versions are higher and non-member prices are higher.

- *Format:* Hard copy and diskettes or CD-ROM formatted for most popular word-processing programs.

- *Related products:* The *CSI Manual of Practice*, guidance in writing project manuals; SpecGUIDE, evaluation information for specific sections and MANU-SPEC, produced by manufacturers for specific products following CSI guidelines. ■

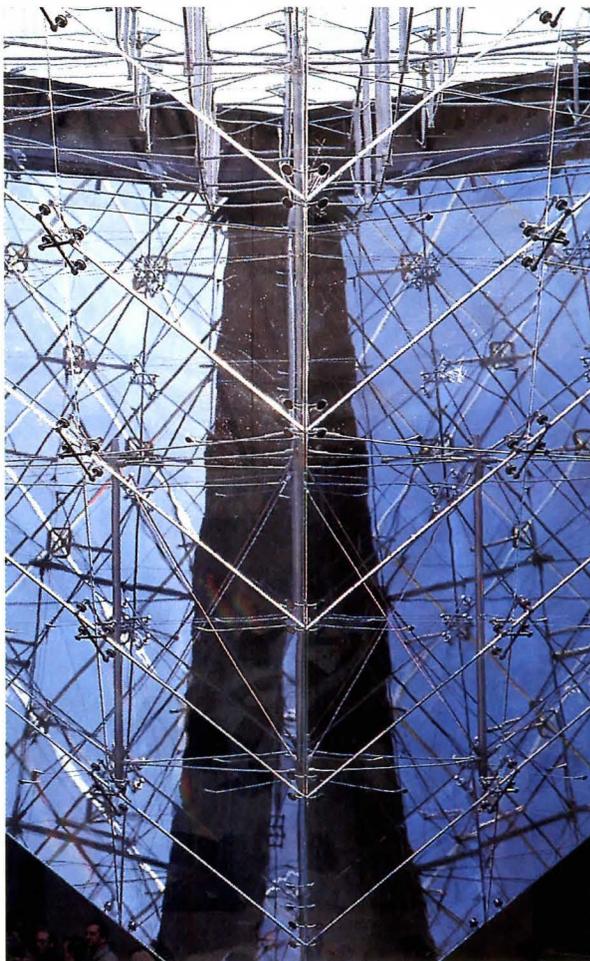
## Evanescent Architecture

Much of the American innovation in curtain walls and cladding systems has been developed in the process of designing skyscrapers. With this market ailing, architects have had to find different kinds of projects in which to push the state of the art. Jörg Schlaich, the engineer who developed the cable-net curtain wall for Munich's Kempinski Hotel, notes that it took courage on the part of the owner and design team to accept the notion of a wall that can flex more than three feet. Steven Nilles, of Murphy/Jahn, credits a dedicated and enthusiastic building team for successfully realizing the solution. (The project offers other technical innovations, too. Because the grand atrium is regarded as a transition space, it is minimally heated through a radiant floor and only partly cooled, permitting use of single lights of laminated glass rather than the insulating units codes would otherwise have called for.)

Michael Flynn, at Pei Cobb Freed, likewise credits a team that included the legendary (and recently deceased) engineer Peter Rice. Also, the client agreed that the inverted pyramid, though only a tiny part of the vast Grand Louvre project, deserved the effort required to realize the design team's ingenious and sophisticated idea.

While the two architects represented here are both American, the fact that both projects shown are in Europe is not a coincidence. In most European countries the government and the private sector offer much greater support to architecture, not just as a means of developing new technologies, but as a cultural endeavor. Neither of the projects shown here could be considered low-budget. Nor do they point cladding technology in a widely adaptable new direction. But innovations that genuinely advance the state of the architecture art have often come from an open-ended search driven by both esthetic and technical imperatives. Fewer American clients see themselves as patrons of architectural innovation. Government, too, appears ever more willing to sacrifice civic quality and technical achievement to budget exigency. It's probably overstating the case to say that this aversion to sponsor innovation is strangling advances in America. But we should be watchful. James S. Russell

© Luc Boegly/Archipress photos except as noted



© Owen Franken

### Inverted Pyramid The Louvre, Paris Pei Cobb Freed & Partners, Architect

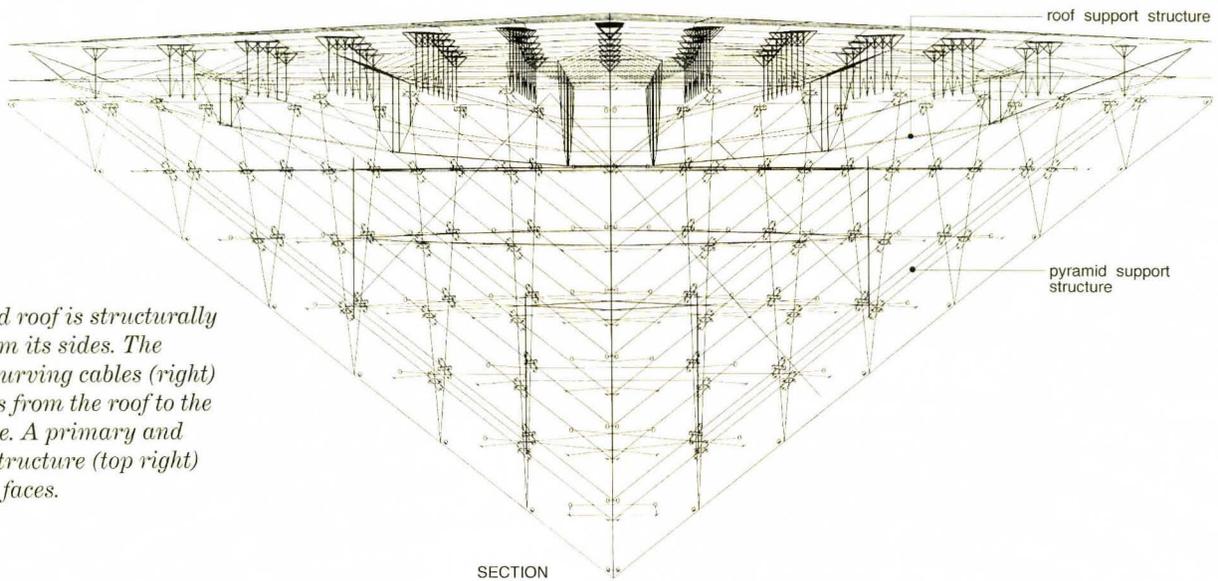
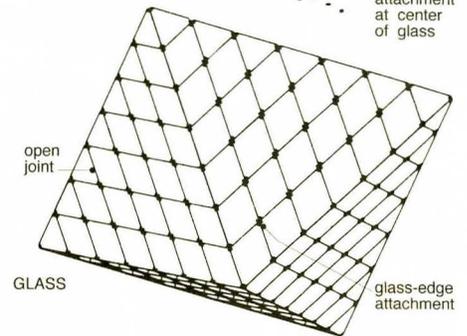
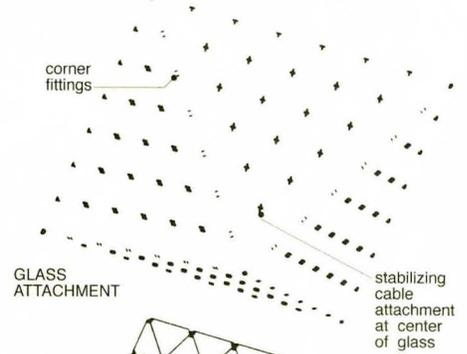
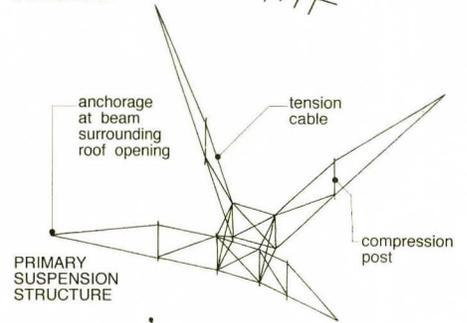
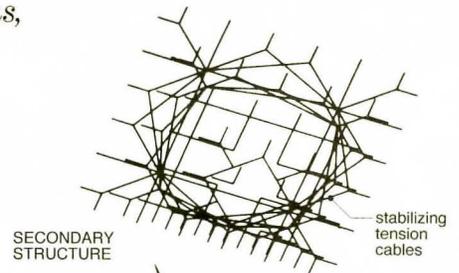
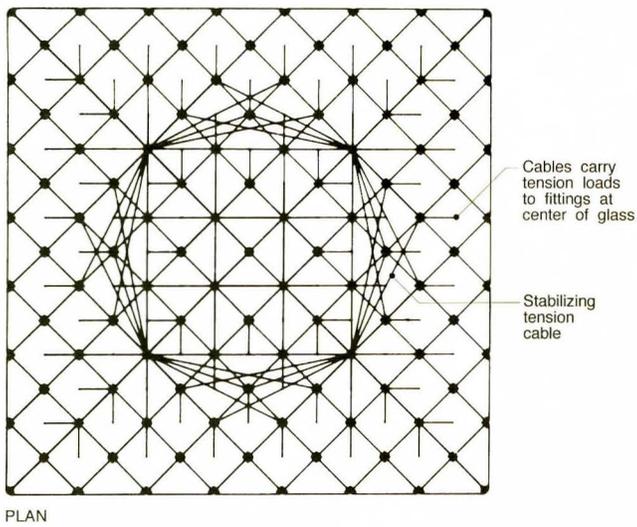
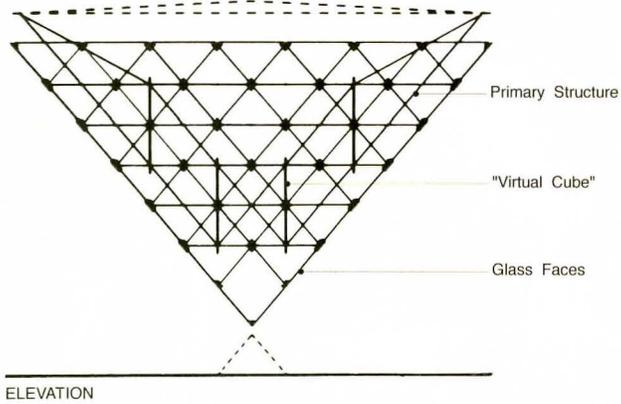
It's not just the gravity-defying nature of this glowing crystalline structure that turns heads, it's also its apparently weightless and hardly visible support (left). The inverted pyramid's structure is, if anything, even more refined and sophisticated than the nearby "Grand Pyramid" entrance I. M. Pei designed for the Louvre [RECORD, May 1989, pages 142-149].

Part of phase II of the Grand Louvre project, which included extension of the underground entrance concourse and restoration of the Richelieu wing, this pyramid draws natural light down to mark the meeting of two axes, one from a garage and one from a Metro station.

To make this pyramid's supporting structure as ephemeral as possible, Pei Cobb Freed collaborated with Henry Bardsley and the late Peter Rice of the Paris engineering firm RFR. The base of the pyramid, structurally separate from its suspended sides, is a silicone-glazed roof, sloped almost imperceptibly up to its center for drainage. The corners of the clear, tempered, and laminated glass panels rest on pads atop square metal rings (photos, following pages). The rings convey the roof's weight down through short vertical compression posts, which are held in place by tension cables that convey loads to steel beams at the edge of the roof opening (section opposite).

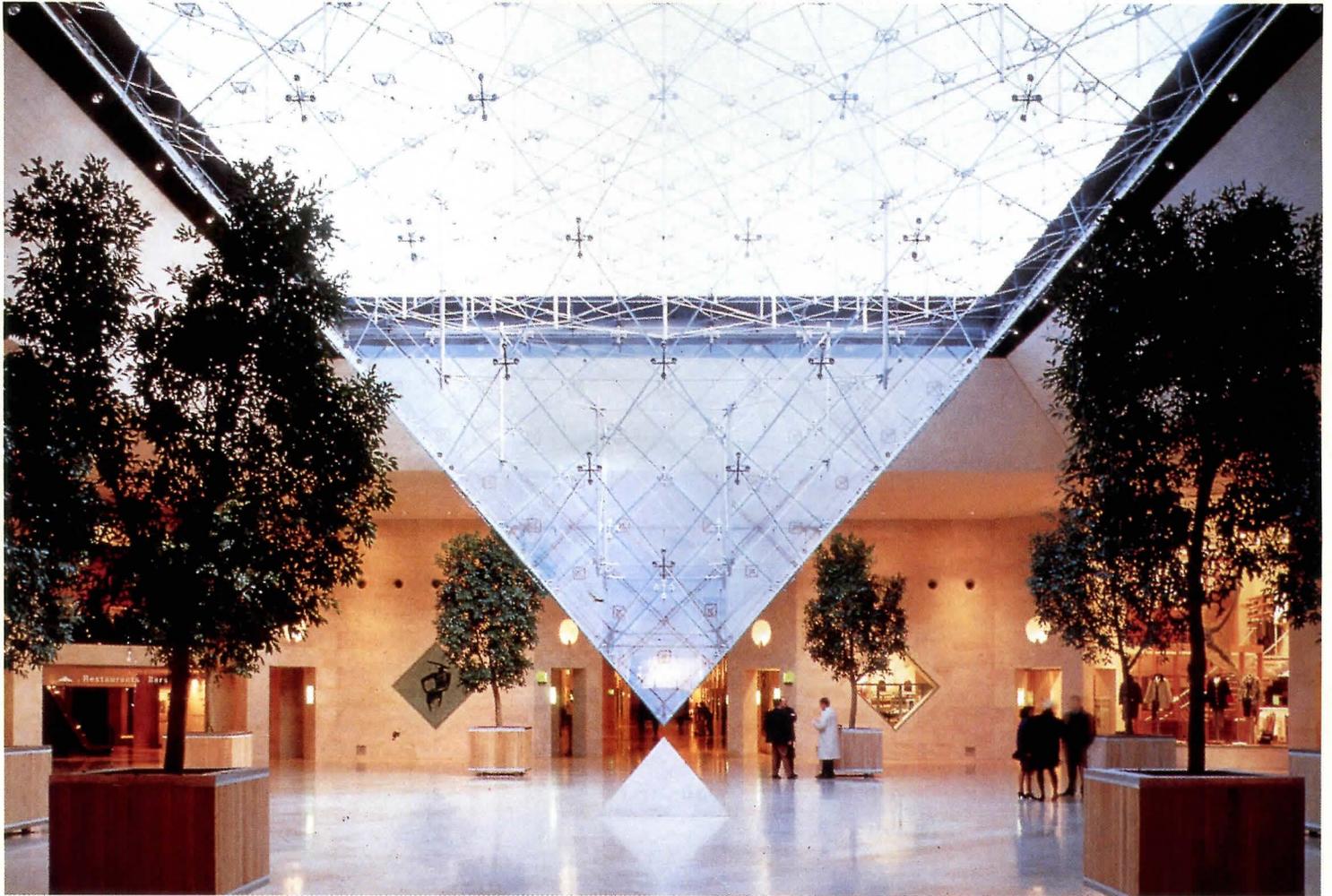
The suspension of the pyramid faces is far more complex. The primary structure is what RFR's Dan Burr calls a "virtual cube,"

Two architect and engineer teams, using radically different solutions, have devised glass-wall supporting structures of a lightness that seems magical.

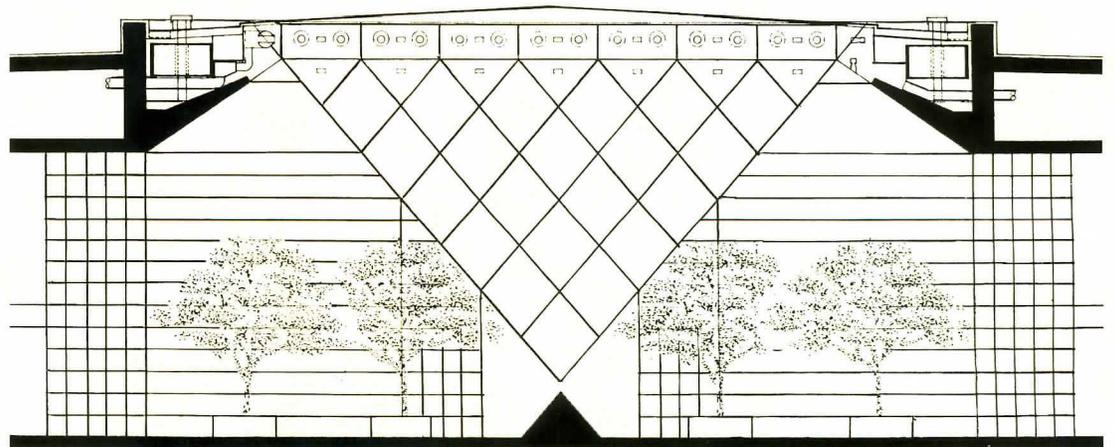


The pyramid roof is structurally separate from its sides. The downward curving cables (right) convey loads from the roof to the opening edge. A primary and secondary structure (top right) suspend the faces.

*The Louvre's inverted pyramid's structure is, if anything, even more refined and sophisticated than the nearby "Grand Pyramid" entrance I. M. Pei designed for the project's first phase.*



*A heavy steel beam surrounding the roof opening supports the inverted pyramid and houses lighting and a low-velocity air supply that limits condensation and dust accumulation(right). The square pads that support the roof glazing are most visible in the opposite top photo; the cross-shaped attachments (opposite left) fasten adjacent panes of the pyramid's suspended faces, but loads are actually carried to the primary structure by cables attached at the center of each light. Drawings opposite right show cable connections to the compression posts within the central "virtual cube."*





held in place by cables attached to the edge beams (axonometric sequence previous pages). The secondary structure is a web of nearly invisible cables that stretch horizontally from the cube's vertical posts to the centers of the pyramid's lozenge-shaped glass panels. The fittings at the glass corners (bottom left) convey gravity loads from pane to pane and keep adjacent panes aligned. The weight of glass faces on opposite sides keeps the horizontal cables in tension. Beveled glass edges in open joints refract light in ever-changing patterns. The bottom glass sections are removable, permitting staff to place a special jig inside the virtual cube for cleaning the pyramid's interior.

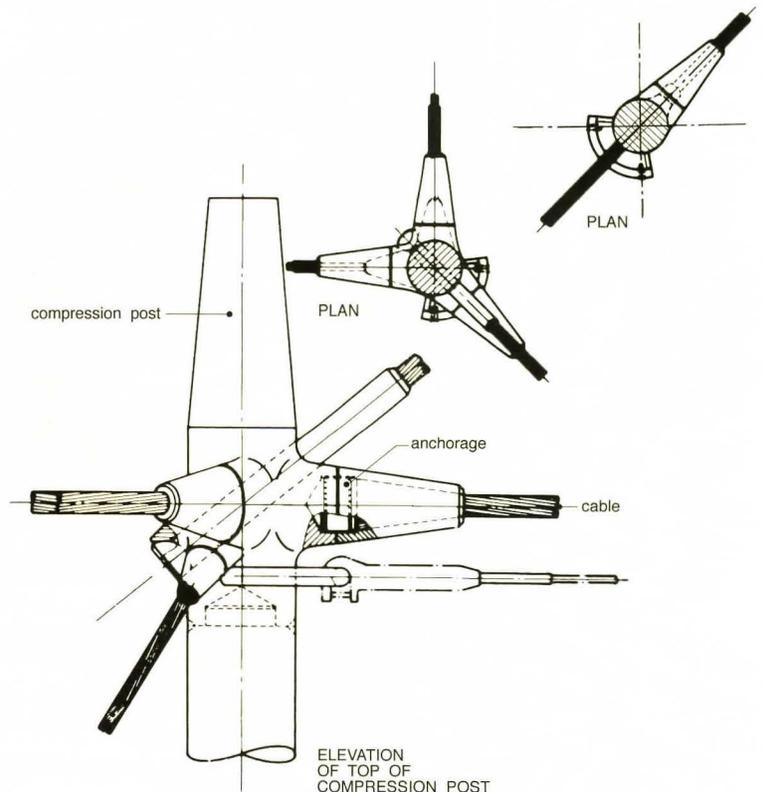
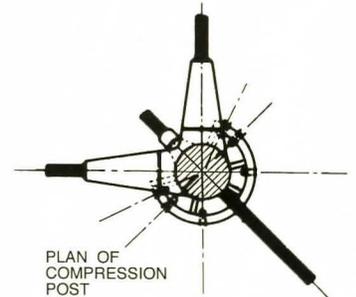
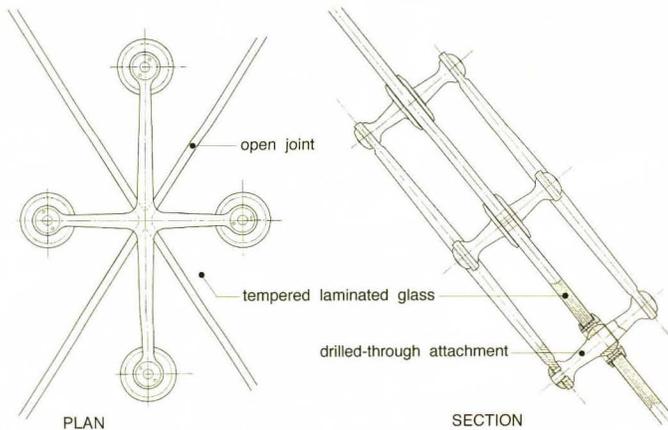
**Credits**

**Architect:** Pei Cobb Freed & Partners—I. M. Pei, design partner; Leonard Jacobson,

management partner; Michael D. Flynn, technology partner; Yann Weymouth, Stephen L. Rustou, C. C. Pei, Andrzej Gorcynski, Claude Lauter; Verie Boom, David Harmon, Masakazu Bokura, Robert Crepet, Madeline Fava, Marco Penenhoat, Matthew Viderman, Jean-Christophe Virot, design team

**Engineer:** RFR

**Contractors:** Bowygues (general); Viry/Dutemple (sky-light structure and glazing)



*The spectacular atrium at the Kempinski Hotel displays an array of glazing techniques: structural glazing in the roof, a suspended, cable-supported wall, and a conventional aluminum-and-glass wall.*

**Kempinski Hotel  
Munich  
Murphy/Jahn,  
Architects**

There were two distinct design and engineering challenges at the Kempinski Hotel: The glass and steel roof spanning the 135-ft entrance lobby and the cable-suspended glass wall that encloses the lobby's "open" ends. (The wall is so ephemeral that you have to look hard at photo 1, opposite, to see it.)

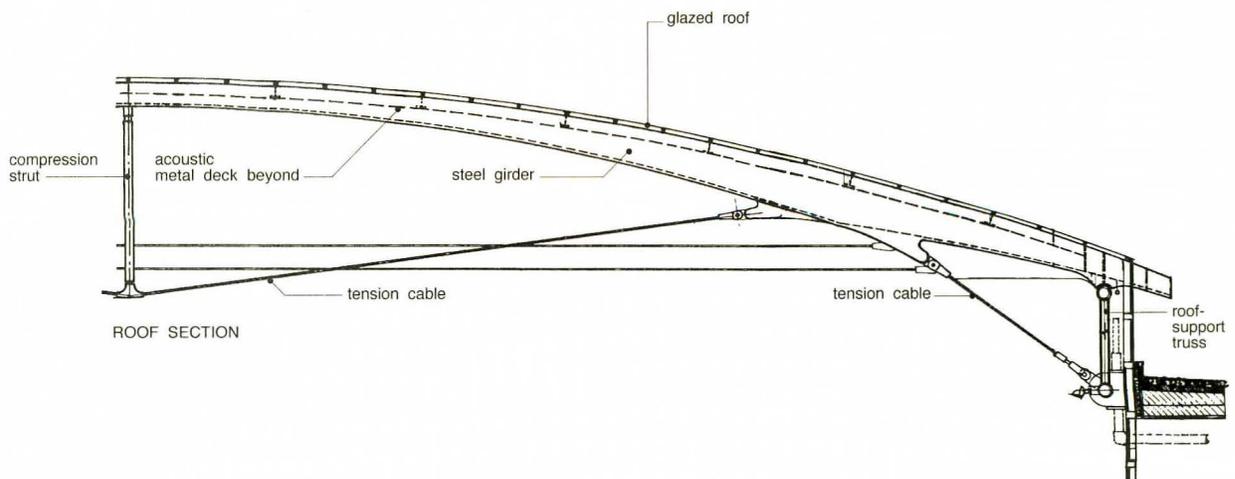
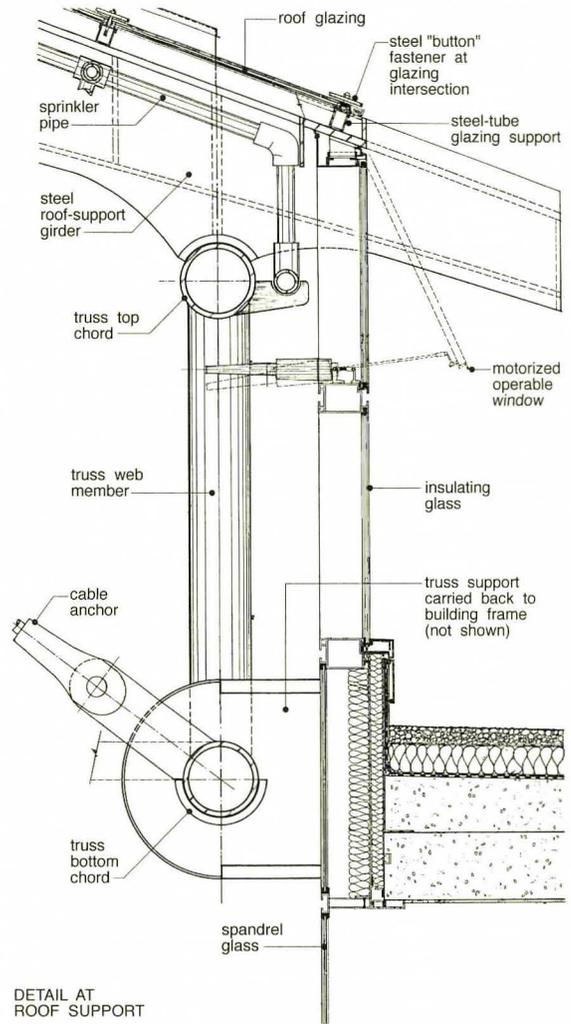
The first stage of a planned 3-million sq ft commercial complex connected to Munich's new airport [RECORD, April 1992, page 40-43], the hotel's grand atrium is conceived as more than a lobby or lounge; it's seen as a gateway to the city and a place where business meetings are augmented by shopping, entertainment, and cultural events.

