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→ KOOLHAAS AT THE HOUSE THAT MIES BUILT.
MEIER AT THE ALTAR. PIANO AT THE GARDEN DOOR.



A New Year, new designs and new ways to make a statement are just around the corner. Until then, celebrate warm holiday traditions with family and friends. Season's Greetings from Chip and all of us at Wilsonart Laminate.



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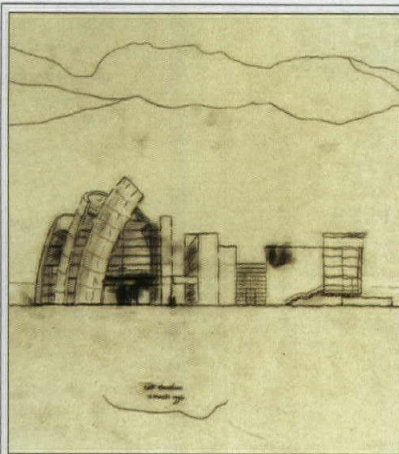
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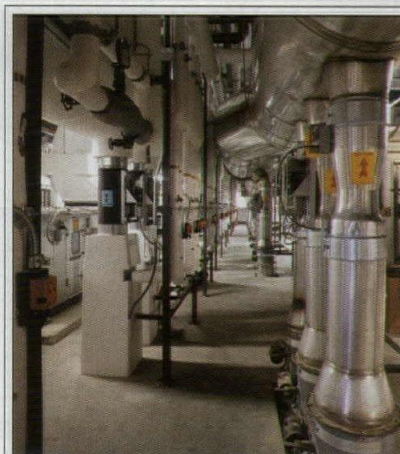


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Rem Koolhaas freshens up the curtain wall at IIT's McCormick Tribune Campus Center, where a stainless-steel-clad tube encases an elevated train track (cover). A giant portrait of Mies (facing page) and other school founders dominate the building's welcome center. Photographs on cover and facing page: Floto + Warner; above left: Salvatore Gozzo; above middle: Richard Meier & Partners; above right: Robert Canfield.

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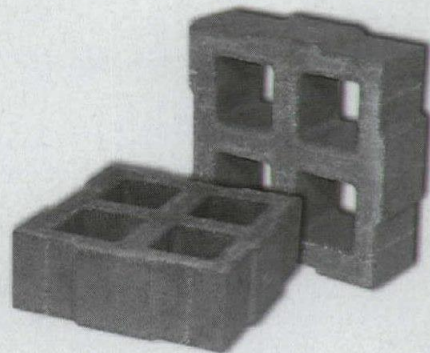
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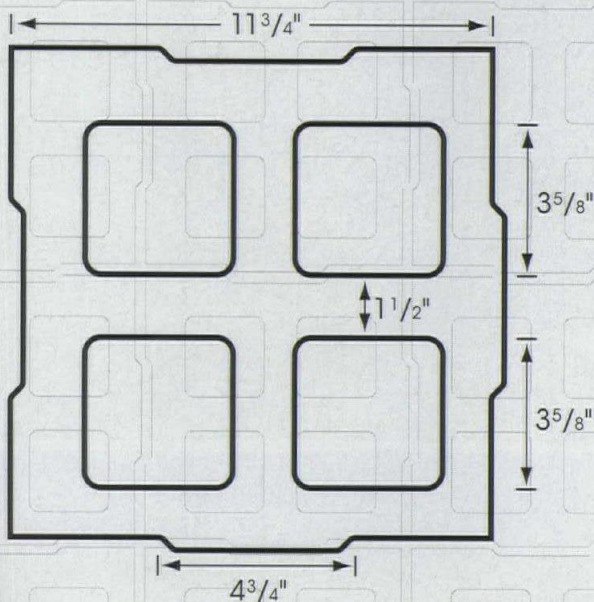
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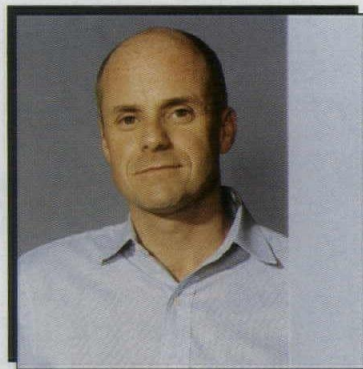
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THEY'D RATHER BE IN PHILADELPHIA

BY C.C. SULLIVAN

Architects in Philadelphia are like architects in most other cities. They work hard on their craft. They strive to innovate and serve client and community needs. They recognize and respect their local legacy. And they are highly vocal as both defenders and critics of their hometown.

But today, Philadelphia's architects seem especially introspective and self-critical. Feeding their insecurity are an enfeebled local economy and polarizing politics, as well as questions about the city's ability to attract intellectual talent. These concerns feed a broader anxiety about the city's great tradition as a center of architectural innovation. It's daunting to work in the long, legendary shadows of Paul Phillipe Cret, Louis Kahn, and Romaldo Giurgola (not to mention Venturi and Scott Brown down the street), yet broader issues eclipse that dynamic. Most notable is a pervasive ambivalence about Philadelphia's heritage as a nexus of internationalism and regionalism. From the City Beautiful movement to Cret's beaux-arts perfection to Kahn's heroic modernism, global artistic and social concepts have attained great heights in this milieu of brickwork and humane scale, social planning and technical creativity—and William Penn's inexorable grid.

Today's unresolved tension between the universal and the local stirs not excitement but an unsettling debate that pits a conservative regionalism against transcultural influences. Some Philadelphia architects see their role as contributing to a global charrette; many others call for a return to roots so that a new "Philadelphia School" (as Jan Rowan called the influential scene in a 1961 issue of *Progressive Architecture*) may once again flourish.

A few weeks ago, I visited Philadelphia and saw firsthand how this debate plays out. The city's regional legacy and its history as a place that embraces outside influences have become disengaged—yet I came away feeling optimistic that the tide was shifting. Bookending my day were two encounters with the universal: a morning visit to a transcendent new airport terminal by Kohn Pedersen Fox (see page 111) and evening presentations by Cesar Pelli, Moshe Safdie, Enrique Norten, and Foster & Partners, who were competing for an expansion of the Julian Abele-designed Central Branch of Benjamin Franklin's

branchchild, the Free Library. In between, I met with local leaders and senior architects, most of whom expressed little interest in these momentous projects by outsiders. Leadership on design seemed reserved for elite local institutions, such as trusts, universities, and hospitals.

But there were also signs that Philadelphia's decades-old chasm might no longer be widening. First, a vibrant professional dialogue has emerged, as I found at a salon organized by Mitchell/Giurgola's successor firm, MGA Partners, and hosted by University of Pennsylvania art historian David Brownlee; for several intense hours, local architects talked frankly about whether "place matters," particularly the place called Philadelphia. Second, this renewed discourse has taken on prominence through Center City District, a self-taxing business-improvement coalition, and the fast-growing Design Advocacy Group, which promotes high-quality urban design at a time when the Philadelphia Planning Commission has little political clout. Third and most hopeful, however, are the stirrings of a new architectural language with an unmistakable local identity, rich materiality, and technology-driven inquiry.

If the new "Philadelphia school" will be defined by its activist core and by a few practitioners, so be it. Major movements, like those that emanated from or flourished in Philadelphia's illustrious past, may grow from an unfamiliar seed—but they thrive on healthy local soil.

READERS NAME NAMES

Have you ever worked with a supplier whose input on a project came early, often, and at the most critical junctures, even when the pressure was on? And can you single out a manufacturer whose name is synonymous with innovation and service? If so, you'd probably refer them to other architects. And you might have checked their name on the ballot for *Architecture's ACE Awards*. ACE stands for "Architects' Choice for Excellence," an annual survey-based awards program that asks readers to select manufacturers they value for customer service and product design. (The results start on page 13.) We think this important survey recognizes companies for the right reasons: because architects trust and respect them.

WE WANT TO HEAR FROM YOU. Our editorial policy is to publish diverse opinions, including ones that dissent from views presented here. Send letters by e-mail to csullivan@architecturemag.com, or by mail to the address found on page 5.

Big plan on campus

Your October 2003 issue, largely devoted to campus architecture, is both welcome and sobering. It is depressing to learn that campus imagery is now passing into the hands of formulaic planners and revivalist architects. Still worse, superficial design guidelines will ultimately be enforced by civil servants narrowly focusing upon questions of style and the adherence to arbitrary rules. The outcome will be a soulless academe possessing "correct" architecture that ironically obscures history.

James A. Gresham

Tucson

I particularly enjoyed "Campus = Context" (October 2003, page 41) and the simple lessons it offers architects. Organizing different approaches to campus design by means of thematic categories was useful, though "Reverence" for the new building at Harvard Business School struck me as the dark side of context in that it blurs what is real and what is not—even after three generations of Georgian architecture.

Edward O. Nilsson

Salem, Massachusetts

Loyal to Logue

After enjoying your display of education facilities, I was shocked to find a needless slam at Edward Logue in "Just Say Yes" (October 2003, page 96). As the architectural critic for *The Boston Globe*, I saw firsthand how Logue introduced citizen participation in both urban design and architecture to Boston. His planners isolated residential neighborhoods from through-traffic, resisted the ghastly inner-belt throughway, cleaned up a soiled city hall, and put a stop to the very kind of development that the author quite properly detests.

Joseph L. Eldredge

Vineyard Haven, Massachusetts

Suburban mod

Regarding "Classicism vs. Modernism" (September 2003, page 31): Why should the solution to urban sprawl lay only in the hands of neotraditional architects? Modern architecture and intelligent urban planning are not mutually exclusive. We don't need new neighborhoods that look traditional; we need compact, mixed-use, livable communities overlaid on our outmoded 1960s

sprawl. To say that this can only be done with buildings that look 100 years old is like saying the only way to have good ice cream is to eat it out of a hand-crank bucket that's surrounded by ice and salt.

Angela Brooks

President, Livable Places, Los Angeles

Vinyl word

The continuing-education unit on the environmental considerations of specifying vinyl building materials (September 2003, page 97) was a poorly disguised infomercial serving the interests of its sponsor, the American Plastics Council. The authors use NIST's "BEES" software to claim that vinyl composition tile (VCT) gets a better ecological score than glass-ceramic tile or linoleum. This is misleading; VCT gets this score because it is less expensive and because the authors equally weight cost and ecology. A more detailed BEES analysis shows that the ecological toxicity of VCT is relatively high, compared with almost zero for the other two materials.

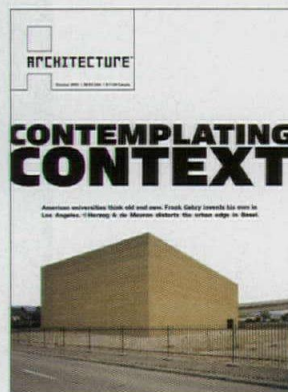
David Lehrer

Berkeley, California

From the editors: The learning unit was an advertisement paid for by the American Plastics Council and sanctioned by the AIA.

"Sustained by Science" (September 2003, page 112) would have advanced our education on the LEED green-building rating program if it had lived up to its headline—but it didn't. First, ground-source heat pumps are not "renewable energy" sources; they consume energy rather than produce it from the earth. Second, large hydroelectric dams destroy fisheries and riparian habitat, inundate farmland, force human resettlement, and cause salinization and waterlogging of local soils—none of which are characteristics of truly renewable sources. Third, lumber cannot be a renewable resource if forests are not managed for ecosystem health and if old-growth trees, which cannot be replaced, are not distinguished from general lumber. LEED and Forest Stewardship Council certification are the only ways to take this into account.

The LEED program is not easy and is far from perfect, and I agree with the authors that life-cycle analysis should be included when feasible. But I strongly disagree that



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LEED has been unduly "influenced" by environmental groups. Where better to include a strong environmental voice if not on these critical issues?

Raphael Sperry

San Francisco

Engineered monopoly

Through the years, engineers have sealed architectural work under the caveat in license rules for work "incidental" to a project (September 2003, page 27). Architects supposedly have the same leeway for "incidental engineering," but engineers have contested the incidental nature of our actions. This is unfair. Perhaps we should educate public officials on guidelines for engineers who take on architectural work.

Harold Humphrey

North Wilkesboro, North Carolina

Conference call


My thanks and praise for *Architecture* magazine's excellent and very useful conference "Building Better Schools" (October 2003, page 11). I am fully convinced of what is wrong with the industry: Architects are no longer the professional leaders of the construction industry; we are just vendors for a narrowly confined specialty.

Allan Anderson

Rye, New York

CORRECTIONS

In the October issue, three photographs of U.C. Riverside's Fine Arts Building are mistakenly credited. The images at the top of pages 56–57, and on pages 58 and 59, are the work of Santa Monica's Tom Bonner. Also, the Harvard Business School building on page 44 is in Boston, and the gas station on page 16 is in Cloquet, Minnesota.



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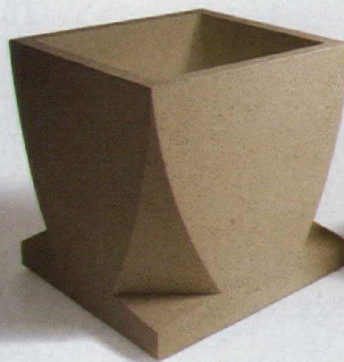
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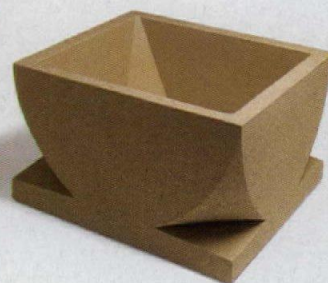
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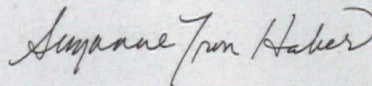
It is with great pleasure that we announce the 2003 winners of *Architecture Magazine's* Architect's Choice for Excellence.

The ACE Awards recognize manufacturers who have provided you and your projects with superior products and services.

ACE ballots appeared in the April, May, and June issues of *Architecture*. The ballots were also made available to architects at the AIA and CSI conventions.

We salute these industry leaders, as voted on by you, the readers of *Architecture*, for their commitment to product excellence in areas of durability, customer service, value, and design. Innovation, customer collaboration, and top-notch performance are trademarks of all winners as they strive to meet and exceed design expectations, cost criteria, and demanding deadlines.

And to those who took the time to select this fine group of winners, we extend our appreciation. The ACE Award winners will be available on our website—www.architecturmag.com—throughout the year to provide a valuable resource for you. After all, they showcase the best in the business.



Suzanne Tron Haber
Publisher

2003 Winners



2003 ACE Award Winners

These are the manufacturers that have provided architects and their projects with superior products and services.

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GYPSUM FABRICATIONS

Formglas
Monumental Construction & Moulding Co.
Pittcon Industries
Plastglas, Inc

CEILINGS

Armstrong
BPB Celotex
Chicago Metallic
Fry Reglet
Georgia-Pacific
USG

CERAMIC TILE

American Olean/Daltile
American Marazzi Tile
Ann Sacks
Crossville Ceramics
Graniti Fiandre

RESILIENT FLOORING

Armstrong
Amtico
Azrock
Congoleum
Forbo
Johnsonite
Mannington
MAPEI
Roppe
Tarkett

RUBBER FLOORING

Roppe
Azrock
Burke Mercer
Johnsonite
Marley Flexco
Nora

LAMINATES, PLASTIC

Wilsonart International
ABET Laminati
Formica
Nevamar

LAMINATE FLOORING

Mannington Commercial
ABET Laminati
Bruce Commercial
Formica Flooring
Lamin-Art
Nevamar
Pergo
Wilsonart International

CARPET TILE/MODULAR

Interface Flooring Systems
Bentley Mills
Collins & Aikman
Lees
Mannington Commercial
Miliken Carpet
Shaw

CARPET FIBERS

DuPont Antron
Monsanto Contract Fibers
Wools of New Zealand

PAINTS/STAINS & FINISHES

Sherwin Williams
Benjamin Moore & Co
Devoe Paint
DuPont
ICI Dulux Paint Centers
PPG Paints & Coatings

BROADLOOM

Karastan
Bigelow
Lees
Mannington
Miliken
Mohawk
Patcraft
Prince St.

SPECIAL CONSTRUCTION**AIR SUPPORTED FABRIC STRUCTURES/CABLE SYSTEMS**

TEMS
Birdair
Air Structures American Technologies
Clamshell Buildings
DuPont
Kalwall
Seco South
Structures Unlimited

SECURITY ACCESS/SURVEILLANCE

Schlage
Ademco
Controlled Access
I-R Security and Safety
Siedle Company
Von Duprin

MECHANICAL**PLUMBING FIXTURES**

Kohler
Acorn Engineering
American Standard
Bobrick
Bradley Corp
Chicago Faucet
GROHE America
Kroin
Sloan Valve Company
Toto USA

KITCHEN/BATH HARDWARE

Kohler
Bobrick
Dornbracht
Hafele America
Kroin
Moen
Price Pfister
Toto USA

CONVEYING SYSTEMS

Otis Elevator
Fujitec America
Inclinator Company of America
KONE
Pflow
Schindler Elevator
Thyssen Dover Elevator
ThyssenKrupp Elevator

ELECTRICAL**LIGHTING**

Lightolier
ALS-Architectural Lighting Systems
Artemide
Bega
Cooper Lighting
ERCO
Juno
Kim Lighting
Lithonia
Lutron
Prescolite
Visa Lighting
Zumtobel Staff

FURNISHINGS**FURNITURE SYSTEMS**

Herman Miller
Haworth
Knoll
Steelcase
Teknion

SEATING

Herman Miller
Allsteel
American Seating
KI
Kimball Office
Knoll
Steelcase

CASEGOODS

Herman Miller
Allsteel
Haworth
HON
Knoll
Meridian
Steelcase

OUTDOOR FURNITURE

Smith & Hawken
Brown Jordan
Knoll
Landscape Forms
McGuire

SOLID SURFACING

DuPont Corian
Avonite
Formica
Nevamar
Swanstone
Wilsonart

WALLCOVERINGS

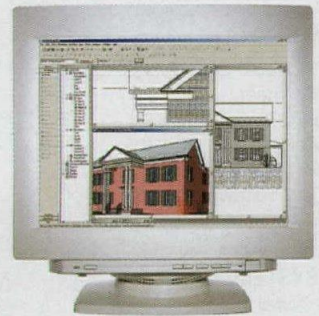
Maharam
Eurotex
Genon
Innovations in Wallcoverings
J.M. Lynne
Koroseal
Wolf Gordon

COMPUTER/SOFTWARE

Autodesk
Bentley Systems
Datacad
Graphisoft
Nemetchek
Revit Technology



Computer/Software



Autodesk

Industry Insight

"Our product is service," says Herb Shulhafer, director of business development at Studio Kremer. "Clients want us to be right.

They want us to meet their timetable, which is short. And they don't want problems in the field. We see Autodesk Revit helping us in all of these aspects."

Founded in 1982, Autodesk, Inc. is the world's leading design software and digital content company, offering customers innovative business solutions through powerful technology products and services. Autodesk helps customers in the building, manufacturing, infrastructure, digital media, and wireless data services fields increase the value of their digital design data and improve efficiencies across their entire project life-cycle management processes. Autodesk's Building Solutions Division enables architects, engineers, contractors, and building owners to easily create, share, and manage building information, eliminating barriers and inefficiencies throughout the building process and allowing the best work to become a reality.

To that end, Autodesk offers the best building information modeling products and services for providing new ways of solving problems and creating new business opportunities that make use of fully coordinated building design information and their customers' professional expertise. Autodesk® Revit® delivers a state-of-the-art building information modeling platform for building industry professionals who are willing to take on a new way of working and want to use technology to gain a competitive advantage.

For projects large and small, complex and simple, building industry professionals around the world use Autodesk Revit for design, documentation, and—increasingly—construction and management. The system allows them to increase their productivity, improve project coordination, and do their best possible work. For example, Kentucky-based Studio Kremer Architects—which designs a range of projects, including single-family residences, schools and churches, and commercial buildings of all types—has moved to Autodesk Revit for all its projects because it helps the firm exceed its clients expectations and gain a competitive advantage. "We were dumbfounded by Autodesk Revit," says Scott Kremer, president of Studio Kremer Architects. "We loved the fact that as you designed the foundations and floor plans, the elevations and wall sections were being developed at the same time. Here was a piece of software that was doing that for us automatically." □

For more information: (800) 234-0074; www.autodesk.com

Photos: Autodesk Revit helps architects to do their best work on a range of projects, from hotels to banks and more.



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Architect

Structural engineer

Mechanical engineer

Facilities manager

Interior designer

Lighting designer

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Civil engineer

Reservations manager

Project manager

Property owner

Telecom consultant

Landscape architect

Housekeeping manager

Security manager

Construction manager

Plumbing engineer

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There's no such thing as a simple building project. Each one involves coordinating people, systems, timelines, and materials. To make that process go more smoothly, Autodesk has developed an array of powerful new solutions that streamline procedures, eliminate rework, and just plain help you do your job better. With a project team able to create and share data more efficiently, you'll enjoy more productive days. And more restful nights.

To find out which Autodesk building information modeling solution is right for you, or to see the exciting developments in our latest product releases, visit www.autodesk.com

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Mechanical Plumbing Fixtures



Bradley Corporation

Industry Insight

"Bradley has been an innovative leader in commercial washrooms for more than 80 years," says Jon Dommissie, director of corporate marketing for Bradley Corp. "We provide architects and building owners with expertise and total washroom solutions from floor to ceiling. Our lavatory systems, toilet partitions, and accessories are designed to provide solid value over the building's life cycle."

Since inventing the washfountain in 1921, Bradley has been an undisputed leader in the commercial plumbing industry. Headquartered in Wisconsin, Bradley serves the commercial, industrial, health care, recreation, education, and corrections markets worldwide as a renowned single-source provider of commercial plumbing fixtures, washroom accessories, partitions, and emergency plumbing fixtures. This extensive product line means architects can find the products they need for any washroom application with one call.

Today, the company is bending the rules of design again with its patented Frequency™ Lavatory System, featuring an unconventional wave design that combines a lower ADA-compliant sink with a higher sink, making it ideal for washrooms in upscale retail centers, restaurants, offices, hotel lobbies, and fitness centers.

High-style and highly functional, the new first-of-its-kind fixture was designed with input from architects as well as building owners and interior designers to meet ADA height requirements by offering multi-height lavs all in one unit, available as one-, two-, or three-station options. Modern and attractive, six models provide design flexibility—a series of Frequency stations can be combined to create a wall of waves—and a specially designed infrared-controlled faucet complements the lavatory, as well as a complete line of coordinating accessories to ensure that soap dispensers, mirrors, shelves, towel dispensers, and waste receptacles have the same fluid look.

The Frequency Lav is made of Bradley's Terreon® solid surface material in a choice of 18 custom colors. As a group handwashing fixture, Frequency has fewer connections than single lavs and only one waste outlet to help reduce installation time. Installation is also kept to a minimum because there is just one unit for the standard and ADA compliant lav. □

For more information: (800) Bradley; www.bradleycorp.com

Photos: Functional and stylish, the Frequency Lavatory System meets ADA requirements with a modern, attractive look.



This unique patented design is available in a wide variety of colors and options. Mix and match models to best meet your washroom needs.

FORM. FUNCTION. FREQUENCY.

Go Ahead. Bend the rules with the
Frequency™ Lavatory System from Bradley.

Think of Bradley and think of form matched with function. For over 80 years, Bradley has been the market leader and innovator in the group handwashing industry. The Frequency Lavatory System provides a contemporary looking, long lasting, durable handwashing fixture that offers architects and designers stylish options and endless configurations. We have combined innovative design with the convenience of having one multi-level fixture to accommodate different users. When you need flexibility and stylish ADA-compliant handwashing solutions, adjust your thinking to our Frequency. For more information, go to www.bradleycorp.com/frequency or call 1-800-BRADLEY.

Bradley 

Washroom Design Innovation

Circle 158 or www.architecturemag.com/productinfo



Frequency



Doors & Windows

Metal Doors/Frames, Entrances/Storefronts



Ceco Door Products

Industry Insight

"Ceco steel doors and frames are selected not just for their particular function, but also for their contribution to overall building design," says Larry Denbrock, president, Ceco Door Products. "Our wide variety of innovative vandal-resistant, severe weather, and architectural doors provide our customers with a range of products that serve as portals to good design and efficient function."

What began nearly 90 years ago as the dream of a mechanical engineer has grown into the world's leading manufacturer of steel doors and frames for commercial, industrial, and institutional construction. Ceco Door Products, headquartered in Milan, Tennessee and marketed through a network of distributors in 15 countries, began as a vision of 26-year-old C. Louis Meyer. Meyer was the innovative owner of a small company that produced removable steel forms for concrete construction. As his business grew, Meyer expanded operations to produce a wide variety of steel products, including the famous Bailey bridges and steel landing mats used in World War II.

In 1953, Ceco began manufacturing steel doors. With the arrival of air conditioning, building designs began including more doors and fewer windows, creating a tremendous opportunity for the growing company. In the 1960s, Ceco expanded, designing and introducing the honeycomb-core steel door. The product line has continued to grow to include standard, fire rated, and specialty doors and finishes. Ceco also manufactures standard, custom, and specialty frames.

Architects select Ceco doors because of their unique combination of function and design. J. Louis Turpin, AIA, AICP, executive principal of Rhinebeck Architecture & Planning in Rhinebeck, New York, chose Ceco's Medallion doors for his award-winning Taconic Hills Central School project. "We wanted doors that were elemental to an overall design concept rather than doors that project a cold, 'baby-boomer' aesthetic," Turpin says. "We wanted a quality metal door, one that provides security and easy maintainability and can be replaced easily if necessary."

Ceco Door Products, an ASSA ABLOY Group company, has more than 1,000 employees at its ISO9001 certified manufacturing plants. □

For more information: (888) 232-6366; www.cecodoor.com

Photos: Ceco Doors enhance design at award-winning Taconic Hills Central School in upstate New York

Medallion Maxim[®]

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Guaranteed for life!



Taconic Hills K-12 School Crayville, New York



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Building Insulation, Shingles/Roof Tiles/Roof Coverings



Certainteed Insulation

Industry Insight

Certainteed is always developing products that solve architect and contractor needs in the field. The latest tackles the issue of excess moisture trapped in walls and roofs. Called MemBrain®, the product is a first of its kind vapor retarder that breathes at high humidity levels and allows excess moisture to escape from wall cavities, helping to minimize the risk of mold and subsequent liability concerns.

At Certainteed, excellence and superiority are the driving forces behind everything they do. In fact, in the 1920s, Certainteed's very name was derived from a company slogan: "Quality Made Certain, Satisfaction Guaranteed." Today, Certainteed's Insulation Group continues to provide high-quality fiber glass insulation products, systems, programs, customer support services, and continuing education for professionals.

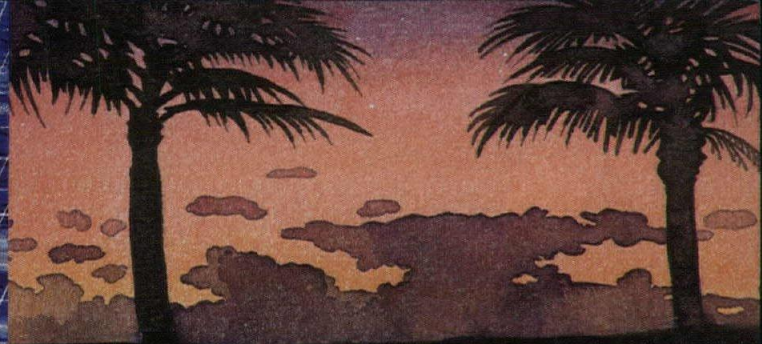
All Certainteed products are manufactured to strict quality conformance specifications and are frequently third-party tested as well. The company participates in various certification and labeling programs with both fiber glass building insulation and loosefill products—and was the first fiber glass insulation manufacturer to have all of its plants both ISO 9001-2000 and ISO 14001 environmentally certified. In addition to ISO 14001, Certainteed's fiber glass insulation products are "Greenguard" Indoor Air Quality Certified and are subjected to a rigorous series of independent tests covering a whole spectrum of indoor pollutants to ensure low VOC and particle emissions.

The company offers a complete line of thermal and acoustical fiber glass insulations for commercial installations, including CertaPro AcoustaTherm® Batts, CertaPro Partition Batts, CertaPro Thermal Batts, CertaPro Commercial Board, CertaPro AcoustaBoard Black, and CertaPro AcoustaBlanket® Black. All are designed to provide maximum sound control and thermal efficiency.

Other Certainteed products for the commercial market include metal building insulation, Ecophon ceiling systems, and Certainteed mechanical and HVAC insulations. For residential applications, Certainteed's Insulation Group offers Optima™ loose fill fiber glass insulation which is blown dry in the Blown-In Blanket® System behind Optima® fabric for maximum thermal and sound control benefits; and InsulSafe® 4 Blown-In Fiber Glass Insulation for attic open blow applications. □

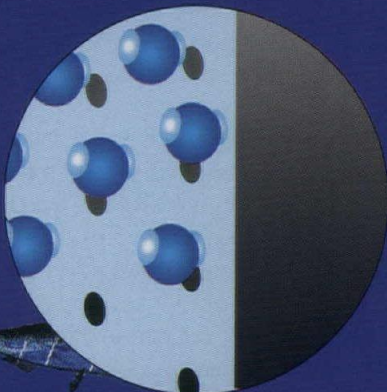
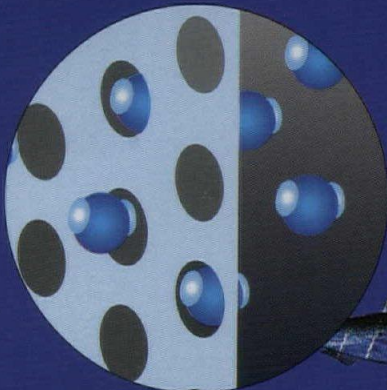
For more information: (800) 233-8990; www.certainteed.com

Photos: MemBrain® allows excess moisture to escape from wall cavities; Optima® provides the highest R-value possible in typical sidewall applications; SpeedyR™ tabless batts are designed to fit perfectly into a wall cavity, eliminating the need to staple the flanges to hold the batt in place.



Now every wall can be a dry wall.

Ambient humidity 90%



Ambient humidity 30%

Modern construction has yet to introduce a foolproof method to keep moisture from getting into a wall. But now there's a revolutionary way to help get it out.



Made from an advanced material that changes its permeability with the ambient humidity condition, MemBrain™ Smart Vapor Retarder from CertainTeed Insulation allows closed building envelope systems to increase their drying potential with seasonal climatic changes—reducing moisture by as much as 80%.

You can't stop moisture from getting into a wall. But thanks to MemBrain™ you can show it the door.

For more information, contact us at 1-800-233-8990 or visit us at www.certainteed.com.

MEMBRAIN™
The SMART Vapor Retarder

CertainTeed
Quality made certain. Satisfaction guaranteed.



Cooper Lighting

Industry Insight

Cooper Lighting is home to the SOURCE, a 35,000-square-foot, state-of-the-art training and education center. The company, who was the first in the industry to dedicate resources and a corporate commitment to lighting education with the facility's opening in 1991, has educated over 60,000 professionals and students. The facility boasts nine real-life application areas (vignettes), seven showrooms, an auditorium, and a unique Fundamentals/Technology Room.

As a leading manufacturer of architectural lighting products in North America, Cooper Lighting's heritage of strong brand identity and its reputation as a provider of innovative incandescent, fluorescent, and H.I.D. luminaires has produced effective applications in the finest residential, retail, commercial, and institutional facilities worldwide. Positioned as a fast growing responsive company utilizing intensive market research and innovative product development, Cooper Lighting is dedicated to the manufacture of high-quality, versatile products which give high value to their customers. From Corelite's Navigator Series featuring unique unlimited optical control, to the recently introduced Architectural Outdoor Series by Shaper, the brands of Cooper Lighting have the solutions their customers need with the value they demand.

In response to the growing trends in the industry, such as energy legislation and sustainable design issues, Cooper Lighting introduced over 50 new products across 14 brands this year, representing significant developments in the lighting industry. In addition, Cooper Lighting created Energy ReSOURCE, a dedicated team of professionals that understand and track the most critical issues of legislation affecting the industry, keeping updates available via the company's Web site, <http://www.cooperlighting.com/education/legis/>, to any interested parties.

"Cooper Lighting's goal is to offer a comprehensive line of lighting products which enable our specifiers to turn to one supplier for their lighting needs," says Lance Bennett, director of specification and architectural product sales for Cooper Lighting.

By offering innovative products that are founded on new energy-effective technologies, Cooper Lighting provides lighting solutions designed to bring value and meet energy and environmental concerns of the community. In addition, by implementing best business practices and methods the company is able to introduce products in a consistent format that compliment each other and provide high levels of support to its customers. The results are distinctive lighting applications over a wide range of market opportunities. □

For more information: (770) 486-4800; www.cooperlighting.com

Photos: The SOURCE, The Cooper Lighting Center in Peachtree City, Georgia; Corelite Navigator Series of direct-indirect luminaires with innovative uplight and downlight control features; Halo L5300 MiniLUME adjustable beam ceramic metal halide track fixture.

LIGHT - IT'S BIGGER THAN US

At Cooper Lighting
our understanding of light
goes beyond engineering and
technology. We're responsible
for creating and using light to
enhance the view of our world.
How well we do that is a direct
reflection on the tapestry
of our society.

INVUE Phocus



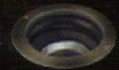
Corelite Vertechs



IRIS Pinhole



Lumière Monaco 6000A



Neo-Ray Nimbus D/I



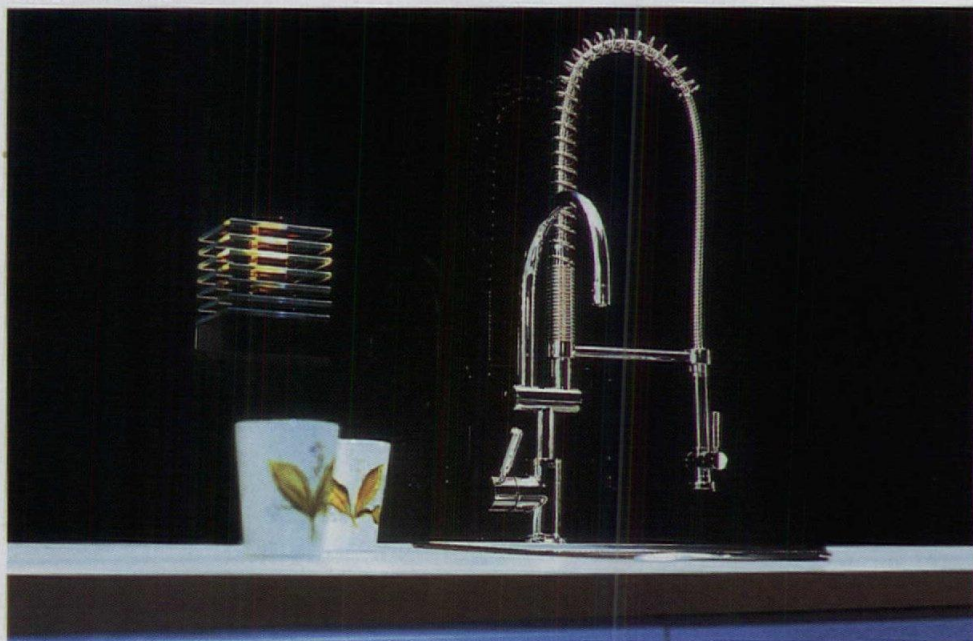
Portfolio Lensed Downlights



Shaper Post Tops



Mechanical Kitchen/Bath Hardware



Dornbracht

Industry Insight

"Dornbracht is committed to original design and product excellence in both residential and commercial applications," says Oliver Bleich, marketing communications manager. "By focusing on the development of new approaches to concepts and ideas for bathroom architecture and design through material selection, atmospheric planning, product development, and architectural detailing, we show our commitment to a true partnership with the specifying community."

An innovative and original design leader in the market of luxury fittings and accessories for more than 50 years, Dornbracht provides such luxury residential, multi-use, commercial, and hospitality clients as the AOL/Time Warner Headquarters, Ritz-Carlton, Four Seasons, and Le Meridien with high-quality, customized, and unique kitchen and bath fixtures that go beyond the norm. From traditional to progressive, fittings and accessories of every stylistic direction are manufactured with superb traditional craftsmanship and modern methods of processing and production engineering to create a unified product design that's a combination of function, form, and quality.

Good design has been central to Dornbracht's philosophy for years, ensuring that the company's products are not merely decorative, but an expression of a distinctive culture. For example, Dornbracht has pioneered a new, holistic approach and product line called "MEM" (Esperanto for "self") in which the bathroom is viewed as the sanctuary in which to perform daily rituals, as well as for self-contemplation and relaxation, while the kitchen is the center for social gatherings and communication.

In order to ensure that every kitchen or bathroom is outfitted with the perfect mixture of form and function, Dornbracht offers "xTra Service," with numerous customizing options, including special production to extend or reduce spout length and other changes to ensure proper fit; changing special finishes specifically for a customer; providing surface finishing for other products such as shower cubicles or window latches to match Dornbracht finishes; and complete restoration of function and individual finishing for fittings which are no longer available.

Dornbracht is a strong supporter of the architectural community, sponsoring various architectural events in cooperation with local trade partners as well as supporting local association chapters, and the company goes a step farther by also sponsoring international cultural projects and exhibits, such as Fabrizio Plessi at the Guggenheim Museum in SoHo, New York and a pan-European retrospective on Alessandro Mendini. □

For more information: (800) 774-1181; www.dornbracht.com

Photos: The reduced scale of the Tara Classic Profi makes the use of professional spray comfortable for residential use; an infusion of high-voltage color for the bathroom; Dornbracht's overhead rain shower system is integrated right into the ceiling.



Untouchable.

Hand in. Water on.
Hand in again. Water off.

**DORN
BRACHT**

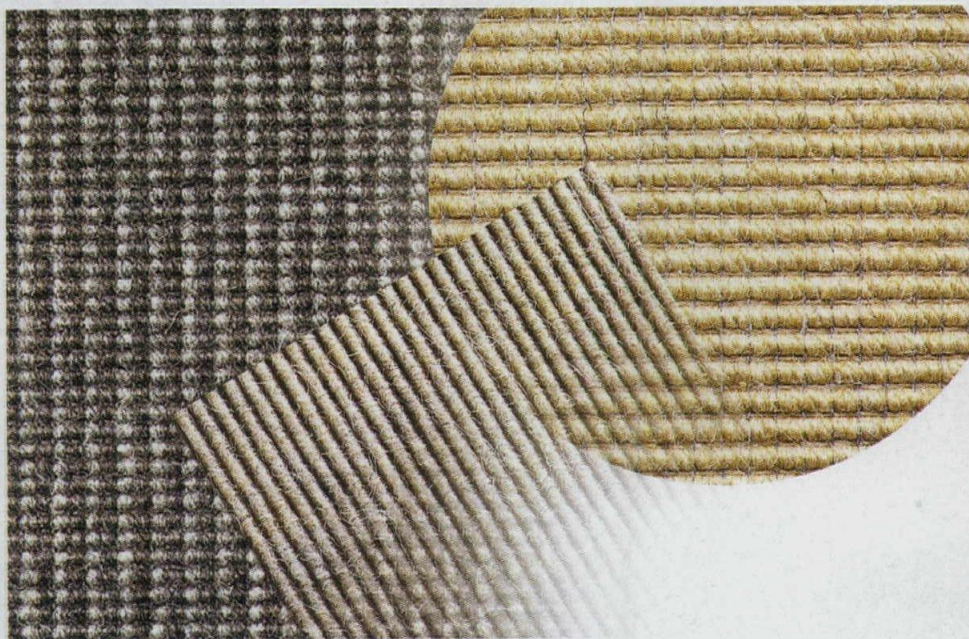
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Not just simple but beautiful too!

The beauty of the infrared eMOTE fitting with ON/OFF function lies in its intelligent technology and high-quality design. And because everyone should get what they are looking for, there is still the automatic variation by eMOTE - "Hand in. Water on. Hand away. Water off". eMOTE was created by SIEGER DESIGN. Our free product magazine "Kultur im Bad" or a complete catalog and specification manual for \$15 may be ordered from: **Dornbracht USA, Inc.**, 1700 Executive Drive South, Suite 600, Duluth GA 30096, Phone 800-774-1181, Fax 800-899-8527, E-Mail mail@dornbracht.com www.dornbracht.com

Furnishings Wallcoverings



Eurotex

Industry Insight

In 1969, the founders of Eurotex saw a niche and moved to fill it. They recognized a particular look: textiles that were spare, disciplined, mathematically precise. From world markets, most of them European, they brought that look to the U.S. Eurotex serves that niche today with imported inventory and quick delivery of uncommon solutions for walls and floors.

A leading supplier of wall carpet, Eurotex also imports and distributes carpet for floors and carpet tile. Virtually all business is commercial and institutional. Applications include office, retail, healthcare, and hospitality interiors, as well as schools, colleges, aircraft, terminals, museums, theaters, and other public spaces.

The Eurotex look is simple and understated to fit an architectural aesthetic. Different products are made of goat hair, wool, and wool blends. True ribbed texture, flatweave, and articulated linear designs are typical. Similar looks are hard to find on the mass market, allowing Eurotex to explore creatively within its niche. "Maybe your niche is our niche," the company has provocatively proposed. "Let's find out."

Wall carpet absorbs sound and reduces operating costs by protecting walls. Studies prove savings vs. painted surfaces over the projected life of an installation. All wall carpets are code compliant and meet Class A standards for resistance to smoke and fire.

Carpets for floors are teamed with wall carpets. Products match in texture and color. Certain proprietary manufacturing features enhance durability and performance. Examples would include Tretford's FibreLok curing technology, and the high compression EZRoll back and flatweave construction of ConFlor.

Carpet tile is in the fusion bonded Tretford construction with an integral fiberglass/polyvinyl silicon composite back that assures stability, dimensional integrity, and prevents distortion. Tretford carpet tile matches the true ribbed texture of Tretford carpet and comes in 32 of the 51 carpet colors. Installation can be glue-down or perimeter-glued. Eurotex sales representatives are posted throughout the United States and the service center holds a full service inventory of all carpets for walls and floors. Rolls and cuts may be shipped within 24 hours of receipt of order. □

For more information: (800) 523-0731; www.eurotexinc.com

Photos: Class A rated wall carpets muffle sound and protect walls; your choice of 51 colors in Tretford carpet for walls and floors; Concourse flatweave wall carpet.

Tretford
Carpet
Carpet Tile
Wall Carpet

Wall to wall or on the wall

Full service inventory is in stock at service center.

FibreLok™ curing preserves textural definition. Ribbed surface retains its fresh, new look.

Cuts easily with no edge ravel, an advantage when designs call for insets, borders, and original treatments for floors and walls.

Tretford Carpet. 2-meter width makes rolls easier to handle in elevators and corridors. 51 colors.

Tretford Carpet Tile. Fiberglass and polyvinyl silicon composite back assures stability, dimensional integrity, and prevents distortion. 26 colors.

Tretford Wall Carpet. Muffles sound and reduces operating costs by protecting walls. Class A rated for resistance to fire and smoke. 51 colors.

EUROTEX

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Uncommon solutions for floors and walls

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Thermal & Moisture Protection Metal Roofing/Wall Panels



Follansbee Steel

Industry Insight

Terne II, KlassicKolors, and TCS II, the result of Follansbee's extensive metallurgical research, meet the demanding needs of an environmentally conscious world. Coated with a new, patented alloy of zinc and tin, ZT Alloy, these products offer the builder and architect roofing metals that assure them of the traditional and time-tested quality of a Follansbee-produced product without a need to sacrifice corrosion resistance in exchange for environmental compatibility.

Dating back to the early 1800s, Follansbee Steel became popular due to the performance and popularity of the "old tin roof," eventually leading to a new facility and the rise of the City of Follansbee in 1902—where the company retains headquarters today as a leader in metal roofing products employing continuously growing and developing technology. Modern alloys developed and patented by Follansbee have taken the original tin roof to new heights of performance and longevity. Today, Follansbee Steel is used in a range of projects worldwide—from the Phoenix Art Museum to dormitories at Harvard University to the Royal Opera House in London and the United States Embassy in Tokyo.

Follansbee Steel offers a wide variety of products to suit such diverse needs, including Terne II, KlassicKolors, and TCS II. Terne II is a new and improved version of historic Terne metal, used extensively throughout both colonial and modernistic America. While it retains all the time-tested qualities of the original, Terne II has improved capability for resisting corrosion in all environments and has excellent formability, solderability, and affinity for paint. Used in flatlock, standing seam, vertical wall designs, and virtually any other application in which original Terne was used, Terne II offers its enhanced corrosion-resisting capability without compromising mechanical characteristics—it is strong and ductile, having high yield and tensile strengths as well as workability.

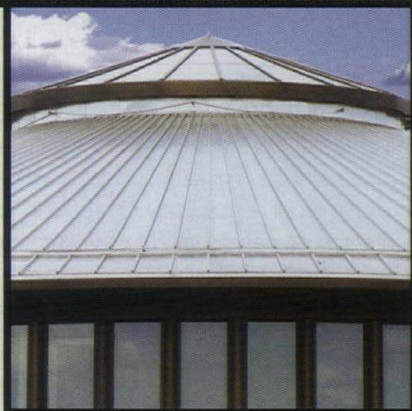
KlassicKolors is Terne II, but more—a superior, time-tested roofing metal, pre-painted with Valspar's Floropon SR Solor Reflective Paint Coatings. KlassicKolors is available in 20 colors and custom formulated hues can be matched. TCS II is 304 architectural stainless steel, coated with Follansbee's new patented ZT (zinc/tin) alloy, a modern-day self-weathering metal roof product that affords aesthetic predictability. □

For more information: (800) 624-6906; www.follansbeeroofing.com

Photos: Harbor Farm Inc, Little Dear Isle, ME. Roofer: Bangor Roofing & Sheet Metal, Bangor, ME; Fort Steuben Visitors Center, Steubenville, OH. Architect: SASI, Mark Viola, Pittsburgh, PA. Roofer: Romig Roofing Company, St. Clairsville, OH; Ottawa Depot Museum, Ottawa, KS. Architect: Craig Patterson Associates, Kansas City, KS. Roofer: A. Zahner Company, Kansas City, KS

We have what it takes to be on

top.



- Superior Corrosive Resistance
- Vibrant New and KlassicKolors®
- Full Range of Design Profiles



The world's leading architects like Follansbee Roofing for as many reasons as there are new design ideas. But the three qualities that keep them coming back are Follansbee Roofing's superior corrosion resistance, and a range of colors and profiles that offer many design options. Combined, these three critical factors ensure that your vision stands the tests of time, the elements and the highest scrutiny. Contact Follansbee Roofing to learn more about how we can help you take your vision to new heights.

Follansbee: There's Nothing Above Our Work.™



Follansbee® Steel

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Finishes

Gypsum Fabrications

Formglas

Industry Insight

"Most of our employees have architectural backgrounds so that we are better able to anticipate the needs of the design community," says Richard Samson, executive vice president of Formglas. "We are the largest company of our type anywhere, and it is because we invest heavily in research, development, and technology."

The world's most sizable manufacturer of custom-cast, glass-reinforced gypsum, Formglas of Toronto has been servicing the architectural and design community since 1961. Featuring its own 250,000-square-foot facility, the company oversees all phases of fabrication under one roof to ensure high-quality products and speedy deliveries. Whether it's engineering, tooling, or the production of parts, Formglas offers clients a turnkey experience, and is capable of shipping products to projects on all continents. From beginning to end, the company's construction expertise ensures that components are engineered for safe and smooth installation.

In 1991, the company acquired and integrated CNC equipment into its manufacturing process. The result is a state-of-the-art, computerized pattern-making capability that is commercially available and exceptional in detail.

However it's not just its existing components that set this company apart: Formglas invests heavily in R&D to improve existing technologies as well as develop new ones. This lends Formglas a strong market and financial position as well as improved capabilities in serving the architectural and pattern-using community. The vendor's roster of well-known products includes Formglas GRG, a lightweight composite of high-density alpha gypsum; Quarrycast, a pre-finished cast product with the color and texture of sandstone; Metalcast, which allows for cast metal features; and Formglas EP, a cement-based mixture for exteriors. □

For more information: (416) 635-8030; www.formglas.com



SILVER LEAF WAVES

CONTEMPORARY/TRADITIONAL
G.R.G. (Glassfiber reinf. Gypsum)

Formglas

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PERFORATED
COLUMN

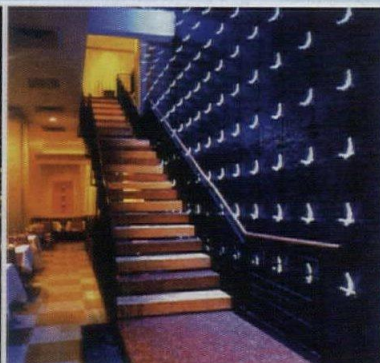
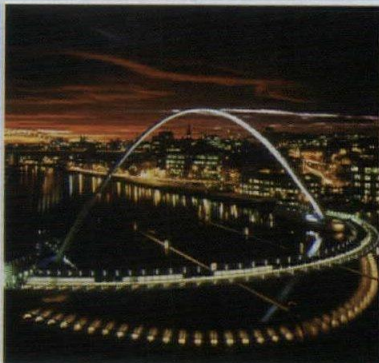
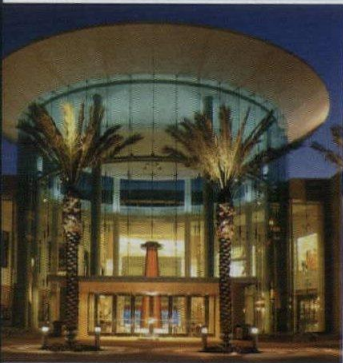


VAULT AND COLUMNS

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March 11-12, 2004



when and where

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speakers include renowned lighting experts

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who should attend

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The Architectural Lighting Master Classes educate, inform and inspire today's design community on how to enhance projects using creative lighting design. Developed by an international, award-winning team of lighting experts, this intensive two-day seminar engages you in the creative process of using lighting to define the character and emotional experience of your space.

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770 Broadway, New York, NY, 10003



BEST IN CATEGORY

Masonry Masonry/Brick

FOR EXCELLENCE



Glen-Gery Corporation

Industry Insight

"Glen-Gery not only offers high-performance products, but we help architects to use them in the best way," says Ben Hoenich, Glen-Gery marketing services manager. "In addition to programs and seminars educating professionals on masonry use, we maintain on-staff brickwork design professionals who will work with architects to review masonry details, develop custom shapes, and provide expert advice on design methods."

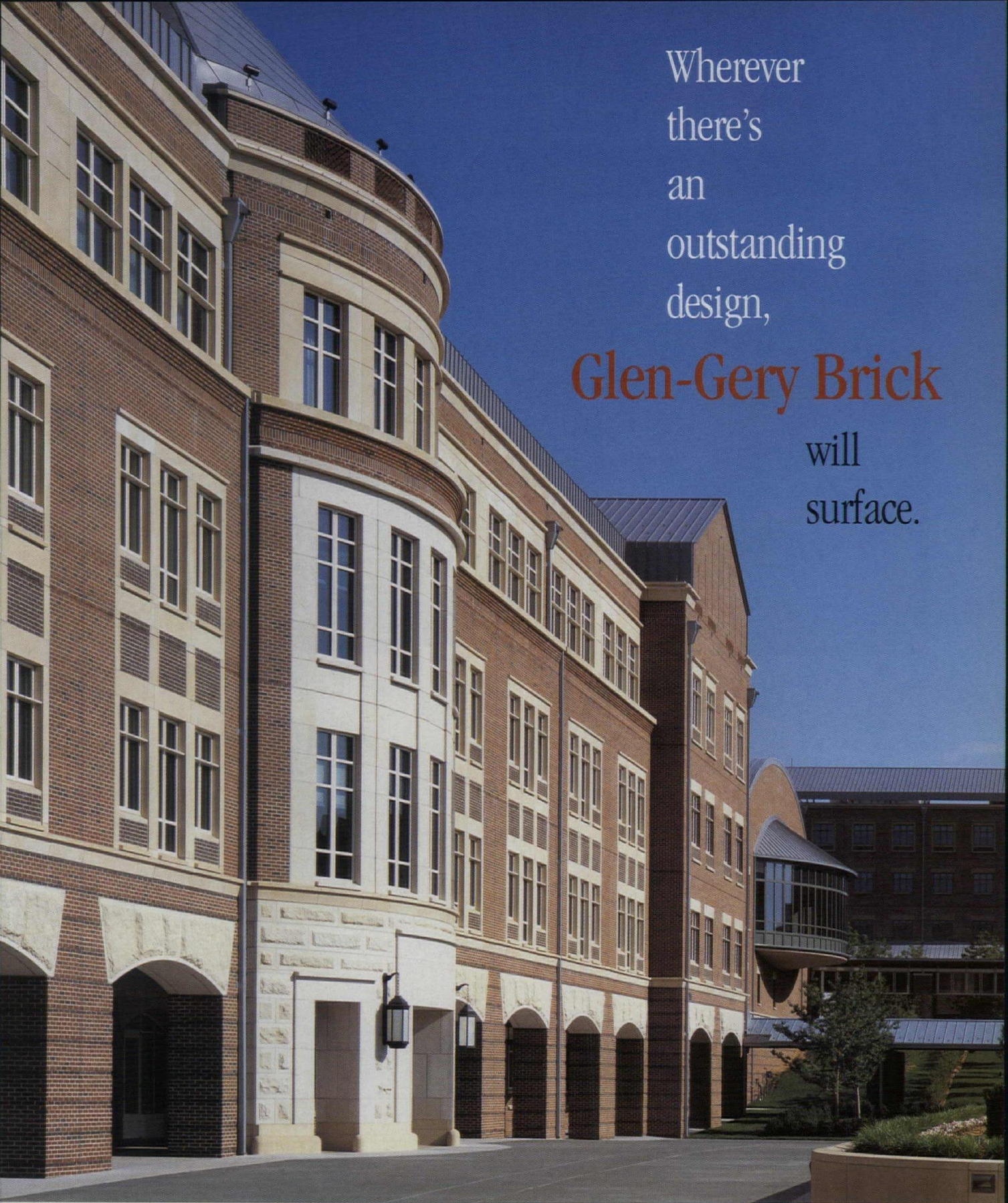
Founded in 1890, Glen-Gery Corporation holds the distinction as an honored and trusted name in brick-making. Glen-Gery brick is the premier choice among architects who want outstanding quality FBX brick that meets both innovative design challenges and demanding construction specifications. The company's full architectural line-up includes engobe and glazed brick in standard and custom colors, plus a complete line of brick shapes and custom shape units.

The company's diverse line of over 300 molded and extruded products includes richly textured "Authentic Handmade" brick. With high-impact appeal, Glen-Gery's "Chicago Collection" gives commercial builders the smooth, sleek finish of a velour face brick in striking clearburn colors. For environmentally sensitive projects, nothing elicits an aesthetic response like genuine handset papercut brick in the "Medalia Collection," or the textured elegance of "Heartland Extruded Series," a commercially sized product with the softer-edge look of molded brick. Glen-Gery's products all exceed tough ASTM requirements for quality, durability, and consistency.

In addition to exemplary brickmaking, Glen-Gery differentiates itself from competitors through superior customer service and timely response to market demands with new products. In satisfaction surveys, the company consistently receives the highest ratings in Quality of Service among industry peers. Glen-Gery, an Oldcastle® company, is the nation's fifth largest brick manufacturer and operates 10 manufacturing facilities throughout the U.S. The company recently completed the modernization of its Hanley Plant, a facility that specializes in brickmaking for the architectural community. Highlighting this expansive project was the construction of a 280-foot Ceric tunnel kiln. Glen-Gery's Web site at www.glengerybrick.com offers a comprehensive product selection guide, project images, brickwork details, downloadable shape drawings, and much more. □

For more information: www.glengerybrick.com

Photos: Parkland High School, Allentown, Pennsylvania; Comerica Park Stadium for Detroit Tigers, Detroit, Michigan; One Port Center, Camden, New Jersey.




Wherever
there's
an
outstanding
design,

Glen-Gery Brick

will
surface.

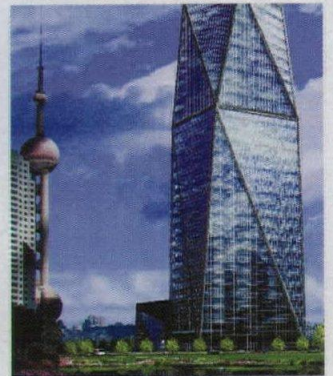
Nothing adds more beauty and character to any project than Glen-Gery face brick. Choose from our wide variety of textures, colors, styles and shapes – unique faces for today's most outstanding designs.

 **Glen-Gery Brick**

610 374-4011

www.glengerybrick.com

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Graphisoft

Industry Insight

The ability to share design information, drawings, and building models with all members of the extended building design and construction team is of paramount importance. ArchiCAD has state-of-the-art compatibility with AutoCAD, enabling users to seamlessly read and write AutoCAD drawing files. At the object-model level, ArchiCAD is the leading CAD supplier in its support of the IFC exchange format, the new global standard for exchange of building information developed by the International Alliance for Interoperability.

The concept has many names: the Single Building Model, Model-based Design, and the Building Information Model, and most of the CAD vendors have announced products which incorporate this concept. For Graphisoft, the originators of the Virtual Building Model, the concept is a continuation of a consistent vision that was born 20-plus years ago. The goal: to harness the latest in desktop computer technology to enable architects to design, communicate, and document their building designs more efficiently, more accurately, and with greater ease than with 2D CAD systems. That vision still drives the company and is clearly illustrated in ArchiCAD 8.1, the latest version of Graphisoft's flagship product.

"The real reason to consider a Single Building Model system is not to get nice 3D renderings, although they're an automatic by-product of the software," says Al Moulton, president of Graphisoft US. "The real reason is that it is a much better way to get your working drawings done, because at the end of the day, every architect I know still has to deliver a set of working drawings from which you can build a building."

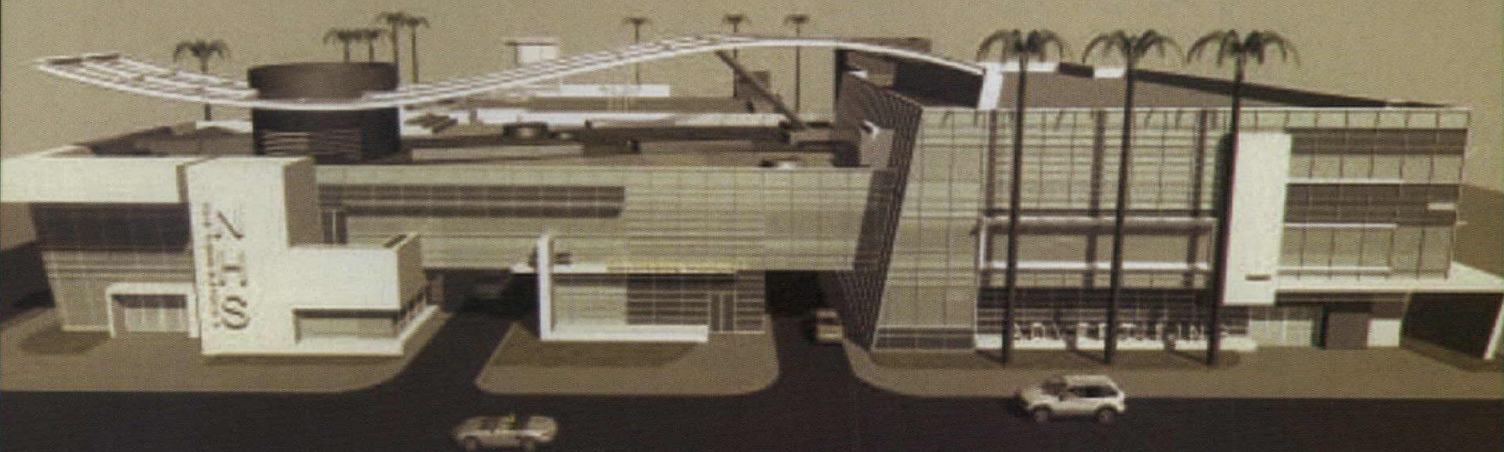
What sets ArchiCAD apart from other single building modelers is that it has been field tested and proven over its 20-plus year history. "There are more buildings standing today that have been designed with ArchiCAD than with any other Building Information Model on the market," says Moulton. "The reason this is important is that ArchiCAD 8.1 represents the cumulative feedback of over 120,000 architects around the world. That input has helped give ArchiCAD a depth in its design and implementation that is unmatched in any of the other model-based design systems out there."

ArchiCAD has been the design and production tool of choice for such prestigious projects as the German Chancery building in Berlin and the 88-story Eureka Tower in Melbourne, Australia. To find out more about ArchiCAD, visit www.graphisoft.com. □

For more information: (617) 485-4203; www.graphisoft.com

Photos: From conceptual design to contract documentation, ArchiCAD is giving architects the competitive edge.

BUILD ON OUR EXPERIENCE



GRAPHISOFT.
ARCHICAD 8.1

Architectural design courtesy of PAAStudio, Santa Monica, CA

GRAPHISOFT ARCHICAD 8.1, the world's most experienced Building Information Modeler, is here now. With the perfect balance of design and production, ArchiCAD 8.1 is the tool of choice for over 120,000 architects worldwide. And ArchiCAD's state-of-the-art interoperability ensures you'll have no problem working with existing AutoCAD files. No matter whether you design skyscrapers or residences, whether you prefer Windows or Mac OS, ArchiCAD 8.1 gives you freedom in design, power in production, and the choice to upgrade when it suits your schedule.