The arched steel roof supports are plate girders, though the trusslike tension rods reduce the needed depth (bottom). The arches spring from a horizontal

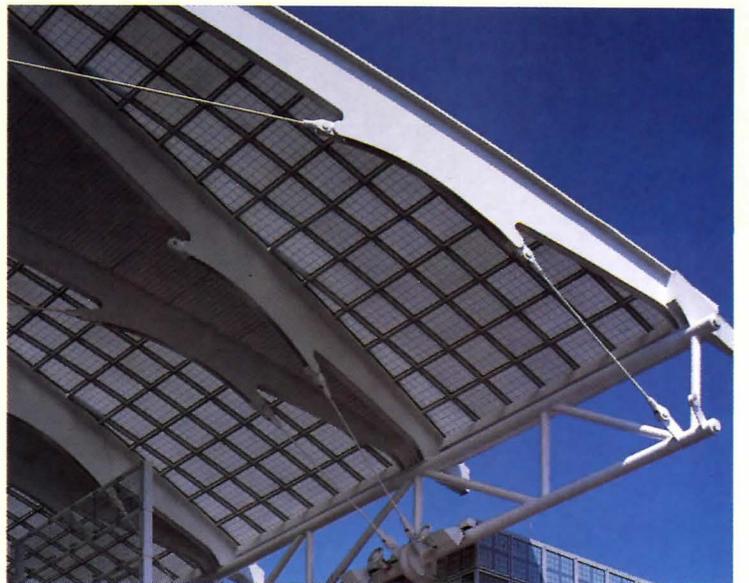
tubular truss (3) rather than directly from the building structure. The loads on the truss counterbalance the roof's cantilevered end. The truss visually separates the roof from the building wings (right). The skylight is framed of tubular steel welded in a 1m (3.25-ft) grid. A premolded, extruded-neoprene gasket with integral gutter sits atop the framing, supporting the glass. The glass is held in place by round stainless-steel buttons, bolted to the frame at the corners between the glass lights. Silicone weatherseals the joints.

Each of the skylights was pre-glazed and shop-fabricated in three large pieces, which were craned into place.

The Kempinski Hotel's greatest innovation is the easiest to overlook. Stuttgart-based Jörg Schlaich, the structural engineer called in to consult on the steel construction, says Helmut Jahn's earliest sketches of the great hall's glass end walls called for a "jungle" of supporting structure. Schlaich suggested that the glass



© Engelhardt/Sellin, Aschau i. C.H. photos except as noted



*Suspended by a cable net, the end walls of the Kempinski Hotel's atrium are nearly invisible.*

supports could almost disappear if the glass panels were hung from a cable net. (Schlaich's previous cable structures range from cooling towers to pedestrian bridges. In the U. S., he has worked with glass artist James Carpenter and on Boston's not-yet-built Charles River crossing.)

Urged by Jahn to proceed, Schlaich devised a network of tensioned vertical and horizontal cables aligned to the grid of the 5-ft-sq glass panels. At cable intersections, cross-shaped stainless-steel buttons bolt together the cables and channels that accept the corners of the glass panels (drawing right). A similar means is used to glaze the decorative "geranium walls" (4, 5) though structural support comes from glass panels placed at right angles to each other rather than from cables.

The vertical cables accept the wall's gravity loads; the horizontal cables are stretched to take the wind loads. The wall is still unusually flexible, designed to deflect at midpoint as much as 36 in.! To accommodate such move-

ment, the entrance doors have an outer frame that moves with the wall. (The bottom rotates.) An inner frame fixes doors.

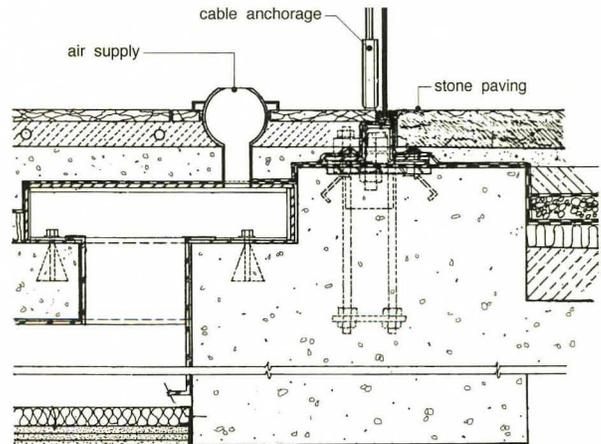
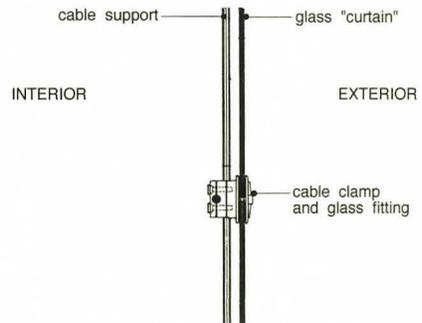
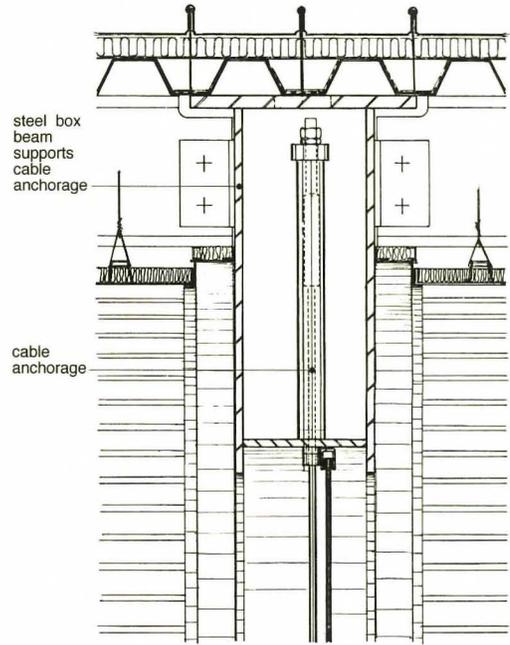
The wings of the hotel are conventionally clad in aluminum framing and clear, ceramic-frit-patterned, and ceramic-opacified glass, laminated to reduce jet noise. The exit stair located outside the lobby (6) is glazed in panels using a drill-through fitting to a steel frame (bottom drawing). Because it is an exterior stair, codes didn't require that joints be sealed. *J. S. R.*

**Credits**

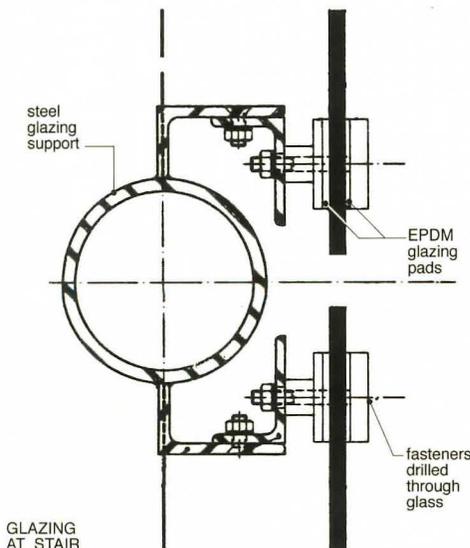
**Architect:** *Murphy/Jahn, Inc.—Helmut Jahn, Sam Scaccia, Rainer Schildknecht, Steven Cook, Steven Nilles, Lothar Pascher, Antonio A. Pelipada, John Myefski, Richard Ehlert, team*

**Engineer:** *Schlaich, Bergermann und Partner (steel)*

**Contractors:** *Hinteregger/Heinemann (general); Helmut Fischer GmbH (cable-net wall); Josef Gartner & Co. (aluminum and glass curtain wall)*



SECTION THROUGH CABLE-SUSPENDED WALL



GLAZING AT STAIR

© Facade Gartner



4



© Hans Ege

5



6

## CAD cum Database: High-End Macintosh and Windows CAD

By Steven S. Ross

This month we look at two high-end CAD packages that are particularly distinguished by their hooks to outside databases and their internal data-tracking capabilities. They are also good production-drafting tools.

MicroStation Version 5 brings this package to the Macintosh and Power Macintosh platform more than a year after the Windows/Windows NT version shipped. However, the wait was worth it. Version 5 is not really Mac-like (it uses Unix Motif or a Windows-like interface—you choose) but it is clearly the most powerful high-end CAD package available on the Mac platform. It also proves to be surprisingly nimble in Power Mac incarnation.

We paid close attention to how well you can move files back and forth between MicroStation (which includes some modeling tools) and Macintosh ArchiCAD (which is more a modeling package strong in everything except drafting). Using the Autodesk DWG format worked well, but so did the technically more crude DXF.

The second package, Drawbase for Windows 1.2, operates in a much more crowded field, Windows CAD. Its producer, CADworks, has opted to play up the Drawbase data hooks in the facilities management market—a niche that it can, with luck, dominate. Again, it exchanges drawing files well with AutoCAD—using the popular DWG library originally developed by Sirlin (itself an Autodesk subsidiary for the past year or so). Thus, you can design in AutoCAD or MicroStation, or other packages, and use Drawbase for managing the project once it is completed.

### MicroStation Version 5 for Power Mac

**Vendor:** Bentley Systems, 690 Pennsylvania Dr., Exton, PA 19341, 610/458-5000, fax 610/458-1060, 800/778-4274, (<http://www.bentley.com>) Web page.

**Equipment required:** Power Mac with at least 8MB of RAM (24MB or more recommended, at least 12MB for full rendering). There is also a version for 68030 and 68040 with math coprocessor. All versions require System 7. Can be used with digitizer (preferably, APD-standard) or mouse.

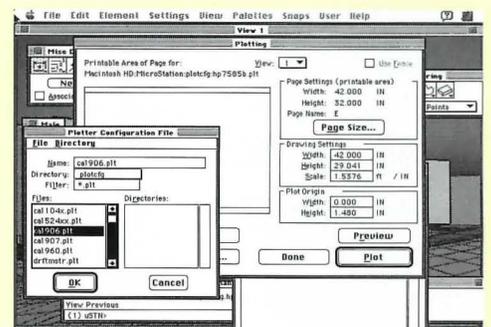
**Price:** \$3,950. Upgrade from AutoCAD, VersaCAD, ClarisCAD, and MacBRAVO!, \$1,500. Free for registered users of 68030/68040 Version 5.0 and subscribers of MicroStationCSP support program who have any version, even non-Mac versions. \$150 for Version 4 Mac users and \$750 for users of earlier versions, through June 1995

Bentley Systems has released a Power Macintosh version of MicroStation Version 5, confirming its commitment to the platform. The new release does not offer the advanced interface of PowerDraft 5.5. Indeed, its interface is not all that Mac-like—it is Windows or Motif-like (your choice). And it comes more than a year after Version 5 was released for the Windows and Windows NT platform.

But Mac users should find it comfortable, and a clear upgrade path from less powerful (and often slower) Macintosh CAD packages. There's no competition from Autodesk on the Mac; AutoCAD 13 will not ship in a Macintosh version.

We tested it on a Power Macintosh 8100 with 24MB of RAM, where it runs fast enough to handle production-drafting chores with ease, and on the slowest possible Power Mac, a Centris 610 upgraded with a 40 MHz Power Mac board and only 8MB of RAM. That's too slow for all but simple and emergency tasks. It runs, but not at a comfortable speed. We couldn't do fancy Phong shading at all. Upgrade to 20MB, though, and, if you mainly work in 2D, the speed is passable.

If you have a Power Mac, you will certainly



Top: On the Microstation V5 for the Mac, a shaded image of this size appears on screen in a minute or so on a slow Power Mac.

Above: Plotter settings, among the many productivity tools for handling text and data.

want to upgrade from Version 4—this version will run much faster, and the interface is more productive. In fact, it would be considered near-revolutionary, except that Bentley Systems has already improved upon it, for Version 5.5 PowerDraft (and soon, for MicroStation 5.5) for Windows.

Aside from a simplified menu structure and “sticky” menus (you can drag, click, drag instead of Macintosh-style drag-drag-drag), workspaces can be customized by project. (The process is somewhat similar to the Nexus add-on to Version 4.) And there's linestyle customization, associative hatching, and patterning. You define an area by clicking within it, rather than tracing around it.

You now get Boolean operations, better tools for trimming lines, plot preview, dimensioning, symbol libraries, and so forth.

Import and export of AutoCAD DWG files is

*MicroStation Version 5 is the "most powerful high-end package for the Mac platform." Drawbase for Windows is "strong in its underlying database links, but we have a major gripe."*

easy, with good control of specific items such as blocks and fonts, and of referenced drawings that may be missing when the translation takes place. There's also translation to and from DXF, IGES, and CGM.

There are excellent database links to all the standard spreadsheet and database packages, including Informix, Oracle, and xBase. You can also attach data to specific elements in a drawing by "tagging" them, without an external database—and you can manage sets of tags throughout a drawing set. The tag lists are themselves a database that can be written out to a CSV file for importation into all spreadsheet and database packages.

Pretty much all of this, however, can be duplicated in simpler packages on a Macintosh, including separate 2D and 3D drafting and modeling. MicroStation may offer more flexibility or capacity, of course, but not everyone has to push its features to the limit. Why, then, go with MicroStation? First, the final work product can be sent to MicroStation or PowerDraft on any other platform—there's even compatibility with I/RAS raster files. MicroStation will coexist better than most with AutoCAD. There are plenty of third-party add-ons (more than for any other Mac CAD system) for specialized tasks.

Finally, the surface modeling features are terrific for what is basically a CAD, not modeling, package. There are more ways to create surfaces, combine shapes, and blend everything smoothly. Rendering has also gotten better—shadowing and Phong shading are built in, and there's an expandable library of surface materials.

**Manuals:** Good, but not for one sitting. Five large paperbacks—plus excellent on-line help. You get a user guide with fair tutorials, comprehensive command reference, installation guide, and references for database and add-on tools.

**Ease-of-use:** Good for a complex package. The basic commands are easy to find. On-line help stays on-screen while you perform the step-by-step operation for which you needed help.

**Error-trapping:** Good. It is tough to crash this program, even on a small machine.

**300 on Reader Service Card**

## Drawbase for Windows 1.2

**Equipment required:** Any computer capable of running Windows 3.1 or higher, with at least 8 MB of RAM, mouse, or WINTAB-compatible digitizing tablet.

**Vendor:** CADworks, Inc., 222 Third St., Cambridge, MA 02142, 617/868-6003, fax 617/354-3057. (info@cadworks.cemail.com-puserve.com.)

**Price:** Drawbase 5000 for Windows (3D) 1.2, \$5,500, Drawbase 4000 (2D), \$4,400, Paradox link \$500, Shade, \$500 (free in Version 2), AutoCAD link \$500, DecisionBase, \$500; volume discounting up to 30 percent off. Dealer or CADworks support, about \$900 site/year. Version 2 upgrades will be no more than 10 percent of original cost.

The strength of this package, originally sold by Skok, has always been in its underlying database links. While you can certainly use Drawbase for production drafting, CADworks mainly aimed at the facilities-management market. There, the ability to track a space and the furniture within it is para-

mount. We have one major gripe—there's no built-in provision for key maintenance. Thus you can create duplicate records, or call two different entities (two styles of chair, perhaps) by the same record reference. That's not necessarily fatal—and it can be helpful. You may, for instance, have started with two similar symbols for two types of chair, and then replaced them all with one model in real life. In Drawbase, you don't have to redraw or replace all the symbols.

But if you spin out a database with duplicate records to a separate program such as Paradox 5.0, and then tell it to kill off the duplicates, you may corrupt your database.

The next release of Drawbase, Version 2.0 due this summer, will not cure this problem. But it will include the ability to reference external drawing files, and have better shading controls, and some new data and drawing tools.

Drawbase itself is not cheap. But multi-ter-

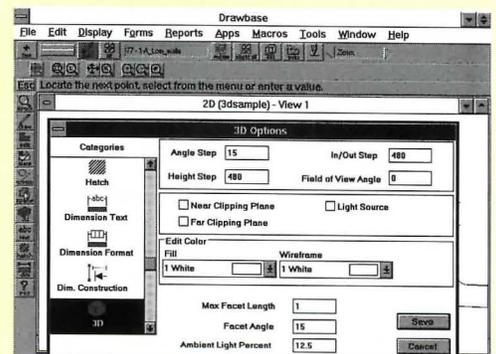
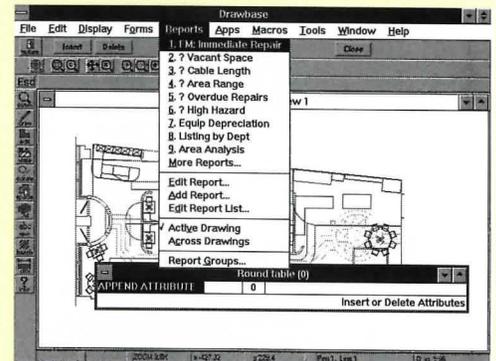
minal offices, especially in facilities management, can take good advantage of DecisionBase, a \$500 viewer/redliner program.

**Manuals:** Good. Ring binders for detailed reference and tutorial/user guide.

**Ease of use:** Good. Drawing tools are a bit dated but easy to find, and report generation is a breeze.

**Error-trapping:** Good. We even bombed the system on purpose, and were warned when we resumed that the previous session had been aborted. The big issue is in data record duplication (see above).

**301 on Reader Service Card**



*Top: Drawbase for Windows features a popup form for integrated database; the pull-down menu shows some of the report options available as well.*

*Above: Extruding 2D data from Drawbase to obtain a 3D model.*

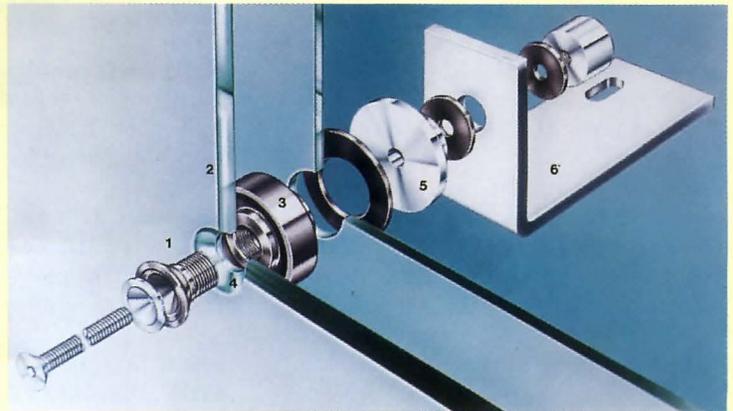
## Using Glass as a Total Cladding System



1

**302.** Pilkington Glass, Ltd., of St. Helens, England, has designated W&W Glass, of New York and California, to design, distribute, and install its Planar glass-cladding system in North America.

The all-glass appearance of Planar walls and roofs is due to the small scale of the countersunk fitting. Fasteners barely visible from 10 feet (1) "disappear" when viewed from a greater distance (3). Installed flush with the surface of the glass, the bolt (about the diameter of a quarter) supports the weight of the glass by direct bearing, via the bushing, onto the hole drilled in the heat-strengthened glass (axometric, 2). Independently audited ISO 9002 quality standards govern the production of the entire assembly: glass and fittings. Planar glass lights can be used vertically and horizontally, to any height or length



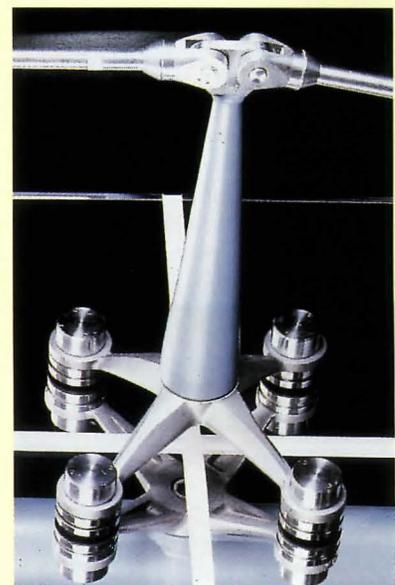
2



3

desired. Unlike a friction-fit suspended assembly, the Planar fitting allows rotational movement of the glass independent of any adjoining light; silicone caulking functions only as waterproofing for the light-to-light gap. This freedom of movement makes insulating units possible, with the outer light carrying all of the load and the inner light held by the fastener without compromising the seal. Argon gas can be used within the unit to further improve insulating value, as can low-E and other high-performance glasses.

A major design advantage of the Planar system is its adaptability: the support structure can be placed above or below the glass; on the interior or the exterior of the building envelope; strongly expressed or unobtrusive. While the bush and bolt fitting itself has been



4

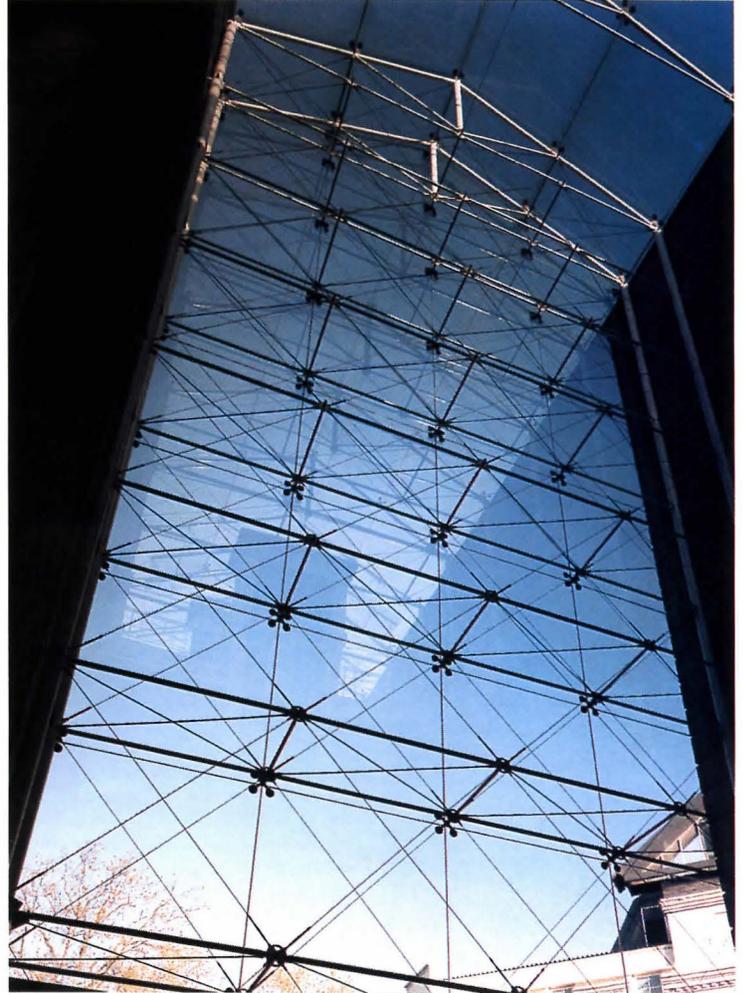
A British manufacturer crosses the pond with a frameless enclosure system for walls and roofs, using an ingenious bolt fitting that lets glass float either from subtle or substantial structures.



5

standardized, the spring-plate load-transfer connection can be supplied in different forms to accommodate various internal or external support systems, including: metal truss (1), tensioned wire cable (6), metal, glass, or concrete fins (5). For example, a star-shaped fitting (4) connects to cable anchors in a tensile rigging structure.

Sloped or nearly flat (4 deg slope) roof installations can be designed to take the live loading necessary for maintenance; all components—glass, fittings, brackets, and structure—can be engineered for almost any anticipated dead, live, and seismic load. Since each light in a Planar system is structurally independent, damage to individual glass units—due to accidental breakage or a gunshot, for example—doesn't compromise the installation. (Large Planar walls per-



6

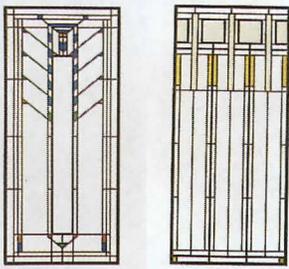
formed very well in the Northridge, Calif., and Kobe, Japan, earthquakes.) Absence of projecting mullions lets the glass self-clean.

Where laminated glass is needed, Pilkington uses cast-in-place resin in a cold-process technique said to chemically bond the inner surfaces of the two glass lights, allowing them to move as one during thermal and seismic events. Edges of laminated-glass lights need no special protection from moisture, and the casting process lets the designer place frit patterns on an interior surface without compromising the structural adhesion of the two panes.

All glass is heat soaked, to totally eliminate the (minimal) chance that lights will spontaneously break from nickel-sulfide inclusions (a problem identified with tempered glass).