So what are you waiting for? It's time to discover ArchiCAD. You can build on our experience.

To receive a free Discover ArchiCAD CD and test drive, go to www.graphisoft.com or call 1-800-344-3468 x233

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GRAPHISOFT.
WWW.GRAPHISOFT.COM



Thermal & Moisture Protection

Building Insulation, Membrane Roofing



Johns Manville

Industry Insight

"More and more people are concerned about indoor air quality and sustainability and are choosing building products that address those concerns," says Tony Fonk, commercial marketing manager for Johns Manville. In response, Johns Manville has shown leadership and commitment to protecting public health and the quality of the environment through innovative leadership development, such as pioneering formaldehyde-free insulation.

Already well known as a leading manufacturer and marketer of premium-quality building and specialty products, Johns Manville also has the distinction of being the first fiber glass insulation manufacturer to discontinue adding a formaldehyde-based binder to its full line of building insulations. Instead, since 2002, the company has been making an insulation that features an acrylic binder that eliminates all binder-related manufacturing emissions of formaldehyde—thus reducing concerns about formaldehyde both in the indoor air environment once installed as well as around the factories where it is made. In addition, Johns Manville Formaldehyde-free® insulation is made with an average of at least 25 percent recycled content, which reduces landfill impact by 90,000 tons per year.

Because formaldehyde is no longer used in the manufacturing, Johns Manville has used pollution prevention techniques to remove more than 100 tons of hazardous air pollutants per year. For this reason, Johns Manville wool fiber glass manufacturing plants are no longer subject to the Environmental Protection Agency's Clean Air Act regulations for hazardous air pollutants—a claim that no other fiber glass building insulation manufacturer can make.

A Berkshire Hathaway company, Denver-based Johns Manville has been in business since 1858 and has sales in excess of \$2 billion. The company, which has leadership positions in all of the key markets that it serves, employs about 9,000 people and operates 43 manufacturing facilities in North America, Europe, and China. The Roofing Systems Group of Johns Manville was also recognized by the readers of Architecture magazine with an ACE Award in the category of "Thermal and Moisture Protection: Membrane Roofing." □

For more information: (800) 654-3103; www.jm.com

Photos: Formaldehyde-free insulation is easy to handle and produces less dust than other types of insulation.



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For formaldehyde-free specifications and information, visit www.specJM.com.

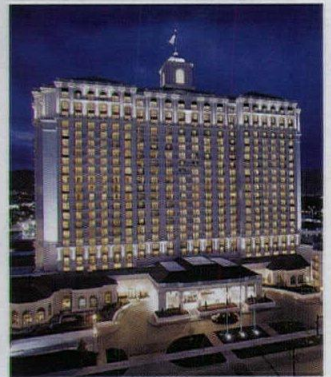
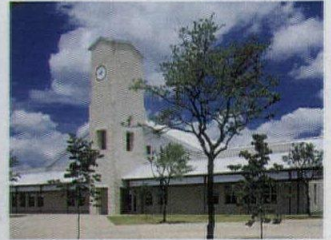


Johns Manville is the only manufacturer of a complete product line of formaldehyde-free fiber glass insulation.

Smart Ideas. Better Insulation.



Masonry Concrete/Concrete Materials



Lehigh Cement Company

Industry Insight

"We are a company structured from top to bottom to address our customers' needs for products that are of the highest quality and are sustainable," says Ray Pisaneschi, marketing and technical services manager. "Lehigh is constantly evaluating new products and manufacturing advantages, in addition to offering educational programs to its sales and technical services support staff, to remain current in the marketplace."

Serving the construction industry in North America for more than 100 years, Lehigh Cement Company is a producer of high quality portland, blended, and specialty cements and construction materials, widely used for numerous architectural, industrial, residential, and infrastructural applications. "The quality assurance systems used by Lehigh, plus the strong technical base of our partnerships, assures product availability across North America," says Ray Pisaneschi, marketing and technical services manager. "Our quality control and assurance systems at our plants in Waco, Texas, and York, Pennsylvania, give us the highest order of product consistency." Lehigh Cement Company's advanced technical expertise and commitment to strict quality control allows it to meet the rigorous production demands imposed for white portland cement. Lehigh's extensive distribution system allows its customers to obtain white cement in a timely manner throughout the United States and Canada.

The White Cement Division produces and imports Lehigh white cement manufactured to exacting standards, and takes artistic expression to new heights with an unlimited range of colors, textures, shapes, sizes, and patterns to accommodate a multitude of applications. Lehigh white cement offers distinct advantages for today's projects: strength, moldability, and plasticity, as well as a superior consistency and color that remains beautiful for years. As an architectural design medium, concrete made with Lehigh white cement offers unparalleled opportunities for creativity, ingenuity, and superior building engineering. From glossy smooth to ruggedly coarse, white concrete offers unlimited potential for adding texture and character to an overall design.

With increasing emphasis on highway safety and roadway aesthetics through initiatives taken by State Departments of Transportation, the use of Lehigh white cement affords the transportation professional an opportunity to fulfill strategic plan objectives. At night or in inclement weather, the visibility of concrete surfaces can double or even triple with the use of Lehigh white cement. □

For more information: www.lehighwhitecement.com

Photos: Lehigh's white cement complements residential designs and provides overall stability and character to infrastructural applications and commercial projects.

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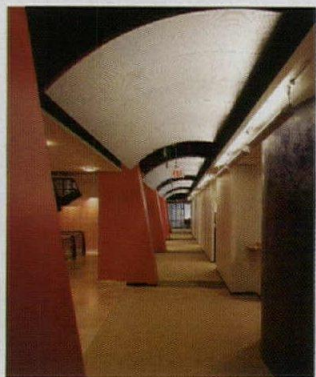
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BEST IN CATEGORY

Electrical Lighting



Lightolier

Industry Insight

"Everything we see, most of what we do, and much of what we feel is touched by light," says William Schoettler, senior vice president of sales and marketing for Lightolier. "For 100 years, Lightolier has been committed to great lighting—lighting that makes a difference. More than just hardware, Lightolier delivers the magic and impact of lighting."

A major innovator throughout the last century of electric light, Lightolier offers a breath of products unrivaled in the industry, including downlighting, traditional recessed fluorescent, track lighting, emergency and safety lighting systems, architectural decorative lighting, indirect fluorescent systems, and lighting controls for residential and commercial applications. This broad line of products may be specified in a wide variety of interior architectural environments, including office, institutional, educational, hospitality, retail, and residential markets. "Since new products are the engine of our company, innovation in product design is paramount to our success," says William Schoettler, senior vice president of sales and marketing. "We believe lighting can make a difference, and through our products we bring style, performance, and value to the places we work and live".

Integral to Lightolier's design and product success is education and training. Dedicated to the art and science of lighting, Lightolier does much to raise the level of lighting awareness among contractors, specifiers, architects, students, and end-users alike. Lightolier was the first luminaire manufacturer to offer free-of-charge comprehensive lighting training via the Internet. Lightolier's "Lessons in Lighting" education course offers 24 on-line "modules" which provide the fundamentals of light and vision, luminaires, equipment, ballasts and lamps, and lighting design and application in a simple, self-study format. Members of ALA and AIA who complete the course receive continuing education points for sustaining membership in their respective organizations. "Thousands of people have accessed Lessons in Lighting since its inception two years ago," says Schoettler. "We constantly look for ways to enhance the learning experience by using the power of the Internet, in an interactive and informative way." □

For more information: (800) 215-1068; www.lightolier.com

Photos: Lightolier invented track lighting and continues to deliver innovation and functionality; high style defines architectural decorative in this office environment; a comprehensive selection of specification grade fixtures for a complete lighting solution

Lighting *that makes a* Difference

The First 100 Years

LIGHTOLIER
100 years

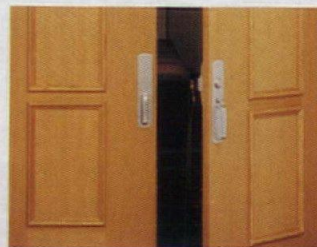


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Doors & Windows Wood/Plastic Doors & Frames



Marshfield DoorSystems, Inc.

Industry Insight

"Initiating sustainable solutions in design and functionality for wood doors is a priority for Marshfield DoorSystems," says Cindy Bremer, director of marketing of Marshfield DoorSystems. "Setting a new standard for wood doors, we are committed to not only providing new products, but also to supporting and assisting the architectural community in their vision through specification assistance, product-training seminars, a new expansive Web site, and more."

At the core of each Marshfield DoorSystems door is the company's fine craftsmanship, extensive history, and a tradition of delivering quality products and services that began more than 110 years ago. The premier line in Marshfield DoorSystems' family is the Marshfield Signature Series™. Factory-machined, glazed, and finished to the highest industry standards, the Signature Series combines quality and innovation for some of the industry's most celebrated architectural wood doors.

With the widest selection of core types, style options, and veneer species, there's certain to be a door that's most appropriate for any project. Architects can choose from traditional stile and rail doors, decorative laminates, wood veneers, and more. From traditional face options like birch, cherry, and oak to exotic choices like birdseye maple, makore, and sycamore, the magnitude of configurations is inspiring. Add virtually unlimited hardware machining, factory glazing, and factory finishing capabilities to the available options, plus the shortest lead times available, and you can see the company's strong commitment to customer satisfaction.

Marshfield DoorSystems' cycle of "input-innovate-create" has yielded some of the most dramatic changes in the door industry in decades. Marshfield DoorSystems' Environmental Class doors meet strict environmental standards and are certified by the Forest Stewardship Council (FSC) and Scientific Certified Systems (SCS) for their environmental stewardship. And their Enviroclad UV® finishes with graffiti-resistant strength. Additionally, Marshfield Signature Series doors can be ordered with the latest innovation functionality: Workable Surfaces™ doors combine the beauty of a wood door with the usefulness of a dry erase board, cork board, or a mirror. The Variable Privacy™ Doors integrate a Venetian blind directly into the door's design for clean, controllable privacy and smooth operation. And for lite openings, the texture, light and color of Artistic Expressions stained and etched glass make a lasting impression. □

For more information: (800) 869-3667; www.marshfelddoors.com.

Photos: Offering a wide selection of style and veneer species, Marshfield Signature Series™ doors encompass a full range of top-quality products to match a wide variety of project applications.

SW-C00-475 151 © 1996 Forest Stewardship Council A.C. 2003 Marshfield DoorSystems, Inc.



W E ' R E C L O S E T O T H E E N V I R O N M E N T .

Our Environment. Our Responsibility. Marshfield DoorSystems is proud to announce the Marshfield Environmental Class of products. These doors meet strict environmental standards and are certified by the Forest Stewardship Council. Combine design options with any of our Enviroclad UV™ finishes to make an environmental statement. Call us at 1-800-869-3667 ext. 2200. marshfielddoors.com

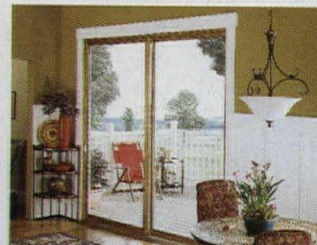
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FSC accredited certification means that the forest is managed according to strict environmental, social and economic standards.





Doors & Windows Wood Windows



Marvin Windows and Doors

Industry Insight

Architects are never limited to a standard product offering with Marvin Windows and Doors. For those looking for something truly unique, Marvin's "Signature Services" assists in turning dreams into a reality. The company's team of experts partners with architects on projects, especially when it involves custom casing, specialty glass, or complex products, just to name a few areas where Signature Services provides additional help and insight.

Marvin Windows and Doors, a premier manufacturer of quality wood and clad wood windows and doors, continues to provide more products and options to meet the needs of architects and their clients. In the last year alone, Marvin has revolutionized the building industry with another first—the redesigned Casemaster, featuring a patent-pending wood screen that can be painted or stained to blend with the interior decor.

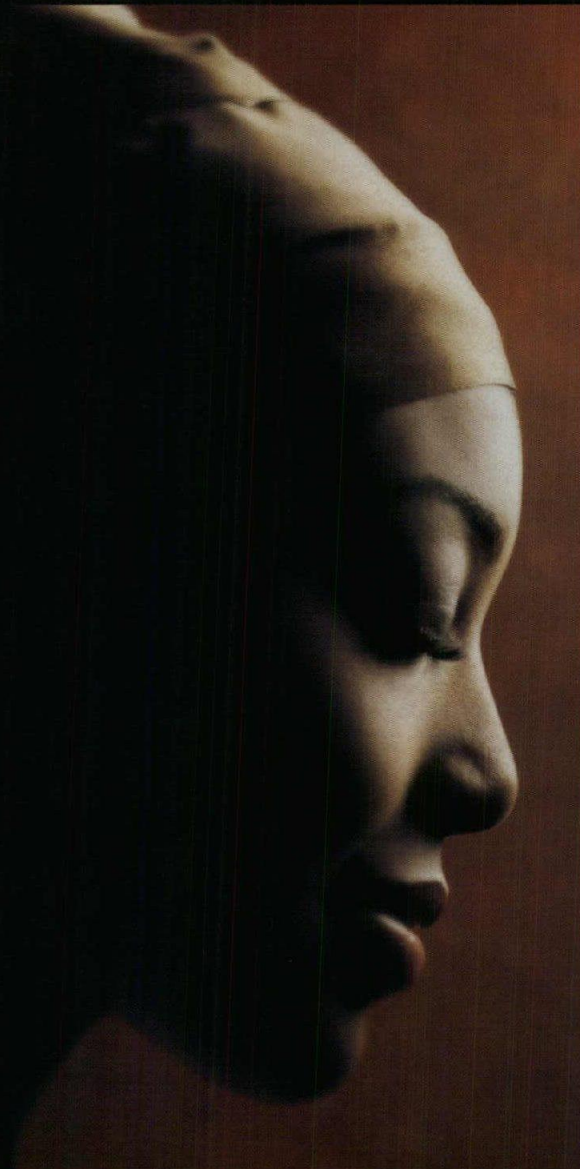
Marvin also expanded its door line with the announcement of the new Clad Arch Top French Door that was introduced this summer. This classically styled door adds a dramatic accent to any room while providing traditional sight lines that match existing Marvin French Doors. This door features Marvin's low-maintenance, extruded aluminum cladding with a commercial-grade finish that exceeds the industry's toughest specification: AAMA 2605-02. In addition, Marvin has just added a new Sliding Patio Door to its product mix that combines sleek, contemporary lines with superior performance that customers have come to expect from Marvin. With many sizes designed to meet a Design Pressure (DP) 40, the new Marvin Sliding Patio Door provides dependable protection against air and water infiltration, along with solid structural integrity.

With even more product introductions planned for this coming year, Marvin continues to expand its diverse product offering, options, and capabilities to give architects the design flexibility to create homes that are distinctive. Since the beginning, Marvin Windows and Doors has been making products to match individual customer specifications—one window, one door, one order at a time. It's at the heart of the company's "Made for You®" philosophy. And, until someone develops a standard one-dream-fits-all house, Marvin will continue to do business the same way. □

For more information: (800) 236-9690; www.marvin.com

Photos: Marvin offers a range of wood and clad wood windows and patio doors to meet architects' needs.

A window, like a human face, has its own profile. Because we're handcrafters we can create a distinctive, one-of-a-kind window with a profile as unique as the face it will frame.



From customized casing to a standard double hung, we build windows and doors to your exact specifications. Visit www.marvin.com or call 1-800-236-9690 (in Canada, 1-800-263-6161).

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MARVIN 
Windows and Doors

Made for you.®

Doors & Windows Glass



Schott North America, Inc.

Industry Insight

"The hottest color in architecture today is 'green,'" notes Donald Press, general manager of Schott North America's Technical Glass Division, "and Schott is a leading innovator, offering products such as Amiran® anti-reflective glass and the Okalux® line of insulating, solar control glasses. Our most recent 'green' product is our ASI® semi-transparent photovoltaic glass for windows and skylights, with excellent shading coefficient and efficient power generation."

SCHOTT North America, Inc. is a subsidiary of SCHOTT Corporation, which is a member of the SCHOTT Group. Founded in 1884, Schott has evolved from a company specializing in the manufacture of optical glass for a variety of instruments to an international leader in all facets of the glass industry. Today, Schott comprises 82 companies employing nearly 20,000 people with 58 production facilities in 20 countries.

Reflecting its role as a leader in the industry, Schott has put a particular emphasis on developing products that fit in with today's need for "green" products that protect the environment. One example is Amiran anti-reflective glass, which reduces electricity usage since there is no need for special lighting to control reflection in displays, cuts construction costs because there is no need to provide awnings or tilted glazings to control glare, and allows for greater visibility. Created in Germany by Schott's leading team of glass engineers, Amiran virtually eliminates window glare, reducing reflections from eight percent to as little as one percent in single glazing/laminated windows, and from 15 percent to as little as two percent in insulated glass. Amiran can be used virtually anywhere high visibility is a must.

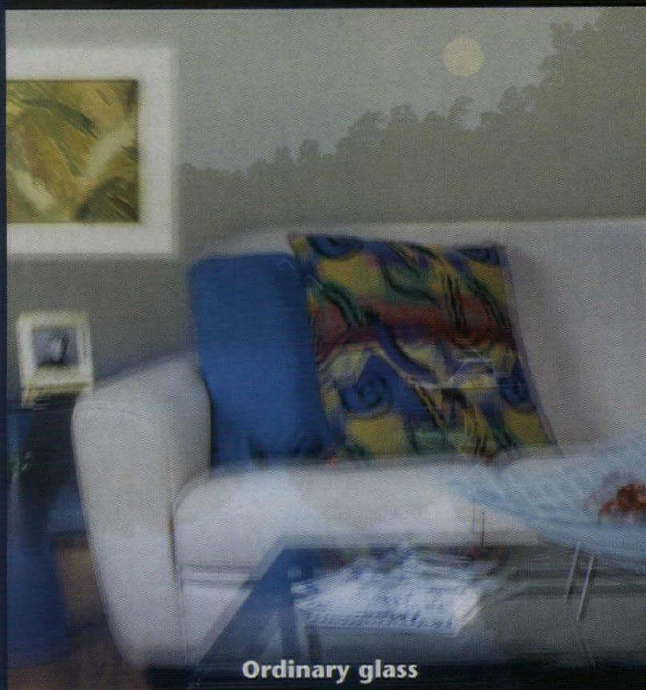
For example, two-way Amiran anti-reflective glazed windows were installed at the *Good Morning America* studios so that cameras can shoot from inside and outside the studio without interference from glare, while at the UBS Tower in Chicago, the four-story wall system is so transparent that passersby are able to see directly into the lobby, even on the sunniest day. At the luxury boxes at UT's Neyland Stadium in Knoxville, Tennessee, fans are able to clearly view the game without distracting reflections.

Among other options are Okalux translucent insulated glass panels; Okatech custom insulating glass, used in facade glazing; and Okasolar sun control glass panels, with fixed hermetically sealed optical louvers that control the direction of sunlight entering a room. □

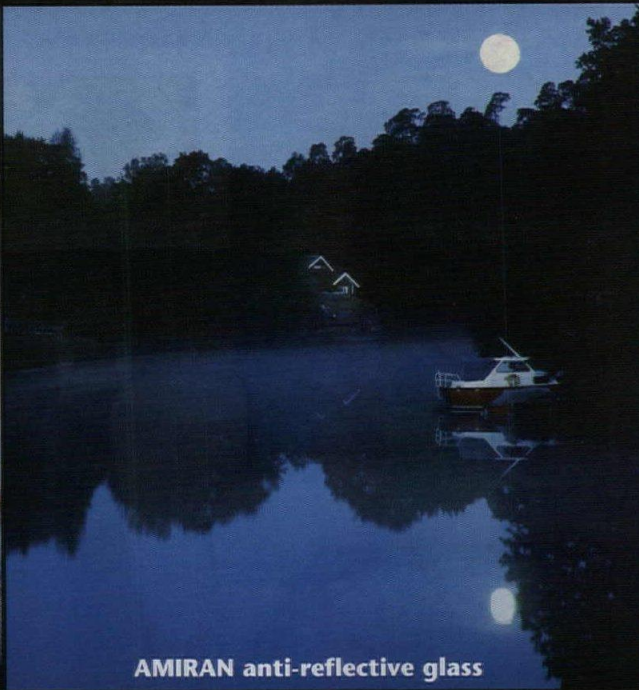
For more information: (914) 606-9041; www.us.schott.com

Photos: Amiran anti-reflective glass can be used wherever it's important to eliminate glare and reflection, such as the *Good Morning America* studios, the UBS Tower in Chicago, and luxury boxes at the UT's Neyland Stadium in Knoxville, TN.

Reflections are the way life used to be.



Ordinary glass



AMIRAN anti-reflective glass

Amiran® anti-reflective glass gives your residential clients remarkably clear nighttime views.

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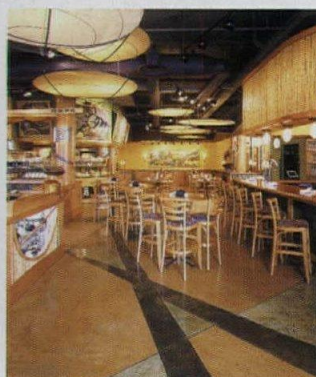
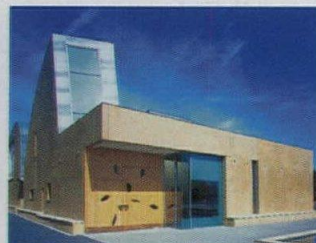
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Masonry Concrete/Concrete Materials



L. M. Scofield Company

Industry Insight

"Coming up with solutions that meet tough specifications is just part of the day-to-day business of L. M. Scofield Company," says Phil Arnold, president. "We are continually improving and developing new products that increase opportunities for the industry by expanding design options and improving performance. The creative possibilities are so diverse that often these surfaces look like anything but concrete."

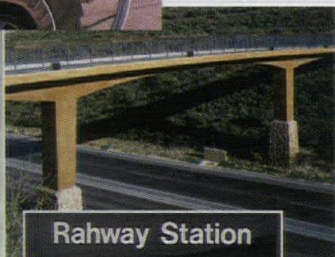
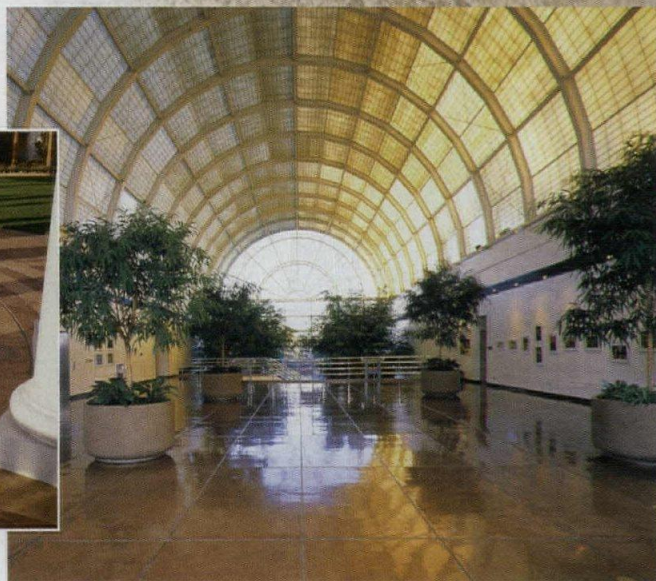
The industry leader since 1915, L. M. Scofield Company provides a diverse range of engineered systems and products that extend the inherent versatility and functionality of concrete. The company's products provide coloring, texturing, and improved performance in architectural concrete for new construction or renovation—transforming ordinary concrete into an extraordinary, beautiful, and durable building material for hard landscaping, vertical construction, or interior floors for such sites as town centers, arenas, shopping centers, schools, medical facilities, and even small-scale residential improvements. Architects choose such products as CHROMIX® Admixtures for Color-Conditioned™ Concrete to produce integrally colored concrete that is structurally superior as well as beautiful. The water-reducing admixtures not only color concrete, they increase its strength at all ages, control the set time, and improve workability, producing finished concrete with a streak-free, uniform appearance that can withstand extremes of weather and even heavy vehicular use long term.

Scofield's engineered systems address specialized requirements for interior, exterior, and vertical uses with compatible systems that offer a total engineered system of complementary products, including coloring admixtures, color hardeners, colored cementitious toppings, stains, color-matched curing, sealing, coating and caulking materials, and realistic texturing tools. Examples include LITHOCHROME® Color Hardener, which adds vibrant or subtle color to hardscapes while providing an attractive, durable, abrasion-resistant surface for pedestrian and vehicular traffic; LITHOCHROME® Chemstain™ Classic, which chemically reacts with the surface of cured concrete to produce unique and permanent color effects; SCOFIELD® Texturetop™, a fast setting, durable, abrasion-resistant, colored cementitious topping used for resurfacing and texturing concrete flatwork; and SCOFIELD® Overlay™, a flowable, fast-track topping material that self-levels and cures to create flat, hard, abrasion-resistant colored interior surfaces that can be saw-cut and stained. Comprehensive technical information is available and contractor training is offered by the Scofield Institute. □

For more information: (800) 800-9900; www.scofield.com

Photos: Madison Square Park, New York, N.Y., George Bloomer, Architect; The Chapel of St. Ignatius in Seattle, Washington; Stir Crazy restaurant in Chicago, Illinois.

redefining the concrete jungle



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
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SD33141-B



Finishes Resilient Flooring



Tarkett USA Inc.

Industry Insight

"At Tarkett Commercial, we consider it our mission to produce innovative products that are both stylish and sustainable," says Diane Martel, vice president of marketing for Tarkett Commercial. "We make it a priority to stay on top of the latest design trends and incorporate it in our products. We take pride that we produce quality products that are both economically and ecologically sound."

Founded over 130 years ago, Tarkett USA Inc. (formerly known as Domco Tarkett) is the second largest manufacturer of resilient and hardwood flooring in North America, with 10 manufacturing units and a distribution network that extends across the United States and Canada. The company's comprehensive product lines are renowned in the industry for their high quality, diversity, and innovation.

Tarkett uses some of the most sophisticated technologies available to produce a broad range of resilient sheet and tile, linoleum, hardwood, and laminate flooring products that meet the styling and installation needs of a diverse customer base, ranging from education and healthcare facilities to high-fashion retail stores and grocery stores, as well as flooring suitable for any room of the home. For example, Azrock tile (as shown above) offers a variety of coordinating colors and designs, plus its unique composition allows the pattern to extend throughout the thickness of the tile, making it a great choice for high traffic areas.

In addition to style and function, Tarkett also maintains a strong focus on producing environmentally sound products as well as constantly seeking green manufacturing systems and new recycling methods in all phases of a product's life. As the first North American resilient flooring manufacturer to offer a reclamation program, Tarkett recycles waste from installations into new flooring projects in all US plants. In addition, all manufacturing facilities have been awarded ISO certification and all Tarkett Commercial products help contribute to achieving up to seven potential LEED points.

Tarkett USA comprises of several divisions, including Tarkett Commercial, which manufactures resilient tiles under the names of Azrock, Tarkett, and Naeco, as well as Tarkett Residential, which produces the Domco and Tarkett lines of resilient sheet flooring and laminate flooring products, and Tarkett Wood, which manufactures a range of prefinished and unfinished solid and engineered plank and strip products. □

For more information: (800) USS-TILE; www.azrock.com

Photos: Azrock by Tarkett resilient flooring offers a custom, high-style range of choices at various price points.



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AZROCK
by Tarkett



Mechanical Plumbing Fixtures, Kitchen/Bath Hardware



Toto USA

Industry Insight

"For nearly a century, Toto has furnished the world with high-performance plumbing fixtures," says Lenora Campos, public relations manager. "As we move into the 21st century, we continue our focus on improving the bath space and environment with the manufacture of technologically advanced, water-saving plumbing fixtures that operate at maximum efficiency."

For almost a century, Toto has been committed to producing superbly designed, high-performance products, earning it the reputation as the leading designer of technologically advanced bathroom products that represent the ultimate in luxury. For Toto, attractive products in various colors are just the beginning; the company has gone a step farther by creating products with consistent, exceptional performance and design. Now, with its latest—the Neorest integrated toilet—Toto introduces a new generation of bathroom opulence and hygiene.

Packing the maximum number of technological advances into a minimum amount of space, Neorest is the "aware" toilet with smart-sensor design innovations: For example, the lid automatically opens whenever an individual approaches it, and whenever an individual rises, Neorest's lid automatically closes and the unit automatically flushes.

But this isn't just a smart toilet, it's beautiful too, with a sleek, modern, low silhouette resulting from the elimination of the tank and the integration of toilet and Toto's Washlet technology. By integrating Toto's Washlet technology, Neorest reconfigures even the best bathrooms into a super-luxurious spa. Operated by wireless remote, Neorest's seat's multi-task functions provide gentle front-and back-aerated warm water spray, which can be regulated for preferred water pressure and temperature. Other features include oscillating spray massage, heated seat, automatic catalytic air deodorizer, and warm air dryer—all of which are governed by its "Fuzzy Logic" energy-saving mode. Upon installation, Neorest records usage frequency, then re-educates itself weekly and during times of infrequent use, it even goes into "sleep" mode.

Neorest not only conserves energy, it conserves water, adjusting the amount of water used as appropriate. Plus, it has a rear nozzle that shoots a swirling cyclonic jet that scours the rim and bowl resulting in a cleaner flush. □

For more information: (800) 481-8686, ext. 381; www.totousa.com; www.totoneorest.com

Photos: Sleek and stylish, Toto's high-performance Neorest brings bathrooms into a whole new era with a remote control, automatic cleaning, functional memory, and other high-tech features.

Self-sustaining, Self-adjusting, Self-sufficient

Introducing **EcoPower**[™] Faucets by TOTO
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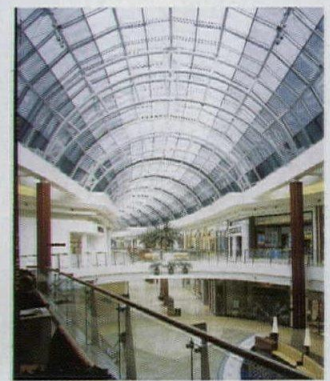


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The Vistawall Group

Industry Insight

The Vistawall Group offers one-stop shopping—engineering, extrusion, fabrication, anodizing, painting and testing—all from one location. The company also can direct the entire material flow for a project, which can result in lower project costs, ease-of-installation and fewer jobsite headaches.

Distinguished by its ability to offer a complete and innovative exterior package—including curtain walls, entrances, storefronts, and skylights, as well as windows and translucent systems—The Vistawall Group has emerged as a leading supplier of architectural products. Demonstrating its solid reputation for on-time delivery, quality products, outstanding service, and one-source responsibility, the company has supplied numerous projects around the globe, ranging from Tennessee's Opryland Hotel to the Kuwait Scientific Center.

Thanks to strategic acquisitions, internal expansion, and a staff of 1,500 strong, The Vistawall Group provides architects in the U.S. and around the world with the benefits of four distinguished divisions: Vistawall Architectural Products provides storefronts, entrances, window walls, and high-rise curtain wall systems. Naturalite Skylight Systems offers an extensive line of skylight designs, as well as heat and smoke vents. Skywall Translucent Systems furnishes custom-engineered translucent systems, and Moduline Window Systems provides high performance architectural grade windows. Combined, these companies provide a package of building-envelope products from one recognized name and a single-source capability that allows for expanded convenience and value for architects.

Quality control is a top priority for the company, which maintains complete control through every phase of production, ensuring that only the best products are shipped to each job site. At the company's half-million-square-foot production, fabrication, and distribution facility located in Terrell, Texas, Vistawall has the capability to direct the entire material flow for a project—engineering, testing, extrusion, anodizing, painting, and fabrication are all accomplished at this state-of-the-art facility. In addition, ongoing research and development keep Vistawall on top of a highly competitive and technically challenging market. Products such as the world's first pressure wall and the Advanced Translucent Skylight™ system have made Vistawall an innovation leader. □

For more information: (800) 869-4567; www.vistawall.com

Photos: Old Mill Office Building (Vistawall Architectural Products); Myrtle Beach Convention Center (Vistawall Architectural Products); Mall at Millenia (Naturalite Skylight Systems)

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Old Mill II Corporate Center, Salt Lake City, UT, VCBO Architecture

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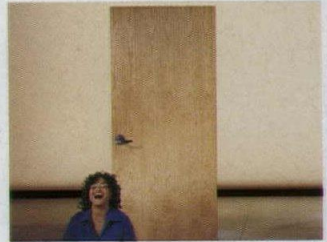
SKYWALL
TRANSLUCENT SYSTEMS

Curtain Wall
Storefront
Entrance Systems
Operable Windows
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Slope Systems
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Translucent Panels



Doors & Windows

Wood/Plastic Doors & Frames



VT Industries

Industry Insight

"VT Industries is committed to high-quality wood door products, supported by a lifetime warranty, and extraordinary customer service to meet the demands of architects and building owners," says Rick Liddell, vice president of VT Industries' Architectural Door Division. "Our full line of architectural grade high-pressure decorative laminate and 5-ply wood veneer doors combines the aesthetics of fine furniture with construction features that meet today's life safety requirements."

For almost 40 years, VT Industries Architectural Wood Doors has combined innovative manufacturing processes with product design, exceptional customer service, and environmental considerations to provide high-pressure decorative laminate and 5-ply wood veneer doors. As one of the nation's leading manufacturers, VT PermaClad® high-pressure decorative laminate doors can be made with a wide variety of laminate choices. VT technology applies the laminate edge before the face to lock in durability and produce a highly attractive solid surface appearance.

VT is dedicated to surpassing industry standards with their customized SolidStyle™ 5-ply wood veneer doors with Grade A premium veneers and matching hardwood edges in a variety of wood species. VT's Permaguard™ factory finish system adds a durable protective shield to SolidStyle™ wood veneer doors providing a uniform appearance on every door.

VT offers a wide range of acoustical, lead-lined, and fire rated doors with aesthetic advantages to meet life safety requirements. Value-added options such as factory-installed glazing and applied mouldings are also available through VT Industries. VT doors arrive individually poly-bagged with pre-drilled pilot holes for hinges and faceplates to assure quick and correct installation.

From the start, VT has been an innovative company, and this tradition continues today as improvements in manufacturing processes and equipment meet and surmount quality demands and quick turn-around times on orders. VT is also proactive in exceeding customer expectations and industry requirements. □

For more information: (800) 827-1615; www.vtindustries.com

Photos: VT's architectural wood doors meet a security class rating of 40 and are available with fire ratings up to 90 minute; VT's SolidStyle™ 5-ply wood veneer doors are available in a variety of wood species; PermaClad® high-pressure decorative laminate doors are ideal for areas where durability is required.

Emerge



Break through. Enhance any project with the natural charm of factory-finished wood veneers or the splendor and versatility of laminates. And know that they'll remain beautiful for a lifetime. Guaranteed. So get your project off the ground and out of the ordinary with VT Architectural Wood Doors.

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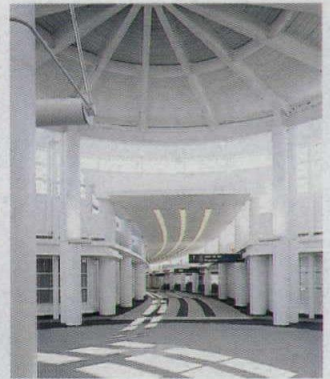
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FOR EXCELLENCE

Top 50 Lighting Manufacturer



SPI Lighting

Industry Insight

When designers select an SPI product, they can be sure they're getting one that looks—and works—great. "We offer products that are both built and designed from the outside in and the inside out," says Geoff Marlow, vice president of sales and marketing. "They satisfy the desire for architectural appeal while also being performance driven."

When SPI Lighting was started in 1987, the company's main focus was indirect lighting; but in the last 15 years, SPI's product offerings have broadened significantly, and now the company offers six brands to suit a variety of lighting needs, including high-performance architectural (covered by the Renaissance and Options lines), asymmetric lighting (Echo), modular truss systems (Lightruss), and fluorescent alternatives to high-bays (IPS), plus the Advent line, introduced in 1999 and now well known among designers for its aesthetic appeal.

As the company breaks ground on an expansion of its Mequon, Wisconsin headquarters this month, SPI is announcing its newest products, such as 96 new Renaissance selections, and three fluorescent high-bay and low-bay alternatives to 175-, 250-, and 400-watt metal halides. And, as with all of SPI's products, these have been designed with the end-user in mind. "We offer application-driven solutions," says SPI's vice president of sales and marketing, Geoff Marlow. "We design around the actual lighting needs."

What's more, the company follows through with its customers to ensure they're fully informed on the products they've chosen and other possible lighting solutions that they might not have considered before. "We work closely with the specification community, through training programs at our facility plus application services. And we have engineers, architects, and designers on staff to assist with any additional needs," says Marlow, who says the company's products are primarily found in education, healthcare, commercial office, airports, religious, and athletic facilities. It's this high level of support that's garnered SPI Lighting a great reputation and maintained a loyal customer base that will help guide the company to even more innovation in the lighting field. □

For more information: (262) 242-1420; www.spilighting.com

Photos: The clean lines of the Saratoga series pendant and custom table lamp provide a contemporary feel to the Johnson City Public Library, Johnson City, Tennessee; Echo asymmetric indirect lighting series; Echo fixtures deliver uniform indirect lighting to the high, vaulted ceiling in the rotunda at O'Hare International Airport.

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PAC-CLAD

Petersen Aluminum

Metal Roofing Panels

Boys-Bear Country
Gettysburg, PA

Owner: Boys Bear Collectibles Ltd.

Architect: LSC Design

General Contractor: Kinsley Construction, Inc.

Roofing Contractor: M. Potteiger Inc.

Profiles: Snap-On Batten & SNAP-CLAD

Color: Custom Color-Dark Colonial Red, Charcoal Gray

The Vertical Challenge

The major challenge in designing this structure was to create a wood board and batten siding look with maintenance-free metal. The PAC-CLAD Snap-On Batten Panel achieved that look, but was not designed to be installed as siding. Petersen Aluminum was brought in to consult with the design team. An alternate attachment solution was found and approved through a mock-up of the siding. Lapping the panel system with alternating panels made it possible for M. Potteiger Inc. to accomplish an installation of this magnitude.

This large barn structure, designed by LSC Design Inc., was then capped with 42,000 sq. ft. of Charcoal SNAP-CLAD Panels, complete with two 30 foot cupolas topped with a 7 foot weathervane in the shape of a bear. This 4-story building serves as a retail store for Boys Bear Collectibles, houses their corporate offices, a museum and a food court to accommodate large bus tours.

PAC-CLAD Panels are Herr-Voss corrective leveled to provide superior flatness. Available in 42 standard colors on steel and 37 on aluminum, the PAC-CLAD Kynar 500® finish is covered by a non-prorated 20 year warranty. For more information on our complete line of metal roofing products, please call us at 1-800-PAC-CLAD or visit our website @ www.pac-clad.com.

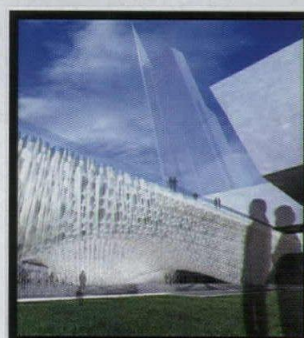
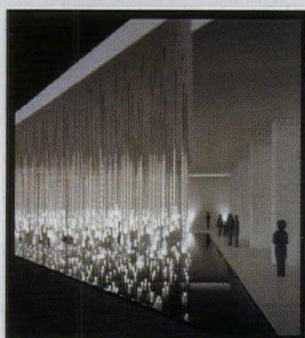
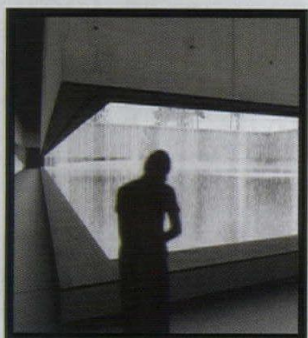
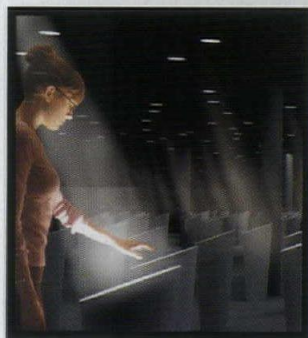
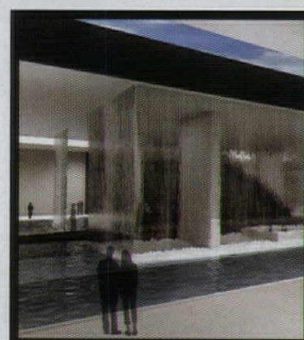
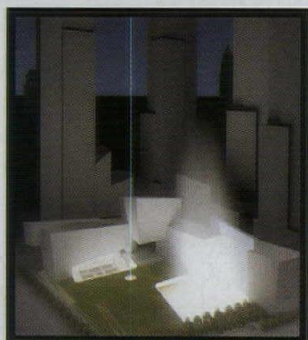
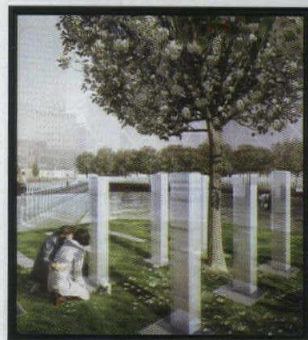
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WTC MEMORIAL COMPETITION FINALISTS SELECTED



The long and challenging process of memorializing the World Trade Center victims has taken a substantial step forward with the selection of eight finalists in an open competition sponsored by the Lower Manhattan Development Corporation. Guided by a mission statement and program, 13 jurors—a family member and professionals from the worlds of art and architecture among them—"sought designs that represent the heights of imagination while incorporating aesthetic grace and spiritual strength."

While the competition program set specific site-related and technical parameters, the mission statement served as the overarching brief for the 5,201 entrants from 49 states and 63 countries. It called for proposals that honor those killed in New York City, Washington, D.C., and Pennsylvania

on September 11, 2001, as well as the victims of the 1993 trade center bombing. The brief also asked that submissions acknowledge the site as sacred, recognize the endurance of survivors and courage of rescuers, and reaffirm respect for life and freedom while inspiring an end to hatred in the world. More specific requirements included the victims' names, access to bedrock, and a private space for families.

Designed by relatively unknown artists, architects, landscape architects, and educators, the schemes share a vocabulary of trees, water, light, and subterranean spaces, and all focus on the towers' footprints. Some are prescriptive in how they provide a venue for mourning—for example, a field of glass columns, like a cemetery, each with a timeline of events in a victim's life—while others offer abstract platforms—reflecting

pools, sculptural illumination—for individual forms of contemplation. The finalists are (clockwise from top left): "Suspending Memory" by Joseph Karadin with Hsin-Yi Wu; "Inversion of Light" by Toshio Sasaki; "Dual Memory" by Brian Strawn and Karla Sierralta; "Lower Waters" by Bradley Campbell and Matthias Neumann; "Passages of Light: The Memorial Cloud" by Gisela Baumann, Sawad Brooks, and Jonas Coersmeier; "Votives in Suspension" by Norman Lee and Michael Lewis; "Reflecting Absence" by Michael Arad; and "Garden of Lights" by Pierre David with Sean Corriel and Jessica Kmetovic.

The November 19 announcement also marked the first day of an exhibition of finalists at the World Financial Center, on view until the jury selects a winner by the end of the year. **Abby Bussell**

2004: "TRANSITION" PERIOD IN REAL ESTATE



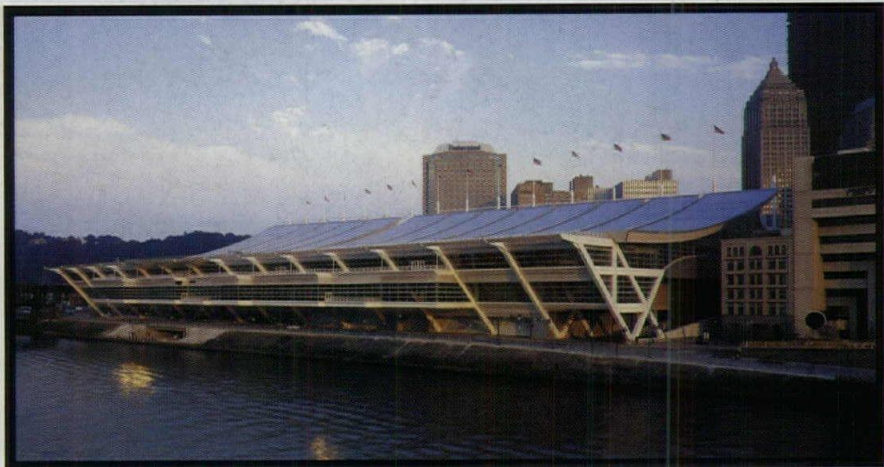
Investors' outlooks on the American commercial real estate market for next year range from "at best less sanguine" to "cautiously pessimistic"—at least according to a recent survey released by the Urban Land Institute (ULI) and consultant PricewaterhouseCoopers.

The 25th edition of the annual report *Emerging Trends in Real Estate* polled more than 350 commercial-property authorities and found that 2004 is largely perceived as a "transition" period. Although the real estate market will shift toward a slight recovery,

the survey says, this will be countered by a lack of new jobs being created in the United States, an increasing number of jobs going overseas, and governmental financial difficulties.

The study expects rents and values to stay flat in most markets, with the office sector suffering the most. Apartments and hotels, however, should show a minor improvement. The flow of capital will stay solid initially, adds the report, but may weaken as a stronger stock market draws investors away from property. **Jamie Reynolds**

CONFERENCE SHOWS HOW LEED GROWS



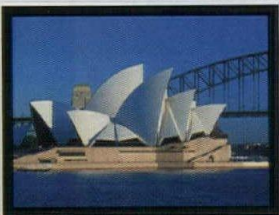
Since its founding in 1993, the U.S. Green Building Council (USGBC), the organization behind the LEED rating system, has seen notable success, establishing its green certification program on a national scale and seeing membership grow from 300 member organizations in 2000 to over 3,500. The group's second annual GreenBuild Expo, held last month in Pittsburgh at the new Rafael Viñoly-designed and "LEED gold"-certified David E. Lawrence Convention Center (above), drew more than 5,000 people.

The week-long event included discussion of efforts to expand LEED internationally, initially to India and China, and to additional building types. The original LEED system, applicable only to new con-

struction—now renamed LEED-NC—will be joined by programs for existing buildings (LEED-EB), homes (LEED-H), and commercial interiors (LEED-CI), among others. These additional options are currently being developed and tested, and will be individually launched over the next two years.

Such rapid organizational growth could have produced growing pains, but Christine Ervin, the USGBC's president, believes her group has taken to expansion well. "We were worried about losing the intimate nature of the early meetings, but in Pittsburgh there was a very strong sense of collegiality," she says. Next year's GreenBuild will be held in November in Portland, Oregon. **Julia Mandell**

UTZON'S ENCORE



Thirty years after it opened, the Sydney Opera House (above) is slated for a \$47 million renovation, or, more accurately, rebirth. The building was only half complete when architect Jørn Utzon left Sydney in 1966, blackballed by the regional government in a budget-related,

politically charged controversy. The interiors, executed by a local architect, Peter Hall, in Utzon's stead, have been criticized as cramped and insensitive to the original design.

While Utzon has never returned to Sydney Harbor—and according to recent press reports in Australia and Britain, has no plans to do so—he is back at work on the opera house. Along with his son, architect Jan Utzon, and Sydney-based Johnson Pilton Walker, the Pritzker Prize-winning architect has

been commissioned to transform several spaces, including the reception hall and opera theater. In the former, long-observed folded concrete beams will be exposed and finished with a mica glaze, and an Utzon-designed chandelier and tapestry will also be installed. Work on the hall is expected to take six months; other aspects of the renovation may involve structural changes and are, therefore, on a longer timeline.

Abby Bussel

⇒ A recent AIA study has shown that the number of women architects has jumped over the last several years: The percentage of licensed architects who are female rose to 20 percent in 2002, up from 1999's figure of 13.7 percent. The portion that comprises woman partners or principals rose to 20.7 percent, compared to only 11.2 percent three years earlier.

⇒ Civil engineer Terry Hill has been named chairman of the international engineering firm Arup Group, where he has been since 1976. And the American Society of Civil Engineers (ASCE) has named its first-ever woman president, Patricia D. Galloway.

⇒ Roger Montgomery, the former dean of University of California, Berkeley's College of Environmental Design and a long-time advocate of affordable housing, died on October 25. He was 78. Lynn S. Beedle, founder of the Council on Tall Buildings and Urban Habitat, and an expert on skyscraper design and construction, has died at age 85. And Eason H. Leonard, the longtime managing partner at I.M. Pei & Partners, now called Pei Cobb Freed & Partners, passed away at age 83.

⇒ Moshe Safdie has won the commission to design the addition to the Central Branch of the Free Library of Philadelphia (November 2003, page 19).

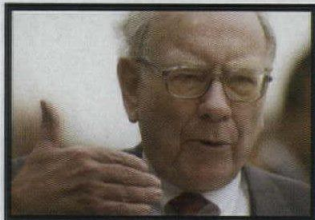
⇒ The dean of the Harvard Design School, Peter G. Rowe, has announced he will be stepping down from his post after 12 years. A replacement has not been named.

⇒ David J. Neuman, former university architect and vice provost at Stanford University, has been named campus architect for the University of Virginia.

⇒ Laurels: Tod Williams and Billie Tsien have won the Award for Architectural Design at the fourth annual Smithsonian's Cooper-Hewitt, National Design Museum's National Design Awards. Other winners included I.M. Pei, recipient of a lifetime achievement award, and the U.S. General Services Administration, which received a special commendation for its Design Excellence Program. Also, the Chicago Building Congress has given its 2003 Award of Honor to Sidney Epstein, chairman of the A/E firm A. Epstein and Sons, of Chicago.

NEW BUILDING SPEC: WARREN BUFFETT

\$\$



For your next project, you can specify Warren Buffett, investment genius and chairman of the Omaha-based holding company Berkshire Hathaway. Starting in August 2000, Buffett began a major land grab for the construction materials industry by snapping up Fort Worth, Texas-based Acme Brick, followed quickly by paint maker Benjamin Moore. Since then, the unassuming "value investor" has bought carpeting (Shaw Industries), roofing and insulation (Johns-Manville), structural systems (MiTek Indus-

tries), and, in August, modular housing (Clayton Homes).

So why is the legendary holder of blue-chip stocks like Coca-Cola and American Express—and owner of household brands like Geico and Dairy Queen—suddenly so interested in building materials? Manufacturer insiders have speculated that Buffett is vertically integrating the stalwart residential sector (he also owns realtors, property insurers, and furniture suppliers) or preying on companies weakened by asbestos litigation, or both.

While experts concede that, as a huge insurer of hard-to-price risk, Berkshire Hathaway holds a competitive advantage in acquiring asbestos-tainted businesses, they're sure that its investment strategy is hardly nefarious.

"Buffett looks 20 years down the road to see if these companies will still be around and still have their competitive positions," says an analyst at a mutual fund. "He likes Shaw and Benjamin Moore because of their replacement business: Carpet wears out, paint wears out."

"What Warren Buffett looks for are strong brand names that compete in mature industries where there is little risk of technological obsolescence," says Zeke Ashton, who runs Dallas-based investor TMF Centaur Capital.

So it's bricks, not clicks, that push Buffett's buttons. And during the dot-com bubble, Buffett found lots of good deals. "The so-called 'old economy' was left for dead by investors," says Ashton, adding that many busi-

nesses approach Berkshire Hathaway to be acquired, because of its reputation as a hands-off owner that isn't looking for magical "synergies"—and that rarely fires people.

Regardless of Buffett's motivations, his newfound hankering for construction products has got the titans of the building-products industry buzzing over his next move. When a maker of interior finishes with some asbestos in its history hesitated to renew its distribution contracts recently, the gossip was that Buffett was ready to pounce. The company has a great brand and seems a nice long-term investment, so could it be true? "Not a chance," pooh-poohs one analyst. "That company's just too small for Buffett."

C.C. Sullivan

southern ridges BRIDGE DESIGN COMPETITION

The Urban Redevelopment Authority, Singapore, in consultation with the National Parks Board and the Singapore Institute of Architects, is organising a Design Competition for two pedestrian bridges in the Southern Ridges of Singapore.

The Competition calls for suitable designs that will complement the rustic character of the Southern Ridges' natural landscape, respect the terrain of the park setting and give a memorable experience to the visitors of the hill parks.

For each bridge, the Winner will be appointed as the Project Consultant for the development of the bridge.

ELIGIBILITY

The Competition is open to teams, local or foreign, consisting of architectural and civil & structural engineering firms (sole proprietorships, partnerships, or corporations) qualified and licensed to provide professional services in Singapore. Foreign firms who do not meet this requirement must collaborate with licensed architectural and civil & structural engineering firms.

PROGRAMME

Submission Deadline: Thursday, 18 March 2004
Announcement of Winners: May 2004

AWARDS

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Two merit prizes: S\$8,000 each

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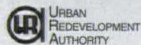
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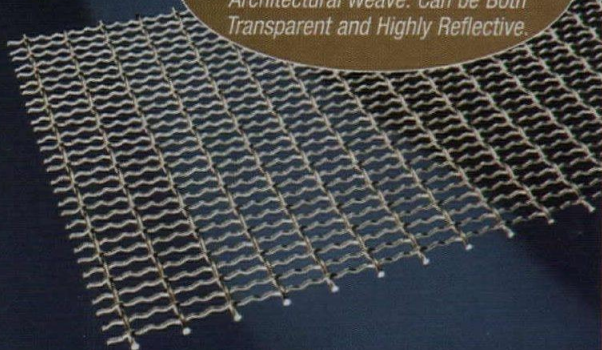
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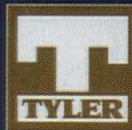
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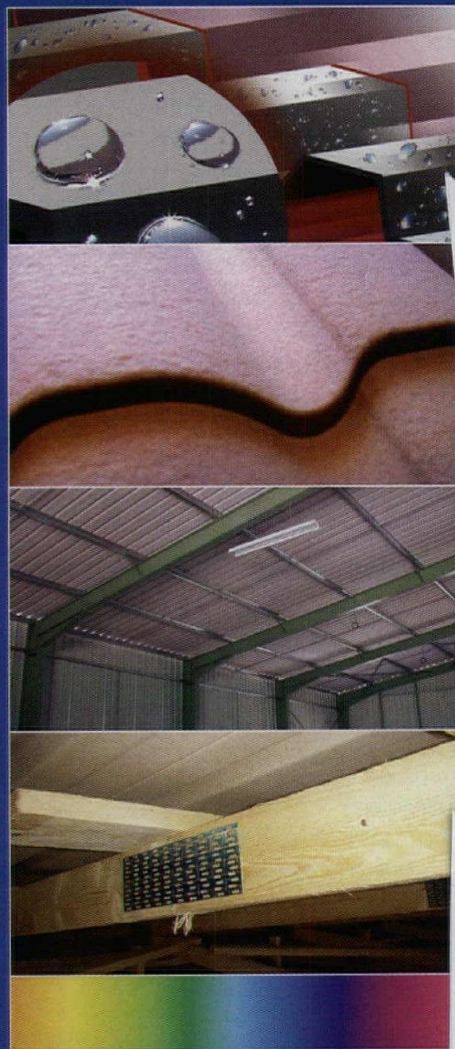
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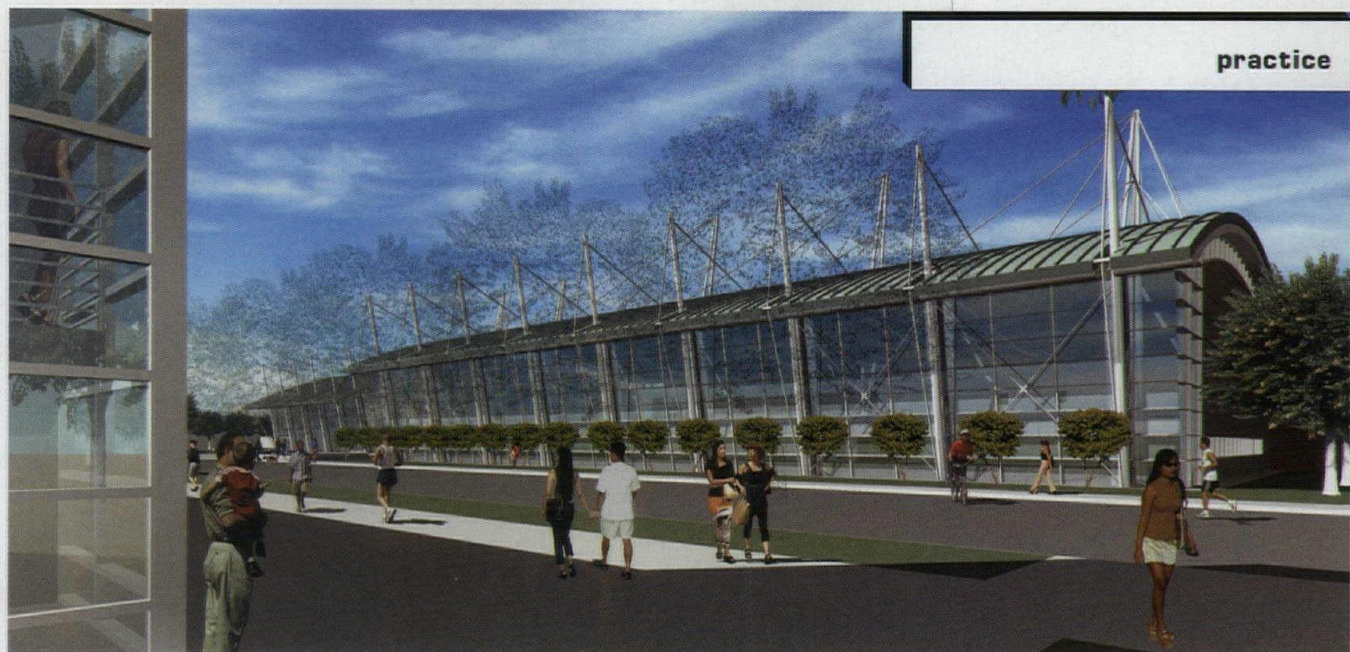
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Chicago's architectural identity is found somewhere in the mix of neoclassical traditionalism, local modernism, and more recent works by out-of-town practitioners, such as New Haven-based Cesar Pelli's Ratner Athletic Center (above) at the University of Chicago.

A CITY OF TWO TALES

Locals versus imports. Old versus new. Midwestern versus cosmopolitan. Chicago's architectural landscape is a study in not-so-gentle contrasts. by Edward Keegan

In spite of Chicago's reputation as a first city of architecture, its practitioners have often lapsed into periods of provincial sleepiness. Recent projects, some very high profile and others more local in appeal, point to a renewed awakening of creative energy that might signal an important new chapter in the city's illustrious architectural history.

The at-times rancorous reception accorded to the renovated Soldier Field during its nationally televised Monday Night Football debut in late September was a microcosm of the current debate within Chicago's architectural community. The stark contrast between the seven-decade-old, classically ordered stone colonnades and the asymmetrical glass-and-steel seating bowl by Wood + Zapata, with Lohan Caprile Goettsch Associates, drew howls from preservationists and conservative viewers who painted it as a worst-case example of adaptive reuse. But progressive practitioners lauded it as a breath of fresh air in a city that has long promoted traditional aesthetics in its public projects.

Opening almost simultaneously was Rem Koolhaas's first completed U.S. building, The McCormick Tribune Campus Center (see page 102) at the Illinois Institute of Technology (IIT). Constructed beneath Chicago's fabled elevated train line, the broad single-story structure with bright orange glass and a lozenge-shaped tube on its roof is an overheated party crasher on the coolly modernist campus that features more than 30 seminal buildings by Mies van der Rohe.

Multiple architectural legacies form the template for Chicago's current situation. Daniel Burnham's 1909 Plan of Chicago—which envisaged the early-twentieth-century city as a Parisian paradise of well-mannered traditional structures and formal parks and boulevards—is the traditionalist's model. This has often been countered by the advocates of innovation, whose local pedigree is strengthened by the esteemed examples of Louis Sullivan, Frank Lloyd

Wright, Mies van der Rohe, Harry Weese, and Bertrand Goldberg.

RISE OF THE IMPORTS

Despite its perceived predilection for tall buildings, Chicago's 225 square miles remain relatively low in scale, filled mostly with two- and three-story structures with the exception of the downtown Loop and the high-rent zone along Lake Michigan's shoreline. It's a decidedly Midwestern city that has long depended on local talent for the vast majority of its admired architectural production. But since the acclaimed 1983 debut of Kohn Pedersen Fox's sleek green-glassed building at 333 Wacker, developers and builders have made out-of-town firms an increasingly popular choice.

Recently completed projects for the University of Chicago include an athletic center designed by New Haven-based Cesar Pelli and a residential complex by Mexican Ricardo Legorreta. Frank Gehry has a stainless-steel-ribbed bandshell currently under construction in downtown's Grant Park for a 2004 opening, while fellow Pritzker laureate Renzo Piano has begun working drawings for an elegant limestone and glass addition to the nearby Art Institute of Chicago.

Though carpet-bagging now seems a permanent part of the architectural landscape, Donald Trump chose to commission SOM's Chicago-based partner Adrian Smith to design his first local project. The 86-story, 1,125-foot-tall Trump Tower Chicago features a broad face that follows the north bank of the Chicago River. Its intricate glass curtain wall steps back in a series of dramatic formal gestures that culminate in a soaring spire that will be the fourth tallest building in the city when completed in 2007.