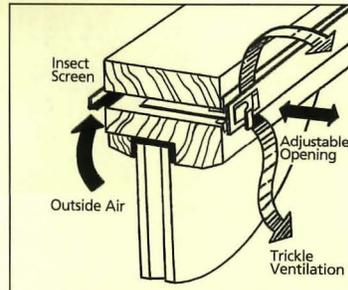
Pilkington says the float process used to make its Armourplate glass produces an absolutely flat large glass light that reflects a true image with minimal roller-wave distortion. Because of the elegant way loads are transferred, a Planar wall is said to be particularly useful in renovations, since the glass supports can be designed for minimal interference with the surrounding fabric. The Planar bolt technique can also be used as a curtain-wall fitting, providing a mechanical attachment for four-sided silicone glazing installations. 800/452-7925. W&W Sales Limited, Nanuet, N.Y. ■

- 1. & 3.—Baxter Hodell Donnelly Preston, Inc., Architects; Cincinnati
- 5. Nicholas Grimshaw & Partners, Architect; London
- 6. G.S.W. Architects; London



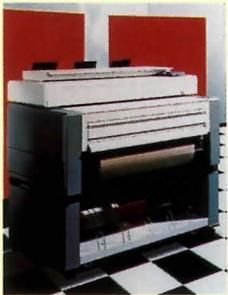
### 303. Wright art-glass windows

Made to fit new or existing Andersen windows and patio doors, decorative panels recreate original Frank Lloyd Wright designs in an authentically detailed "antique" colored glass set in zinc caming. Licensed reproductions include nature-based motifs from the Ennis Home of 1926 and geometric window designs from Unity Temple (1906). 800/426-4261. Andersen Corp., Bayport, Minn.



### 308. Passive ventilation

Installed in metal commercial units as well as wood or vinyl residential windows, unobtrusive trickle ventilators admit fresh air and exhaust interior humidity and contaminants without compromising security and energy efficiency or letting in rain or insects. Widely used in Europe, the vents can be retrofit or built into new windows and doors. 219/271-9699. Titon, Inc., Granger, Ind.



### 304. E-size scan-to-file

For A/E offices and reprographic centers with mid- to high-volume large-document-processing requirements, space-saving 9500-S series machines combine the functions of digital plotting and scanning with low-maintenance LED copying. Components can be purchased separately and upgraded; smaller units available for smaller offices. 800/445-3526, x 7000. Océ-USA, Inc. Itasca, Ill.



### 309. FRP composite decking

One of several new fiberglass-reinforced-plastic construction products, the E-Z deck has long-term resistance to weathering and UV fading. Furnished as a cut-to-length C-shaped profile, decking snaps onto clips placed on standard wood substructures; finished deck has no nailholes and will not splinter. ZCL Composites, Inc., Nisku, Alberta.



### 305. Mirrored-glass tiles

Specchi Da Arredamento tiles and panels are individually decorated and fired to create unusual three-dimensional effects. For interior application in restaurants, hotels, and casinos as well as homes, the art-glass material comes in 18 colors and patterns (Polichromo is shown) that can be combined to create light-catching murals. Price range: \$4-9 psf. 800/345-0476. Forma Design, Norwalk, Conn.



### 310. Insulating-glass options

Heat Mirror TC-88, with a dual-coated suspended film, and Sunbelter SC-75 Solar Control insulating glazings are said to offer a 50 percent improvement in R values over low-E glass, to make interior space near windows more comfortable, and to block outside noise and UV radiation. Priced to compete with mid-range low-E windows. 800/2BE-HURD. Hurd Millwork, Medford, Wis.



### 306. Master-key security

Signature Series locks combine specially machined key blanks, cylinder barrels, and cylinder bodies to create unique three-point pinning configurations. Altering just one part, such as the key blank, generates thousands of distinct locks within different levels of access. Said to be an economical, field-serviceable means of key control. 800/945-0536. Sargent, Div. Essex Industries, New Haven.



### 311. Emergency egress

The Life Way path-marking system is said to meet all applicable codes without intruding on the esthetics of a space. Can be floor-mounted near baseboards, or placed higher on a wall; good for commercial, industrial, and institutional facilities. Battery back-up operation; all lighting parts come within a single flexible strip. 708/956-8400. Sure-Lites, Cooper Lighting, Elk Grove Village, Ill.



### 307. Wood-look roofing

Made of Portland cement, recycled fly-ash, and wood fiber, Nature Guard shakes come integrally colored in shades of gray or brown textured to resemble natural cedar. A Class A material, roofing will not effloresce, and resists breakage even when walked on. Available in a 22-in. length, three widths, and trim shapes. 800/299-0028. Louisiana-Pacific Corp., Portland, Ore.



### 312. Cheerful cast-marble tile

Splash, a new pattern, is a less-formal version of Armstone cast-marble tile. It incorporates colorful solid-plastic chips reclaimed from waste materials into a predominantly white or soft-black stone-aggregate and resin matrix. Sample program for architects and specifiers. 610/565-1575. PermaGrain Products, Inc., Media, Pa. ■

*Building Types Study 727/Community Facilities*

Politically, we are in an era of funding cutbacks, and in the future, it is expected that both people and facilities will do more with less. Projects for this Building Types Study were chosen with this in mind, both for their diverse nature and creative funding. Two are facilities for the care of troubled or potentially troubled children. One of these was funded privately, and the second by a consortium of public and private sources. Both are buildings completed just as we are being urged by some to return to the use of orphanages as opposed to foster care. Elsewhere, a town hall fosters dialog, putting constituents and politicians in each others' faces, where the democratic process tells us they belong. In two towns, water has been the catalyst for the adaptive reuse of industrial zones. One created new housing, resurrecting itself by dredging an old shipping channel. The other, an aquarium, creates a sanctuary for marine animals, and teaches visitors about ecology. Both are magnets for economic redevelopment.

Last, but not least, we have included three delightful small public libraries, a building type that has taken more than a few hits lately. Who needs a library when you can find almost any text you'd ever need on The Net? Bah. We will always need places where we may go and study, just as there are lots of other activities that can't be done electronically. When will child-rearing start going via Net? When will web-pages start working as economic magnets for neighborhoods or as places to see live sharks swimming (although a municipal debate on the Net might come as close as anything)?

The Net is nothing new. Remember those black-and-white Cold War films of guys manning lonely radar stations along the DEW line? For months at a time, their only source of information and contact with other people was by shortwave radio. It drove them crazy. This is not what we need. As our essay by architect and planner Alex Krieger suggests, architecture that doesn't work—and the Internet—are no substitutes for warm bodies in environments that do. *C.D.L.*

*Manufacturers' Sources  
listed on page 121*

# Reinventing Public Space

By Alex Krieger

**A** familiar critique of contemporary urbanism is that it suffers from an absence of public life, in part due to the absence of sufficient public space. Critics ranging from Edward Soja, to Christopher Lasch, to Mike Davis, to Richard Sennett worry that a minimization of public life (and public place) threatens the social nature of cities. Michael Sorkin goes so far as to claim that the need to reclaim the city from undue privatization and various "inauthenticities" represents a "struggle for democracy itself."

The critique (and worry) unfolds thus: Dispersed work and living patterns increase isolation and foster social alienation. Spending time in simulated public, but actually highly managed private, environments such as malls or theme parks leads to confusion about acceptable public behavior. After all, in a mall one can be thrown out for behavior deemed inappropriate by the management. Exchanging information largely through electronic means exasperates already difficult communication, and contributes to the rise in asocial attitudes or habits. In losing sight of and physical contact with one another, people reduce their capacity to respect difference, or to maintain empathy for a notion about a common good.

While we may be becoming more self-centered, or at least suppose ourselves to be becoming self-sufficient, it is not for lack of common space. Comparing a map of an American city to a map of a relatively intact medieval fabric, Toledo, Ohio, to, say, Toledo, Spain, reveals that the ratio of common space to private space is greater in Ohio—by a fair amount. Less of the public space in Toledo, Ohio, is edified, to be sure, or memorable, but in the sum total of streets, sidewalks, paved areas, setback zones, lawns, recreational fields, parks, open spaces, parking lots, highway corridors, conservation easements, lobbies, public buildings, empty lots, subway platforms, airport terminals, and the like, Ohio's Toledo outdoes Spain's. So, too, the percentage of public space in Florence pales by comparison to that found in Detroit. In Detroit there are more categories of common space, more space allotted to individual public functions, more open space, and more space made accessible, or at least visible, to all. Yet few claim that Detroit is more conducive to social interaction than Florence.

So it may not be the amount of common space that determines sociability. A more radical notion is that the modern city has too much and too many kinds of common space, and thus some portions are bound to go unused, unmaintained, uncherished. Paradoxically, it may be our surplus of common and public spaces that retards communal attachments. It is hard to love a parking lot even if it is a public one. It is hard to transform each parking lot into a place for social interaction even though they are a familiar component of the contemporary urban experience. There is only one Campo in Siena; redundancy in the public realm is one of our burdens.

## The need for edified and everyday community space

There is a tendency to view community space as monolithic; it is

*Alex Krieger is principal of Chan, Krieger & Associates, Architecture and Urban Design, of Cambridge, Mass., and a professor at Harvard's Graduate School of Design.*

either for the public or it is not. But there are many thresholds for public intercourse. Although you are there at the management's discretion, many citizens may feel more comfortable in a private shopping mall than in a public library. In a mall, one can walk and stroll and sit and dine. One can gaze, preen, and flirt. The hours are good. You can go there on weekends. In the most sophisticated malls you can visit your dentist and, soon, surely, pay your real-estate taxes or renew your driver's license. In a public library, by contrast, one has to be quiet. This is not an argument in support of building malls rather than libraries. It is merely a reminder about the breadth of public needs and expectations, some of which may be provided through humble means.

The Campo in Siena is both the symbolic center of the city and a work-a-day environment. Regrettably that is a rare occurrence. City Hall plaza in Boston (inspired, according to its architects, by Siena's Campo) is undeniably a public space, intended to edify local government and provide a symbolic setting for participatory citizenship. It is arguable whether the symbolism works. The plaza is generally empty while across the way the much more modest environment of the Haymarket is often full of people, the result of a temporary appropriation of a public street by private agents selling produce. Again, it seems, neat categorization of private and public isn't that significant. Is not one of our cultural dilemmas an increasing skepticism, bordering on cynicism, about representing the public at large, as opposed to maintaining decent environments for normal activities and behavior? In Boston there is talk of programming new functions for the plaza, some perhaps even to be privately managed. Will the plaza's "publicness" be irrevocably compromised as a result or might it, in another sense, become more public by being better used?

## Community and public space are not always interchangeable; community and privacy are not always antithetical

A community is a group sharing some essential interests; but not everyone shares the same essential interests, references to the idea of the "human community" notwithstanding. While we use the word "community" interchangeably with the word "public," community involves selection; a distinguishing of those who belong from outsiders. The public, on the other hand, is—or should—encompass everyone. This is not a subtle distinction, yet difficult for Americans whose ideals waver between demands for equality of access and territoriality. We expect our community spaces to be comfortable, useful, familiar, stable, ours, just like an old ethnic neighborhood.

But careful historical analysis does not support the romantic notion that the pre-industrial city provided equal access to all. That is wishful revisionism. Strangers in the maze-like alleys of a traditional bazaar were no more comfortable than strangers in a suburban cul-de-sac. Most areas of the medieval city were, indeed, the domain of a community. This meant a defined, identifiable group under whose aegis, and whose eyes, a territory was maintained, made secure and made available (in a controlled way) to others. The current rush of enthusiasm for the "community" found in the traditional small town disregards the many anti-public predilections of small-town life. Whatever its virtues, the small American town also sheltered confor-

# *The Internet Revolution is likely to replace the binary world of public and private space with space open to pluralism and diversity.*

mity, ingrown mores, mistrust if not downright intolerance for strangers, and a general absence of social or cultural choices. Reading the minutes of the Seaside homeowners association meetings, like re-reading Sinclair Lewis's *Main Street*, may temper some of the accolades for *Seaside*, not as a physical environment, but as a new/old paradigm for democratic social exchange.

## **Proximity is no longer a pre-condition for community (but it still helps)**

We are at a moment in history which minimizes the importance of physical connections, enchanted as we are by virtual space and E-mail. There are, indeed, many examples of human association which do not depend primarily on physical proximity, at least for purposes of communication, and it is part of our millennial *zeitgeist* to explore the limits of non-spatial social organization. Yet, travel and tourism continue to increase as forms of recreation. Is this only because we are mobile and travel is cheap, or do we travel in part to balance out the placelessness of daily existence with the power of place?

The widespread interest in history, decoration, old neighborhoods, and regional charm are more expressions of a desire to connect with place; an ancient catalyst for community formation. The popularity of recreational shopping, of festival markets, amusement parks, sporting events, movie theaters (in spite of 100 cable channels), road races, even walk-a-thons, may be further subliminal rebuttals to social and spatial desegregation. Thus propinquity, while no longer a necessity for many social and business transactions, is today sought out for the sheer pleasure of it. This portends well for advocates of community, since desire is no less powerful a human force than need.

## **Moving beyond the binary world of public and private**

What will communities look like on the other side of the Internet Revolution? They may take us to realms where long-standing oppositions may no longer prevail: to the covenanted New England Village, or a Lower East Side immigrants' ghetto. Roberto M. Unger, who teaches theory and ethics of the law at Harvard, urges that we shift our energy from prolonging an archaic public/private dichotomy, in which each condition draws meaning only in opposition to the other, to conceiving of social space. "The social spaces of an experimentalist democracy," he writes, "are not a repertory of physical structures clearly demarcating groups of people and their specialized jobs; they are more like diminutive versions of society itself, with its promise of inexhaustible possibility." This must unsettle those who believe that the essence of community is a search for stability and equilibrium. Such characteristics are in short supply today. But rather than lead us to the pessimistic conclusion that community life and public space is in decline, we must take on the challenge of envisioning communities which are receptive to pluralism and possibility. Good architectural work for communities contributes to social space, not to a static aggrandizement of the public realm. It addresses the community needs by delivering useful, well-conceived spaces and services. It portrays itself as part of a much larger network of communal facilities. It does not aspire to be part of a microcosm—just a valued or valuable component like the virtuous citizens who are at the core of any healthy community.

© Alex Krieger photos



1



2



3



4

*Rockefeller Center (1), the Campo in Siena (3), and the Haymarket (4) in Boston seem to succeed in meeting people's needs for public interaction. Spaces like City Hall plaza (2), also in Boston, and across the*

*street from the Haymarket, seem to illustrate that it isn't simply the amount of sheer area dedicated to community use that makes a public place an attractive gathering point.*

# Total Immersion

*A new aquarium by HOK and Esherick, Homsey, Dodge & Davis has already become a landmark for a revived waterfront.*



*The Florida Aquarium  
Tampa, Florida  
Hellmuth, Obata & Kassabaum, Inc.  
Esherick, Homsey, Dodge & Davis,  
Architectural Design Team*



**P**laced on Tampa's waterfront in a gritty industrial area that had deteriorated over the years, the Florida Aquarium was conceived as a joint public-private project that would act as a catalyst for redevelopment. With its distinctive dome visible from downtown and its outdoor decks connecting it to its surroundings, the aquarium has indeed become a colorful anchor for a revived waterfront. Now three cruise lines are active in the area and a new ship terminal is nearing completion next door.

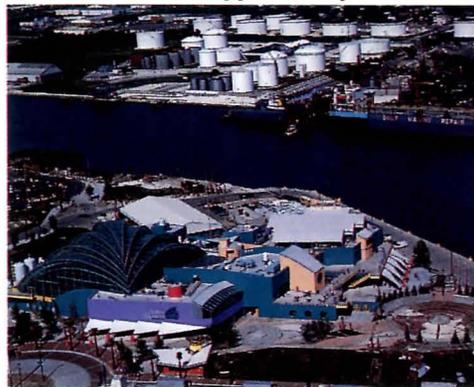
Like a good Hollywood movie, the aquarium began with a strong storyline. "A key part of this project was to tell the story of Florida's water, from its underground source to the open sea," says Dena Leavengood, manager of the aquarium's learning lab. Long before it hired any architects, the non-profit organization behind the aquarium had exhibit designer Joseph Wetzel working on ways to turn an environmental message into an entertaining and educational experience.

"We designed this building from the inside out," says Charles Davis, senior design principal of Esherick Homsey Dodge & Davis (EHDD), one half of the architectural team with Hellmuth, Obata & Kassabaum (HOK). "We started with Wetzel's exhibit concepts and then designed the architecture around them." With the two architecture firms and the exhibit designer working together throughout the project, the building is the result of a true collaboration. According to Wetzel, this project represents the third and latest wave of aquarium designs—one that gives visitors the sense of being immersed in the marine world on display. The first generation of aquariums, says Wetzel, used a "showcase" approach, displaying "one of everything," while the second generation put plants and animals into groupings that imitated natural habitats.

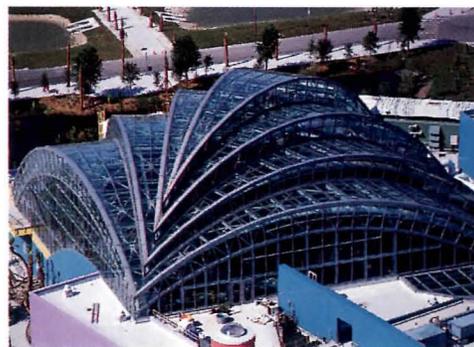
The immersion begins with the very first exhibit. After climbing the building's main stair from a spacious entry hall on the ground floor, visitors learn about the underground sources of Florida's water while inside a cavern-like exhibit. To heighten the sense of being surrounded by the marine world, the designers placed a fresh-water spring *above* visitors as they move through this exhibit. Thanks to panes of clear acrylic (ranging from 1 1/2 inches to 11 3/4 inches thick), though, no one needs an umbrella indoors. A meandering path then leads to the airy wetlands exhibits, housed within a giant segmented dome made of 1,100 panes of glass and epoxy-coated steel trusses, tubes, and cross-bracing. First sketched by Gyo Obata, HOK's co-chairman, as an abstract seashell with a radius of 135 feet and a clear span of 65 feet above the second floor, the dome is the aquarium's most recognizable feature. "We wanted to create an icon for the entire port area," explains Obata.

As visitors move from freshwater exhibits to marshes and saltwater displays, the path slowly descends so that the water level seems to rise. Leaving the domed portion of the building, one is plunged into a darker realm where fish swim on the same level as people walk. Most of the aquarium's salt-water exhibits reside in a brightly colored, poured-concrete structure on the opposite side of the entry hall from the dome. An outdoor deck outfitted with railings made of nautical piping provides a welcome place to rest before tackling the remainder of the displays. The star attraction of the second half of the aquarium is the coral reef exhibit, which simulates a dive into the unique habitat off Florida's coast. The sloping exhibit path winds down and around two giant tanks, offering views of the reef from a variety of vantage points and depths. The grand finale is the 43-foot-wide, 14-foot-high window onto the bottom of a 600,000-gallon tank. To keep everyone dry, the acrylic here is 11 3/4 inches thick. *Clifford A. Pearson*

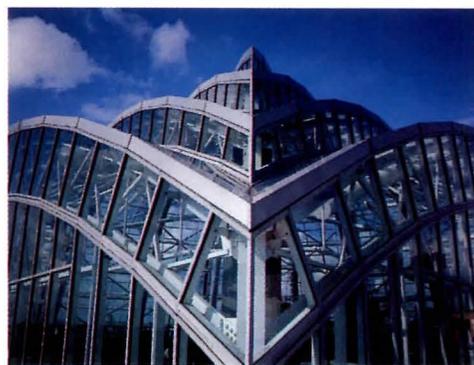
©Korab Hedrich Blessing photos, except as noted



© Aerial Innovations



© Aerial Innovations



Located at the intersection of two shipping channels (top), the 152,000-square-foot aquarium takes cues from its industrial and nautical neighbors—as seen in its water tanks (opposite top), circular ship windows (opposite bottom), and seashell-shaped dome (above). Salt water is piped into the tanks from barges. The aquarium is a concrete-frame structure with a steel-and-glass dome. Each steel truss from the dome rests on a curving concrete buttress inside the structure.

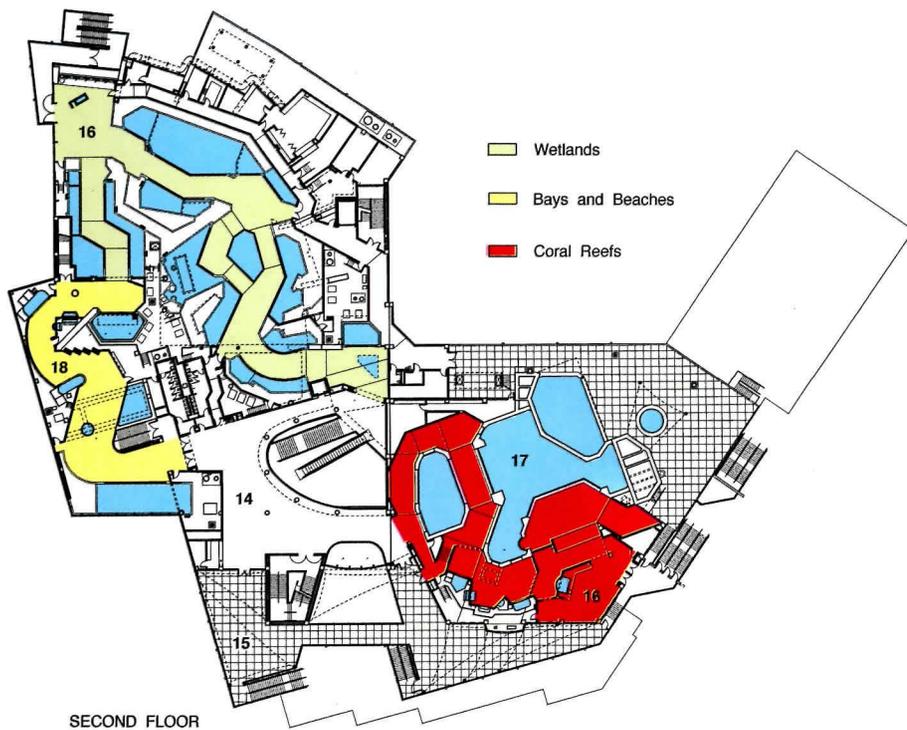




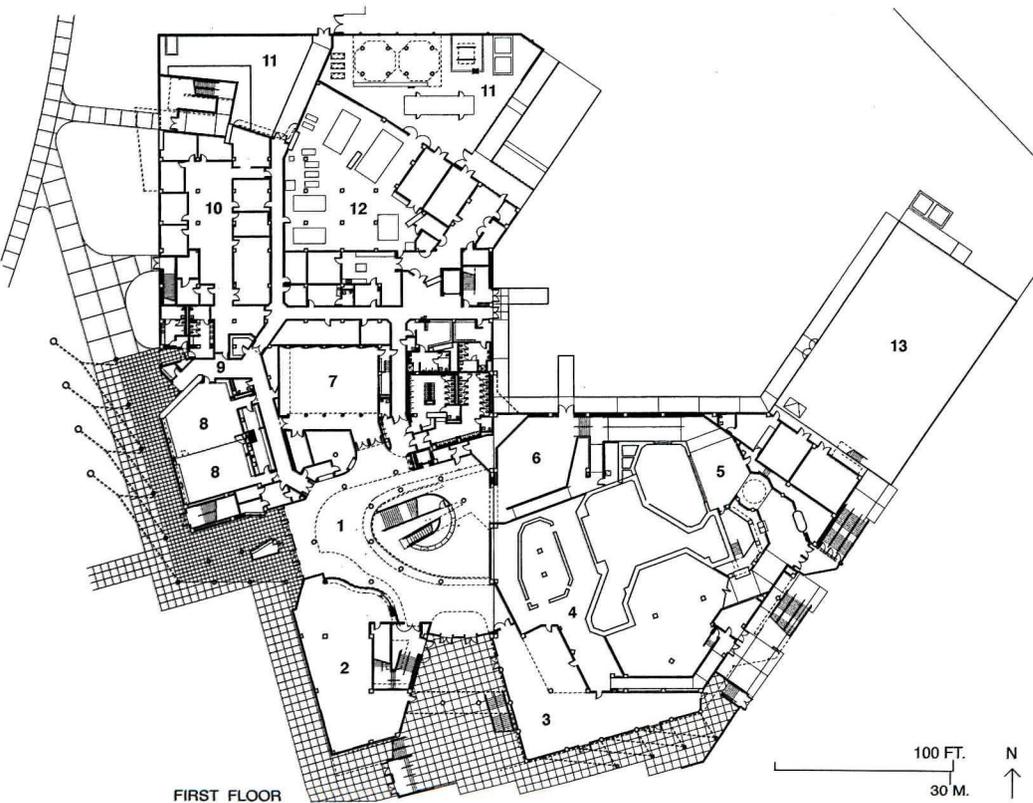
*Financed with an \$84-million bond issue and developed by Kajima International, the aquarium is a hybrid public-private project. The \$39.3-million construction budget included \$6.3 million for exhibits and resulted in a per-square-foot cost of \$268, significantly below the \$325 to \$400 cost of most other aquariums today, say the architects. One way the architects kept building costs down was to bring certain functions outdoors. Consequently, some dining, exhibit, and social gathering areas are on decks and terraces rather than indoors. The multi-level decks offer views of the water and downtown Tampa (opposite).*

*The main lobby is a two-story space providing access to a restaurant, gift shop, and multi-purpose room on the ground floor (left bottom). An oval-shaped gallery above connects the coral-reef exhibit with the domed wetlands area and the bay and barrier beaches displays. The gallery also provides access to an outdoor deck where visitors can take a break between exhibits.*





SECOND FLOOR



FIRST FLOOR

100 FT.  
30 M.



- |                          |                    |                           |
|--------------------------|--------------------|---------------------------|
| 1. Lobby                 | 7. Multi-purpose   | 13. Reservoir             |
| 2. Gift shop             | 8. Classroom       | 14. Gallery               |
| 3. Restaurant            | 9. Members' entry  | 15. Terrace               |
| 4. Kitchen               | 10. Administration | 16. Wet lab               |
| 5. Gulf exhibit          | 11. Life support   | 17. Coral-reef tank       |
| 6. Environmental exhibit | 12. Mechanical     | 18. Bay and beach exhibit |

### Up Close

*Environmental education.* To tell the story of Florida's waters and teach people about the need to preserve the natural environment, the aquarium unfolds in a series of exhibits that recall the look and feel of the animals' natural habitats. By bringing daylight into the wetlands display area, the building's segmented dome plays an important part in establishing an appropriately sunny setting (opposite top). The dome's 1,100 panes are made of two layers of 3/8-inch-thick glass and PVB with a heat-reflective film sandwiched in between. The glass lets 80 percent of visible light in, while significantly reducing heat gain. To further reduce cooling loads, the area under the dome is allowed to be a few degrees warmer than the rest of the building—recalling the state's natural climate without being uncomfortable. While the dome allows many trees and plants to grow underneath it, some of the greenery is artificial. For example, fake cypress trees actually serve as camouflage for air ducts (opposite bottom left). To further the educational mission of the aquarium, the designers inserted in the display areas two "wet labs" where children can take part in hands-on demonstrations and ask questions of the aquarium's staff (16 on floor plan, left). While many aquariums service exhibits from behind, exhibits here are serviced from public areas out front—increasing the opportunities for visitors to ask curators and staff questions. This approach also reduced the amount of closed support space needed in the building. As visitors move from the open wetlands to the deep oceans, the exhibits change from sun-filled areas to dark cavern-like spaces (opposite, bottom right).