A PUBLIC APPETITE FOR ARCHITECTURE

Mayor Richard M. Daley (son of the legendary Richard J. "Boss"

Daley, who ruled Chicago from 1955 until 1976) has led the city's government since 1989 and has actively promoted the city's beautification. He has planted thousands of trees in public parks and alongside streets, and overseen the renovation of major downtown thoroughfares including State Street and Wacker Drive. Critics have decried the mayor's preference for traditional aesthetics, but his staunch defense of Wood + Zapata's bold design for Soldier Field, as well as his choice of Gehry for the new bandshell, has shown Daley to be a somewhat more inclusive patron than previously thought.

Two infrastructure projects demonstrate the pervasive theme of old and new. Hundreds of Robert A.M. Stern–designed bus shelters featuring vaulted roofs and classically inspired columns sprouted throughout the city this year. But the renovation of a mass transit station and the adjacent automobile/pedestrian bridge by Gensler's Chicago office suggests more contemporary influences. Spanning a dozen lanes of freeway traffic on 35th Street near the IIT campus and the White Sox U.S. Cellular Field, its canted frame of galvanized steel surrounds the existing concrete bridge. This creates a subtle sense of enclosure over the structure's sidewalks that suggest a modern riff on the traditional colonnade. Portions of the steel extend over the expressway and create carefully composed billboard spaces for the school and the sports franchise.

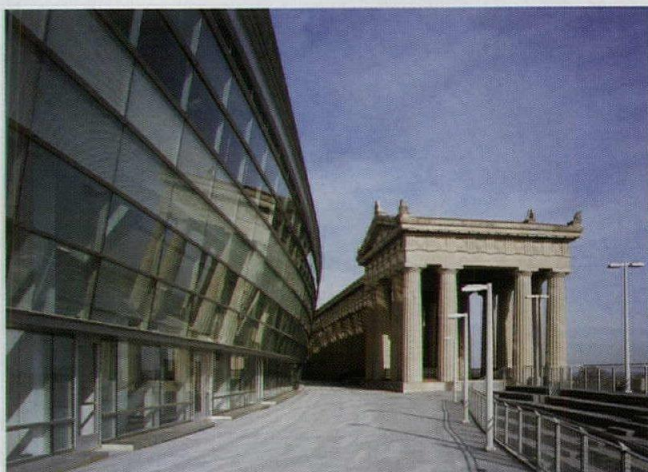
It's a commonly held belief that cab drivers in this 2.9-million-person city are among the most vociferous and knowledgeable architecture critics. Another long-time standard-bearer that's putting architecture in the public eye is the 37-year-old Chicago Architecture Foundation (CAF), which conducts several daily walking tours and mounts an ever-increasing number of lectures and exhibitions on both historical and contemporary work. Public events focused on architecture are also sponsored by such varied cultural institutions as the Museum of Contemporary Art (MCA), the Art Institute of Chicago, and the Graham Foundation for Advanced Studies in the Fine Arts. In recent years the art institute has supported young local practitioners by commissioning architectural exhibition installations by talented architects including Doug Garofalo and Jeanne Gang. And this past summer the MCA launched an annual program to enliven its stairs and plaza with an installation by Garofalo.

An organization that merits watching is the Congress for New Urbanism (CNU), which moves from San Francisco to Chicago in January. New Urbanist-inspired projects have been built throughout the city in recent years, from market-rate townhouses in tonier neighborhoods to thousands of pedestrian-friendly homes that are replacing notorious high-rise housing projects—such as the Robert Taylor Homes and Cabrini-Green—through the Hope VI program.

The CNU's new president will be John Norquist, who actively used New Urbanist precepts during his time as mayor of Milwaukee. One can only speculate how this new organization and its politically oriented leader will influence the local scene.

TOWERING MEDIOCRITY

The building boom of the 1990s is apparent in almost all of the city's 198 neighborhoods, but the most drastic change is visible in the area that sits just north of the downtown Loop and west of the upscale North Michigan Avenue shopping district. Large portions of the neighborhood called River North still comprise surface park-



Wood + Zapata and Lohan Caprile Goettsch's renovation of Soldier Field is a microcosm of the contrasts that shape Chicago.

ing lots, and, until quite recently, many street corners had stop signs in lieu of traffic signals.

Today the area is populated by relentlessly banal, market-rate concrete apartment towers—many more than 40 stories in height—raised on eight- to ten-story parking garages that darken the streets even during the day. It's as if an entire bedroom community was constructed overnight according to the cookie-cutter designs of bottom-line developers who have overlooked all urban amenities. The situation is worsened by the street-life-killing parking that is mandated in such stacked abundance by an outdated zoning ordinance that doesn't recognize the existence of mass transportation.

Two fresh entries that demonstrate a much higher architectural standard than the developer-driven residential boxes are local architect Lucien Lagrange's Erie on the Park and the Sterling by Solomon Cordwell Buenz (SCB). Lagrange's design reinterprets the John Hancock Center's exposed diagonal steel bracing in a 24-story parallelogram tower. At the Sterling, SCB imaginatively rethinks a 48-story concrete apartment structure as two interlocking shafts, one curvilinear and one rectilinear.

A NEW CHICAGO SCHOOL?

While the homogenizing effects of Daniel Burnham's master plan and Mies's modernist efforts of the mid-twentieth-century still have their advocates, the diversity of Chicago's present-day population suggests a more eclectic approach. Despite the city's multiple architectural legacies, mediocrity is still a normative condition for much new development.

The question remains: How will Chicago architects, developers, and public-policy makers translate the city's rich architectural legacy into forms that are authentic to our times? In recent years, the successful implantation of work by imported architects has stirred the local design scene. When this decidedly provincial Midwestern city finds a contemporary expression for its unique location in the middle of the country, it may once again claim its place as an architectural leader, rather than follower.

Edward Keegan is a Chicago-based architect and a regular contributor to *Architecture* and *Chicago Public Radio*.

CASTING A WIDE 'NET

Unlike websites for other kinds of businesses, those for architects can be remarkably nonfunctional. "An architect doesn't sell anything" in the retail sense, says Roberto de Alba, a principal at New York City's Spliteye Design, which has designed sites for the likes of Polshek Partnership and Philip Johnson. But even if an Internet presence doesn't yield a flood of calls, successful architectural sites are more than digital brochures.

↳ **Who is your audience?** De Alba finds most architects' sites serve three functions: showing work to prospective clients who know of the firm, announcing accomplishments to colleagues, and recruiting employees. A clear sense of audience is key. For example, Chicago-based architect Zoka Zola is launching her own site. "It's not specifically for the clients," she claims: She's aiming it at students and colleagues.

↳ **What's the basic structure?** The online journal *Entablature.com* runs an awards program for architecture sites. Founder and editor Kriss Pettersen emphasizes four areas good sites touch on: a design statement or staff description; a portfolio of past works; a section for current projects; and contact information. Customized navigation between these areas can express identity. "What makes a site more successful is the way things are organized and how that speaks to the way a firm approaches its work," Pettersen says. Venturi, Scott Brown's site, he points out, is whimsical in its organization; a large cor-

porate firm might prefer a more easy-to-follow site map.

↳ **What are the pros and cons of the technology?** Many of de Alba's clients don't have a full grasp of the animation, sound, and streaming-video options that the Web offers. Conversely, others come to him touting unrealistic examples that they hope to emulate. "Clients say, 'We've been looking at the Guggenheim site,'" says de Alba, but such high-end setups can cost millions of dollars. (Most clients settle for a custom-designed, partially maintained site in the \$40,000 range.)

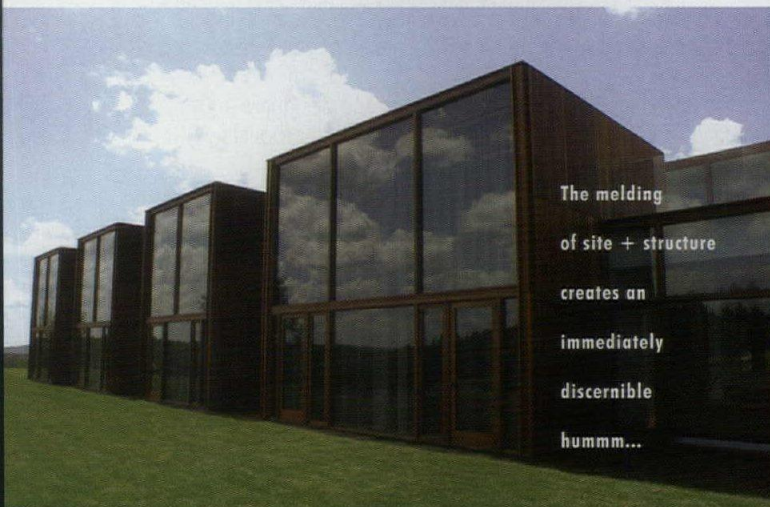
Too many bells and whistles can distract viewers, adds Pettersen: "One thing architects try to portray is interactivity," but forcing a visitor to sit passively through a 5-minute Web film doesn't achieve that.

↳ **How do you pace the information?** De Alba suggests a layering approach, positing a "need-to-know" strategy to projects: Allow visitors to click through to deeper levels if their interest warrants it. Pettersen concurs: "Sites are unsuccessful if it is thrown at you all at once."

↳ **Last, be ready to do your homework.** "In the process of putting a website together, firms shake a lot of dust off the files," de Alba says. Tracking down and digging up old drawings and outdated storage media for a comprehensive website can mean an at-times frustrating walk down memory lane.

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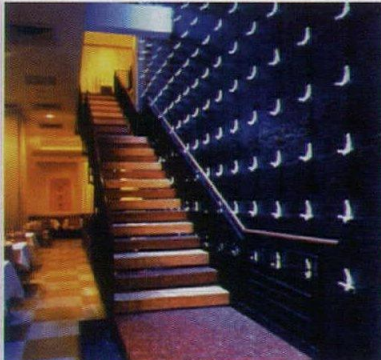
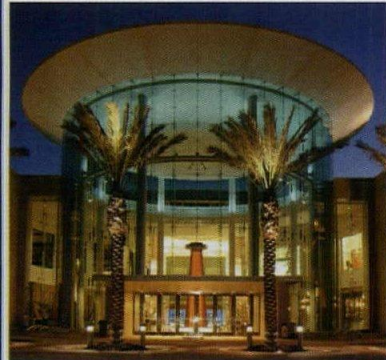


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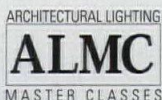
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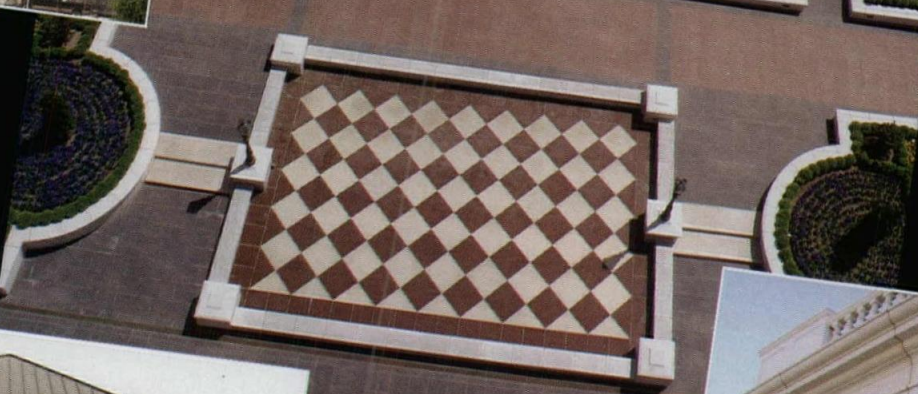
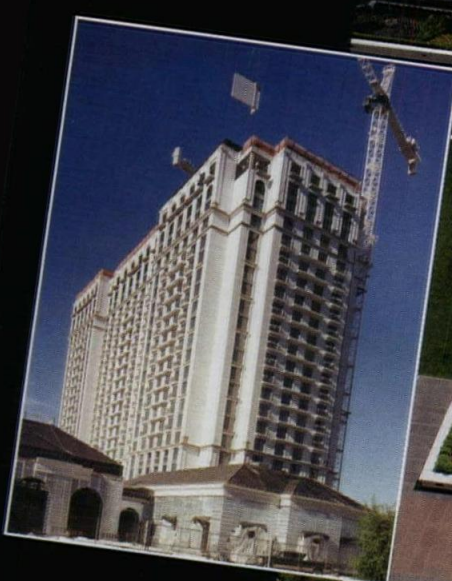
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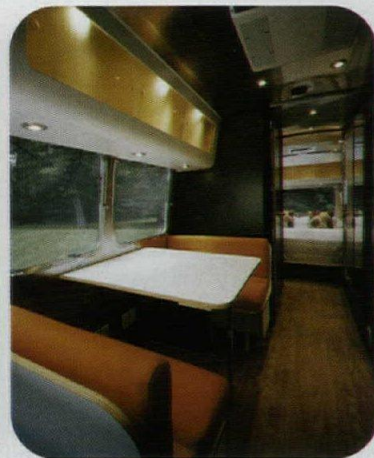
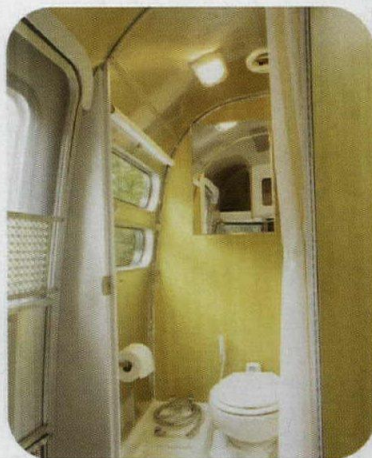
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ARCHITECTURE ON THE GO

Most architects make things that stand still. Others find satisfaction in spaces that move. by Alan G. Brake



Airstream trailers are noted for their rounded aluminum shells. Architect Christopher Deam has imbued a new line of the company's trailers, the International CCD series, with an appropriately Streamline Modern interior and all the amenities required by modern-day road warriors, including optional flat-screen televisions and Internet hook-ups.

Architectural assignments usually require consideration of how people move through space. But some require the opposite: designing spaces that literally move people. To achieve optimum efficiency, architects who design vehicles and aircraft interiors, for example, tend to belong to a "less is more" kind of crowd. Be it on the ground, in the air, or suspended from a cable, mobile spaces pose unique challenges for professionals typically in the business of ensuring that their projects stay in one place.

ON THE ROAD

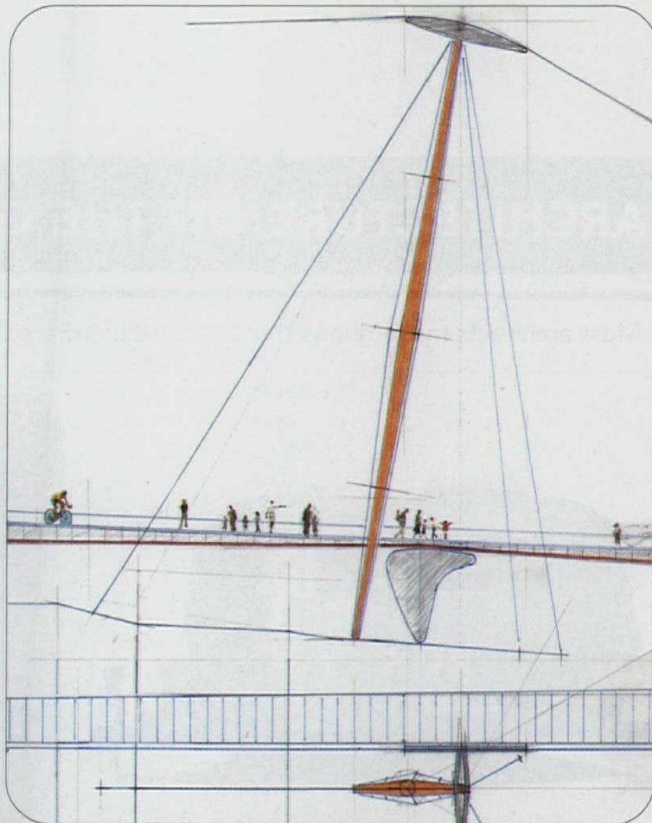
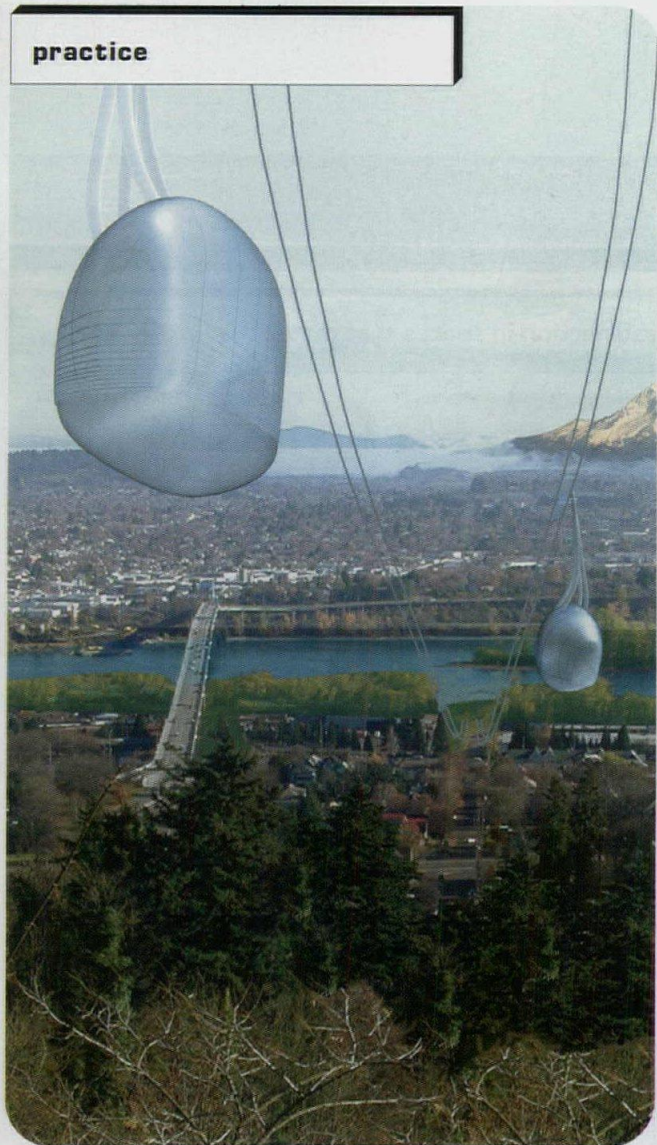
San Francisco-based Christopher Deam is an entrepreneurial architect. Following the successful development of furniture lines for his design company, CCD, Deam initiated a relationship with two well-established brands, recreational vehicle-maker Airstream and laminates manufacturer Wilsonart International. The result? Five models of Airstream trailers, all marketed under the name International CCD. The collaboration was put in motion in 2000, when Deam approached Wilsonart about designing a new trade-show booth for them using a vintage Airstream trailer. He saw the aluminum-clad Airstream as an underappreciated design icon, so he pitched the idea of retrofitting one with predominantly Wilsonart products. The laminate maker embraced the idea, and when the booth attracted both attention and awards at the International Contemporary Furniture Fair in New York City the following year, the architect believed it was time to bring the idea of a redesigned trailer to Airstream itself. "I knew there was an untapped group of buyers out there," says Deam. "Airstream just didn't know how big."

Deam was correct. According to Airstream, which is based in Jackson Center, Ohio, the International CCD is its best seller, with three new models added to the line last summer. "It was simply a mat-

ter of bringing the interiors in line with the exterior, which was modern and sleek," says Deam, adding that, "the old interiors looked like seventies mountain cabins." The International CCD line couldn't be farther from the lodge look: The new interior has an abundance of curves and smooth surfaces (many of them laminated, of course) and reveals the camper's structure and aluminum shell. Peeling away the old interior allowed the ceiling to be a few inches higher, an important gain in a compact space. "We thought a lot about how people will move through [the trailers], about the experience inside, so we tried to open them up as much as possible within the confines of the shell," he says. Deam made the interiors so appealing that some International CCDs are even used as guesthouses and pool pavilions. "People think of it as a mobile piece of architecture," says Deam.

IN THE AIR

New York City-based firm Keenen/Riley also used a pared-down approach to design the interior of a 16-seat Gulfstream V airplane for a businessman and his family in 2001. "We wanted to reveal the [cross] section of the fuselage, so we raised the ceiling to allow the roundness to show," says John Keenen, principal designer on the project. To echo this curved form, Keenen stripped the oval windows of their rectangular frames, giving them a portholelike appearance. But there were serious limitations to the architect's design license. "Working on airplanes is all about safety and weight," says Keenen, who had to work to Federal Aviation Authority (FAA) standards. "When you are designing for passengers on long flights," he says, "tiny details make a huge difference in terms of the quality of the experience." Keenen/Riley altered the cushions of the plane's existing, FAA-compliant seat frames, designed fabrics and carpeting, and even customized drinking



A new tramway scheme for Portland, Oregon, calls for a 185-foot wood and steel mast (top, right) and, in an effort to minimize the project's visual impact, two glass "bubble" tram cars (above, left), both by Angelil Graham Pfenninger Scholl. Visual impact is more overt in the private plane interior by architect John Keenen of New York City-based Keenen/Riley (above, right).

glasses to fit into standard cupholders. The firm also refitted the interior with a galley kitchen, a small meeting area, and a private lounge that converts into a bedroom complete with a full bathroom.

Angelil Graham Pfenninger Scholl (AGPS), winner of a 2003 invited competition for new tramway stations and cars in Portland, Oregon, didn't have the FAA to contend with, but the firm did face a community actively engaged in issues of public architecture and urbanism. For principal Sarah Graham, the challenge was in knowing when to follow and when to ignore the competition brief established by the city.

When completed in 2006, the tramway—with two terminals, a central support stanchion, and two cars—will run above a neighborhood of Victorian houses, connecting a hillside university hospital with the South Waterfront District. "Portland is taking the unique approach of using quality design to sell an infrastructure project to its residents," says Graham. "I went to public meetings and heard people saying, 'I want you to make this disappear.'" These comments ran counter to the city's belief that a dramatic design would help sell residents on the project. The tramway does not perform any Houdini tricks, but the AGPS scheme does emphasize mini-

malism over monumentality, and uses local timber and stone in combination with tensile steel to create what Graham calls a "forward-looking, indigenous" design. The one-story lower terminal will have a vegetated roof, making it "of the earth," as she describes it, while the slender upper terminal, located some 14 stories higher on Marquam Hill, will have glass façades and photovoltaic panels, making it "of the air." Moving between the two are spherical, steel-and-glass "bubble" tramcars. Graham, whose firm collaborated with Arup on the tramway, believes that this modern, contextual approach makes the design more sensitive to its site and, therefore, a better and less obtrusive neighbor.

Like Deam's and Keenen's work, Graham's project offers an elegant, minimalist approach to structure and function. Their designs celebrate the technology used to move people: For Deam and Keenen, this meant alleviating the claustrophobic qualities associated with travel; for Graham, it lay in pleasing those walking on the streets below the tramcars as much as riders inside them.

Alan G. Brake writes for a variety of design publications including *Azure*, *Interior Design*, and *Metropolis*.

Indoor luminaire: Parabelle

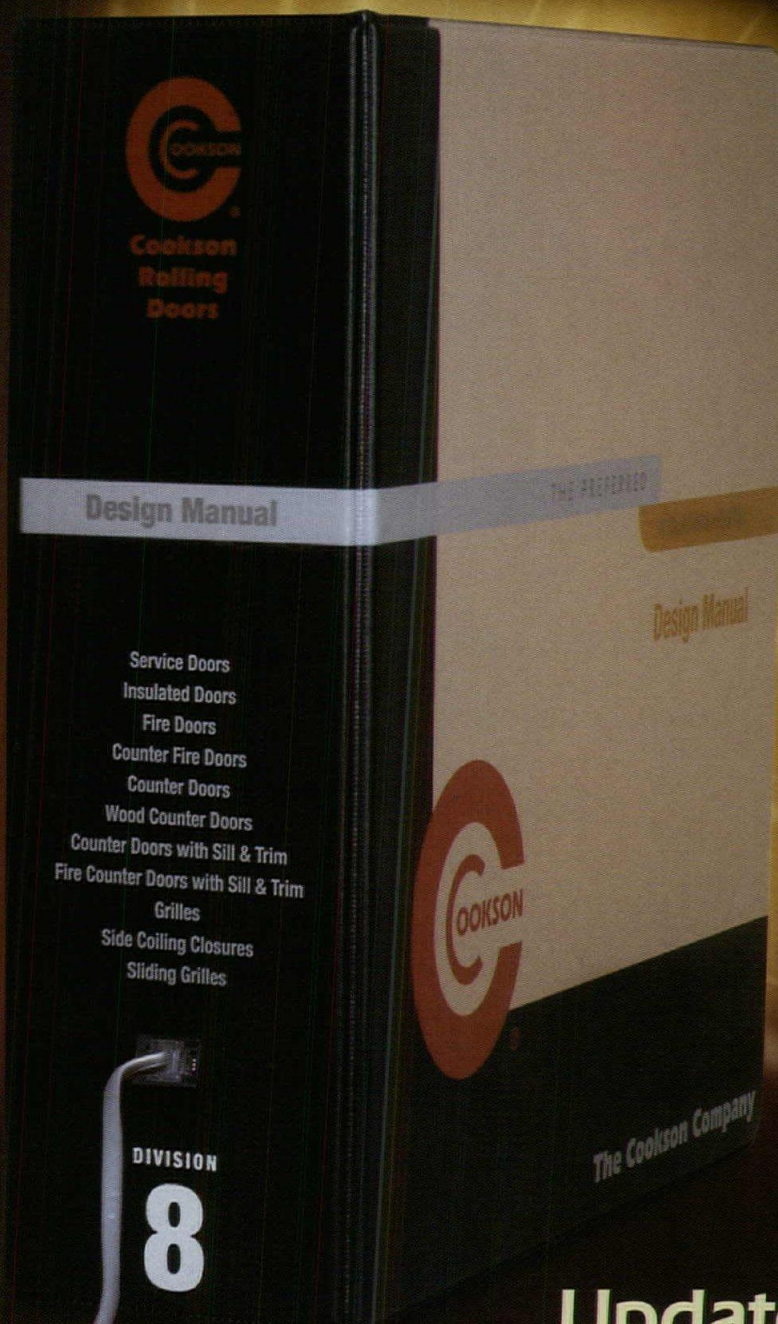


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DENSE DEBATE

An East Coast conference sparks national dialogue on high-density urbanism. by James McCown

"The way is up," wrote essayist E.B. White in *Here Is New York*, a 1949 paean to Gotham and its skyscrapers. In the five decades since, however, the way for most Americans has been out, out, and farther out. With suburban sprawl having made its way into the popular lexicon, an early autumn conference in Boston, sponsored by the Boston Society of Architects (BSA), was billed as the first-ever symposium on a subject at the very heart of the debates surrounding sprawl, New Urbanism, and transit-oriented developments (TODs): density.

The issue of promoting density in urban design is highly contentious. Some architects and planners envision dense, mixed-use developments as a way to recapture a sense of community, sharply reduce encroachment into rural areas, and foster harmony among racial and socioeconomic groups. Others feel just as passionately that the limitless horizons of growth, the freedom provided by the automobile, and the much-maligned strip malls and McMansions are nothing less than the expansive American spirit writ large in steel, glass, and concrete. To them, "mandated density" is just another in a long list of discredited social-engineering initiatives.

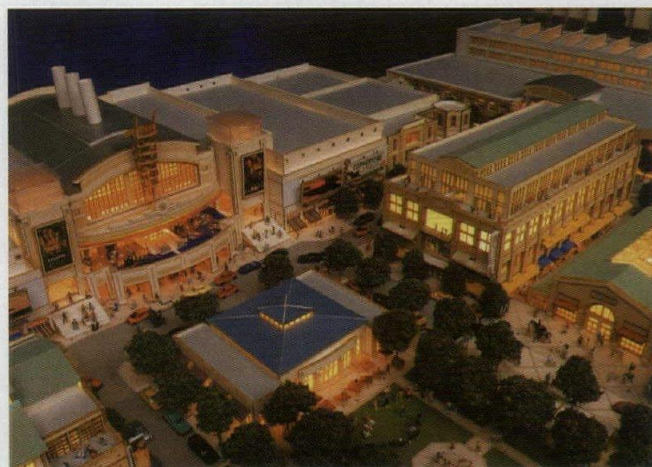
With 170 architects and planners in attendance from around the country, the Boston meeting felt like a religious revival of sorts, with the faithful exhorted to go forth and spread the message in the hinterlands. "We need a new American dream, and density needs to be a part of it," said outgoing BSA president David Dixon in opening the series of symposia and exhibits. A number of subsequent speakers, however, stopped well short of suggesting that density would be another battle in the nation's culture wars.

"I don't think this is a Red America/Blue America thing," said Bruce Katz, director of the Center on Urban and Metropolitan Policy at the Brookings Institution, Washington, D.C. "In most parts of the United States, the addition of higher-density, transit-oriented developments introduces a new choice. In places like Atlanta and Dallas, you have to offer that urban choice in order to stay competitive and attract talented, educated people to your region."

STATISTICALLY SIGNIFICANT

As was repeated often at the conference, only roughly 3 percent of the 2.3 billion acres in the 50 states is urban or suburban. If that sounds the opposite of dense, Philadelphia-based urban planner and author of *The Fractured Metropolis*, Jonathan Barnett, cautions that at present land-development and population-growth rates, the figure will double to 6 percent by 2050. "Compare that to Japan's current rate of being 4-percent urbanized; everyone considers that an extremely densely populated country," Barnett says. "If the U.S. population grows by 40 percent over the next half-century, we'll be using a lot of land per person."

Planners and developers highlight the somewhat perverse nature of high-density development in the United States in 2003. For example, despite its image as the epitome of suburban sprawl, greater Los Angeles is the densest metropolitan area in the United States, at



Dense enough for you? Atlanta's transit-oriented megaproject, Atlantic Station, mixes high density with high-end entertainment.

5,725 people per square mile, according to the Texas Transportation Institute at Texas A&M University. Additionally, in suburban-oriented places like Atlanta and Dallas, TODs—mixed-use, high-density centers built largely around mass-transit stations—are benefiting from their novelty factor, some enjoying popularity that surpasses even rosy projections. By sharp contrast, the seemingly enlightened high-density designs being introduced in traditionally urban places such as Boston's South End and Chicago's West Loop are being greeted with neighborhood resistance, mainly from residents who immediately equate higher density with more automobiles.

In Atlanta, where regional shopping malls and suburban office parks stretch almost endlessly across the horizon, Atlantic Station is a large mixed-use, high-density project under construction near the city's center, designed in part by Baltimore's Development Design Group. Located on the 138-acre site of an old steel mill just northwest of Atlanta's downtown, the site will be serviced by the region's Metropolitan Atlanta Rapid Transit Authority (MARTA) rail system. Over the next decade it will grow to more than 20 million square feet of residential, office, and retail space.

"The demand is simply much higher than we expected," says Jim Jacoby, chairman of Atlantic Station. The project's urban planner, Brian Leary, says that places like Atlanta become starved for the city sophistication put forth in pop culture. "It's the chic of urban living, like in *Friends* and *Seinfeld*," Leary notes. "After all, they don't call the show *Sex and the Suburbs*."

The city of Plano, Texas, amidst the sprawling suburbs north of Dallas, also sensed an unmet demand for urban living. So it formed a tax-increment-financing (TIF) district and teamed with private developers, Womack + Hampton Architects of Dallas, and Baltimore's RTKL to build Plano Transit Village, a 1,000-unit TOD linked to that region's Dallas Area Rapid Transit (DART) rail system. "It's a niche market in Texas, but the project has 95 percent occupancy,"

says Frank Turner, assistant city manager. "There has been hardly a hint of opposition" from city residents, he says.

Compare that to the reaction developer Roger Cassin got in Boston's South End, a gentrified neighborhood of 100-year-old townhouses. His Columbus Center project is to be built on a massive platform, essentially covering an expressway that divided the neighborhood decades ago. "We got booed down the first time," he recalls. "Now after two years, many concessions, and \$10 million, we're still six months away from starting construction," Cassin says. Not faring much better is Thrush Companies of Chicago, which is trying to build a 12-story, 400-unit dense development in the up-and-coming West Loop area, where industrial buildings have been slowly converted into lofts. The project is meeting with stiff community opposition. "It's a vocal minority," says the project's architect, David Brininstool of Chicago's Brininstool + Lynch, "and density is their biggest issue."

OF DENSITY AND SOCIAL DETERMINISM

While few speakers at the Boston event voiced contrarian views, some academics and practitioners express cautious misgivings about the density dogma pouring forth from the conference and elsewhere. One naysayer is Ivonne Audirac, associate professor of regional planning at Florida State University in Tallahassee. "We designers are trained to think that what we create can influence behavior," says Audirac. "Just as the modernists preached 'form follows function,' we now think that cultural and social relations follow form. But much of

this determinist approach has been discredited. Planners are starting to realize how complex the question is. We're dealing here with uniquely American cultural factors."

Kenneth J. Dueker, a former professor of urban studies at Portland State University in Portland, Oregon, is a "smart-growth" apostate in a city that has emerged as sort of a Jerusalem of that movement. "Density is something we can and should foster," Dueker says. "But mandating density often puts the zoning before the market. If the land values can't support the density, you shoot yourself in the foot. Developers will not be able to justify building and will go elsewhere." As to the contention that density reduces automobile use, Dueker counters: "Density will increase traffic faster than any corresponding pedestrian or transit use will reduce it." Nonetheless, he concedes, "The combination of upzoning and minimum density requirements are reducing land consumption by up to 40 percent."

The issue of tax and regulatory policies privileging one form of development over another was woven throughout the Boston conference. Katz, for example, insists that prodensity policies now in place—such as tax abatements—are still vastly overshadowed by ones that favor detached single-family homes and auto travel, such as federal highway programs.

"We are still subsidizing sprawl," says Katz.

James McCown is a Boston-based writer who contributes frequently to *Architecture*, *Architecture Boston*, and *Metropolis*.

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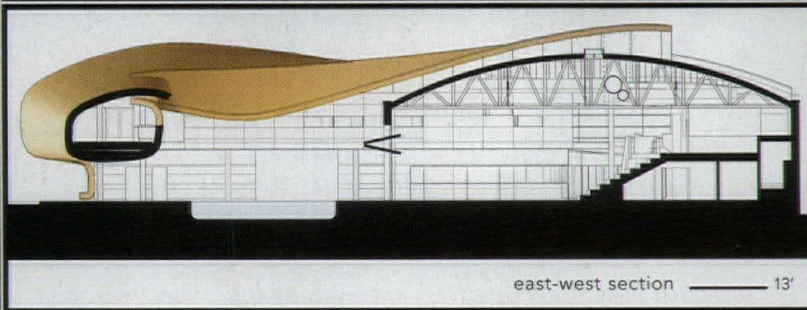
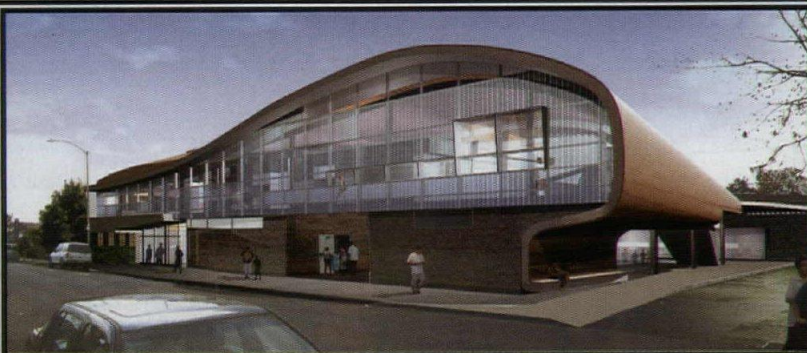
➔ **GRIFFIN ENRIGHT ARCHITECTS | VARIETY BOYS' AND GIRLS' CLUB | LOS ANGELES**

The Variety Boys' and Girls' Club in the Boyle Heights area of East Los Angeles has been offering after-school programs to 7- to 17-year-olds for more than 50 years. Located one block from the neighborhood's main thoroughfare, Cesar Chavez Avenue, the existing complex includes a swimming pool, a vacant lot, and a 1915 bow-truss building that has served the club since the 1940s. Local firm Griffin Enright Architects was commissioned to renovate the original building and expand it into a 19,500-square-foot structure housing arts and athletic facilities, a library, a media lab, dining and recreation spaces, and administration offices.

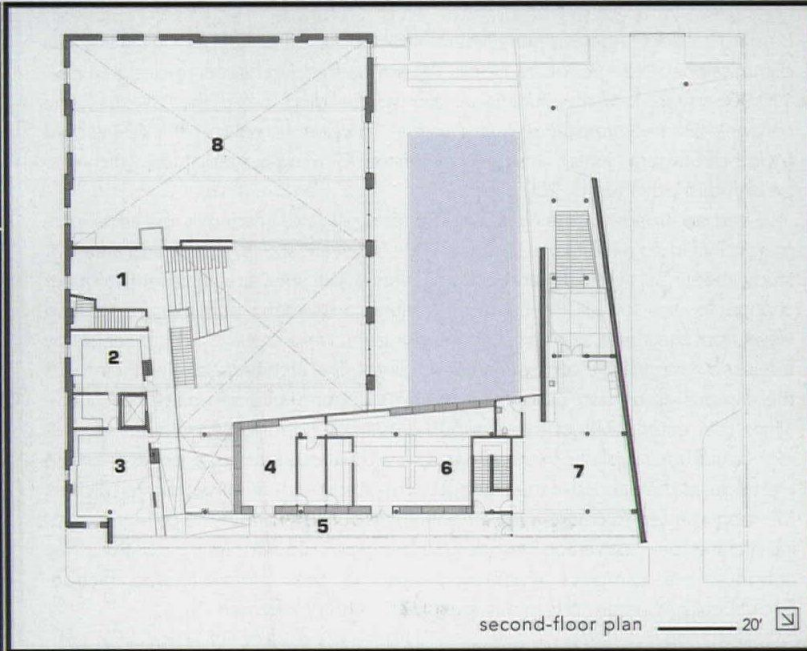
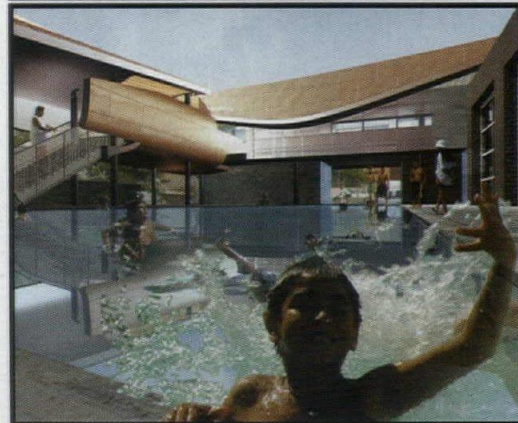
The client wanted to simultaneously honor the organization's history, increase its public presence, and update its identity. The

nonprofit group's staff also wanted to provide more services and improve supervision and interaction between children and staff members through better visibility and circulation. In order to restructure the flow of interior spaces, the architects gut the existing building but leave its shell intact, and use its curved top as inspiration for the addition's swooping sheet-metal-clad roof.

The addition overlaps with the existing building and partially encircles the swimming pool, creating a courtyard area protected from the street, while leaving part of the site open to the public. To maximize the amount of outdoor space for recreation and parking, the designers lift most of the indoor program to the second story, where the addition cantilevers over the main entrance. A glass façade addresses the street, and serves as a display case for the children's artwork, creating a vital street presence. The projected start date for construction is January 2005. **Anna Holtzman**



- 1 teen center
- 2 media lab
- 3 library
- 4 shop
- 5 display hall
- 6 arts-and-crafts center
- 7 community room
- 8 existing building

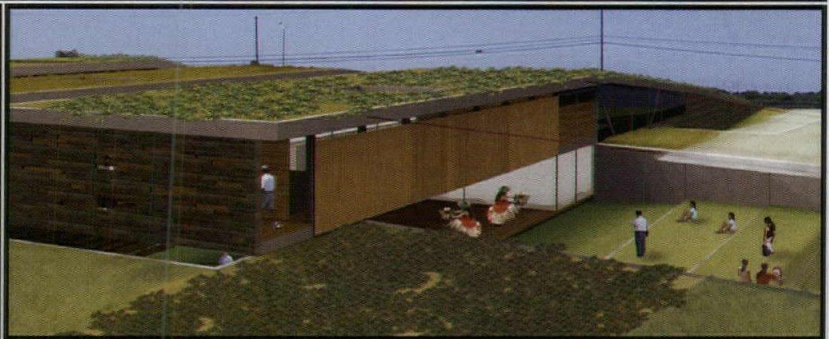
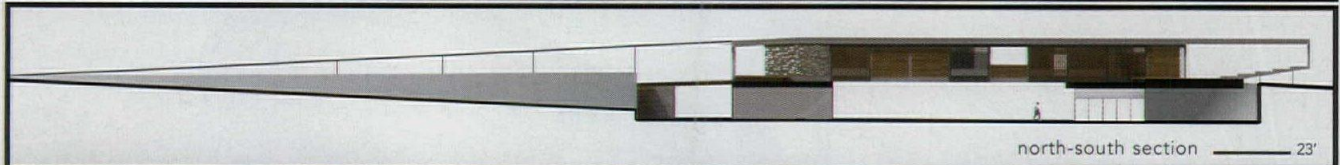


→ EIGHT INC. | MALAMA LEARNING CENTER | KAPOLEI, HAWAII

To celebrate Hawaii's natural and cultural heritage through the performing and visual arts, a progressive public high school and the state chapter of The Nature Conservancy, a nonprofit preservation group, envisage a highly sustainable, 25,000-square-foot educational complex with studios, theaters, classrooms, and a conservatory. San Francisco- and Honolulu-based Eight Inc.'s winning proposal, to be built over the next three years at a cost of up to \$6 million, meets the unusual nonprofit-public partnership's desires for a building that possesses a "straightforward character," uses materials efficiently, and shows reverence for Hawaiian culture and for the natural qualities of the coastal Oahu site. To architecturally undergird the facility's role in encouraging nature conservancy, the designers extend the slope of the grade

with three engineered sod roofs featuring teaching gardens, which insulate and enclose classrooms below. The main entrance to the center runs perpendicular to the three long roofs, organized as a descending garden path that terminates in a grassy, terraced amphitheater. Along both sides of the entry axis are landscaped areas and entrances to the main buildings, as well as indoor and outdoor classrooms. The slatted-wood and glass structures, with linear accents of metal fascia and trim, reinforce the structure's metaphor—and the learning center's mission—of harmoniously bridging the natural and human-made spheres.

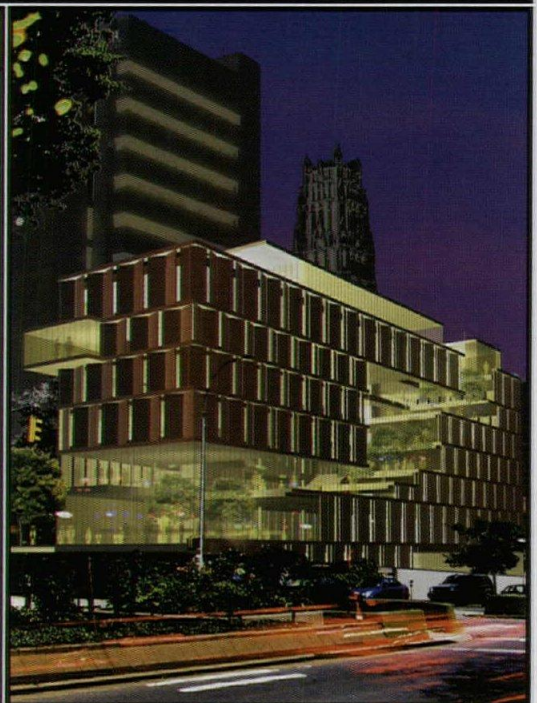
As a beneficiary of the recently discontinued New Public Works initiative of the National Endowment for the Arts, the open competition for the Malama Learning Center was designed to produce such stellar results. Jurors included community leaders; the University of Hawaii's architecture dean, W.H. Raymond Yeh; as well as Billie Tsien, Patricia Patkau, and Stanley Saitowitz. **C.C. Sullivan**



→ WEISS/MANFREDI ARCHITECTS | BARNARD NEXUS | NEW YORK CITY

Barnard College, the women's liberal-arts school of Columbia University, has commissioned New York City-based Weiss/Manfredi Architects to design a new 110,000-square-foot multifunctional campus building called the "Nexus," the college's first new freestanding structure in 15 years. It replaces the 40-year-old McIntosh Student Center, designed by Vincent G. Kling & Associates, which is to be demolished in March 2005.

Sited on Broadway, the Nexus integrates a range of academic and social programs, including a multilevel library, a 900-seat event space, a café, and areas for study, meetings, seminars, and cultural events. The structure represents a major change for the low-profile campus, creating a dramatic public presence and views from the street to an existing interior lawn, which is currently concealed by trees and a monolithic concrete student center. The architects take as their focus the campus green—an oasis in the school's upper-Manhattan neighborhood—which they extend with both a stepped garden of indoor greenery on the building's east front, visible from the street, and with an outdoor, terraced lawn on the west side, at the interior of the campus. Firm principals Marion Weiss and Michael Manfredi wanted to create a building that was consistent with the college's existing architecture, but without resorting to historicism. To address this context, they continue the campus's masonry palette in their brick-paneled façade. Construction is slated to begin August 2005. **Anna Holtzman**



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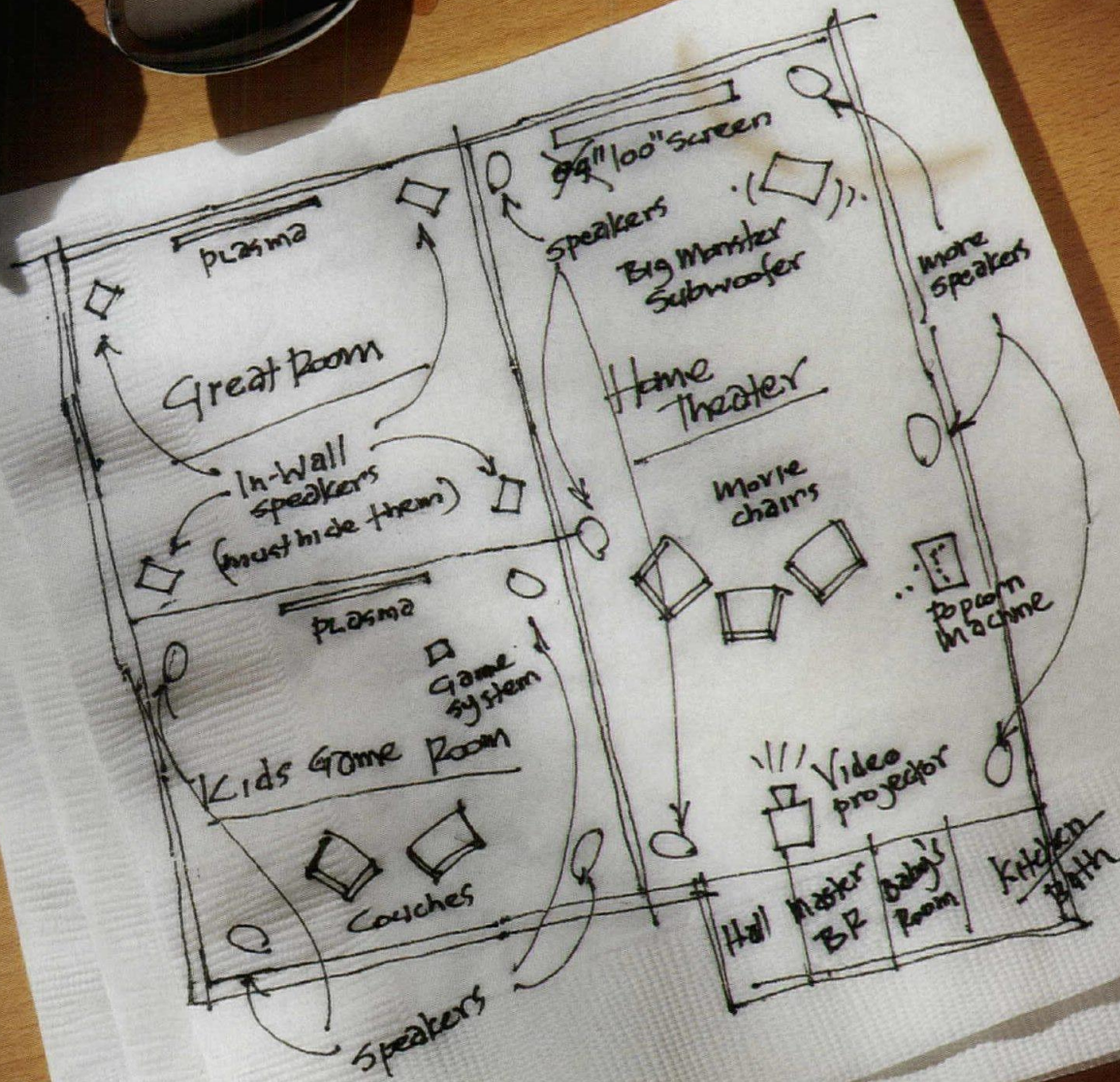
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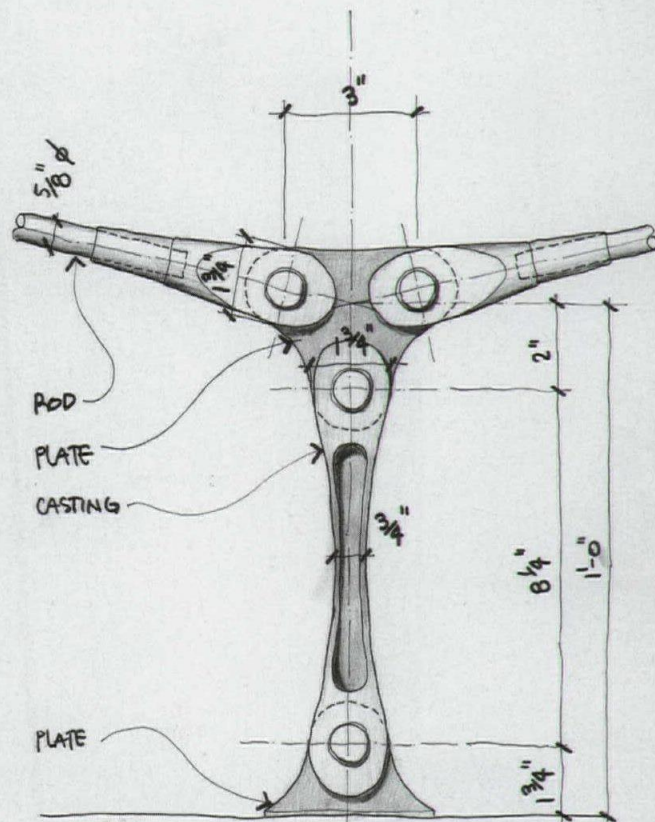
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CONNECT THE DOTS



Rem Koolhaas plots out his design of the McCormick Tribune Campus Center at Illinois Institute of Technology using student-worn paths that once ran across the former parking lot. Renzo Piano tracks the sun across the full-block site of his Nasher Sculpture Center, designing cast-aluminum sunscreens—and their support hardware (above)—to pour ambient northern Texas light through vaulted-glass gallery ceilings. To realize the three giant shells of his Jubilee Church, Richard Meier employs a system of post-tensioned precast-concrete blocks with a complex joint pattern of horizontal radial lines and vertical parallel lines.

In these projects, modern master designers, whose reputations sometimes outshine their oeuvre, outshine their reputations, producing tectonic schemes that go beyond mere formal imagery or one-liner gimmickry. Even the corrugated-metal-clad commuter-train tube that Koolhaas imposes upon the rectilinear sanctity of Mies van der Rohe's campus escapes easy dismissal, accepting the messiness of urban life and producing an architectural solution that dampens, but does not devalue, its effects.

Each project—a university building in Chicago, a cultural institution in Dallas, and a parish church in Rome—seamlessly connects structure to program and site. Each warrants study, and, like all significant buildings, a visit.



Nasher Sculpture Center

THESE BOOTS ARE MADE

Dallas is the quintessential amorphous city, where towers and parking structures sit cheek-by-jowl with highways and byways. Sidewalks are moats around buildings, not pedestrian thoroughfares. Coffee bars are few and far between. The mall and the shopping center seem to be privileged above all else.

The city's 62-acre arts district—its slow gestation underway since the early 1980s—aims to chip away at the status quo, making a walkable precinct of culture and associated commerce. This is a tall order in any car-happy town, but the area's potential for success got a boost in October with the opening of the Nasher Sculpture Center, a museum and garden which happens to have a very good café. The arts district, just south of the submerged Woodall Rogers Freeway and intertwined with the city's commercial core, already holds Edward Larabee Barnes's Dallas Museum of Art (1983) and

I.M. Pei's Morton H. Meyerson Symphony Center (1989), among other institutions. And there are more high-profile projects in the works: a theater by Norman Foster, a performing arts center by Rem Koolhaas, and the expansion of an arts high school by Brad Cloepfil. For the moment though, it is the Nasher that holds the greatest promise of activating this cultural corridor.

URBAN PHILANTHROPY

The name on the door belongs to Raymond Nasher, a real estate developer with a passion for three-dimensional art and a strong desire to share his world-class collection—50 years in the making—with the public. Long before his sculpture center came to fruition, many of the pieces collected by the developer and his late wife Patsy were on display at his company's NorthPark Center, one of



FOR WALKING

DALLAS GETS A DOSE OF URBANISM FROM
A SCULPTURE MUSEUM AND ITS GARDEN.
BY ABBY BUSSEL | PHOTOGRAPHS BY ADAM FRIEDBERG

the nation's first indoor malls when it opened in 1965. So the man who brought the mall to Dallas is now showing the city how to put its boots back on the ground. And he's put his money where his mouth is, buying the land (formerly a parking lot) and funding the design and construction of this 55,000-square-foot project that sits on a full downtown block.

The Nasher Foundation, which oversees the 300-piece collection, hired Renzo Piano Building Workshop to design its museum and landscape architect Peter Walker to lay out a 1.5-acre sculpture garden for large-scale installations such as Richard Serra's 50-ton *My Curves Are Not Mad*. The building parti is nothing short of pedestrian. And that's a good thing. Five 112-foot-long pavilions, defined by six travertine-clad sidewalls, sit perpendicular to Flora Street, where the main entrance is located. End walls are low-iron

glass, visually connecting the street through the serene pavilion interiors to the garden. In contrast to the outscaled acrobatics of the city's postmodern skyscrapers, Piano's design brings a human scale and a civic posture to ground level. One misstep here is in the travertine walls that surround three sides of the garden. Meant to enclose an oasis in the concrete desert, the walls have few openings, fostering more of a fortress feel than that of an Edenic respite. Blocking out the roads and parking lots and other visual noise is a necessity, but it may also undermine the ability to integrate this urban park with the other buildings planned for the arts district.

The single-story pavilions do, however, connect land and sky in a way few high-rises can. The pavilion roofs are curved glass vaults, supported by steel ribs and rods. Above these wall-to-wall skylights reside cast-aluminum sunscreens that funnel ambient northern light

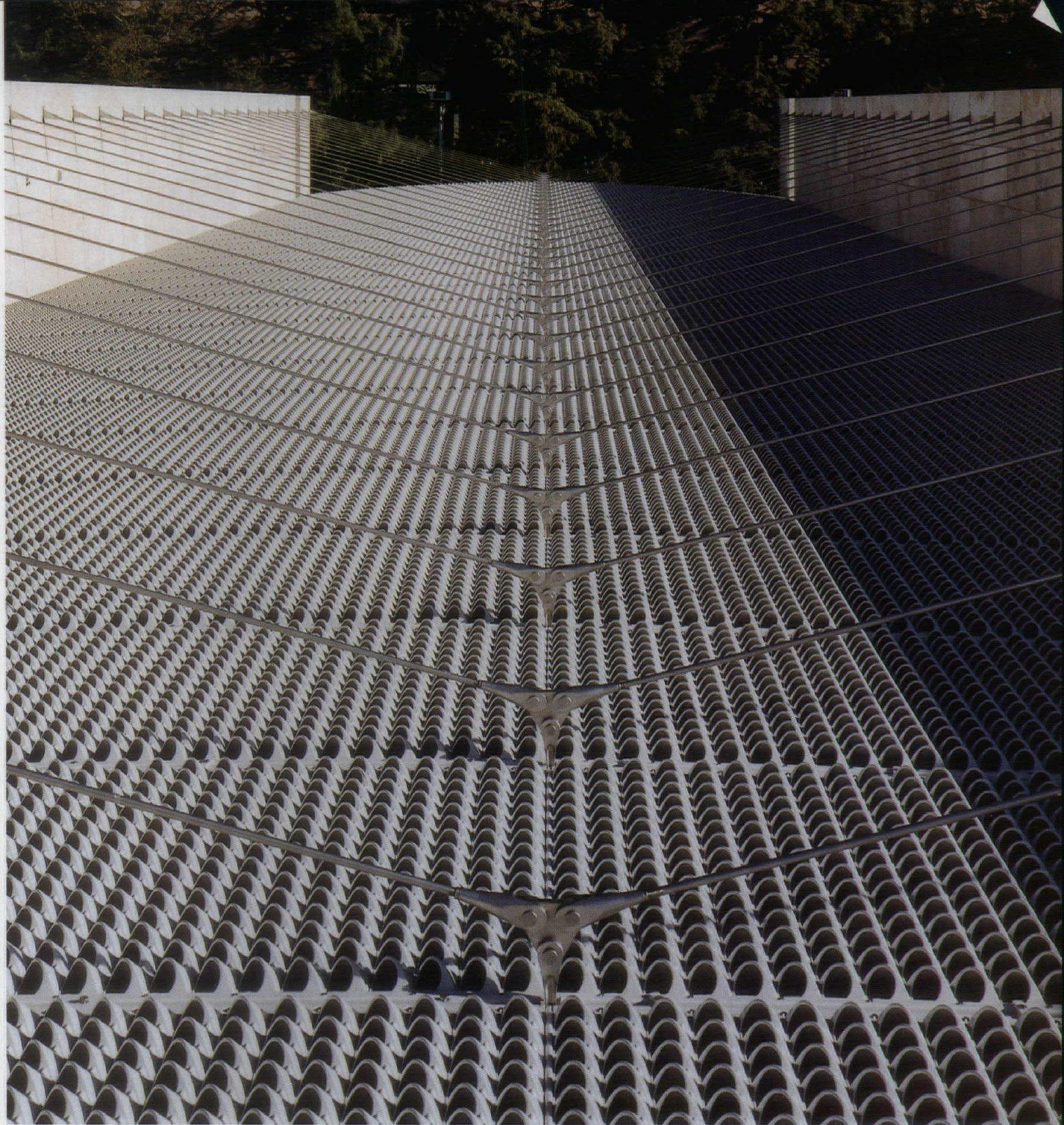


into the galleries (see "Protective Membrane," page 91). Beyond its pragmatic role, the sunscreen device, with its field of tiny hooded cones, serves as a kinetic sculpture, changing its pattern as the viewer moves beneath it. (Piano, of course, is well-schooled in the manifestations of Texas light, having engineered innovative rooftop filtering systems to tame the sun over Houston for the Menil Collection in 1986 and the Cy Twombly Pavilion in 1995.)

The multiple perspectives afforded by the sunscreens echo the way in which Nasher wants visitors to view his collection—in the round. This project is about seeing all sides of a work—and, perhaps, a city. The garden is a conducive, if imperfect venue for alighting on what he likes to refer to as "three-hundred-and-sixty views"

of each sculpture. Here, a linear landscape of allées, hedges, and plinths serves as an extension of the strong, simple geometry of the pavilions. Indeed, visitors are encouraged to walk on the grass, although the axial pathways seem to send the opposite message. And the green granite paving stones are a few shades too dark against the creamy travertine pavilions and garden walls. In time, however, the already substantial oak, elm, pine, and willow trees will mature into a robust microforest, and the prescriptive landscape design will likely feel less formal.