### Credits

*The Florida Aquarium  
Tampa, Florida*

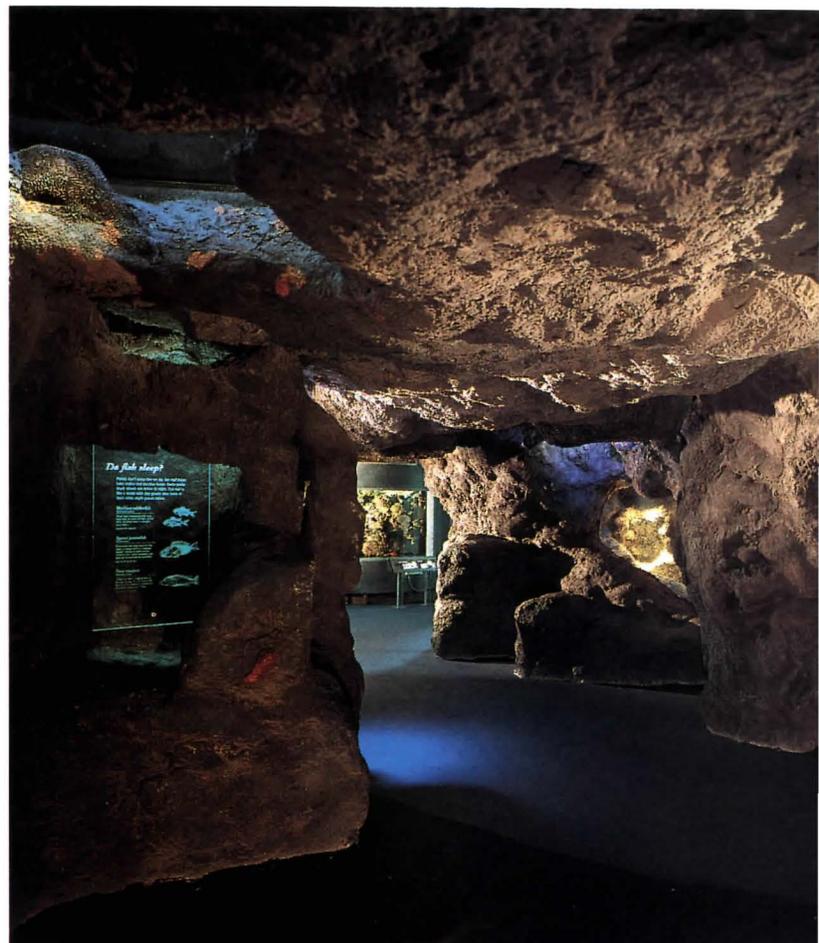
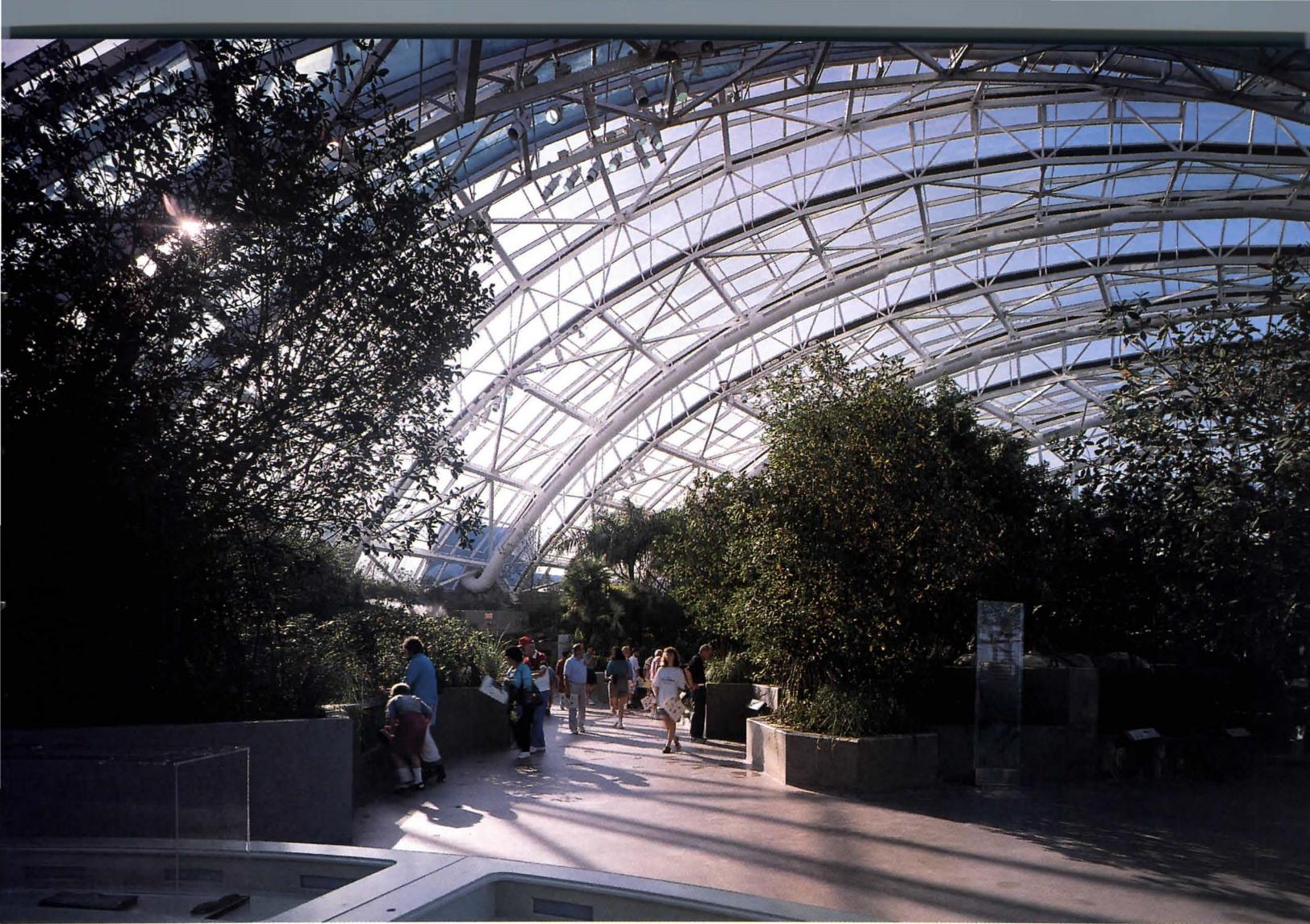
**Owner:** *The Florida Aquarium, Inc.*

**Architect:** *Hellmuth, Obata & Kassabaum, Inc. and Esherick, Homsey, Dodge & Davis (joint venture)—Gyo Obata, Charles Davis, principals-in-charge-of-design; Pete Karamitsanis, principal-in-charge; Alan Temple, project manager; Jim Hastings, Ford Merriweather, project architects; Robert Stockdale, project designer*

**Engineers:** *Walter P. Moore & Associates (structural); Syska & Hennessy (mechanical/electric/plumbing/life support); Greiner (civil)*

**Consultant:** *Joseph A. Wetzel & Associates (exhibits design)—Joseph Wetzel, principal-in-charge; Steve Leno, project manager*

**Developer:** *Kajima International, Inc.*  
**Contractor:** *Turner Construction/Kajima International*



# Safe House

*A crisis care center for children draws upon the icon of the ranch—a place to find refuge and a sense of security.*



The Casa Pacifica Children's Crisis Care Center strives to meet the needs of abused and neglected children, and children with behavioral problems. Teachers and social workers at Casa Pacifica attempt to instill these kids awaiting placement in more permanent living situations with the feeling that they are protected, secure from their abusive families, and in a stable environment. Nobody disputes that nice facilities are not, to those in need, a substitute for nurturing by caring individuals. Casa Pacifica goes a step further to ensure the children do not get the feeling they have been sent to a punitive environment dressed up like a home—the complex is unfenced except for the parking lot, and windows are not barred or covered with sheets of expanded metal. It is the homiest place in which many of these kids have ever lived.

Architect Bobrow/Thomas Associates' plan for the shelter and architectural typology draw heavily upon the agricultural character of the open fields of surrounding Ventura County, California. "Our goal," says Julia Thomas, "was to create a sanctuary for the abused children, and for the children who were psychologically disturbed, a very

non-threatening setting. That was why we chose the image of the ranch, which was in touch with the earth."

But the conception of this image was not entirely the architects' domain—members of the legal profession, social-services people, psychologists, concerned parents, and other community volunteers were all involved. Michael Bobrow adds, "I think the unique part about this place is that it was a partnership between a group called the Youth Connection, a non-profit group, and the County of Ventura. This was stimulated by one of our local judges who had been working a lot with these kids, and felt that the system was screwed up and needed to be changed. This occurred only because the non-profit group was able to more than match the county's funds, and that was the push that made it happen."

Even from the road, the 22-acre complex of orange, wooden buildings appears as a ranch-like sanctuary, or one of the equestrian-oriented boarding schools in nearby Ojai. The image is derived from the form of the buildings and their redwood siding, tiled roofs, and trellised

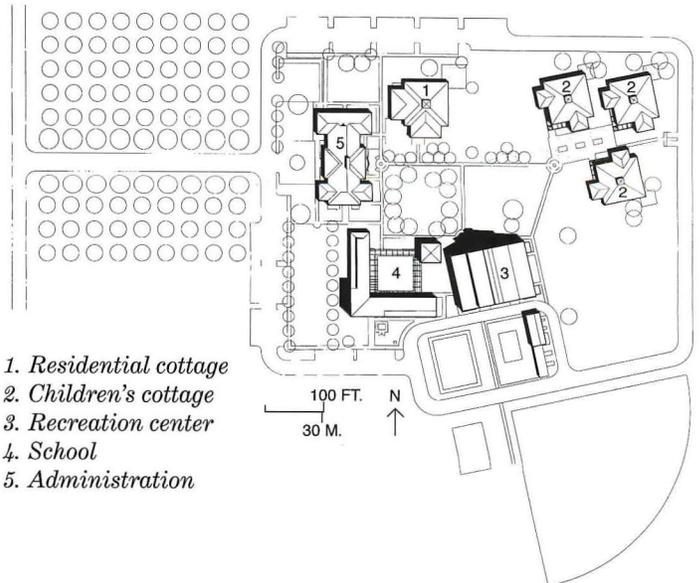
*Casa Pacifica Children's Crisis Care Center  
Camarillo, California  
Bobrow/Thomas Associates, Architect*

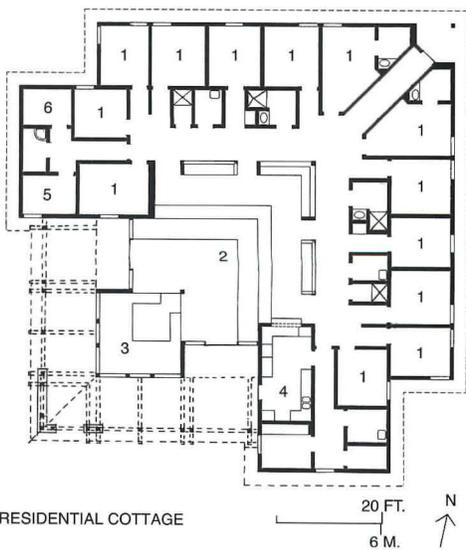


walkways, and the way the school, administration building, cottages, and recreation center are sited slightly askew from one another, as if they really were built one by one during the 19th century, without the aid of a surveyor's transit.

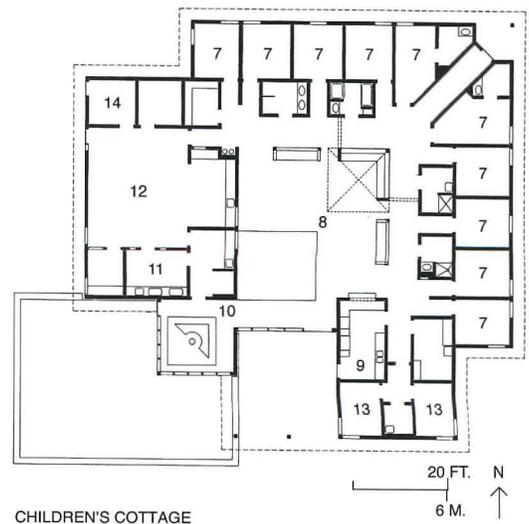
The interiors of the children's cottages are oriented around a central living space so that children can easily be observed while still having a sense of privacy. The roofs and daylight monitors are supported by laminated-wood beams that suggest agricultural shed construction. In time, more cottage buildings will be added, so the school can grow from 75 residents to 110.

The rural setting also gives the children a place to work, and a sense of ownership of their home, albeit temporary. This was also seen as one key to making their stay successful. "The sense," says Julia Thomas, "was the more that children felt responsible for their environment, that they could garden and work in the orange groves, the more it would give them an understanding of values." *Charles Linn*





1. Bedrooms
2. Day room
3. Dining room
4. Kitchen
5. Office
6. Mechanical
7. Bedrooms
8. Day room
9. Kitchen
10. Play area
11. Bathing
12. Nursery
13. Office
14. Mechanical





The residential cottage, with its trellised walkway (opposite top), and the recreation center (opposite bottom) with its decidedly barn-like form, are definitive representations of Bobrow/Thomas's desire to make the Casa Pacifica Children's Crisis Care Center appear as if it were a ranch with bunkhouse, barn, and outbuildings. The style is appropriate for rural Ventura County, California, and the setting represents an image of security needed by neglected and disturbed children. The less rustic-looking interiors of the library (top left) and the day room of the school building (bottom left) use traditional post-and-beam construction, but are softened by carpeting, drywall ceilings and walls, and daylighting.

**Credits**

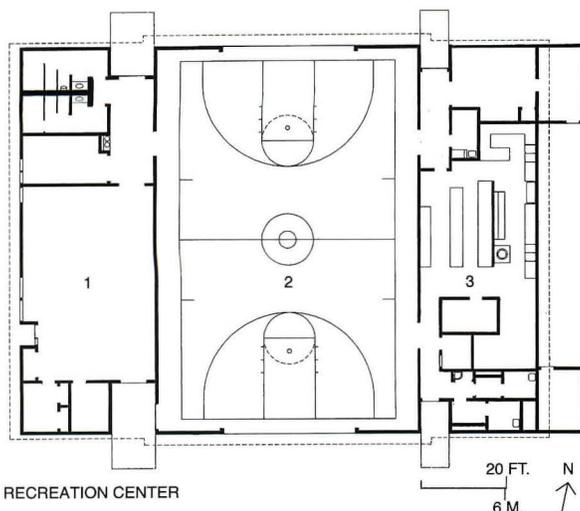
Casa Pacifica Children's Crisis Care Center  
Camarillo, California

**Client:** Pacifica/Youth Connection

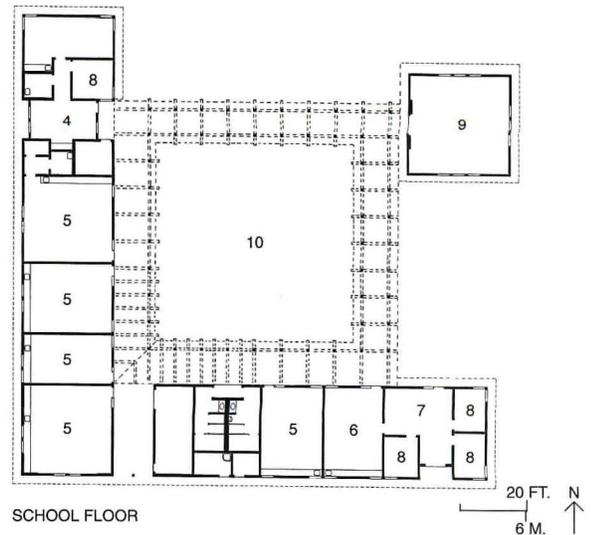
**Architect:** Bobrow/Thomas Associates—  
Michael Bobrow, Julia Thomas, design principals; Chet Wing, David Burdick, managing principals; Malcolm Brown, Sina Yerushalmi, senior designers; John MacAllister, Frank Yu, Lori Selcer, Judith Rinda, project team

**Consultants:** Freet, Yeh & Rosenbach (structural); Rosenberg & Associates (mechanical); Cohen & Kanwar (electrical); Bruton & Spitz; Dayle Henry (landscape architects); Frances Elson (finishes, furnishings, artwork)

**General Contractor:** HMM, Inc.



1. Art and recreation room
2. Gymnasium
3. Kitchen
4. Reception
5. Classroom
6. Day treatment
7. Runaway program
8. Office
9. Library
10. Courtyard



# Double Duty

*Lincolnshire Village Hall  
Lincolnshire, Illinois  
Nagle, Hartray & Associates  
Architect*



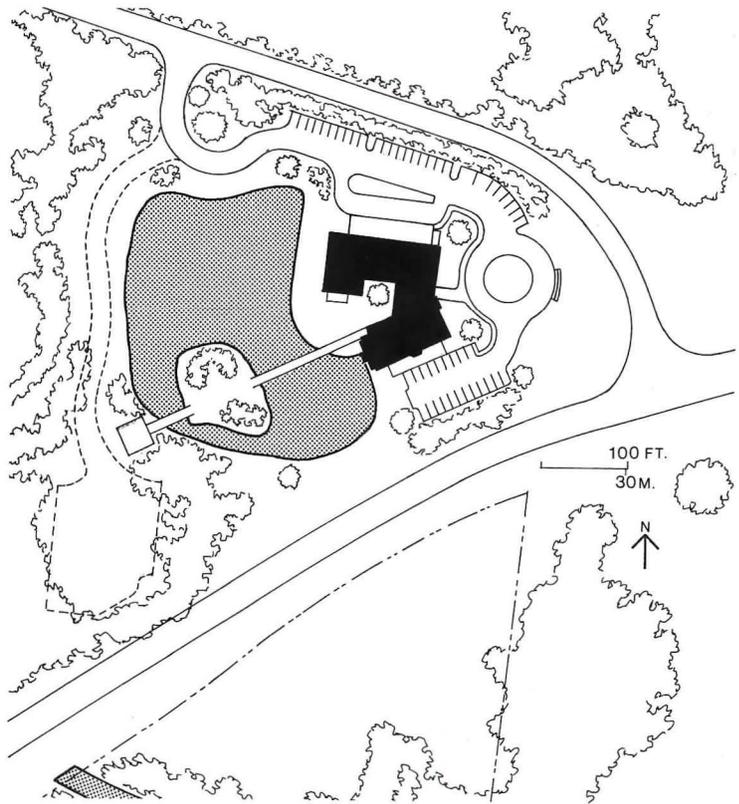
Lincolnshire is a Chicago suburb deep in the throes of growth many suburbs are going through today. In the case of Lincolnshire, new development will be controlled under Nagle, Hartray & Associates' master plan for the village center. It unites existing buildings and ongoing new construction around such time-honored foci as a main street and village green, and preserves large open spaces and areas of woodland. The architects became involved with the center's future some three years ago, after they proved themselves with their programming and design for Lincolnshire's new village hall. The timing proved propitious. Recent development proposals are accelerating and, by now, might well have gone too far to allow any kind of master plan to work. Already, the population of 4,500 permanent residents swells to 40,000 people during the day when workers converge on an office park located west of the village center.

The 28,000-square-foot Lincolnshire Village Hall contains three primary components: meeting rooms, administrative offices, and a police station, complete with detention facilities, which occupy much of the ground floor (plans overleaf). Beyond these practical needs, an extensive programming process determined more far-reaching objectives. In working with the future staff, the general public, and a village board consisting of six trustees and a mayor, the architects found a consensus that the building should be a model for future development, both in enduring quality and solid appearance. It was to encourage a direct relationship between the public and the administration, and be environmentally sensitive above the norm, including abundant outside light and energy-efficient mechanical heating and cooling with maximum safety from duct contamination.

Led by principal-in-charge Donald McKay, the architects responded with an open-ended courtyard design that fit well into a natural slope near a lake. The result was a low building entered on the second floor (opposite) facing the residential area to the east, with a taller civic presence (right) toward the village center to the west. The courtyard plan allowed floors with relatively narrow floor plates, providing interior daylight which, on the second-floor administrative areas, passes over low partitions to brighten interior corridors. The short spans suggested a precast concrete-plank and load-bearing masonry exterior wall-construction system. This helped keep the cost of the building down to \$3.75 million despite its sophisticated systems and durable finishes. As exemplified by the board room (overleaf), the public spaces are a model of the democratic process that encourage interaction between the public and its government at every level.

Ironically, the imagery of the building's exterior became the one sticking point between architects and village board. Nagle, Hartray proposed a barrel-vaulted *terne* roof and squared profiles for the tower and entrance. That design was to win an AIA Chicago Chapter award for unbuilt projects. Although it contained historic precedent reminiscent of the best public buildings of the 1930s and 1940s, it appeared more modern than what the board had in mind. The final result is nonetheless a thoroughly modern building, within a pleasingly Romanesque skin. *Charles K. Hoyt*

© Hedrich-Blessing/Steve Hall photos



*Wood shingles, warm brick facing, and a belt course embossed with the village's tri-leaf emblem give the new civic building its particular sense of place—and represent a model for future development. The tower is used by local school children to gain a bird's-eye view of their surroundings. A bridge links the facility with the village center to the west.*



The arrangement of seating in the village's boardroom (above) promotes eye-to-eye contact among the mayor, trustees, and citizens. The main lobby (opposite) opens directly to administrative offices seen over the partitions in the background. Workers gain a degree of privacy by having their work spaces elevated several steps above the public corridors.