With few architectural patrons in this country outside the corporate world, Nasher's example should hold national interest not simply for his extraordinary collection—including works by Rodin,

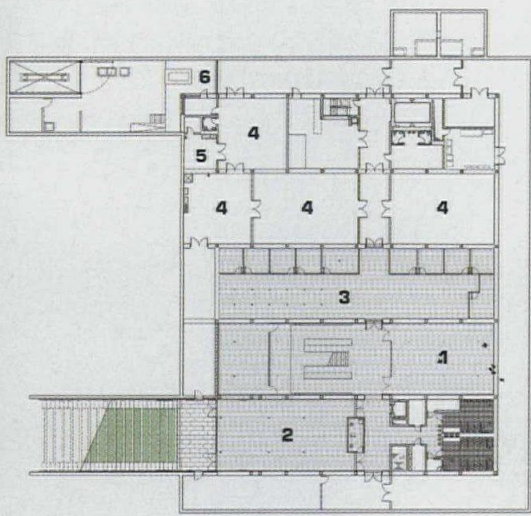


Picasso, Matisse, Giacometti, Miró, Moore, Kelly, and di Suvero, among others—but because he has made it clear that design matters, especially where it meets the street. He's also shown that when building in a city, modesty is as valuable as majesty, even in a state the size of Texas. ■■■

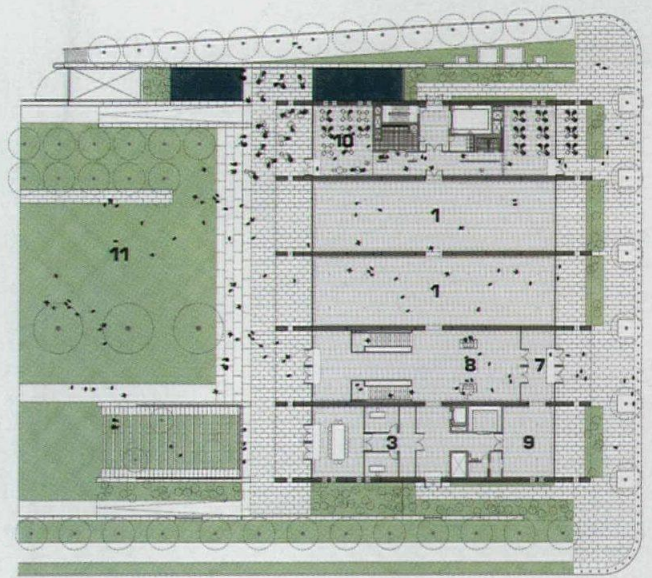
Nasher Sculpture Center, Dallas, Texas

client | The Nasher Foundation **architect** | Renzo Piano Building Workshop, Genoa, Italy—Renzo Piano (principal); Emanuela Baglietto (partner-in-charge); Brett Terpeluk, Shunji Ishida (senior partners); Bettina Bauer, Leonardo Pelleriti, Susanna Scarabicchi (partners); Andreas

Symietz, Elisabetta Trezzani, Giovanna Langasco (CAD); Yoshihito Kashiwagi, Fausto Cappellini, Stefano Rossi (models) **consulting architects** | Beck Architecture; Interloop A/D **engineers** | Ove Arup & Partners International (structural, M/E/P); Datum Engineer (associate structural engineer); Arjo Engineers (associate M/E/P); Halff Associates (civil) **consultants** | Peter Walker & Partners (landscape architecture); Ove Arup & Partners (lighting); Horton Lees Brogden Lighting Design (outdoor lighting); 2X4 (graphics) specialty contractors/suppliers | AEC (ceiling system); Archiglaze (glass fabrication); Haley-Greer (glass installation); Moore Fabricators (light channels/diffusers); Supreme Systems (roofing/waterproofing); Dee Brown (stone) **general contractor** | HC Beck **area** | 55,000 square feet (building); 62,000 square feet (garden) **cost** | \$70 million



lower-level plan



ground-level plan — 25' ↗

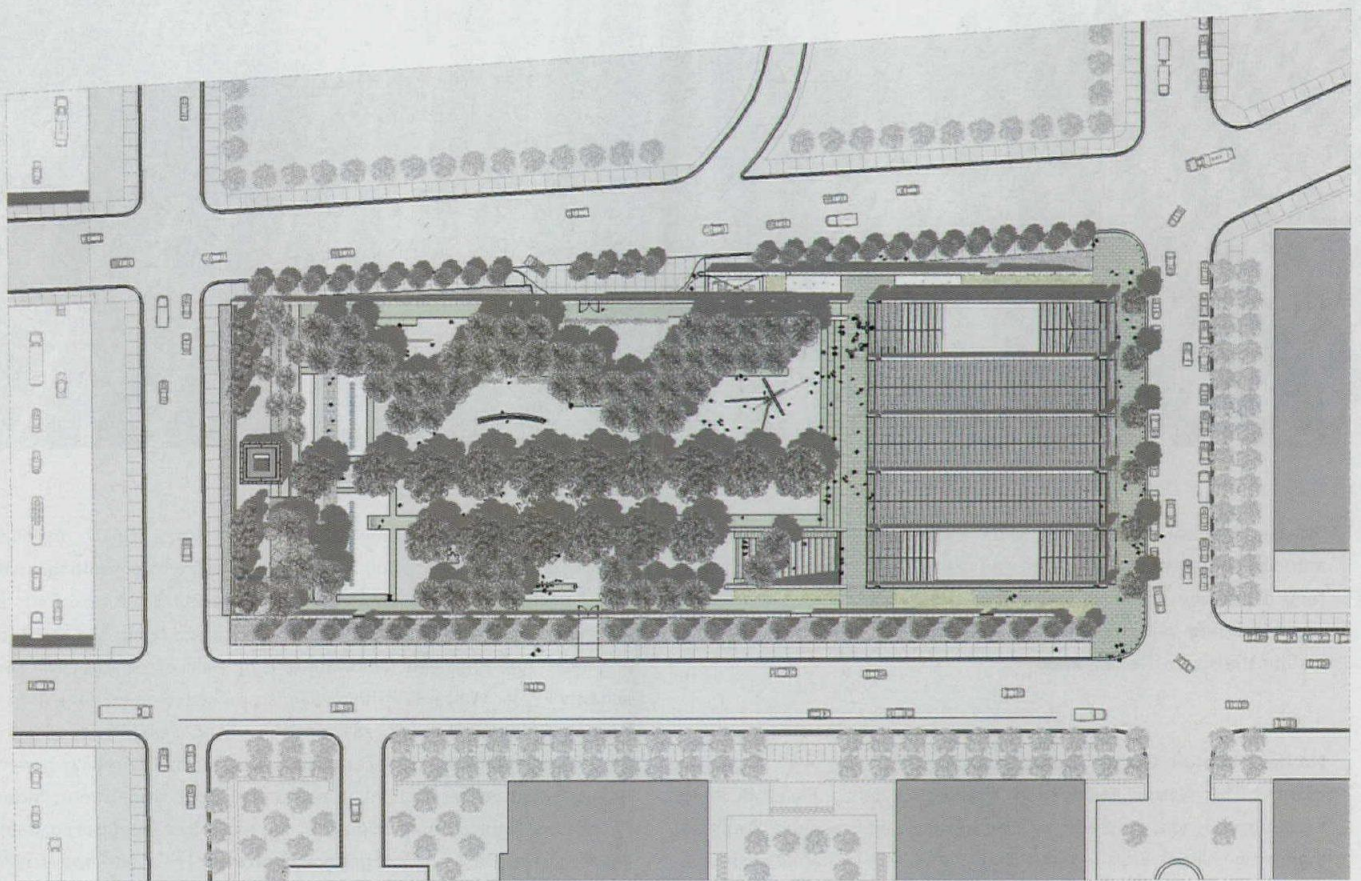


east-west section — 25'

- 1 gallery
- 2 auditorium
- 3 offices
- 4 storage

- 5 workshop
- 6 loading dock
- 7 entrance
- 8 ticket sales

- 9 gift shop
- 10 café
- 11 garden
- 12 amphitheater



site plan — 45' ↗

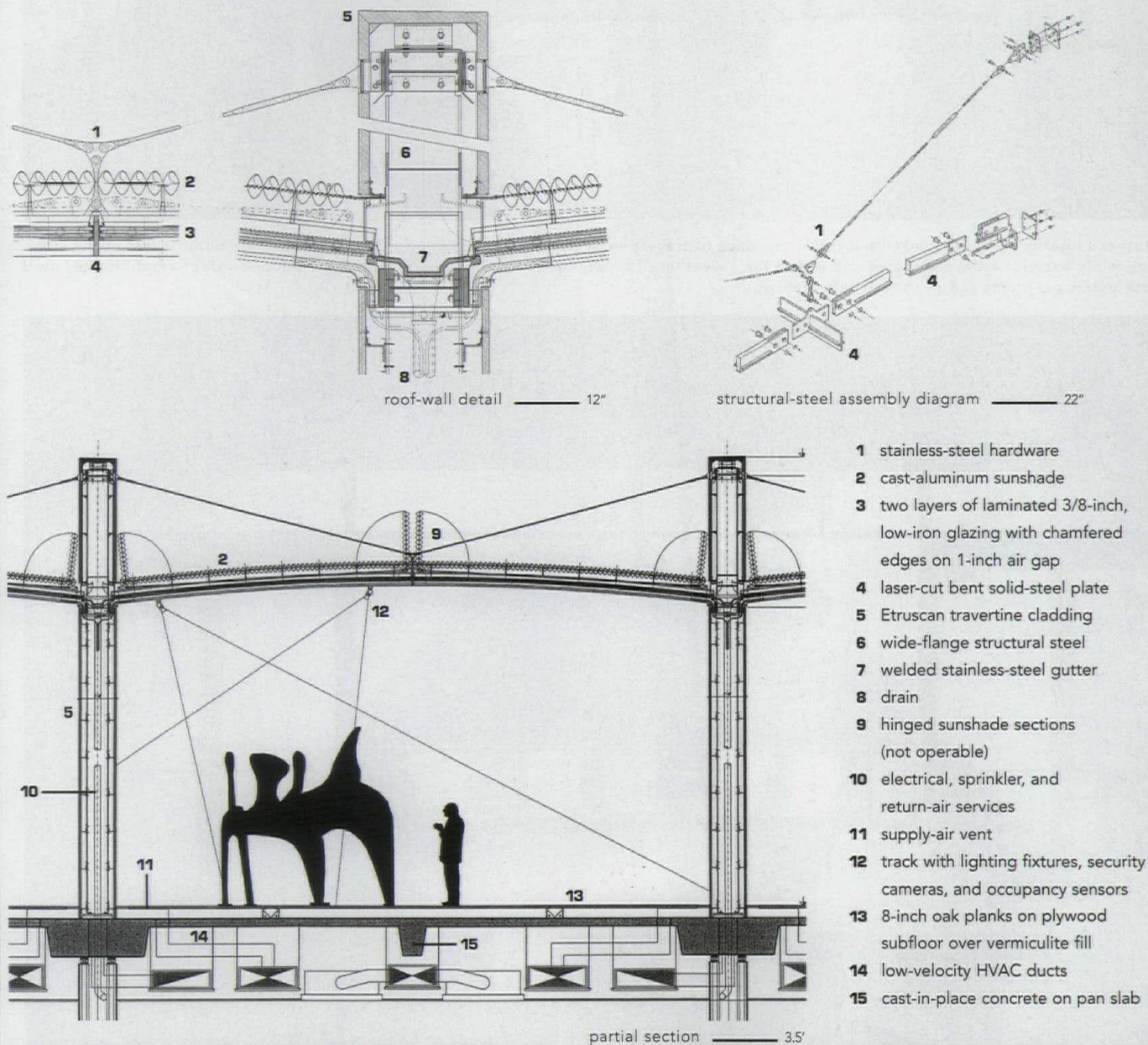
PROTECTIVE MEMBRANE

Five parallel pavilions, divided by long walls of rusticated travertine and terminating in delicate glass partitions, define the Nasher Sculpture Center. On the street, passersby have a view of the sculpture gardens within. Between observer and observed, however, is something less noticeable: Interior spaces appear open to the elements, but they are captured and rigorously controlled, with steady levels of diffuse natural lighting as well as temperature and humidity.

Against all conventions, the roof is glass. Architect Renzo Piano hangs shallow barrel vaults of 4-foot-by-16-foot low-iron glass panels 17 feet above the galleries from stainless-steel tendons anchored to structural steel behind the Etruscan marble. Then he defies nature: An unusual cast-aluminum sunscreen with small cone-shaped apertures shields most of the glass arcs from harsh ultraviolet rays; heat-trace elements below the glass prevent condensation; and rainfall is diverted into ample stainless-steel gutters in the wall assemblies. Cameras and smoke detectors—camouflaged as track lighting—protect against less natural threats.

The novel sunscreens are highly visible and, with the travertine, define the building's character. Assembled from hundreds of 4-foot-square sections, the shading element rides 6 inches above the glass, its 3-inch openings facing due north to admit only reflected and diffracted illumination. Hand-cast stainless-steel hardware and tension rods reach through the sunscreens to laser-cut steel plates and gently curving ribs. The resulting membrane protects the museum while admitting the highest possible levels of ambient northern light.

In building this roof, Piano displays a predilection for his native Italian craft and engineering. Of the 18 subcontractors coordinated to construct the roof assemblies, several were imported: The "extra-white" glass systems are by Padua-based Sunglass; Bergamo's Gipponi provided the laser-cut structural steel; and the coup de grace, the sunscreen, is the handiwork of Bologna's shop La Societa Sider. **C.C. Sullivan**



- 1 stainless-steel hardware
- 2 cast-aluminum sunshade
- 3 two layers of laminated 3/8-inch, low-iron glazing with chamfered edges on 1-inch air gap
- 4 laser-cut bent solid-steel plate
- 5 Etruscan travertine cladding
- 6 wide-flange structural steel
- 7 welded stainless-steel gutter
- 8 drain
- 9 hinged sunshade sections (not operable)
- 10 electrical, sprinkler, and return-air services
- 11 supply-air vent
- 12 track with lighting fixtures, security cameras, and occupancy sensors
- 13 8-inch oak planks on plywood subfloor over vermiculite fill
- 14 low-velocity HVAC ducts
- 15 cast-in-place concrete on pan slab



The Nasher's interior walls are clad with 2-inch-thick slabs of travertine, which have been honed to remove the rough outer layers of the stone (above), while exterior walls are coarse and pitted for a weathered finish. Garden and building meet at an indoor-outdoor amphitheater used for both public programs and private events (below).



EXIT



From Rodin to Calder: Masterworks of Modern Sculpture from the Nasher Collection

Through January 2000

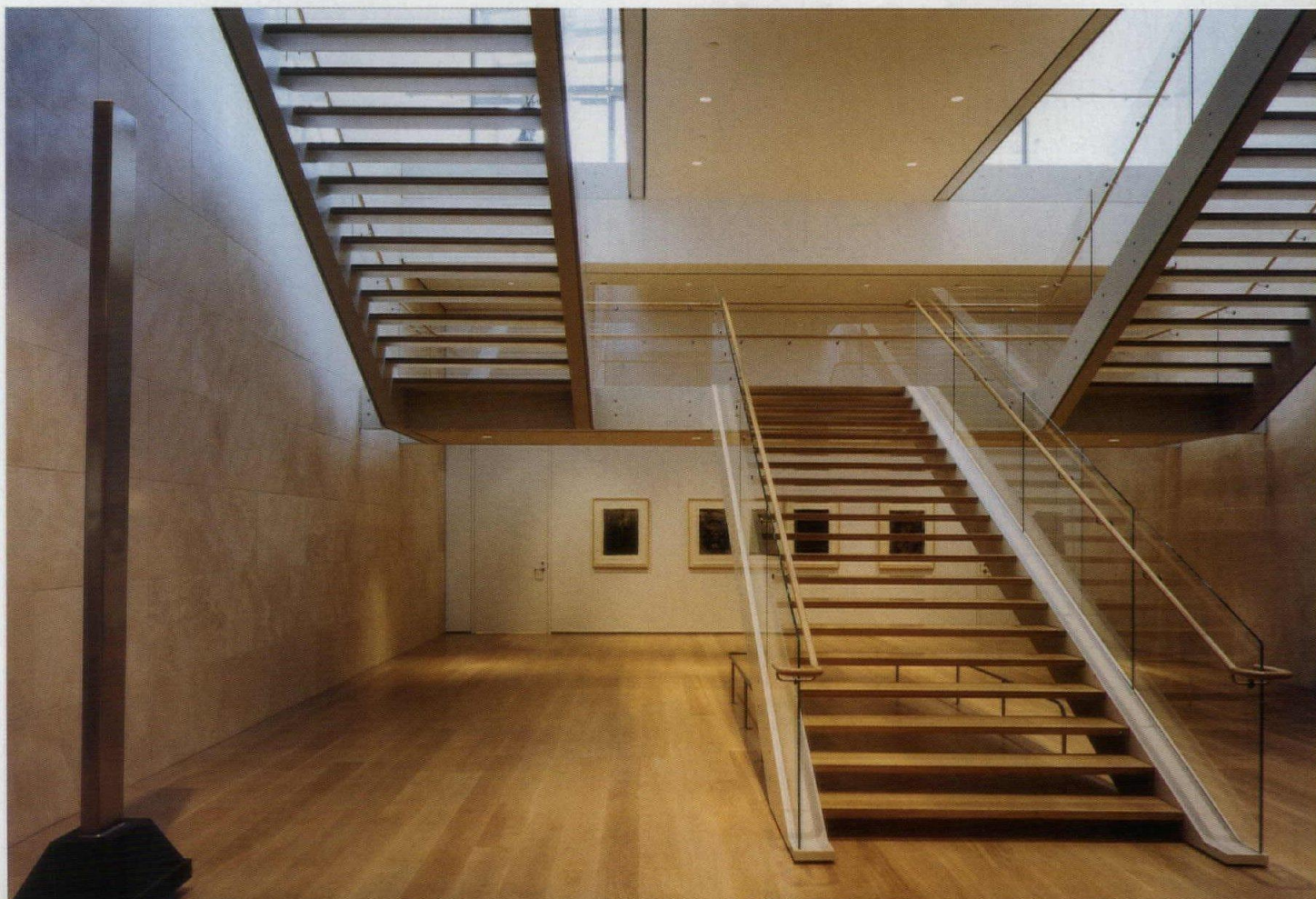
From Rodin to Calder: Masterworks of Modern Sculpture from the Nasher Collection is the inaugural exhibition for the interior galleries of the Nasher Sculpture Center. It highlights the art and the beautifully furnished environment for the display of sculpture that is central to Rayco Piano's building design. The exhibition comprises a total of approximately 70 works by more than 20 different artists, including probably unknown but also a selection of paintings paired with other works by the same artists.

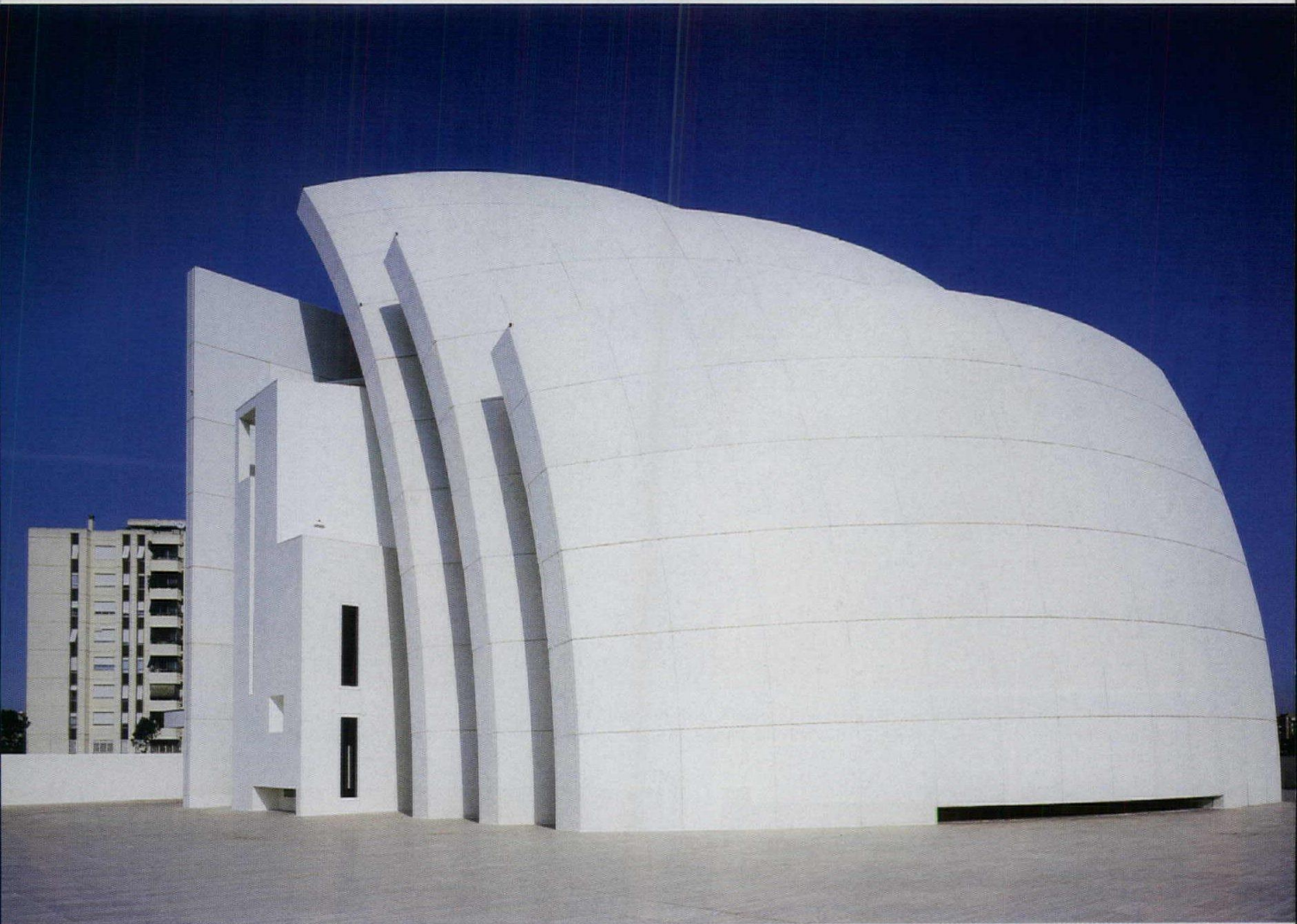
Patey and Rayco had Nasher begin collecting sculpture seriously in the mid-1950s. Early purchases of works by such masters as Jean Béraud, Henry Moore, Barbara Hepworth, and Alexander Calder in the fields of both modern and contemporary art. By the mid-1960s, the collection had reached a size and importance that began to attract international attention, and a traveling exhibition of Rayco's art organized by the Dallas Museum of Art toured from Dallas to Washington, D.C., Madrid, Florence, and Tel Aviv. A late show traveled to San Francisco and New York. Gradually, Raymond and Patsy Nasher began to dream of turning their private passion into a public museum. Patsy passed away in 1990, but her spirit lives on in the new Nasher Sculpture Center, which represents the culmination of that shared dream.

Today the collection numbers over 300 sculptures, thematic selections from which will rotate through the Nasher Sculpture Center along with other special exhibitions. The curators draw from many of the key artistic epochs that shaped the history of modern sculpture, from the expressive classicism of Auguste Rodin through such stylistic movements as Cubism, Constructivism, and Surrealism, to the plastic constructions of Calder and the formal investigations of David Smith. Particularly notable is the extensive representation of such artists as Pablo Picasso, Henri Matisse, Alberto Giacometti, and Davis Studio, whose multiple works provide an overview of each sculptor's historical development. This is why, above all, the Nasher Sculpture Center offers a true glimpse of the creative, pioneering spirit of modern sculpture in its diverse forms and thematic investigations.

Richard A. Nash
Director

Natural light is even and soft in the galleries, filtered through the vaulted glass ceilings and sunscreen apertures above them. Works on paper and other light-sensitive pieces of the Nasher Foundation's collection are displayed in a lower-level gallery space, opposite the main staircase (below).





WHEN IN ROME

RICHARD MEIER HELPS THE VATICAN CELEBRATE THE MILLENNIUM.

BY PAUL BENNETT | PHOTOGRAPHS BY LUIGI FILETICI

In the early 1990s the archdiocese of Rome realized something at once shocking and embarrassing: Here, in the seat of the Catholic religion, more than half a million worshippers lived in communities without a parish church, many of them in impoverished areas at the city's edge. In response, the Vatican embarked on an ambitious building program: 50 churches by the start of the millennium.

This year, the city inaugurated Richard Meier's competition-winning design for La Chiesa del Dio Padre Misericordioso, or the Church of God Our Merciful Father—also known as Dives Misericordioso and as the Jubilee Church. "We wanted to draw attention to the [Catholic] church's investment in its home turf," explained Monsignor Luigi Moretti, a spokesman for the archdiocese, at a press conference for the unveiling of the building. "We decided to use architecture as a way to actively promote this idea."

Standing between two 1970s-era housing projects in Tor Tre Teste, a neighborhood on the city's eastern fringe, Dives Misericordioso appears like a shimmering white art object amid Rome's peripheral sprawl. Forming the most salient feature of the building are three skyward-reaching concrete shells, counterbalanced by a rectangular mass that houses the building's secular components, such as offices and meeting rooms. With the sanctuary at the intersection of these polar geometries, the symbolism is clear: God is liminal, existing at a threshold between extremes.

As with all of Meier's buildings, the church is clad completely in white, a noncolor summation of the colors of the spectrum that creates a resonant canvas for the architect's manipulation of light and space. Part of the effect is created by the use of different tones of white. The concrete shells are of a patented mixture developed by manufacturer Italcementi that, when exposed to sunlight, is self-cleaning due to photocatalytic particles that oxidize atmospheric pollutants. Meier used Tivoli travertine throughout the sanctuary: Stone cut with the grain for the floor and cut against the grain for the walls creates a dialogue between the material treatments, as well as between the church and its geological context. (Tivoli is only 10 miles away.)

STRUCTURING SHELLS

The shells themselves are an engineering marvel. Hovering seemingly unsupported above the rectangular part of the building, they comprise post-tensioned precast blocks in the form of partial concentric spheres (see "New Twist on Thin Shells," page 97). "Nothing like this had ever been done," remarks Meier. "Each shell is literally freestanding and cantilevered from the ground." He adds that the machine developed by Italcementi engineer Genarro Guala to place the pieces and then tension them "was itself a work of art."

This high-wire act of shell design and engineering is, in part, the reason that Meier's "millennium church" was the last to be completed, nearly four years after the Jubilee. There is also the fact that the Catholic church, beset around the world by problems including the recent scandals in the United States, has had to tighten the reins on many of its ambitions. In the middle of the project, for example, the archdiocese put out a call to contractors and suppliers to make in-kind donations so that the church could be completed.

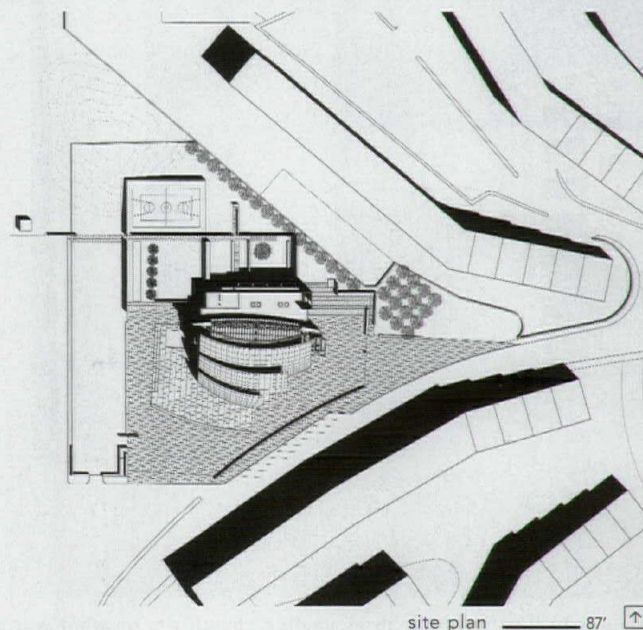
Meier shrugs off any criticism of the extended timeline. "I think of Santa Maria in Cosmedin, which, if I remember correctly, has a seventh-century bell tower, a twelfth-century nave, and a sixteenth-century interior," he says, referring to a well-known medieval church near the Tiber River in the center of Rome. "This is the way that churches have developed in Rome. I think it has taken us a very short time to make this one."

MAKING HISTORY

Designing a church in Rome places Meier in elite company, along with Raphael and Michelangelo. The American modernist feels a particular affinity for the work of Francesco Borromini, and specifically to the Baroque architect's chapel Sant'Ivo alla Sapienza located inside the confines of the old Rome University. Both architects share an interest in overt symbolism and theatricality. As well, the way Sant'Ivo's ornate and curvilinear form seems to explode from within the confines of Giacomo della Porta's subdued rectilinear Palazzo Sapienza is almost perfectly echoed by Dives Misericordioso's dazzling relationship to its context.

But it is Borromini's treatment of light and space that attracts Meier most. "The best churches in Rome have a quality of light that you experience in Sant'Ivo," says the architect, who briefly resided at the American Academy in Rome in the 1970s. "You walk in and you can't help it, but your head is drawn up."

Some suggest that the church might break too dramatically with tradition, however. Cinzia Abbate, who teaches architectural histo-

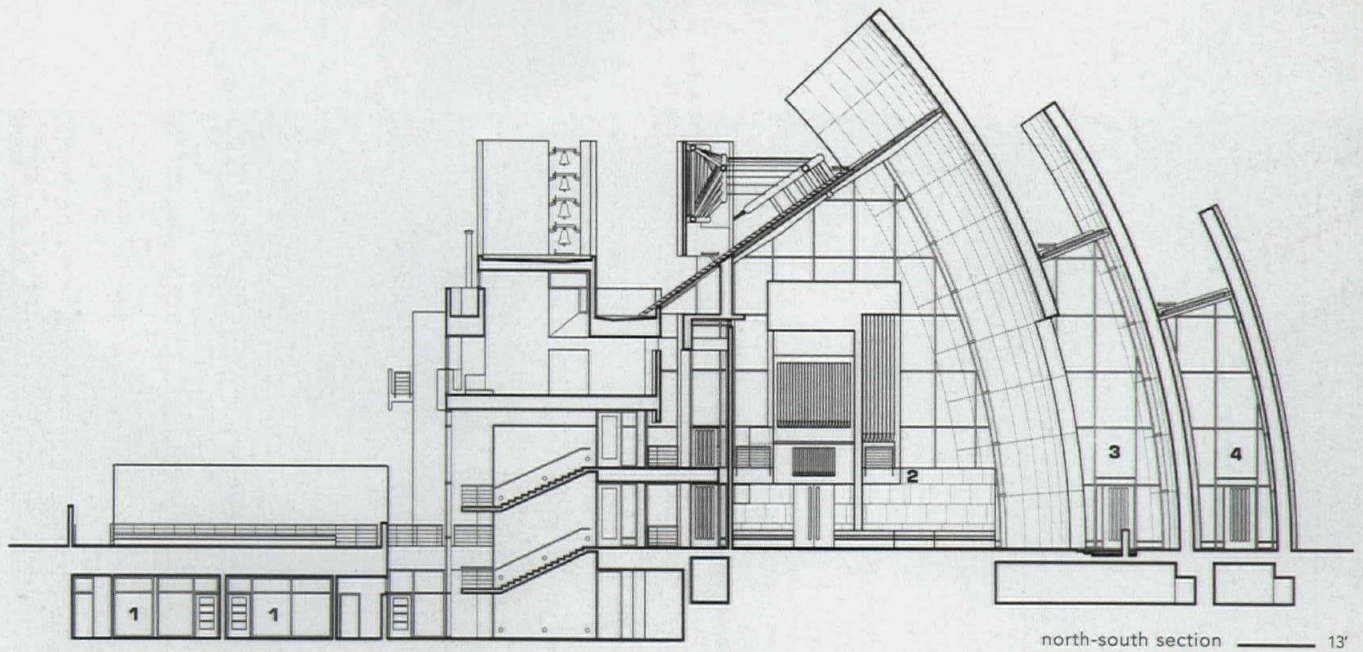


ry at Rensselaer Polytechnic Institute's Rome program, for example, says, "We are used to light in churches, but it's always more subtle. This one has an extraordinary amount that penetrates into every corner. The church is much more public, more transparent, than Rome is used to." In fact, accessibility was one of Meier's design mandates. The Vatican realized that the people it wanted to reach lived mostly in poor neighborhoods like Tor Tre Teste. Thus, from the beginning, the commission and competition briefs for the 50 churches required architects to accommodate varied programs that included community facilities such as meeting rooms, activity centers, and even spaces for theatrical productions in addition to the typical components (sanctuary, altar, chapel, bell tower). In this way, the Vatican hopes to modernize the idea of a parish church by expanding its mission with more secular agendas.