**Credits**

*Lincolnshire Village Hall  
Lincolnshire, Illinois*

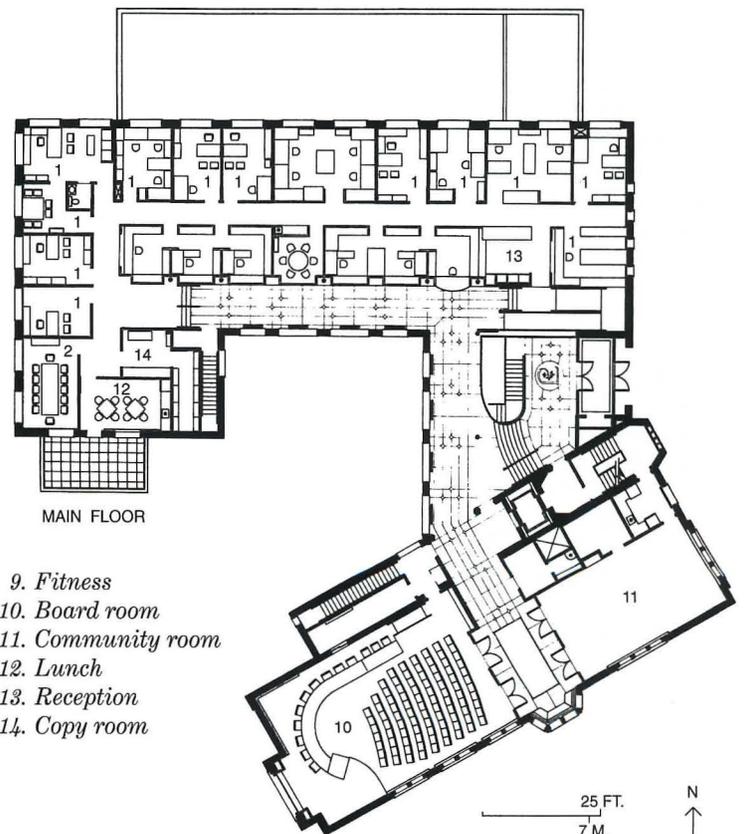
**Architects:** Nagle, Hartray & Associates—James Nagle, principal; Donald McKay, principal-in-charge; John Gleichman, associate principal; Carl Gergits, David Wahl, Peter White, Sharon Portnoy, project team

**Engineers:** WMA Consulting Engineers (MPE); Beer, Gorski & Graff, Ltd. (structural); SDI Consultants, Inc. (civil)

**General Contractor:** Valenti Builders, Inc.



- 1. Office
- 2. Conference
- 3. Squad room
- 4. Investigation
- 5. Mechanical
- 6. Detention
- 7. Storage
- 8. Booking



- 9. Fitness
- 10. Board room
- 11. Community room
- 12. Lunch
- 13. Reception
- 14. Copy room



# Three Libraries

*Samuel Johnson wrote, "A man will turn over half a library to make one book." Possibly the architects of the libraries on the following pages drew upon nearly that many sources when they designed them. Patkau Architects' Newton Library, Ross Barney Jankowski Architect's Barrington Area Library, and David Prendergast's Sedgwick Branch Library all use form to make their buildings much more than cloisters for study, or repositories for dusty documents. Libraries are, at least in these*

## Newton Library Surrey, British Columbia

From some angles it looks like an open book, and, in fact, the Newton Library's structural system is easily read from the outside. The glulam columns and beams of the roof and structural frame sit atop a concrete foundation, a combination of materials the architects say were inspired by "the sticks and stones of the region." In addition to giving the facility presence in a suburban neighborhood, the winged roof forms also draw natural light inside, where it is then reflected off interior painted surfaces to softly illuminate deeper reaches of the floorplate. Offices are clustered along the perimeter, leaving an uninterrupted south-facing space as a giant reading room. *K.D.S.*

### Credits

*Newton Library*

*Surrey, British Columbia*

**Owner:** Corporation of the District of Surrey

**Architect:** Patkau Architects—John Patkau, Patricia Patkau, Michael Cunningham, David Shone, Peter Suter; project team

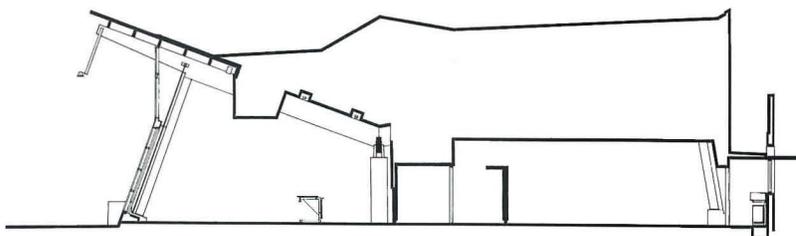
**Engineers:** C.Y. Loh Associates (structural); D.W. Thomson Consultants (mechanical)

**Consultants:** B.T.Y. Group (quantity surveyors); Brown Strachan Associates (acoustics)

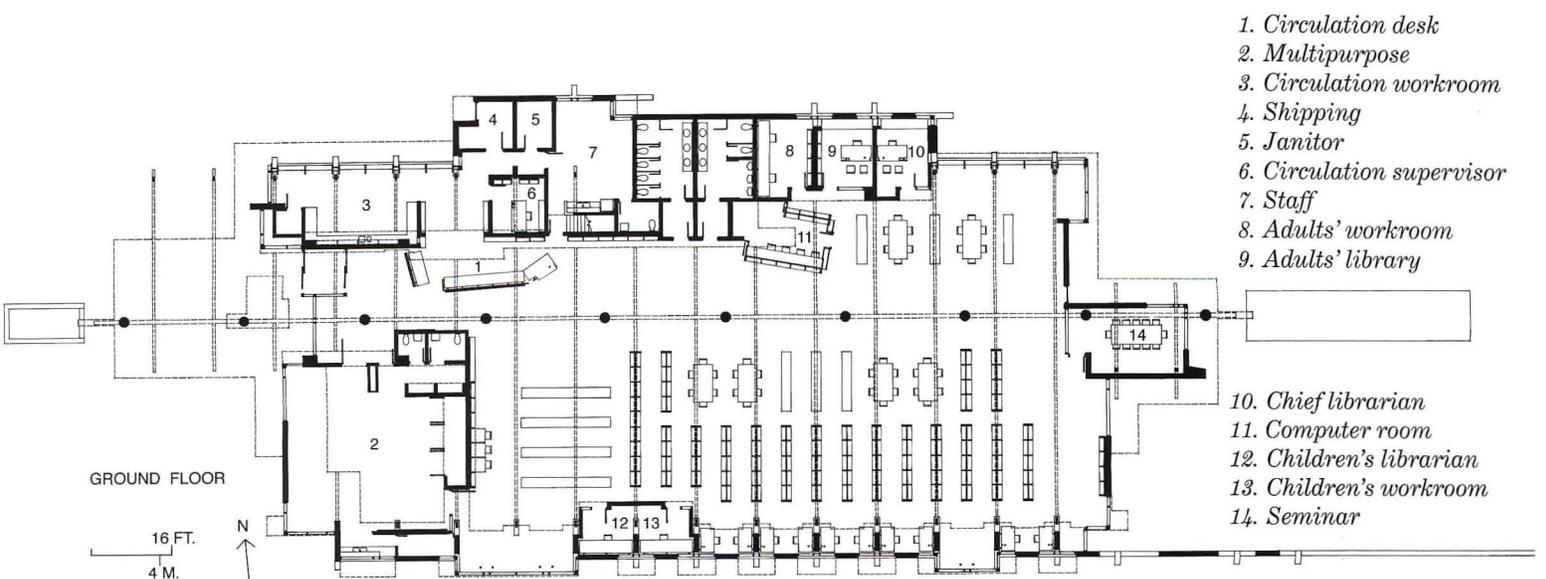
**General Contractor:** Framer Construction Ltd.



©James Dow photos



*examples, fun places to go play with a computer, watch a movie, listen to a story or music, and discover books. The Modernist-box library seems, for the time being, to have been put on the shelf. That could have been predicted, when Daniel Boorstin, former Librarian of Congress, said of the Library's own 1980 Modernist box: "When they built this building they were afraid to say that beauty is truth for fear that it wouldn't be by the time it was completed."—C.D.L.*



## Sedgwick Branch Library Bronx, New York

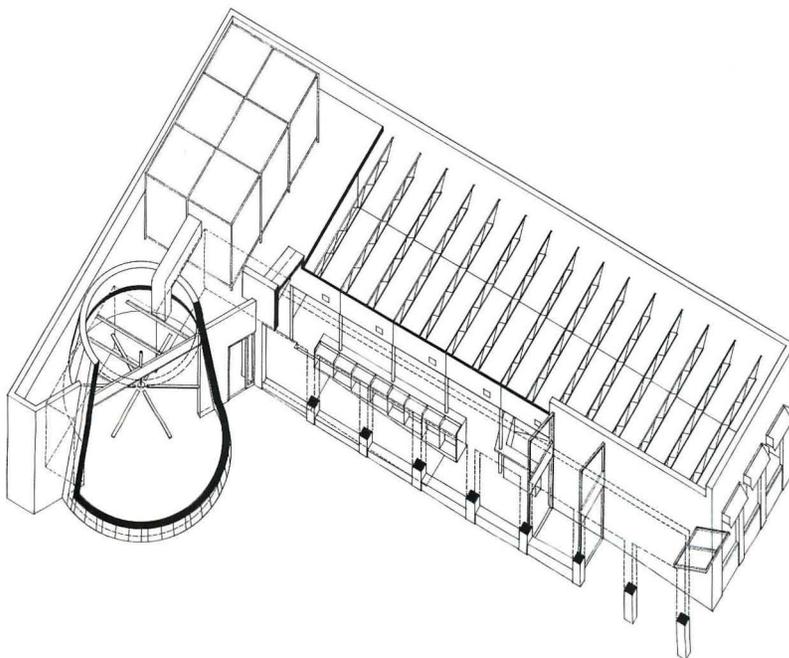
A temporary branch of the New York Public Library had outgrown its cramped quarters in a converted Chinese restaurant on University Avenue in the Bronx. In 1986, New York City architect David Prendergast was asked by branch administrators to conduct site studies to relocate the facility. Since the branch had received private funds to partially cover the expense of a new building and an expanded collection, the project was able to circumvent some of the more time-consuming regulations of the city's Department of General Services, which would have necessitated a lottery-type architect-selection process. Prendergast, who had worked on library projects in lower Manhattan, was hired directly by library administrators.

After several delays, the city provided a site down the street from the branch's previous location—a truncated triangular lot at the end of a block. Although Prendergast contemplated a hollow trapezoidal scheme with an interior courtyard, he eventually rejected it because of its essential aloofness, particularly inappropriate in a neighborhood struggling for community renewal. Instead, Prendergast configured an L-shaped plan with a canopied main entrance along heavily trafficked University Avenue, and a metal-clad cone-shaped auditorium anchoring the short leg of the L (plan following pages). Working with artist Sandy Gellis, he conceived the residual space as a playground of sorts for passersby. Gellis embedded mica rocks in stepped waves of concrete and dotted the pavement with bollards and phosphorescent-painted steel rings for extra sheen, creating an urban-lunar landscape.

The long bar of the 3,900-square-foot structure faces south, and an interior gallery that runs the entire length is shielded from direct sunlight by narrow metal canopies and wire mesh security grilles canted slightly away from windows (the grilles fold up from the exterior wall for window washing).

Inside the concrete-block bearing wall structure is a loft-like reading room topped with a 13-foot-high metal deck ceiling. A circulation desk separates adult and children's reading areas and allows librarians to easily monitor activity at the main entrance and in the courtyard. A \$1.2-million budget required modest, sturdy finishes: carpeted or uncarpeted concrete floors and plastic laminate counters. Brightly colored walls and signage

©Whitney Cox photos





identify distinct library activities. Red-painted wood chairs are designed by Marco Pasanella (opposite).

To further encourage neighborhood participation in the library, Prendergast designed the auditorium/lecture room as, what he calls, "a giant tepee," with its own entrance, allowing use after library hours. The room's round plan is intended to emphasize a sense of community, says the architect. Its steel-stud structure, clad in wood and then covered with wedge-shaped panels of mill-finished stainless steel, rises to 15 feet at its peak.

*Karen D. Stein*

**Credits**

*Sedgwick Branch Library,  
Bronx, New York*

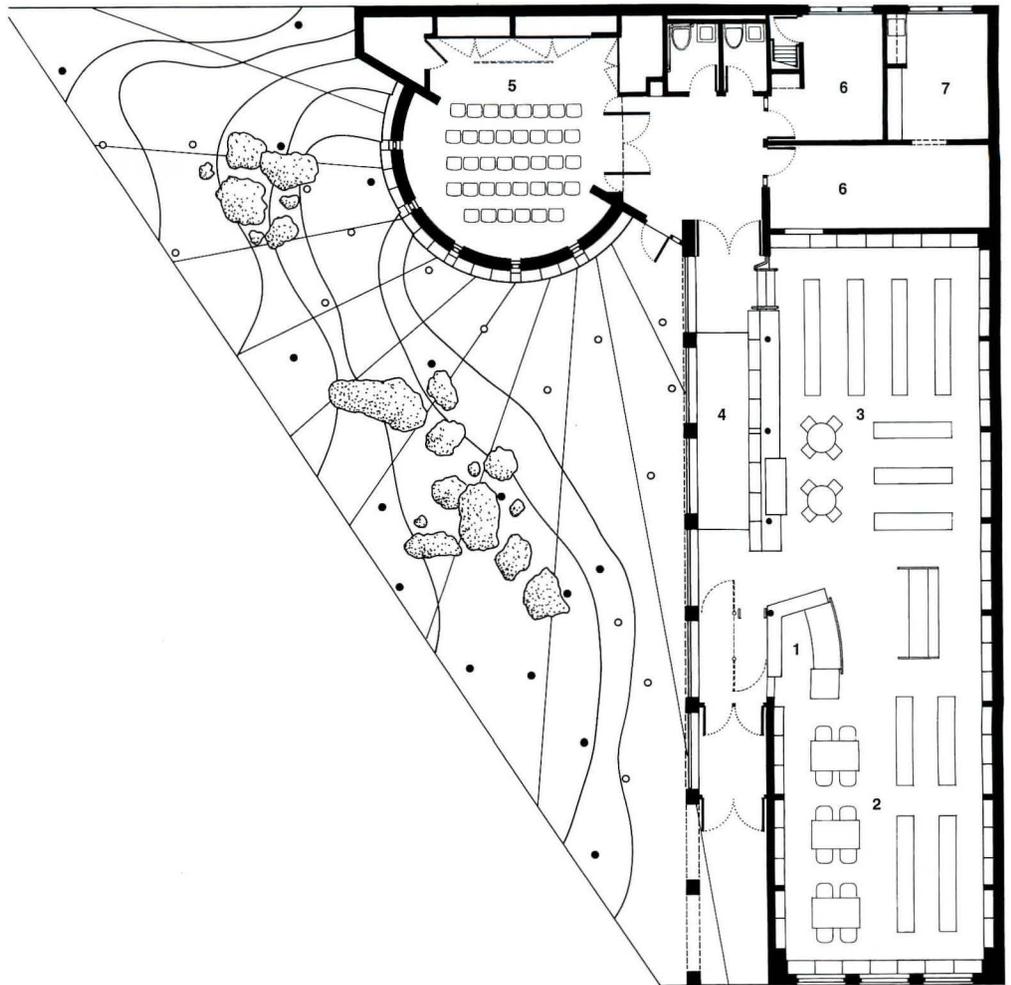
**Owner:** *New York Public Library*

**Architect:** *David W. Prendergast, principal-in-charge; Jeffery Magella, job captain; Deborah Laurel, project team*

**Engineers:** *Stanley Goldstein PC, (structural); Mariano Molina, PC (mechanical/ electrical);*

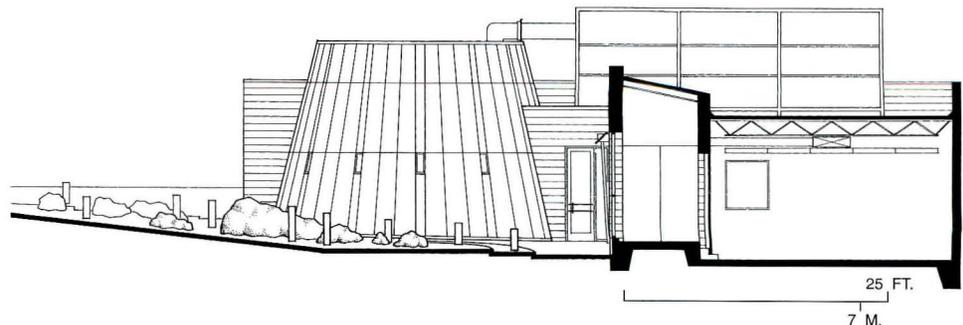
**Consultants:** *Sandy Gellis (art); Signe Nielsen (landscape); Tom Wojciechowski (graphics/signage)*

**General Contractor:** *AJ Contracting Co.*



GROUND FLOOR

- 1. Main desk
- 2. Adult reading
- 3. Children's area
- 4. Gallery
- 5. Auditorium
- 6. Office
- 7. Staff lounge





INFORMATION CIRCULATION

INFORMATION CIRCULATION

For Use in Library Only

No smoking  
No eating  
No drinking  
The library is not responsible for lost or stolen articles. Watch your belongings.



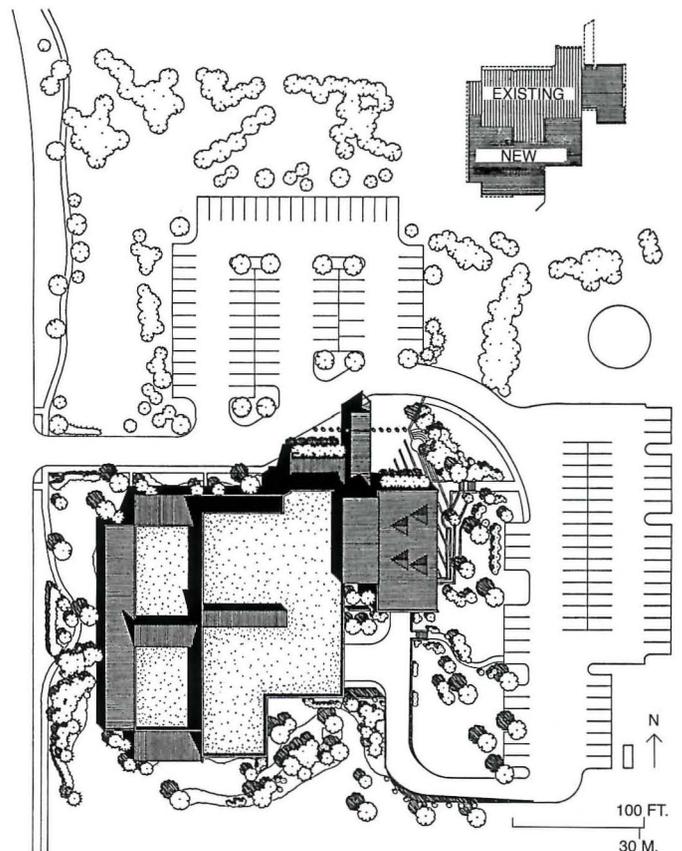
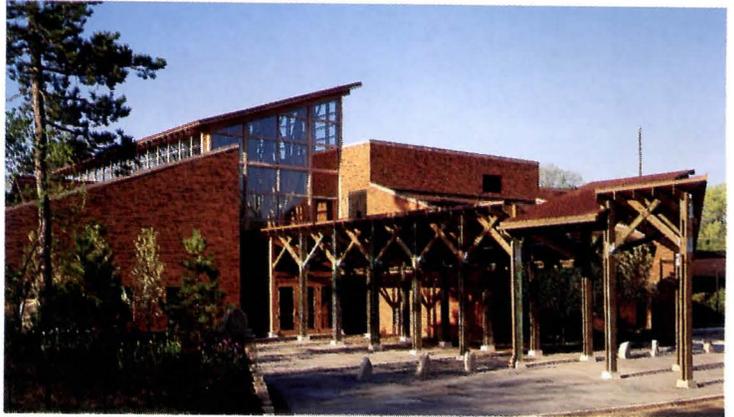
## Barrington Area Library Barrington, Illinois Ross Barney Jankowski Architect

"This may be the most difficult design challenge I ever faced," says Carol Ross Barney of her firm's 30,700-square-foot, \$5.2-million "addition" that substantially reorganizes and more than doubles the size of a 10-year-old existing library located in a semi-rural area at the outer edge of Chicago's suburbs. First, the client was not one community with cohesive desires, but a committee representing 50,000 people in several municipalities—each with its own self-image and ideas about the facility that would best serve it. Diverging visions can be seen today in the landscaping that border the library. Individual sections were designed by the towns' respective garden clubs and vary from rigid formality to artful rusticity. The towns did have in common the name Barrington (Barrington, Barrington Heights, Barrington Plain, etc.) and, most important, a dedication to make their shared facility work.

The original two-story building was a straightforward flat-roofed, brick-clad, concrete-frame structure. The older structure's bulk was softened by single-story projecting elements with sloping roofs around its perimeter, and further reduced by sloping the grade down toward the south side and partially recessing the first floor below ground level. Both existing devices tended to make the interior somewhat dark. But this respect for the large, mostly natural site—made feasible by a high ratio of unbuildable wetlands—was one attribute the client-committee members mutually admired. It was a design direction that the architects would build on.

The second problem the architects faced involved spatial organization. Both the committee and library staff wanted to keep the locations of the various book collections where they were familiar, although the program called for greatly increased space for each department. New visitors found both the entry and collections difficult to locate, and school-age readers were relegated to the second floor, cutting off direct access and contact with the natural surroundings. To further complicate matters, the facility was to be fully operational during the expansion; computer use was to go from zero to all-out (including access to other facilities' collections and subscriber on-line services); and the committee wanted the facility to double as a community center where any non-profit,

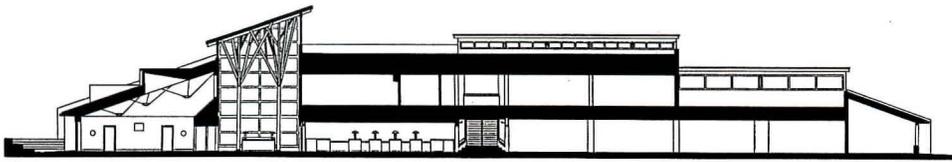
© Hedrich-Blessing/Steven Hall photos



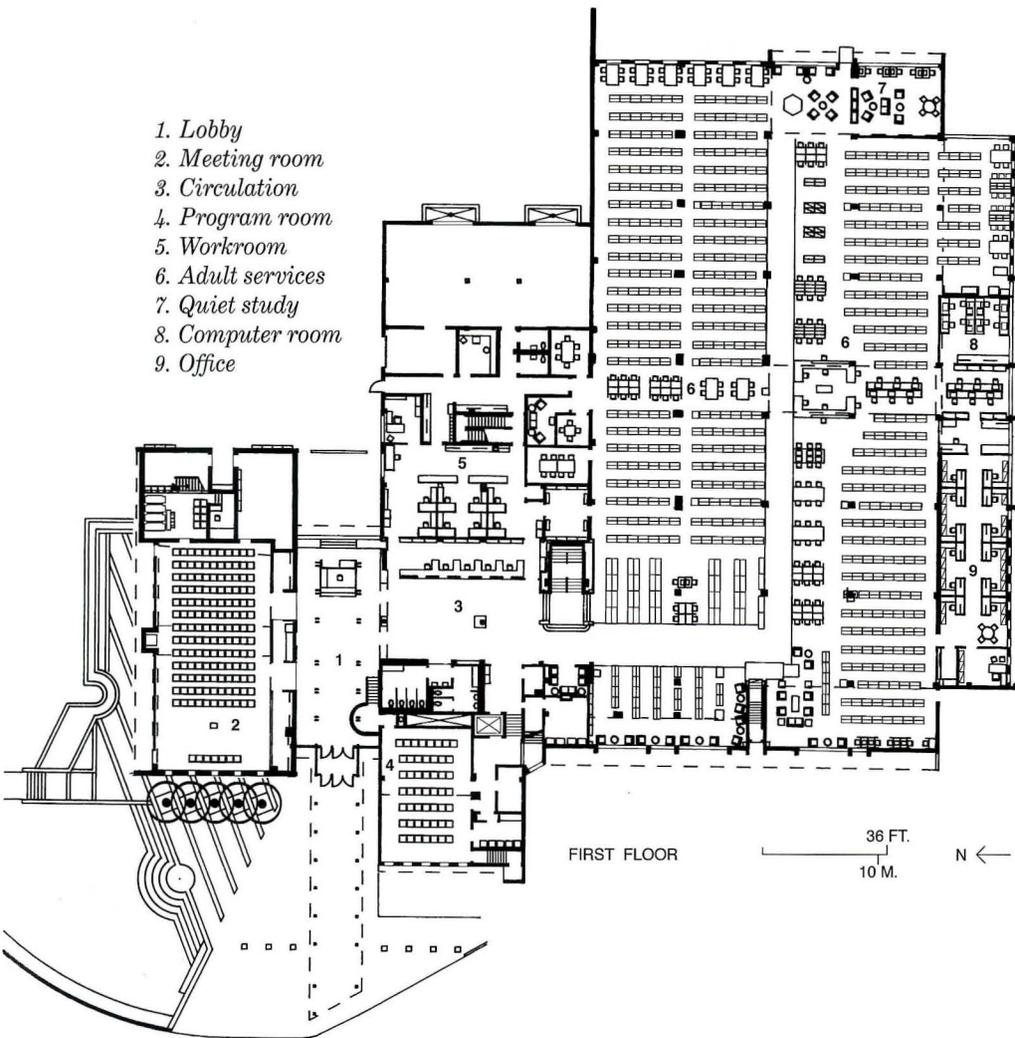
*The architects extended the original building's concrete framing and brick cladding (above) except for the lobby (overleaf) and adjacent covered walk (opposite). These elements are framed in readily available stock lumber bolted together to create columns and splayed out at the top to create tree-like structural supports. Dormers in the roof of the meeting room (overleaf left) are among many devices the architects used to*

*bring in daylight. The original sloped profile of roofs around the building's perimeter is seen to the right in the section (overleaf) and photo opposite. The architects have extended this to the addition along the street front and sides, and used it as a guide in designing the roofs of their new lobby and meeting room.*





1. Lobby
2. Meeting room
3. Circulation
4. Program room
5. Workroom
6. Adult services
7. Quiet study
8. Computer room
9. Office



non-political group could gather, creating potential security problems. "It was like an archeological dig," says Ross Barney about integrating all these potentially conflicting components. Resolution came through long hours of meetings, she recalls.

When the architects finally established a schematic design, circulation became clear-cut. A tall new timber-framed structure defines a "street" across the original back of the building reaching north to extend a highly visible welcome and lead visitors to the main entrance and lobby. There it terminates at the reception desk (plan and large photo on next pages). Glass walls at both ends of the lobby afford views through the structure to retain a sense of the original open site. This space separates the new public-meeting room to the east from the rest of the building, which can be closed off after hours.

From the lobby, a wide L-shaped corridor proceeds past the circulation desk and on to the various clearly marked collections, which retain their original familiar relationships. The school-age collections remain on the expanded second floor and are enlivened by a brightly colored design and a curvilinear corridor. Students' "visual connection" to the outside is enhanced because the extension of the second floor brings it closer to grade. Despite the enlarged floors with more area away from windows, ample exterior light enters through walls of glass at the ends of corridors on both floors and through clerestories over the circulation desk on the second floor and the adult-services desk on the main floor. *Charles K. Hoyt*

#### Credits

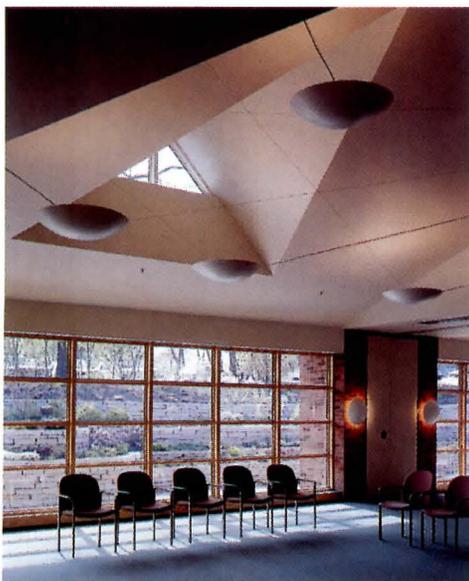
*Barrington Area Library  
Barrington, Illinois*

**Architect:** Ross Barney Jankowski, Inc.—  
Carol Ross Barney, James Jankowski, Susan  
Budinsky, Wes Hoover, project team

**Engineers:** Martin Lam, Inc. (structural);  
Brian Berg and Associates (mechanical);  
Dickerson Engineering, Inc. (electrical)

**Consultant:** Jacoma Ryan Associates  
(landscape architect)

**General Contractor:** G. Bluidzius





# South Boston Super Club

George Robert White Gymnasium and  
Teen Center  
South Boston, Massachusetts  
Leers Weinzapfel Associates Architects

In Boston, the Boys and Girls Club was really conceived for disadvantaged children between ages six and eighteen," says architect Andrea Leers. "It serves a population of adjacent single-parent homes, many abused children, many ethnic groups, all kids for whom this is the only alternative to the streets, so it really serves a fundamental social purpose, and is quite a wonderful thing to work on." But the facility, opened years ago, was badly in need of expansion. Day care and adult education programs had been added, and as the mission of the facility diversified, the older children began to drift away, seeking recreation elsewhere.

The club's board of directors determined that a new full-sized gymnasium, with a lounge, aerobics room, weight room, and meeting rooms were needed to bring back the teenage youth. The new addition was built over a play-yard, and given a separate identity from the existing building. It is entered through a plaza at the lower level, where the teen lounge is located, away from the child-oriented activities in the rest of the building. A small amphitheater is adjacent to the plaza. The new gymnasium is upstairs on the same level as the main floor of the existing building. The basketball court is sized for two cross-court games, and one full court. Glazing at the ends of the gym allows daylight to flood the space without interfering with play; indirect fixtures provide the same function at night. The existing gym was converted into an arts room and a playroom for younger children.

The exterior of the addition is appropriately austere, with ground-face concrete block. Oversized granite insets mark a "door" that shows the location of the lower-level entrance, and a horizontal band of cast stone marks the level of the gymnasium floor. *Charles Linn*

## Credits

*George Robert White Gymnasium and Teen Center  
South Boston, Massachusetts*

**Owner:** *George Robert White Fund of the City of Boston*

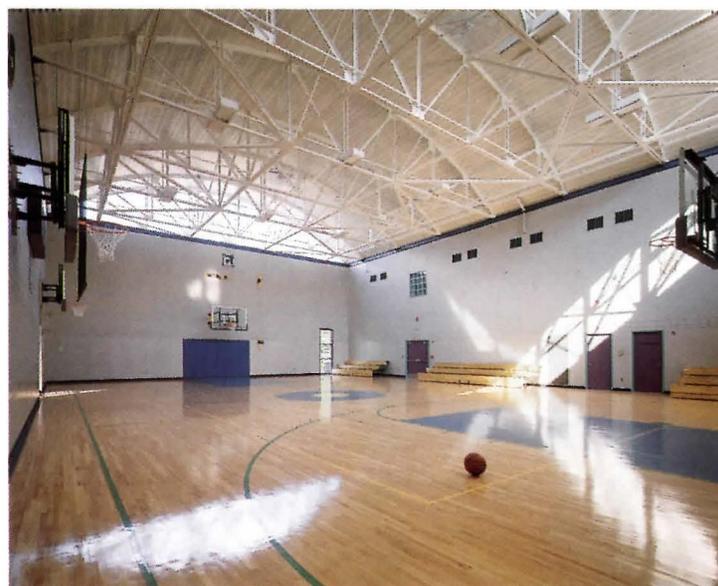
**Architect:** *Leers Weinzapfel Associates Architects—Andrea Leers, principal-in-charge; Josiah Stevenson, project architect and manager; Teresa Griffin, Brad Johnson, Renee Meirzejewski, project team*

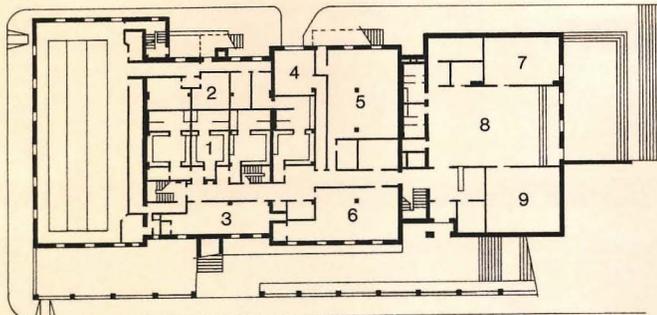
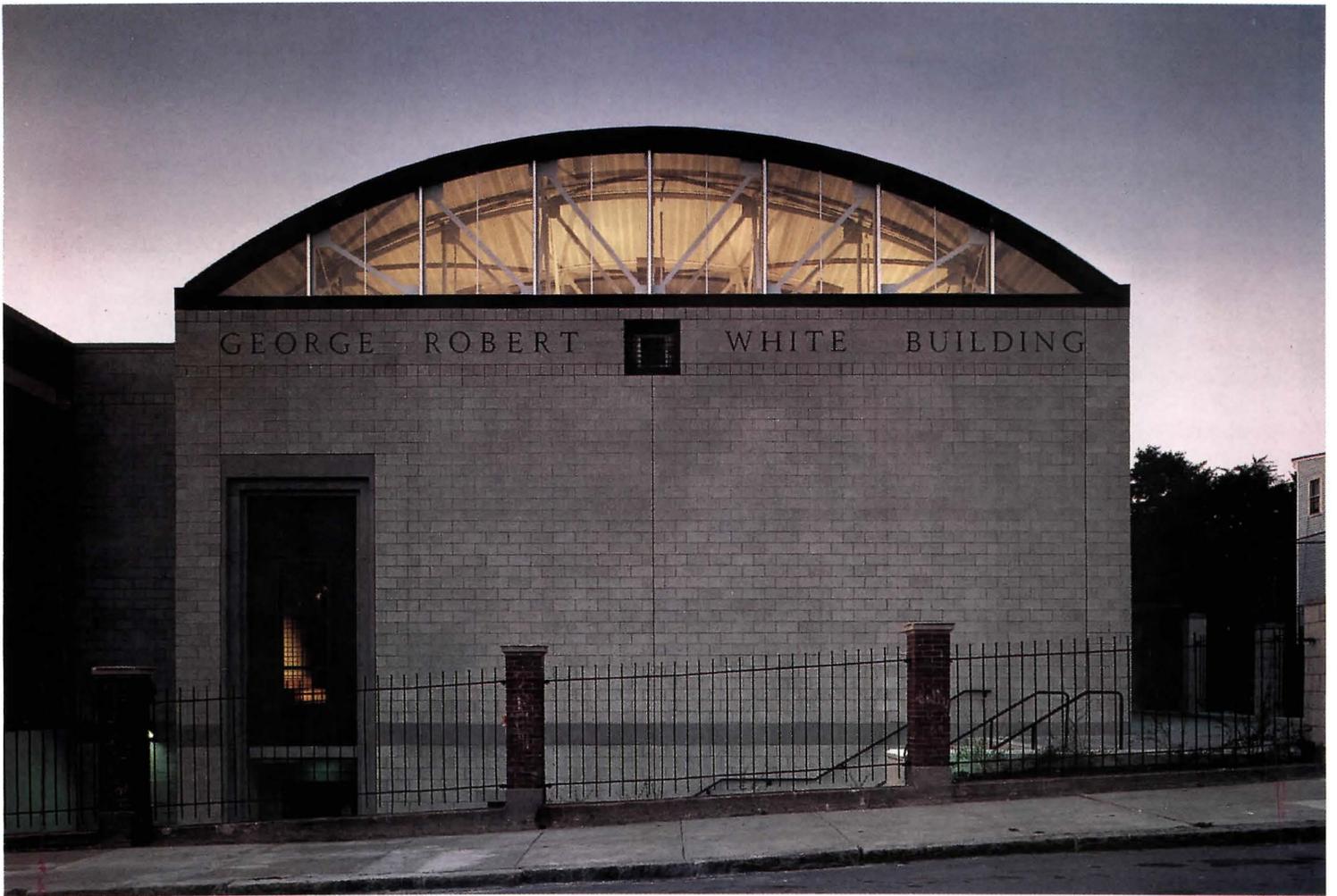
**Consultants:** *Lim Consultants (structural); Fales Letendre & Ziobro (mechanical/electrical/plumbing); Mason+Frey (landscape)*

**Contractor:** *Fairview Construction*

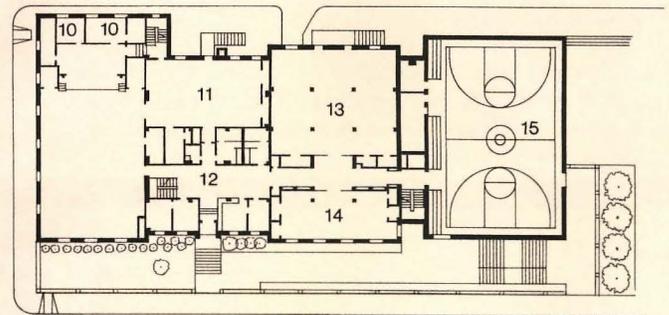
*Classical roman lettering marks the facade of the George Robert White Gymnasium and Teen Center in South Boston (photo above and opposite), giving the facility a dignified look. Glazing is placed high above the end-walls of the basketball court (left) to keep bright light out of the players' eyes, yet allow daylight to flood the space.*

© Chuck Choi photos





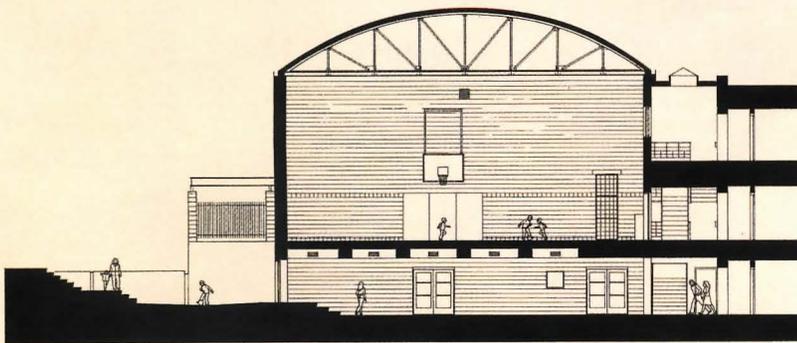
GROUND FLOOR



FIRST FLOOR

20 FT.  
6 M.

- |                     |               |
|---------------------|---------------|
| 1. Lockers          | 9. Aerobics   |
| 2. Showers          | 10. Office    |
| 3. Infant/toddler   | 11. Daycare   |
| 4. Trash collection | 12. Lobby     |
| 5. Montessori       | 13. Games     |
| 6. Nursery school   | 14. Club room |
| 7. Weight room      | 15. Gymnasium |
| 8. Teen lounge      |               |



# Suisun City: New Life for a Lost Community

by Diana Ketcham

**F**ive years ago, Suisun City was a decaying Northern California working-class community with a population of 25,000 and an uncertain future. In the 19th century it had been a thriving shipping center for San Francisco Bay, but the town had long ago lost its port to an oil refinery. Retail business declined when train service stopped and the new interstate highway passed it by in 1983.

Today, Suisun City is on its way to being a showcase for what the New Urbanism touts as “traditional” small-town features. Among a half-dozen redevelopment projects completed since 1990 are a revitalized Main Street lined with commercial buildings in a variety of architectural styles, a town plaza, waterfront walks, a new marina, and a new neighborhood of affordable and market-rate single-family homes, with front porches and backyards lined with picket fences.

What is most impressive is that these fashionable features combine to create a real sense of place. Standing on Main Street, one does not have the feeling of being in a community that is artificial. Suisun City has retained its history in an authentic sense; it does not feel like a resort. This is partly the result of a harmony of scale. The old and new parts of town are also connected visually, by dazzling views across the estuary that constitutes the town’s central open space, ringed by paths and planting. The town occupies two square miles, and most of it is within walking distance of a turn-of-the-century train station where restored service now provides an hour’s commute to San Francisco, and 20 minutes to the state capital, Sacramento. There are no malls, auto-sales plazas, no cineplexes, no chain stores, and no mammoth discount retailers.

*Diana Ketcham is the former book and architecture critic of the Oakland Tribune, a former editor and freelance writer, and the author of numerous articles on architecture and planning.*

Suisun City is an unusual case where traditional urban features created by new development have been integrated into an existing small town. One of the goals of the master plan, by San Francisco-based ROMA Design Group, was to accommodate local businesses by making the commercial spaces small enough for them to afford. One of the most visible local merchants, Babs Curless, will move into the first finished commercial building on the new Marina. The business she is bringing to the new location is Babs Delta Diner, a Suisun City tradition, where coffee mugs of 200 regular customers hang on the wall. Babs will live in an apartment over the restaurant.

When the Suisun City Redevelopment Agency was formed in the late 1980s, the town was suffering from a shrinking tax base, environmental pollution, and a rising crime rate. The town’s peripheral growth (and tax base) had been limited by the barrier of the interstate on one side and Travis Air Force Base and the delta marshland on the other. The town center had been taken over by an oil refinery that contaminated the waterfront and spawned an industrial wasteland along its banks.

“We had no choice but to build on our only two advantages: the water and history,” says redevelopment director Camran Nojoomi. Suisun City—the name means “west wind” in the language of the Patwin Indians—was founded in 1850, the year after the Gold Rush, to connect the mining towns of the Sierra with San Francisco by means of water traffic on the Sacramento River. A half-dozen grand houses and churches date from that initial burst of prosperity. In the second half of the 19th century, Suisun’s port was able to compete with the railway in bringing Solano County agricultural produce to market. These decades of building left behind a remarkably intact architectural fabric. Many buildings were in excellent condition, representing every period style in California architecture.

*The silted-over Suisun Channel (2) was dredged in 1993. A new 150-berth marina is in operation adjacent to the Town Plaza, built on the site of the former warehouse district on the west side of the Channel. A promenade, Harbormasters Building, and restaurant (1) overlook the new marina.*



1

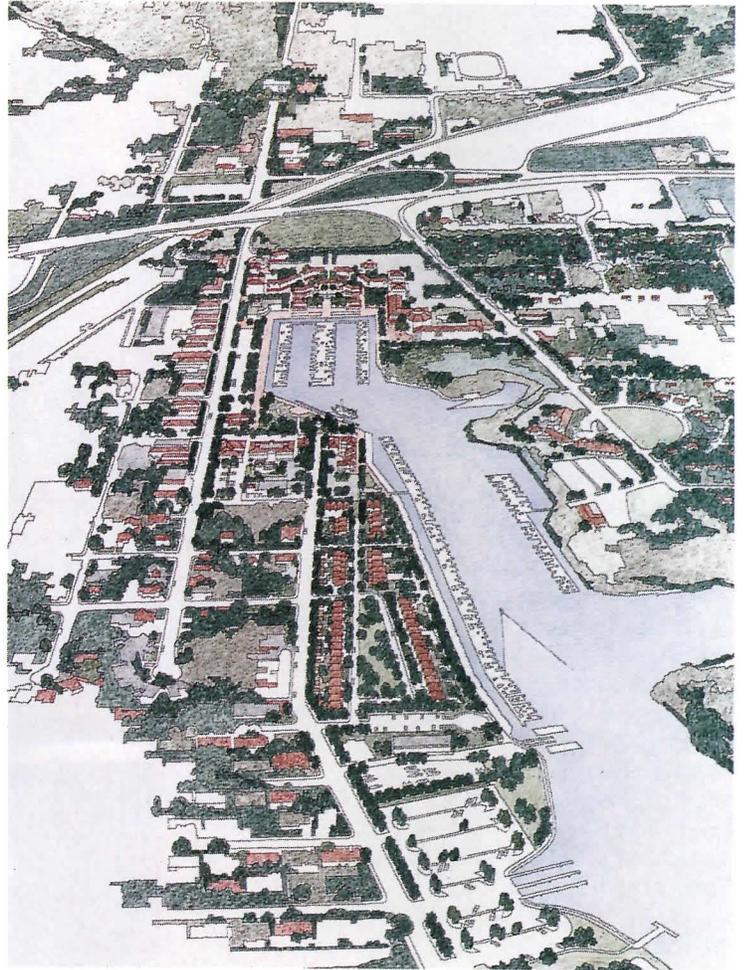
© Pat Corney photos except as noted

*Suisun City had a dwindling business and population base, and was cut off from its last resource, the water. But it has come back.*

In the 1940s, the head of the estuary was transformed into an oil-refining station. The old center of town became vulnerable to contamination and, eventually, industrial downsizing at the refinery. By 1990, the waterfront was a wasteland of abandoned or underused warehouses, and Main Street was full of boarded-up storefronts. The residential neighborhood closest to the refinery had become a slum. Crime was so prevalent in these blocks of fourplexes the city once considered erecting a wall to separate these streets from downtown.

The alternative was redevelopment. The Suisun City Council employed some unusual means to effect quick redevelopment in a discouraging financial climate. In 1991, it put the entire city into redevelopment, an area of two square miles. The goal, according to mayor Jim Sperling, "was to capture tax increment financing from projects occurring in all parts of town." The city sold \$58 million in municipal bonds to pay for most of the up-front costs, such as land purchase and demolition.

The Suisun City Redevelopment Agency has acted as its own master-developer, hiring ROMA for the master planning, design guidelines, and selected design projects, and using local developers and builders for individual projects. The Redevelopment Agency has its own budget, independent of the city budget, and reports directly to the City Council. It received state funds to rehabilitate the marina and build a wetlands area with the dredged materials. Additional state funds became available for the train station after the town won a competition to open the county station on Amtrak's line between San Francisco and the capital at Sacramento.

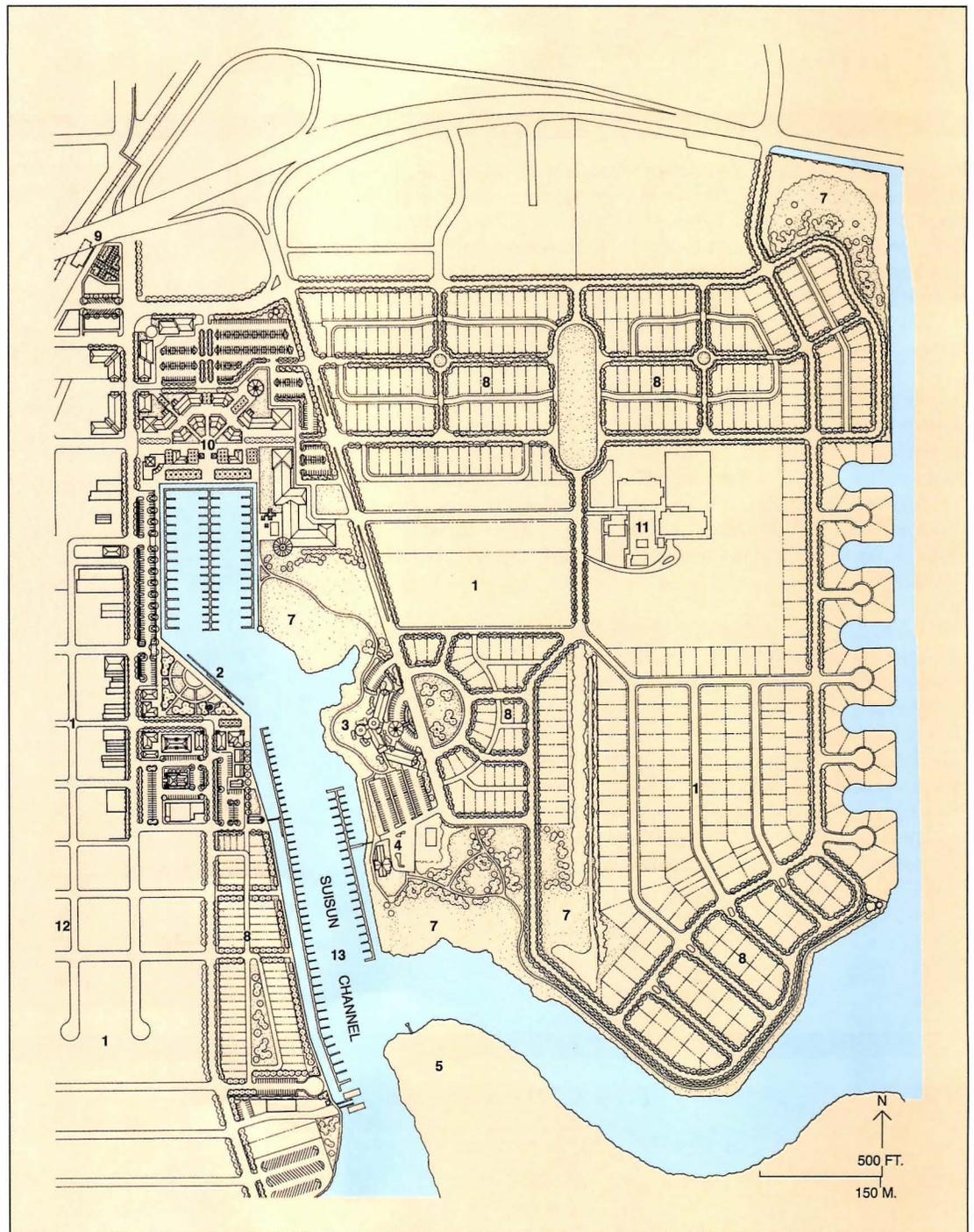


© Aerial Images

The 225-acre town of Suisun City sits on the edge of the Suisun Marsh on the Sacramento River Delta. At the center of town is Suisun Channel, which extends along the south side of the town to Whispering Bay. Clearing the old Sheldon Oil facilities and the warehouse district has given the downtown access to the water (photo 3). The pedestrian promenade will be continued on all three sides of the channel, and will allow townspeople to walk along the water to the other side for the first time in 50 years.

On the west side of the channel, the renovated Main Street, new Town Plaza (photo 4), and Harbormasters Building (photo 5) look across the water to the cupola of the Civic Center.

A second marina and hotel are planned for the head of the Channel, where the oil refinery facilities are still being dismantled. The residential blocks adjacent to the refinery to the east were cleared and replaced with Victorian Harbor, a neo-traditional neighborhood of single-family houses. Additional housing to the south is planned, behind the Civic Center and playing fields along the edge of Whispering Bay.



- |                           |                                  |                               |
|---------------------------|----------------------------------|-------------------------------|
| 1. Existing neighborhoods | 6. Whispering Bay                | 10. Old town                  |
| 2. Town Plaza             | 7. Wetlands                      | 11. Crescent Grammar School   |
| 3. Civic Center           | 8. New residential neighborhoods | 12. Crystal Elementary School |
| 4. Yacht Club             | 9. Intermodal station            | 13. Suisun Channel            |
| 5. Pierce Island          |                                  |                               |



3



4



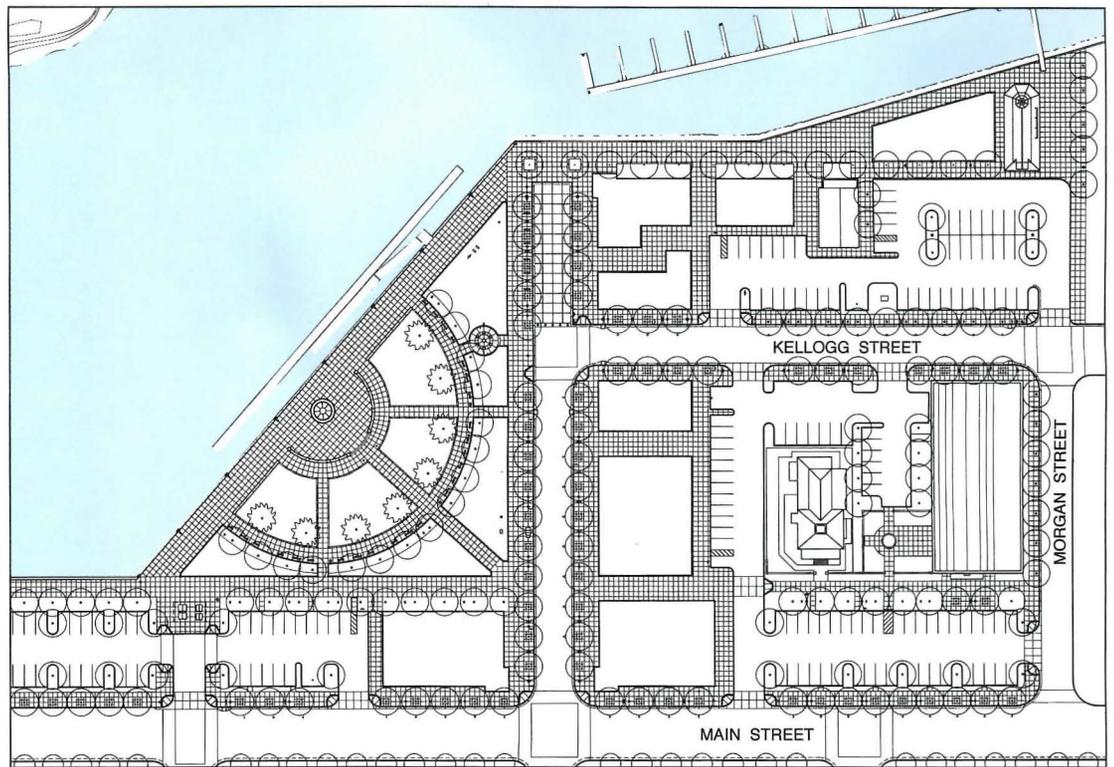
5

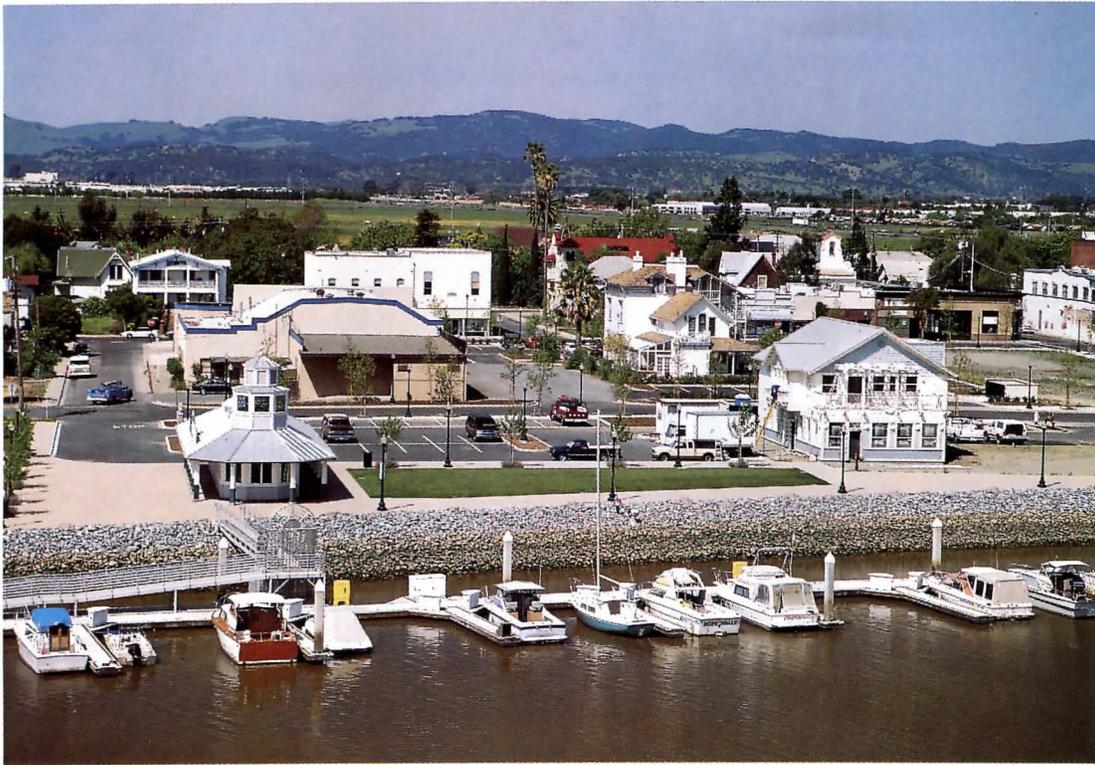
The northern half of Suisun City's Main Street now faces the newly dredged Channel and the ROMA-designed Town Plaza (site plan right and photos 6,9). Historic commercial buildings such as this restored 1888 Gothic former Masonic Lodge (8) look across Main Street to a grassy plaza with palms and Victorian street lights, bordered by the promenade.

"My daughter was married there last weekend," says merchant Ron Nix, looking out at the Plaza from his doorway at Leathermasters, his boot and western-gear shop on Main Street. "There was some resistance to displacing the old warehouses," says Nix, who has been in business 25 years. "But we all knew those buildings weren't going to get any prettier."

To the south of the Plaza is a commercial block with development pads for nine small-scale buildings with views of the water. They surround parking, a restored Victorian mansion known as the Lawlor Building (7), now occupied by professional offices, and a renovated market that has been leased to the Solano Community College drama department to operate as a community theater.

In 1993, the first phase of the town's new residential neighborhood, Victorian Harbor, was completed at the north end of the Channel (10, 11). Its 94 single-family homes replace 470 housing units, mostly 30-year-old fourplexes, which the city purchased and demolished at a cost of \$11 million.





9

The neo-traditional neighborhood was built by the O'Brien Group, following ROMA's design guidelines and site plan. It attempts to echo the fine-grained street grid, scale, and stylistic vocabulary of the Old Town residential quarter behind Main Street. Priced between \$130,000 and \$180,000, the new one- and two-story houses have pitched roofs, wood siding, and front porches.

These features are borrowed from the modest Victorians and bungalows that predominate in Old Town (12), where the oldest houses go back to the 1850s. The site plan repeats Old Town's pattern of narrow streets connected by alleys. Parking is on the alleys or in backyard garages rather than on the streets.

**Credits**

*Suisun City Redevelopment  
Suisun City, California*

**Client:** *Suisun City  
Redevelopment Agency—  
Camran Nojoomi, director*

**Masterplanners, Architects,  
Urban Designers, and  
Landscape Architects:**

*ROMA Design Group—Boris  
Dramov, design principal-in-  
charge; Jim Adams, associate  
principal, urban design; Bonnie  
Fisher, associate principal, land-  
scape architecture; Burton  
Miller, associate principal,  
architecture; Rick Barrett,  
Henry Chaikin, Sean Chiao, Jim  
Leritz, Frederika Moller; Tom  
Sargent, Jean Schaffeld, Bruce  
Teel, project team*

**Civil and Coastal Engineers:**  
*Maffatt & Nichol—Rick Dorn-  
helm, principal; Emy Carpenter,  
engineer*

**Housing Developer:** *O'Brien  
Group*



10



11



12

## WE WERE LOOKING FOR A WINDOW COMPANY THAT WOULD HELP THE GOVERNMENT RESIST LEAKS AND INFILTRATION.



General Services Administration Building, Oakland, CA. Architect: Kaplan, McLaughlin & Diaz. General Contractor: Walsh Construction Co. Products: Custom 5600 Curtain Wall, Series D-500 Entrance, Series 2000 Sliding Glass Doors, Custom Series 890 Equa-Vu™ and System II™ Windows.

*The GSA contract called for random testing to verify the air infiltration and water resistance specifications of the building's glazing systems.*

*The curtain wall, storefront, doors, and windows all had to perform to spec or they would be rejected. We wanted to work with a manufacturer that could give us the kind of products and performance we needed to keep the job moving on time and on budget.*

*We awarded the job to EFCO.*



**EFCO CORPORATION**  
1-800-221-4169

See us at  
CSI booth #514

# We were the first to notice the difference between a ten-year-old and a three-year-old.



**TotTime® was the first play system developed just for two- to five-year-olds.** And it's backed by over 65 years of GameTime experience. We're the industry leader in preschool play systems, because we've learned through the years that small children need equipment designed especially for their size and abilities. So we've developed features like platform heights that are challenging but not frightening. As well as bright colors and fun activities that offer opportunities both for learning and imaginative play.

And, as with all GameTime playground equipment,

you get modular designs that let you build your own system. The industry's largest color selection. And most importantly, we meet or exceed all standards for safety and accessibility. But the kids don't need to know that. All they have to know is how much fun they'll have. For a free video on playground safety, call 1 800 221-SAFE. Or call 1 800 235-2440 for more information on TotTime. We were the first to develop play systems just for the preschooler, and we're still the best.

**GameTime®**

1 800 235-2440

Circle 35 on inquiry card

# Product Literature

For more information, circle item numbers on Reader Service Cards.



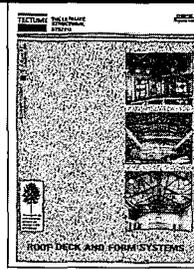
## 400. Flooring library

A resilient-flooring portfolio for architects, designers, and specifiers contains 230 swatches of over 20 different rubber and solid-vinyl tiles, sheet flooring, and stair treads. Designed to be user-friendly and functional, all seven product-sample albums and a reference binder fit into one shelf-size slipcase. 800/933-3151. Flexco Co., Tuscumbia, Ala.



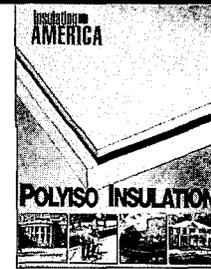
## 401. Single-ply roofing systems

A 20-page architectural catalog describes GenFlex RM as suitable for use over a wide range of roof decks and insulations. Heat-weldable, the reinforced PVC membrane is said to be particularly resistant to punctures, tears, and UV and ozone damage, with a bright reflective surface that can reduce thermal loads. 800/443-4272. GenCorp, Maumee, Ohio.



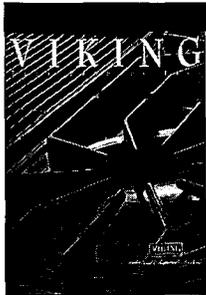
## 402. Acoustical roof decking

Made of wood fiber in a cementitious binder, Tectum boards and planks have structural, acoustic, and fire-retardant properties. A 12-page catalog illustrates its use in several building systems, such as an approved substrate for many roofing materials and as a paintable interior finish. 614/345-9691. Tectum, Inc., Newark, Ohio.



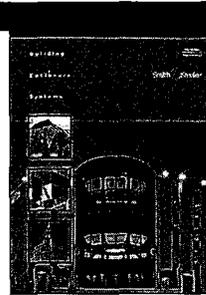
## 403. Polyiso insulation guide

Data sheets compare the cost efficiencies of different insulation products, based on analysis of in-use simulations in five climate zones of the U.S. Case studies highlight specific polyisocyanurate products installed in airport terminals, warehouse structures, hospitals, and factories. 202/624-2709. Polyisocyanurate Insulation Mfrs. Assn., Washington, D.C.



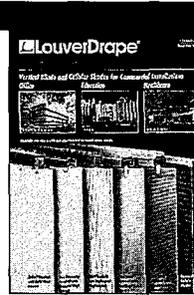
## 404. Commercial-style ranges

A brochure illustrates stainless-steel, professional-capacity cooking equipment for home use, including gas ranges from 30- to 60-in. wide, built-in gas and electric double ovens, gas cooktops, and rangehoods and down-draft ventilation systems, listing features and dimensions for all models. 601/455-1200. Viking Range Corp., Greenwood, Miss.



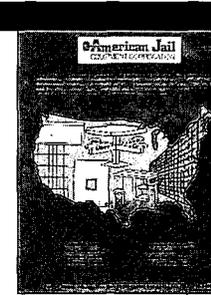
## 405. Building-enclosure systems

A 36-page color catalog works as an architectural guide to metal cladding and roofing, with span tables, insulation values, section details, profiles, and finish options for all Smith Steelite products. Also includes explosion vents, sound attenuation panels, firewalls, and aluminum-composite-material cladding. 800/759-7474. Smith Steelite, Pittsburgh.



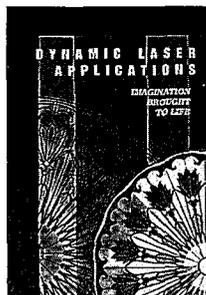
## 406. Window treatments

Vertical blinds and cellular shades for office, education, and healthcare facilities have tracks, glides, and controls built to withstand fairly abusive operation; both fabric louvers and shades come in fire-rated materials. Extended-height and other site-specific shadings available; may be motorized. Sample books offered. 800/222-8830. LouverDrape, Santa Monica, Calif.



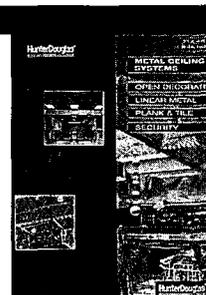
## 407. Detention equipment

Secure-facility components, made under the motto "Nothing Escapes Us," include hollow-steel doors, day-room and cell furnishings, accessories such as deal trays, and hinges and other hardware. Design and specification help available for projects from a six-cell lockup to a 750-bed federal prison. 518/445-1288. American Jail Equipment Corp., Albany, N.Y.



## 408. Wood-inlay flooring

Beautiful all-wood floors combine laser-cutting and CAD technology with hands-on knowledge of wood-grain characteristics and durable gluing and finishing methods. An 18-page catalog illustrates standard motifs and custom designs in medallions, borders, and full-scale panels; prices listed. 404/924-4998. Dynamic Laser Applications, Marietta, Ga.



## 409. Metal ceilings

Brochure provides an overview of all HunterDouglas metal-ceiling systems, such as cell and cell frame, screen and baffle systems, curved linear treatments, and limited-access tile and plank ceilings. Charts match product type with typical applications, from airports to swimming pools. 800/866-4327. HunterDouglas Architectural Products, Duluth, Ga.



## 410. Accessible home design

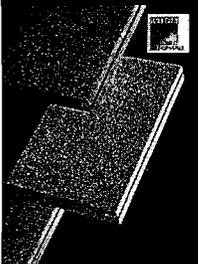
A 22-page illustrated booklet, *Planning for Access—A Guide to Planning and Modifying Your Home* outlines basic methods of achieving a barrier-free residence. Sample house plans show how separate design features combine to create homes that meet the needs of wheelchair users. 800/444-0120. Eastern Paralyzed Veterans Assn., Jackson Heights, N.Y.



## 411. Fireplace design guide

A 40-page booklet illustrates wood-burning, gas, and combination-fuel manufactured fireplaces in all types of residential, club, and hospitality settings. Describes the design freedom and safety features offered by radiant, heat-circulating, conventional, and direct-vent Heatilator models. 800/247-6798. HON Industries, Muscatine, Iowa.

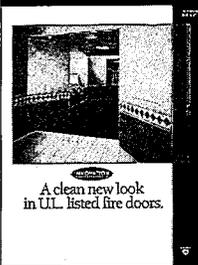
**Product Literature**



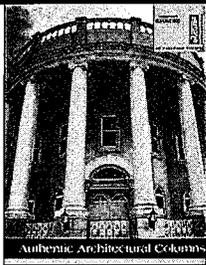
**412. Sound-control treatment**  
Catalogs describe a line of German-made acoustical materials for noise attenuation in commercial, institutional, and factory environments. Made of natural wood, metal, particleboard, or wood veneer in a range of finish and appearance options, Class 1 panels contain no formaldehyde. 800/410-1121. Wilhelmi Acoustic Ceilings+Walls, Roswell, Ga.



**413. Steel-framed windows**  
An eight-page catalog describes residential casements, standard and heavy-intermediate windows and terrace doors, commercial projected and pivoted designs, and security units. Frame profiles detailed; historic windows can be duplicated. Hot-dip galvanizing and factory painting offered. 718/275-7900. A&S Window Associates, Glendale, N.Y.



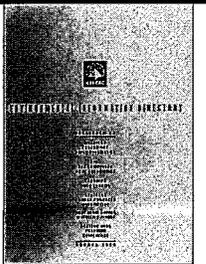
**414. Discrete fire doors**  
New Innovation UL-listed swing-type fire doors have completely recessed hardware, without hinge knuckles, vertical rods, floor bolts, or protruding push bars. For corridors or lobbies where fire doors are specified in the "normally open" position, unobtrusive doors may be finished to match decor. 800/453-8494. WonDoor Corp., Salt Lake City.



**415. Architectural columns**  
A 12-page catalog illustrates load-bearing wood-stave columns, pilasters, and plinths and wood or composition capitals. Proportions follow the classic Orders of Architecture, with capital styles such as Ionic, Scamozzi, Corinthian, Erechtheum, and Temple of the Winds. For indoor and outdoor use. 404/449-1561. NT Hartmann Sanders, Atlanta.



**416. Custom fenestration**  
Special wood-framed windows and sliding doors incorporate European hardware such as easy-to-reach levers (instead of turn-crank handles) on open-out or open-in casements; clear-opening foldaway doors; and tilt-turn operators. Cladding options include patinated copper. Units meet AAMA standards. 800/233-0101. Zeluck, Inc., Brooklyn, N.Y.

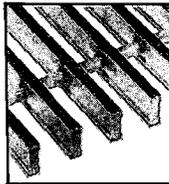


**417. Sustained-yield timber**  
Produced by a consortium of industry groups, an *Environmental Information Directory* lists over 100 publications and materials on forestry and wood production, with sections covering timber-based products, resources, certification, and educational data; includes prices and order form. Wood Works, Portland, Ore. ■

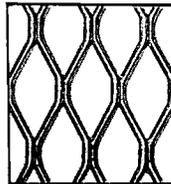
For more information, circle item numbers on Reader Service Card.

# Safety Gratings!

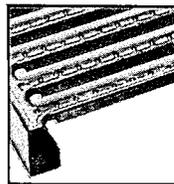
FIBERGLASS



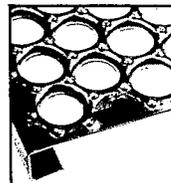
EXPANDED



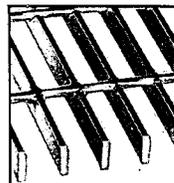
GRATE-LOCK®



GRIP STRUT®



OPEN-GRIP®



BAR GRATING

All Types  
All Metals  
24-Hour Shipment



TOLL-FREE  
1-800-237-3820  
FREE CATALOG



"Service Centers Coast to Coast"

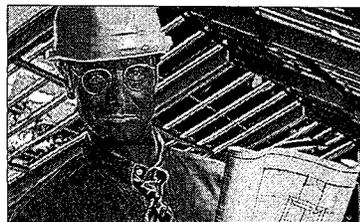
**McNICHOLS CO.**

FAX: 813-289-7884 TELEX: 52706



Circle 38 on inquiry card

# SPEC IT. AND WE WILL BUILD IT.



National's team of professionals will work closely with you from concept to completion. We will custom design and help build any project, from pool enclosures and botanical gardens to institutional teaching and research facilities. Call today, so we can start working with you tomorrow.



Creators of Enclosed Environments

800-826-9314

Circle 39 on inquiry card

## Presenting Lamps So Innovative, They Can Even Brighten Your Outlook.



If the prospect of lower energy costs brightens your day, take a look at the latest technology compact fluorescent lighting from GE.

This comprehensive line of lamps is designed to increase your lighting flexibility while decreasing your electricity bill. Because even though they're impressively compact in size, we've managed to squeeze plenty of efficient light into these little packages.

Our exclusive 2D Soft White® lamp, for instance, gives nearly the light of a 150-watt incandescent while saving 74% in electricity costs. Yet it lasts 13 times longer than standard incandescents.

Our high-performance 28-watt BLAX™ is the only compact fluorescent that delivers the same initial light of a standard 100-watt bulb while saving over \$57 in energy costs.†

Regardless of what compact fluorescent configuration you need for your lighting applications, you can get them all from one source. GE Lighting. For more information on how we can improve your outlook, call 1-800-GE-LAMPS.

**GE – YOUR BEST CHOICE  
FOR INNOVATIVE, ENERGY-  
SAVING LIGHTING.**



**GE Lighting**



Use of this logo does not imply EPA endorsement

C-976 †At 8¢/kWh energy rate over the life of the lamp.

Circle 40 on inquiry card

## LETTERS

cise of its powers; the casino design concepts were reviewed at 31 public meetings by various agencies including the City Planning Commission and its Architectural Review Committee, the Historic District Landmarks Commission (in an advisory capacity, since the Rivergate building does not occur in a historic district); the Rivergate Committee of the City Council and the City Council, and the Louisiana Economic, Development & Gaming Commission. Perhaps not everyone is satisfied with the outcome, but it was not for lack of access to the system.

Our design concept was essentially site-driven, with the casino positioned to present its principal entrance elements to the four corners of the site. There, large public plazas augment pedestrian and vehicular approaches and extend the public promenade transversely through the building to interconnect with surrounding urban destinations. It is also important to note that the height and mass of the casino exceed those of the Rivergate; therefore it is inaccurate to state that "the casino design is so low and stretched out that...it makes a hole in the urban assemblage."

What does a casino want to be? The Las Vegas and Atlantic City models provide some suggestions. However, for New Orleans, we felt that a more sedate composition of familiar architectural forms would be appropriate; forms which relate sympathetically to the architectural heritage of the city. We felt that it should be more serious than only announcing its entertainment purpose with alien, incongruous gestures. Our design accomplishes both objectives. The advent of this new industry has already sparked the most intense development boom this city has seen in 10 years, and there is a renewed spirit of excitement and anticipation. The author accurately articulates the real source of the negative reaction to the project: the community's apprehensions toward gaming.

*S. Stewart Farnet  
Principal  
Perez Ernst Farnet/Modus Inc.  
Project Architect  
Harrah's New Orleans Casino*

### Team Effort

Re your article ["Architects Out of the Loop," March 1995, pages 30-35], in the "old days" many developers and contractors were one and the same. As development became more complex and more projects failed, developers

sought separate general contractors. The fee to a GC is an "insurance premium" for taking on a predominant portion of the construction risk. Much money is involved. In this scenario, the architect can easily become a scapegoat—especially since the function of the architect's clerk of the works is now filled by others. The GC and the subs often gang up on the architect by blaming "inadequate drawings, etc." What solutions have evolved over time? A solution I use in a course I teach is: the development team.

The developer, architect, and contractor meet regularly to create a finance package to build a project on budget and on schedule. The GC provides the pre-construction services, with a caveat that if another GC is hired, the former GC gets reimbursed. Of the four types of students I have, the only one who is visual is the architect. Having the MBA, the planner, or the engineer provide this essential element is to invite disaster. Real-estate development is a multi-discipline endeavor. The architect will always be a primary member of the team that produces winning developments.

*Donald Tishman  
Housing Associates, Inc.  
San Jose, Calif.*

**40 years ago we invented  
translucent building panels.  
Our technology is still...**

**light-years ahead!**

State of the art composite engineering has created a true structural sandwich panel that stands up to the harshest environments and fiercest climates. Kalwall is the most highly insulating, diffuse light transmitting material in existence.

Architects agree... the design flexibility, energy performance, daylight quality, overall value and company integrity of Kalwall and its products is unsurpassed.

**Wall Panel Systems • Curtainwall Systems  
Window Replacements • Standard Skylights  
Pre-engineered Skylights • Custom Skyroofs  
Small Structures • Large Structures**

Since 1955  
**Kalwall**

PO Box 237, Manchester, NH 03105 800-258-9777



*The Center for Space Education,  
Kennedy Space Center, Titusville, FL,  
HOK Architects*

Circle 41 on inquiry card

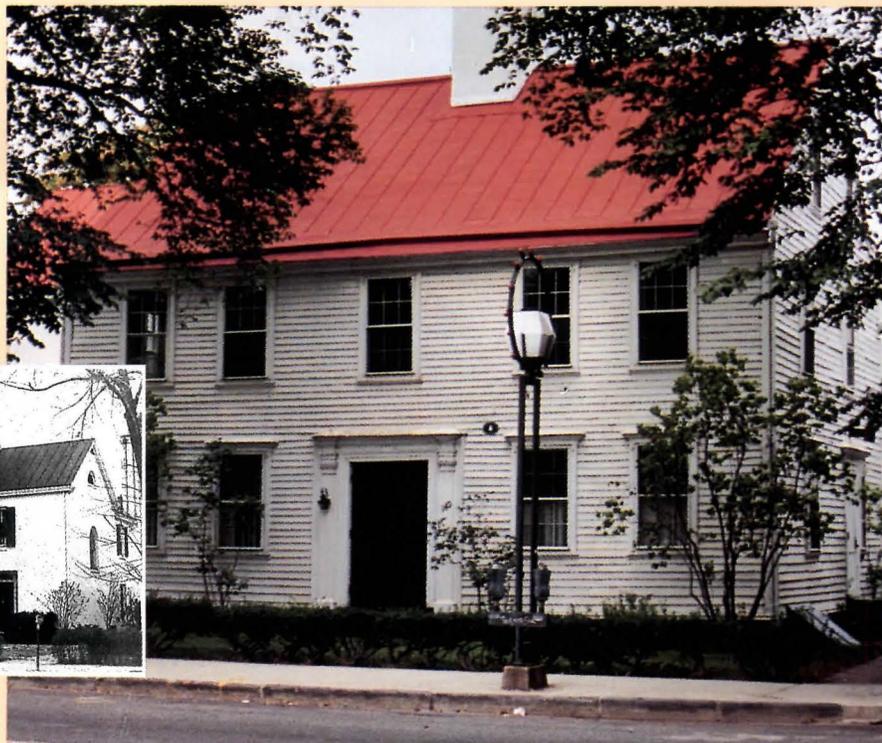
# FOLLANSBEE roofing metals...

## setting standards of beauty and longevity

**Installed in 1764...  
Over 225 years of  
gracious service!**

Because of its promise of durability, TERNE has been installed on countless residences and public buildings since colonial days. The Yale University Undergraduate Admissions Office, once a private residence, was built in 1764 and still has its original TERNE roof. Many buildings in New England and throughout the original colonies still have their original TERNE roofs.

*A remarkable case of longevity in metal roofing. TERNE was installed on this residential structure in 1764!*

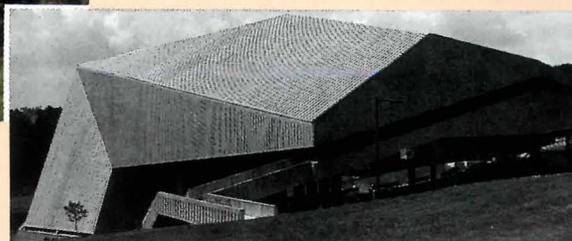


## TCS and Robin Hood Dell...16 years of service weathered to distinctive beauty



*Robin Hood Dell, Fairmont Park, Philadelphia, PA. More than 50,000 square feet of TCS roofing shown after 16 years of weathering.*

The summer home of the Philadelphia Symphony is a classical example of the beauty which TCS, through its weathering process, can bring to a structure. Without painting, TCS offers the promise of little or no maintenance throughout decades of service. Designed by Alfred DeVito of New York, Robin Hood Dell achieves its function of shelter and protection perfectly.



**TERNE...the beauty of color  
TCS®...beauty by mother nature**

For more information, see our catalog in SWEETS.  
TCS is available in Europe and in the Pacific Rim.

# FOLLANSBEE

FOLLANSBEE STEEL • FOLLANSBEE, WV 26037  
Call us toll free 800-624-6906

## Manufacturer Sources

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

### Pages 36-39

Grand Louvre—Phase II/Inverted Pyramid  
Pei Cobb Freed, Architect  
Metal structure: Barbot. Skylight framing and glazing: Viry/Dutemple. Metal finish: ETM Voisin.  
Lighting: ERCO Lumineres Sarl; Mazda.

### Pages 40-43

Hotel Kempinski Airport, Munich  
Murphy/Jahn, Inc., Architect  
Curtain walls: Josef Gartner & Co. Glazing:  
Helmut Fischer GmbH.

### Pages 78-85

The Florida Aquarium  
Hellmuth, Obata & Kassabaum, Inc., and Esherick,  
Homsey, Dodge & Davis, Joint Venture Architects.  
Dome framing, windows, and entrances: Barbary  
Co. Spectrally-selective glass: Monsanto Co.  
(Solarflex). Laminator: LCC. Custom concrete:  
Tarmac. Single-ply roofing: Sarnafil. Metal roofing:  
Aeicor. Wood interior doors: Weyerhaeuser Co.  
Fire doors: Won-Door Corp. FRP doors: Fenestra.  
Railings: by M&J Materials. Acrylic windows: Mit-  
subishi Rayon, Ltd. Exhibit fabrications: The  
Larson Co. (Tucson). Exhibit flooring: Dex-O-Tex.  
Metal coatings: Tenemec. Elastomeric paint:  
M.A.B. Waterproofing: American Colloid. Metal  
ceiling: Alcan. Acoustic ceilings: Armstrong World  
Industries. Bollards and sconces: Louis Poulsen.

### Pages 86-89

Casa Pacifica Children's Crisis Care Center  
Bobrow-Thomas Architects  
Stain on cedar siding: Sinclair. Concrete roofing:  
Lifetile. Casements: Torrance Steel Window Co.  
Entrances: Kawneer Co. Resilient flooring:  
Tarkett; Amtico; Flexco. Tile flooring: Dal-Tile.  
Reception furniture and child's seating: Thonet.  
Carpeting: Bentley Mills. Pendants: SPI (Renaissance).  
Laminates: Nevamar; Formica Corp.  
Paints: Benjamin Moore & Co.; Pratt & Lambert.

### Pages 90-93

Lincolnshire Village Hall  
Nagle, Hartray & Associates, Architect  
Brick: Claycraft. Glass brick: Pittsburgh-Corning.  
Shingles: Western Red Cedar. Windows: Profile.  
Paints: Benjamin Moore & Co. Uplight sconces and  
pendants: Elliptipar. Mahogany entrance, paneling,  
and cabinetry: Snyder Millwork.

### Pages 94-95

Newton Library  
Patkau Architects, Inc., Architect  
Structural wood: Structurlam Products Ltd.  
Roofing: Soprema Waterproofing. Storefronts and  
windows: United States Aluminum Corp. Exterior  
panels: Weyerhaeuser. Louvers: Alumavent. Lock-  
sets: Sargent and Co. Seating: The Knoll Group.

### Pages 96-99

Sedgwick Branch Library  
David W. Prendergast, Architect  
Ground-face CMU: Trenwyth Industries, Inc.  
(Trendstone). Stainless-steel sheet-metal work:  
Three Brothers Industries. Concrete stain:

Sonoborn. Windows and entrance: EFCO Corp.  
Built-up roofing: Schuller International. Plastic-  
and aluminum laminates: Formica Corp. Paints:  
Benjamin Moore & Co. Metal coating: Hammerite.  
Downlights: Lightolier. Fluorescents: Mark Light-  
ing. Exterior floods: Microflector. Stacks: Danish  
Library Design Bureau. Seating: Passanella.

### Pages 100-103

Barrington Area Library  
Ross Barney Jankowski Architect  
Brick: Glen-Gery Corp. Single-ply roofing: Fiber-  
tite. Wood curtain wall and entrances: Duratherm  
Window Corp. Windows: Pella Corp. Interior wood  
doors: Algoma. Upward-acting doors: Raynor.  
Stone flooring: Burlington Stone. Acoustic ceilings:  
USG Interiors. Cabinetry and architectural wood-  
work: Midwest Woodwork. Pendant luminaires:  
Visa Lighting (custom by architect). Exterior:  
Elliptipar. Interior fixtures: Benjamin; Daybrite.

### Pages 104-105

George Robert White Gymnasium and Teen Center  
Leers Weinzapfel Associates Architects, Inc.  
Cast stone: Burns & Russell Co. Aluminum-framed  
curtain wall; casements and double-hungs: EFCO  
Corp. Tinted and frit glazing: Falconer Glass.  
Standing-seam roof: Lead-coated copper. Truss-  
mounted uplights: Sterner Lighting Systems. ■

### Clarifications

The clients of the Spiral House [*RECORD*, April  
1995, page 62] are Andrew and Lisa Greenberg.  
Rick Donsavage of Dowko Development was  
omitted from the list of contractors. ■

## Everyone needs a good roll model.

### INTRODUCING THE TECHJET™ DESIGNER 720

There's a lot to admire about our newest monochrome inkjet.  
With both roll-feed and cut-sheet capability, it's the only large-  
format plotter that's truly built to handle the long and the short of it.

Its 720 dpi print engine offers 44% higher resolution than the  
competition, for more detailed lines and solid area fills. Not to mention a  
two-pass printing mode, for smoother shading — especially on CalComp  
vellum, film and plain paper.

Plus, it comes with automatic data format recognition, for hassle-  
free setup and compatibility. 4Mb of standard RAM, upgradable to 16Mb.  
And speedy throughput that delivers E-size plots in under 8 minutes,  
D-size in less than 4.

All at a price that makes it the clear choice for precise line drawings,  
area fill mapping and 3-D rendering.

For more information, just see your CalComp reseller, or call  
**800-445-6515, Ref. A00.**

We'll show you a plotter that sets a good example.

And delivers a tough act to follow.



TOOLS OF THE TRADE

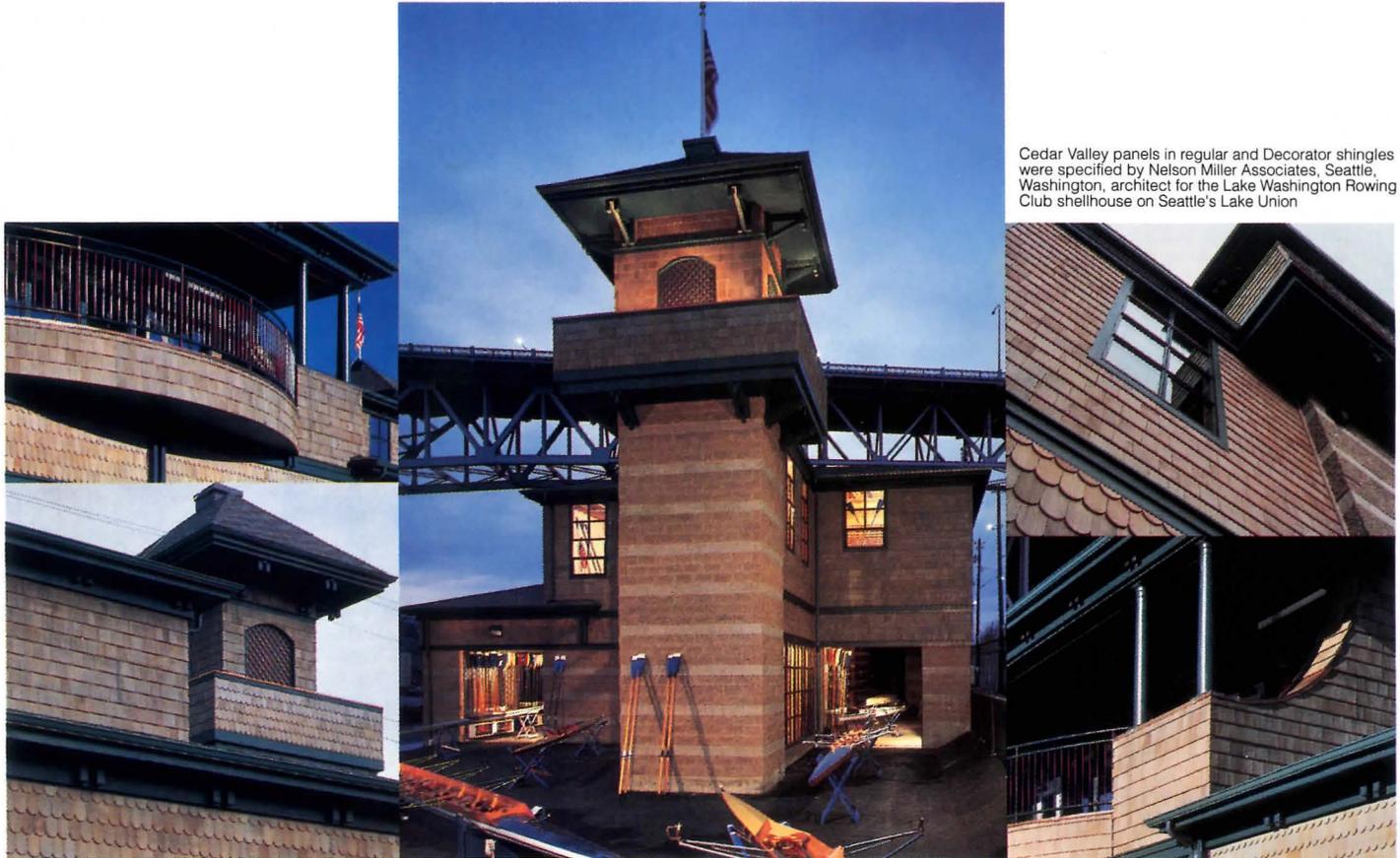
**CalComp**  
A Lockheed Company

List price in U.S. dollars. Floor stand and basket are optional. TechJET is a trademark of CalComp Inc. © 1995 CalComp Inc.

Circle 43 on inquiry card

# A sure way to send an important design statement...

Cedar Valley panels in regular and Decorator shingles were specified by Nelson Miller Associates, Seattle, Washington, architect for the Lake Washington Rowing Club shellhouse on Seattle's Lake Union



Chris Eden photos

## is in this cedar shingle envelope.

No exterior siding has ever ranked higher in preference year after year than Western Red Cedar. And more and more architects are returning to shingle-style in ever newer interpretations. You get



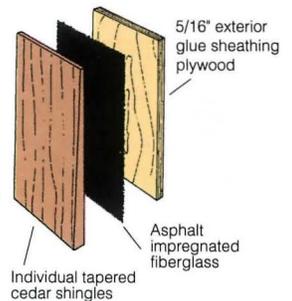
both with Cedar Valley. So, when a

striking shingle accent is what you want to achieve, Cedar Valley is the surest way to begin.



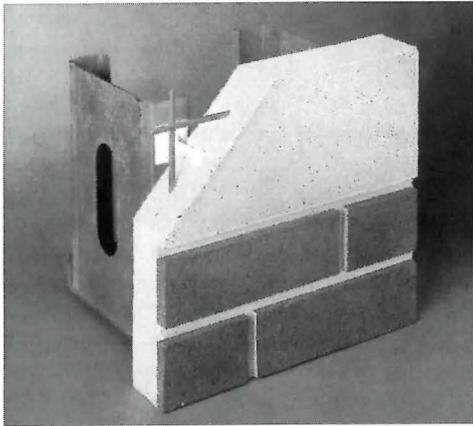
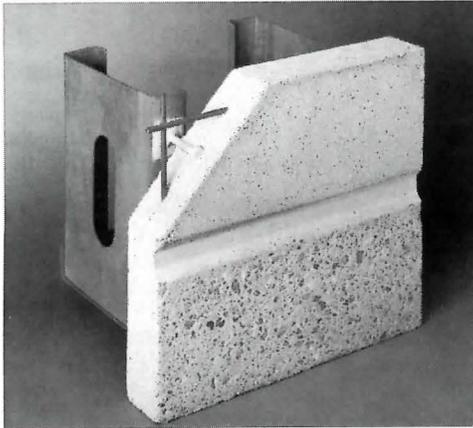
Cedar Valley uses real tapered cedar shingles, actually overlapped in a classic hand-shingled look with shadow line and true keyways. They look like real shingles because they are. The staggered panel ends provide a seamless surface and eliminate caulking with a patented interlock.

The one-piece plywood backer makes a stronger panel. The fiberglass interply provides added moisture protection and greater fire resistance. Cedar Valley panels can be applied up to four times faster than individual shingles. And the Certi-Panel Blue Label seals your envelope with an assurance of quality.



To get your free design and specification packet fast, call 800-521-9523 or fax 408-636-9035. Or write to Cedar Valley Shingle Systems, 943 San Felipe Rd., Hollister, CA 95023, or use the information card.

## New Products

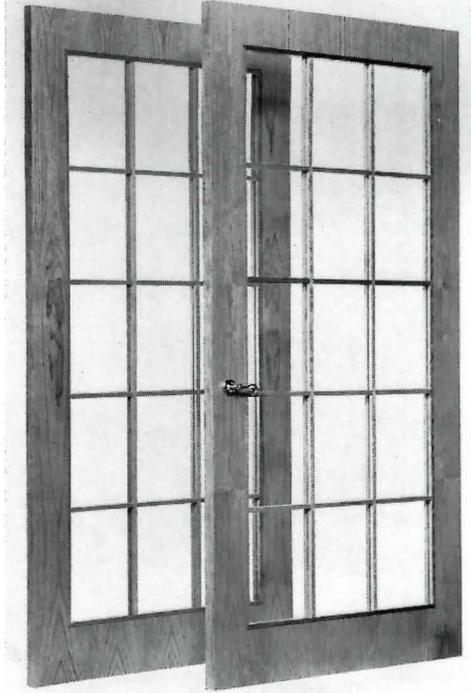


### 313. Lighter-weight precast panel

Described by its designer as "the ideal solution for architects who like the durability of precast concrete, but dislike its weight and the costs associated with it," the 28-lbs/ft SlenderWall panel is two inches of precast mechanically attached to a light-gauge steel frame. Structurally, the frame replaces the additional four inches of concrete used in a standard, 50- to 80-lbs/ft panel. Cast-in-place Nelson studs attach panel to frame. It may be ordered in precast finishes such as smooth, aggregate, or sand-blasted; brick or stone patterns can be cast into the concrete face. Panel can incorporate cast-in details such as bullnose edges. 610/868-5522. Eastern Exterior Wall Systems, Inc., Lehigh Valley, Pa.

### 314. Full light 20-minute door

A specially constructed wood-framed door with a full-vision clear glass light (up to 2,792 sq. in. and 78-in. high) meets both 20-minute fire-door tests and CPSC 16 CFR 1201 impact-safety requirements. Solid-wood applied-grillwork and glazing-bead options let the architect specify a French-door appearance; veneer-wrapped metal vision panels are also available. Single doors go to 4-by 9-ft. Suitable for institutional use. 414/722-6444. Eggers Industries, Neenah, Wisc. ■



## Important Information About Schuller Phenolic Foam Roof Insulation and Possible Steel Deck Corrosion

**F**rom January 1989 to February 1992, we produced UltraGard® Premier, a glass mat faced phenolic foam roof insulation, which is no longer manufactured by us.

Recent observations suggest that phenolic foam roof insulation contributes to the corrosion of steel roof decks. In extreme conditions, where insulation is wet or damaged, the corrosion reaction could progress to a point which could weaken or penetrate an area in the metal deck.

Therefore, where evidence of wet or damaged phenolic insulation exists, or severe deck corrosion is observed, care should be taken in operating equipment, moving heavy loads and walking across the roof.

\*Schuller phenolic foam insulation was formerly manufactured and marketed by Manville® Roofing Systems.

If you have Schuller\* Phenolic Foam  
Insulation on your roof, please call us at  
1-800-345-9602

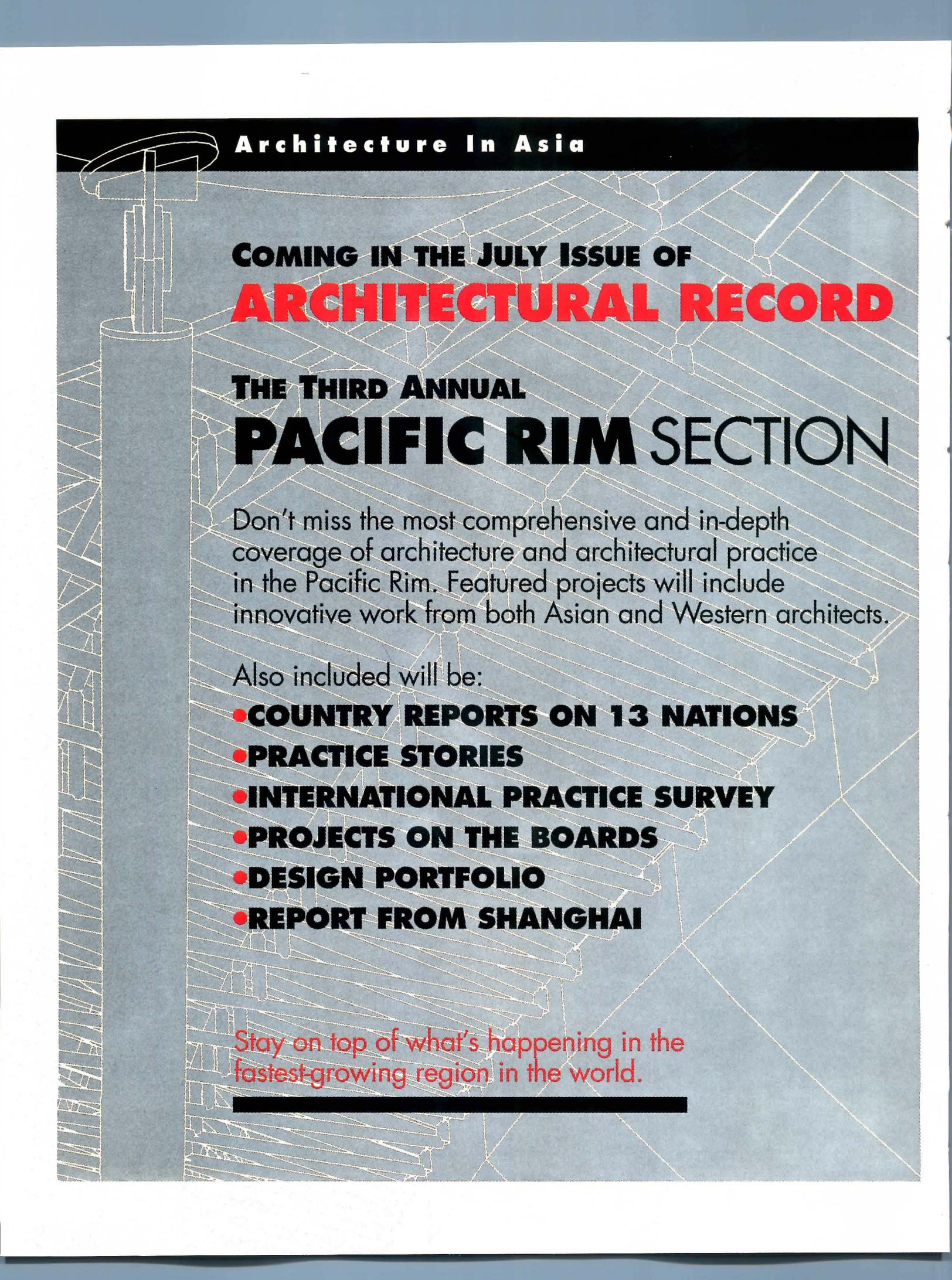
## SCHULLER

Roofing Systems Division

Schuller International, Inc.  
P.O. Box 5108, Denver, CO 80217

**1-800-345-9602**

Monday through Friday  
9:00 a.m. to 3:00 p.m. (Mountain Time)



**Architecture In Asia**

**COMING IN THE JULY ISSUE OF**  
**ARCHITECTURAL RECORD**

**THE THIRD ANNUAL**  
**PACIFIC RIM SECTION**

Don't miss the most comprehensive and in-depth coverage of architecture and architectural practice in the Pacific Rim. Featured projects will include innovative work from both Asian and Western architects.

Also included will be:

- **COUNTRY REPORTS ON 13 NATIONS**
- **PRACTICE STORIES**
- **INTERNATIONAL PRACTICE SURVEY**
- **PROJECTS ON THE BOARDS**
- **DESIGN PORTFOLIO**
- **REPORT FROM SHANGHAI**

Stay on top of what's happening in the  
fastest-growing region in the world.

---



**Before**

There was a time when it was necessary for fire doors to look like plated armor with nuts and bolts protruding everywhere. But that is not the case today. Because Innovation by the Won-Door company has changed all that.

From the manufacturer of the revolutionary folding accordion type fire doors comes Innovation. A UL listed swing door with all the benefits and none of the drawbacks of traditional "held in the open position" type fire doors.

Innovation provides UL listings for both 20 minutes, one hour and one and one-half

hours, with absolutely no fire exit hardware protruding into the corridor opening. Only Innovation features hardware recessed completely flush with the surface of the door (while in the open position) and installed (optional) within a shallow pocket to also fit flush with the wall. At last, continuous, uninterrupted sight

Think of it  
as a  
*fire door,*  
with a  
**facelift!**

lines in corridors, elevator lobbies or any place fire doors are specified in the normally open position. And no restrictive and potentially dangerous hardware protruding out in the room or corridor.

Contact your nearest Won-Door representative soon or call 1-800-453-8494 for additional information, details and specifications.



**After**



WON-DOOR



Won-Door Corporation, 1865 South 3480 West, Salt Lake City, Utah 84104

Circle 47 on inquiry card

# Are You Spending a Fortune Trying to Locate Specialty Consultants?

**We Did...**



**In Fact we spent  
\$146,818 locating  
consultants for  
this book**



Locating the right specialty consultants can be a very time-consuming, expensive task. At McGraw-Hill, we learned this the hard way: We found them. It cost us \$146,818 to locate these consultants, but we can now offer the most comprehensive guide to specialty consultants in the design and construction industry, the Directory of Specialty Consultants.

**THE DIRECTORY OF SPECIALTY CONSULTANTS OFFERS AN ABUNDANCE OF VALUABLE INFORMATION:**

- More than 2,200 specialty consultants from 43 separate specialty disciplines
- Expanded listings with complete firm profiles
- Geographic cross-references

**INTRODUCTORY OFFER**

Despite the invaluable nature of the Directory of Specialty Consultants, McGraw-Hill is currently offering it at an introductory price of only \$99. It is regularly priced at \$150. To take advantage of this opportunity, simply complete and return this order form to

McGraw-Hill • Directory of Specialty Consultant  
1743 West Alexander Street,  
Salt Lake City, UT 84119  
801-972-4400 Fax 801-974-6474

Yes! I would like to purchase \_\_\_ copies of the Directory of Specialty Consultants at the special introductory price of only \$99, instead of the regular price of \$150.

- Check enclosed       Please bill me       Visa  
 MasterCard       American Express

Card #: \_\_\_\_\_

Exp Date: \_\_\_\_\_

Firm Name: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

# FIRE

## RATED FLOOR DOOR...



**Introducing** Bilco's Type FR fire rated floor door - this innovative product will now enable you to specify convenient access through a 2-Hour floor without jeopardizing fire code compliance. Tested at UL Laboratories in accordance with ASTM E119, (the same demanding test standard as the floor/ceiling assembly), this unique door contains flames and limits heat transmission to the floors above. A specially designed self-closing system insures that the door automatically closes when a fire occurs.

As an added benefit, the FR's cover is recessed to accept a variety of floor covering materials, making its high level of fire protection virtually undetectable. The Type FR, like all Bilco products, is engineered for smooth, easy operation and many years of trouble-free service.

For more information on this product... call, write or fax The Bilco Company.



Patent Pending

**Bilco**<sup>®</sup>

SPECIALTY  
ACCESS PRODUCTS

The Bilco Company, P.O. Box 1203, New Haven CT 06505  
(203) 934-6363 • Fax: (203) 933-8478

### Features:

**Photo A...**Automatic self-closing system.

**Photo B...**Composite cover design with fire proof coating.

**Photo C...**Cover recess accepts custom floor covering.



A



B



C

Circle 87 on inquiry card

© 1995 The Bilco Company, New Haven, CT  
SEE US AT THE CSI SHOW BOOTH #1950



## CEILING WITH A NEW TWIST.

### CURVATURA® CEILING SYSTEM

...caters to your creative urge to design ceilings into the third dimension. CURVATURA can accent traditional architectural forms, or totally change the nature of a space. It provides a dramatic new surface to play with shapes, texture and lighting never before possible in a ceiling system. And it does this in a most affordable way.

So, before you design your next project, get more information by calling (800) 950-3839.

Sea Side Hills, Marin County, California, is the third in a series of landscape photos by Gary Irving. For a free poster, while supplies last, call (800) 950-3839.  
©1995 USG Interiors, Inc.

**USG Interiors**

Circle 88 on inquiry card