Just how open to the community the Jubilee will be remains a question, however. Because their new building stands out like a gleaming white target in this graffiti-covered terrain, parish leaders are concerned about vandalism. They requested that a large steel and concrete perimeter wall be erected around Meier's structure. Despite its usefulness, the wall could make the strongest architectural statement of all. ■



Meier's brilliantly white, three-shelled church sits on what was a barren lot between two housing projects on Rome's eastern fringe.



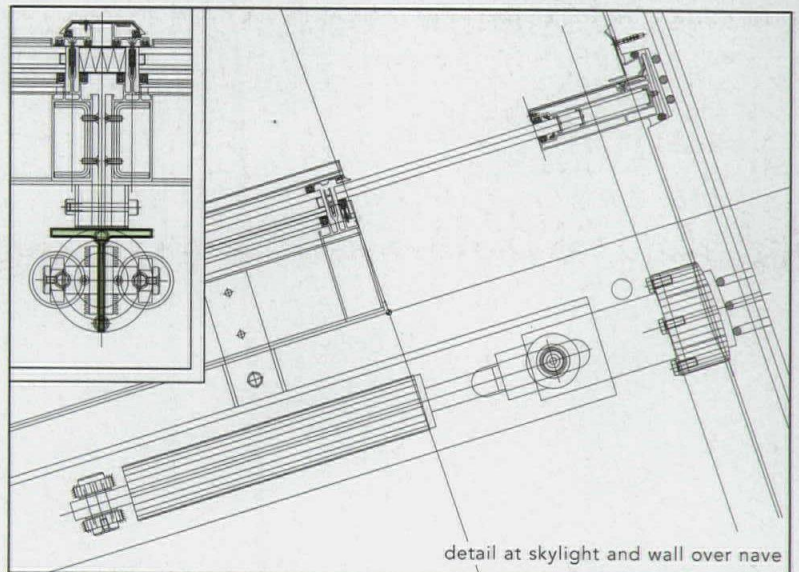
- 1 meeting room
- 2 nave
- 3 baptistry
- 4 chapel

NEW TWIST ON THIN SHELLS

To bathe Rome's latest church with heavenly light, Richard Meier shakes up a mature technology: thin-shell construction. Meier considered several structural approaches for three brilliantly white, freestanding segments of concentric spheres: Early on, ceramic-clad steel panels vied with poured-in-place or precast concrete alternatives, all to get a white stucco finish. But then came Italcementi, the Bergamo, Italy-based concrete manufacturer. Inspired as much by the idea of an exposed concrete structure as by Rome's history of stacked-stone cathedrals, the company's engineers suggested a novel system of post-tensioned precast-concrete blocks. The approach would precisely control the production of the complex curved-block geometries and deliver consistent, bright-white surfaces. (Pier Luigi Nervi used the photocatalytic, self-cleaning cement mix for one of Rome's Olympic venues, Palazzetto dello Sport, in 1958).

The suggestion was so appealing that Meier chose not only to expose the concrete, but also to articulate the joints. "We wanted to express each panel, yet minimize the joints and keep them tight for weatherproofing and for the expression of the shells," says Meier. The final joining pattern combines two disparate geometries: Horizontal radial lines from the three concentric spheres intersect parallel vertical lines derived from minor spheres. The ingenious scheme repeats vertically but not laterally, ideally complementing Italcementi's construction method: 365 blocks were hoisted and stacked by a gantry on rails and temporarily shored. Predrilled and fitted with steel bearing plates, the 8-ton, 30-inch-thick blocks were then post-tensioned under several tons of pressure.

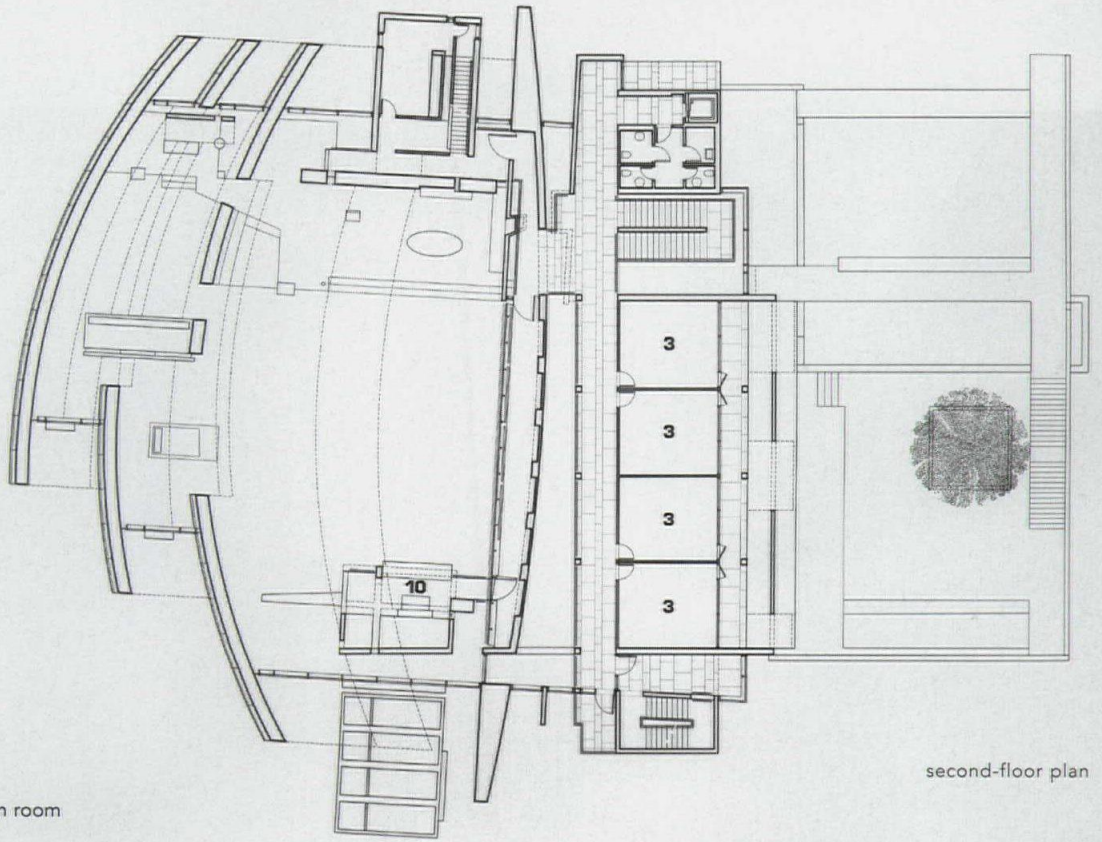
Unlike other thin-shell concrete techniques invented in Europe, however, the high-tech stone stacker is unlikely to find much application elsewhere. While entertaining to watch, its rate of two blocks per day might be considered a bit sluggish by today's standards. **C.C. Sullivan**



Joints at skylights, glass ceilings, and window walls accommodate the independent movement of the relatively stiff shells, caused primarily by temperature effects on their southern exposures and also by wind and seismic loads (above). An arched steel truss, held back with a series of horizontal rods, supports the center of the glass roof over the main nave (top).

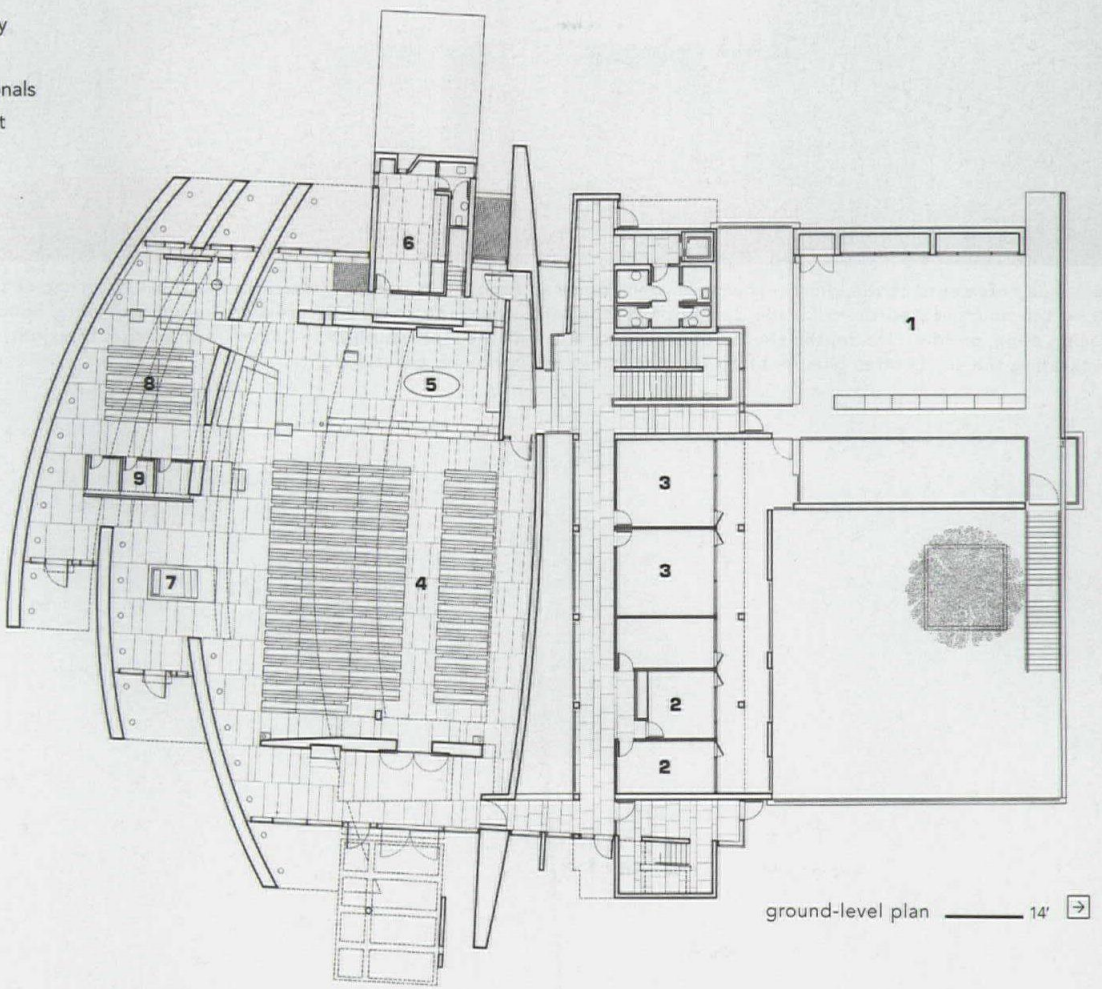


The nave is clad in travertine from nearby Tivoli. Along one side of the space, a slatted hemlock panel conceals a second-story walkway.



second-floor plan

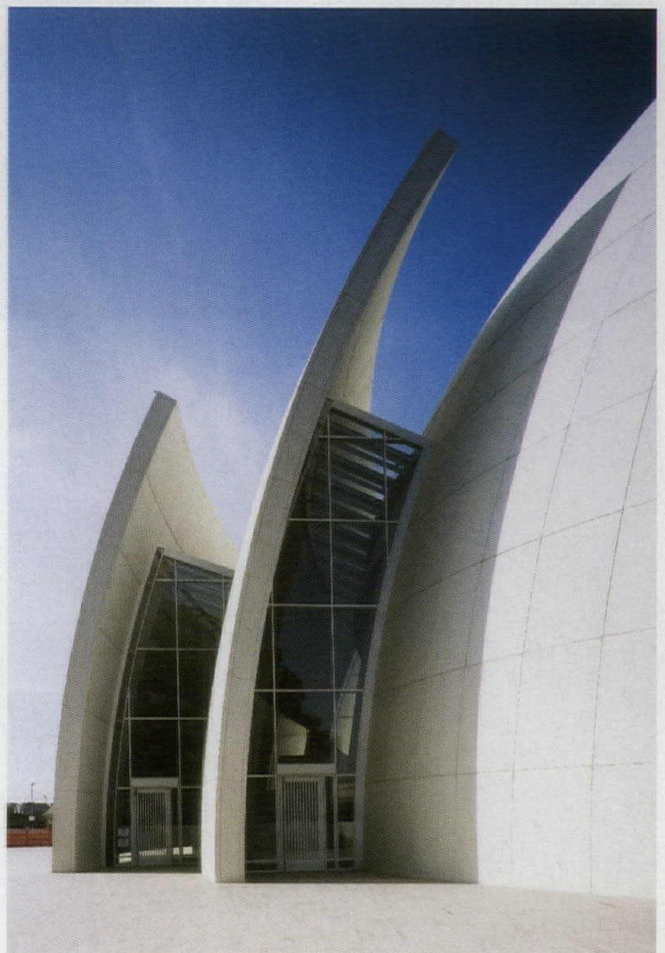
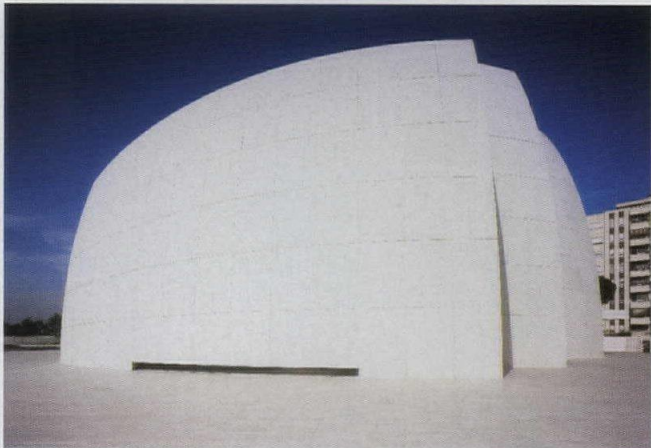
- 1 garden
- 2 offices
- 3 catechism room
- 4 nave
- 5 altar
- 6 sacristy
- 7 baptistery
- 8 chapel
- 9 confessionals
- 10 organ loft



ground-level plan 14' →



Like many elements of the church, the pews were donated (above). A garden graces the north-west corner of the site, concealed by a wall along the building's northern façade (facing page, top left), while the south side presents an impenetrable, windowless face to an empty lot (facing page, middle). Inside, the shells accommodate a chapel area just south of the nave (facing page, top right). From the east, curtain walls separating the shells offer glimpses into the baptistery (facing page, bottom right).



Jubilee Church, Rome

client | Opera Romana per la Preservazione delle fede e la Provista di Nuovo Chiese in Roma **architect** | Richard Meier & Partners, New York City—Richard Meier (principal); John Eisler, Matteo Pericoli, Alfonso D'Onofrio (design team); Nigel Ryan (Rome) **engineers** | Arup; Guy Nordenson and Associates (structural and M/E/P, design phase); Studio Tecnico Dottore Ingegnere Luigi Dell'Aquila (M/E/P, construction phase); Italcementi Gruppo (structural, construction phase) **director of works** | Ignazio Breccia Fratadocchi (general); Danilo Campagna (structure) **construction manager** | Studio Tecnici Michetti **contractor** | Lamaro Appalti Spa **consultants** | Enel Hidro (research and materials testing); Rita Pellegrine (seismic studies); Frener & Reifer (curtain wall and skylight); Fisher Marantz & Stone (lighting); Italcementi Gruppo (assembly, technical sponsor) **area** | 108,000 square feet **cost** | withheld

Specifications

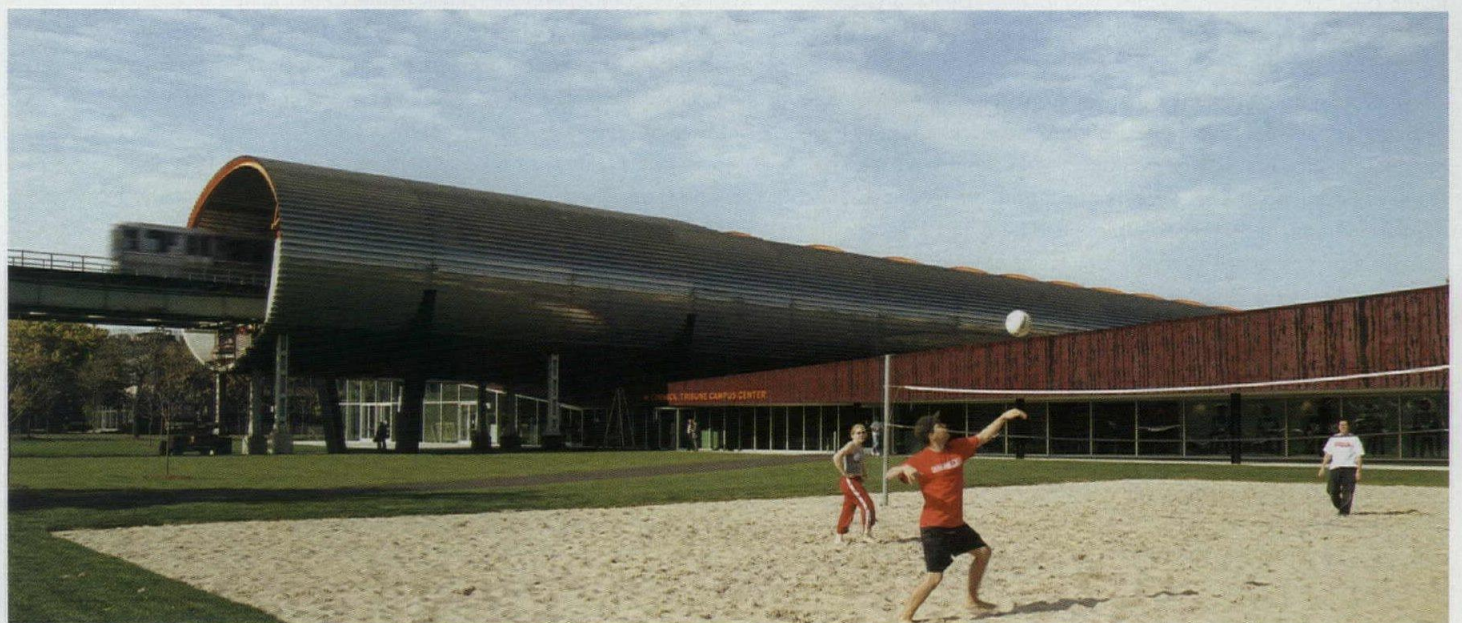
curtain wall and skylight | Schüco International (window frames); Pilkington (glass) **stone** | Carlo Mariotti & Figli **lighting** | Erco **stucco** | MAPEI **door hardware** | Valli & Valli **church pews** | Caloi Industria **organ** | Organaria Romana **acoustical project** | Bose Spa; Harmonia **precious metals** | Bulgari

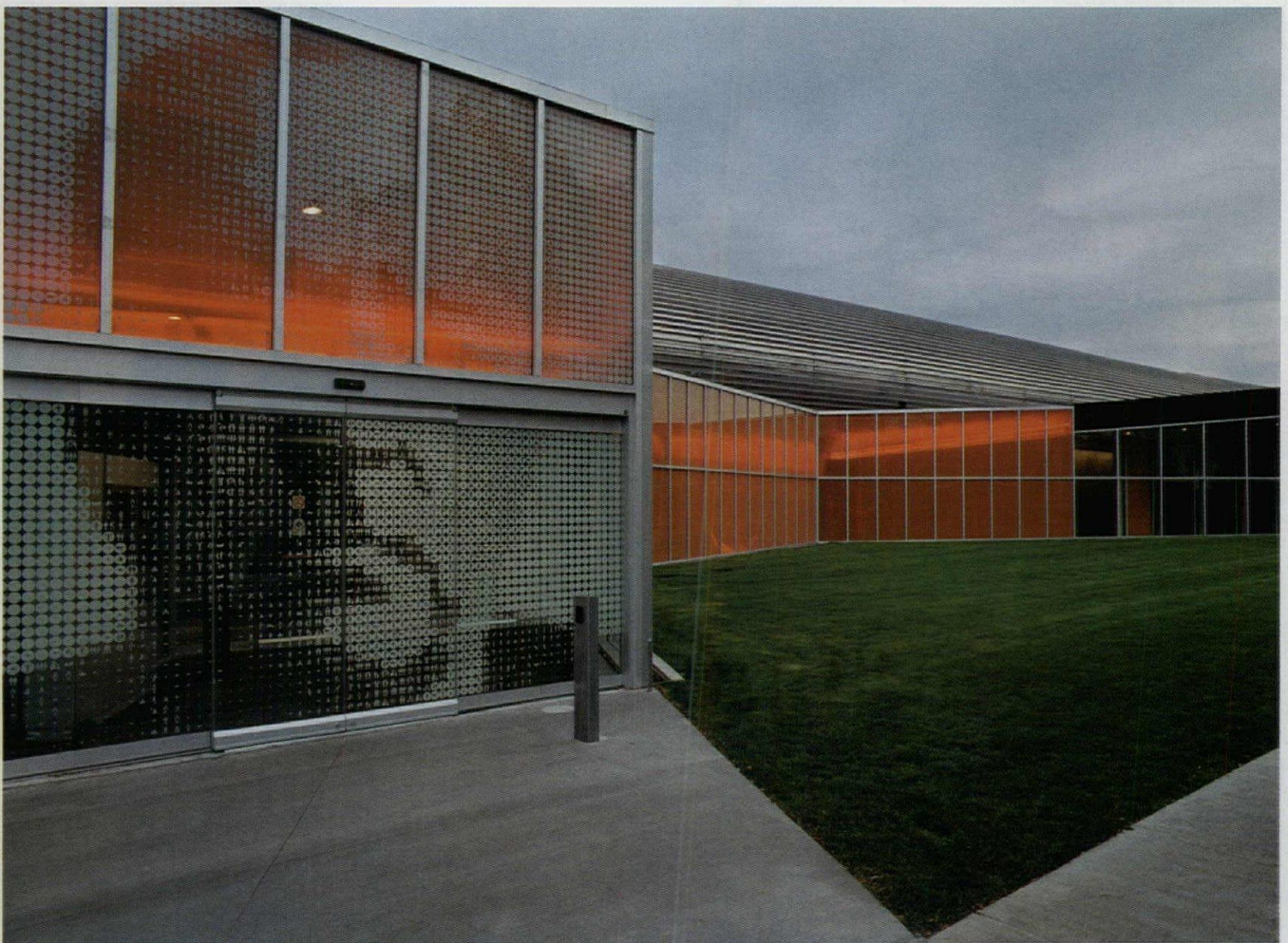


TUNNEL OF LOVE

REM KOOLHAAS'S STUDENT CENTER AT THE ILLINOIS INSTITUTE OF TECHNOLOGY SHOWS ADMIRATION FOR THE UNIVERSITY'S PATRON SAINT, MIES VAN DER ROHE, BUT NO RESPECT.

BY NED CRAMER | PHOTOGRAPHS BY FLOTO + WARNER





A 20-foot-tall portrait of Mies van der Rohe marks the door to the campus welcome center (above); visitors and students enter the building through his mouth. A west-facing courtyard breaks the street wall but is sealed off from the building by a bright orange curtain wall.

In the nineteenth century, architects freely roamed the urban landscape of Chicago. Today, Frank Lloyd Wright, Louis Sullivan, and John Wellborn Root are gods, their crumbling temples guarded by tweed-robed preservationists. Thousands of buildings—even whole neighborhoods—have been landmarked or listed. The design guidelines that inevitably accompany such designations encourage imitation rather than innovation, as though contemporary architects can't be trusted to do the right thing. So, in the past two decades, prairie-style libraries, beaux-arts parks, and art deco skyscrapers have risen in the city, with little or no irony to redeem them.

Thankfully, this year may mark a turning point for Chicago architecture. Several practitioners of note are working on, or have completed, projects that offer progressive solutions to the challenge of designing in a historical context, from the renovation and expansion of the neoclassical Soldier Field by Wood + Zapata and Lohan Caprile Goettsch to a new University of Chicago business-school building designed by Rafael Viñoly for a site across the street from Wright's Robie House. The most fascinating and complex solution arrived in September, when the Illinois Institute of Technology (IIT) opened its McCormick Tribune Campus Center, designed by Rem Koolhaas. In much the same way that Italian mannerists played with the standards established by their Renaissance predecessors, Koolhaas toys with the fundamentals of Ludwig Mies van der Rohe's architecture—knowingly, carefully, and, best of all, irreverently. "I do not respect Mies," Koolhaas maintains. "I love Mies."

MEETING OF THE MINDS

A block-wide strip of parking bisected by an elevated commuter train line separates the core of the IIT academic campus—where Mies conducted his radical experiments in steel-frame construction and open planning during the 1940s and 1950s—from a group of slightly later, Mies-inspired dormitories to the east. According to Donna Robertson, dean of IIT's architecture school and champion of the campus-center project, what initially distinguished Koolhaas's competition-winning scheme in the minds of the jury was his proposal to wrap the noisy elevated train in a corrugated-metal tube and to squeeze the roof of the campus center under it and across the entire block, creating an architectural connection between the residential and academic areas.

Just one building previously existed on the block, the 1950s commons designed under Mies's supervision by Gene Summers, an architect in his office. Koolhaas's L-shaped, 110,000-square-foot design attaches to it on two sides; together the buildings form a rectangle in plan. The prospect of this abutment enflamed a group of local, preservation-minded architects, who, in their blind faith, apparently saw no contradiction in defending an outdated building that was conceived according to modernist ideals of technology, progress, and clean-slate development. In the end, the old and new campus centers touch at only two points, and Koolhaas provides a courtyard-wide gap between them, so that students in the addition can muse on the old master's buff-brick exterior.

They probably won't bother, however, given the attention-deficit nature of the campus-center interiors. Koolhaas extended



The Founder's Wall depicts seven founders of IIT, including Mies (above). The floor-to-ceiling heads are built up from small, circular icons. When viewed up close, the circles become discrete graphics, each portraying the international symbol of a human being in a range of activities—all based on functions housed within the campus center.

the structural grid of the original center into his addition, where the exposed-steel members mingle with two separate rows of piers supporting the elevated tracks and the new steel tube, respectively. Large spaces such as a sunken central food court as well as an auditorium along the west façade frequently disrupt the grid. In fact, the new campus center's internal organization owes less to the grid than to a lattice of diagonal lines of circulation through the building. These are indicated by sight lines between entrances on the east, west, and south, and by partitions and depressions in the floor. Koolhaas drew the diagonals—"lines of desire," as planners call them—according to the paths that students habitually walked across the site, when it was empty, on their way from the dorms to class and back again. The diagonals also form two edges of an irregular, faceted courtyard on the west side of the building. Like a traditional European plaza, it remonstrates the free-plan campus across the street, but counterintuitively it serves no other function, allows no entrance to the building, and offers no place to sit.

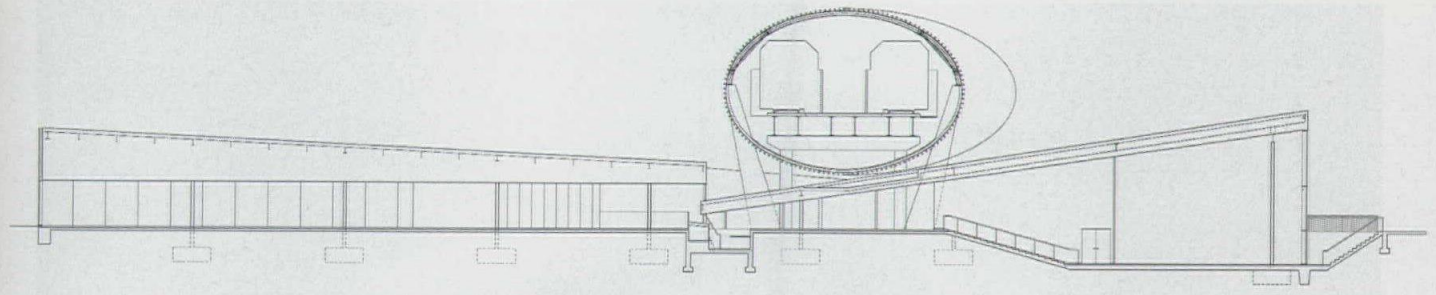
Koolhaas's façades are largely made of stock storefront glazing, the twenty-first-century equivalent of Mies's generic steel, brick, and glass. Pushing the parallel to an unparalleled conclusion, Koolhaas ignored the high standards of assembly that Mies established at IIT (and that Helmut Jahn attained in his delicate new dormitory down the street from the campus center), and let the fabricators and tradesmen do their mediocre best. God has forsaken the details. Koolhaas found him instead in the gloss: supersized graphics installations by Michael Rock of the New York City design firm 2x4, and psychedelic wallpaper and curtains by Dutch designer Petra Blaisse.

JUNK MODERN

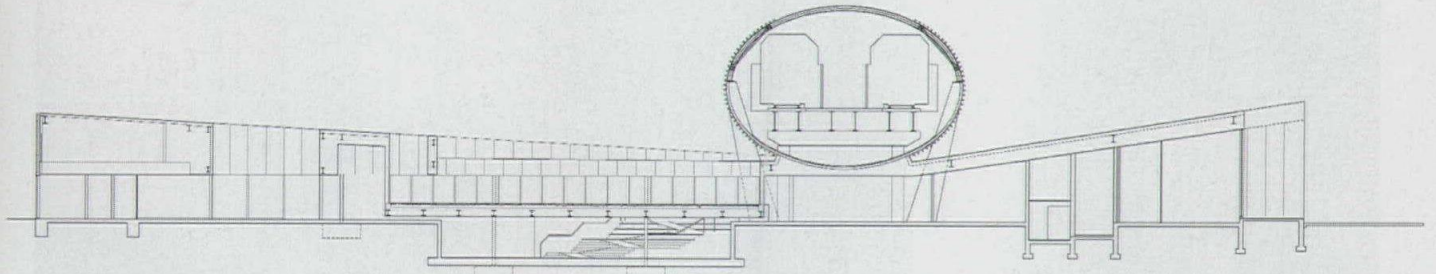
Every year, the local chapter of the American Institute of Architects gives a "Divine Detail" award, in an obvious homage. The IIT campus center can't possibly win one—the local criticism of the building focused on its poor-quality construction—but maybe AIA Chicago will be moved to invent a "Sacred Surface" prize just for the occasion. If they did, though, Koolhaas wouldn't take it either. There's nothing sacred about his building. It's a deliberately crass, commercial enterprise, intended to attract students to a campus that once ranked the ugliest in a nationwide poll.

The campus center, with its food court, Internet café, and pool tables, has more in common with casinos and shopping malls than it does with Mies. After all, Mies conceived and built a poetic "universal space" out of the generic structural-steel grid, only for developers, architects, and space planners to degrade the idea during the latter half of the twentieth century into a sub-architectural condition characteristic of every mall, office park, and airport on the planet—a condition Koolhaas calls "junkspace": "The product of an encounter between escalator and air-conditioning, conceived in an incubator of Sheetrock." The McCormick Tribune Campus Center constitutes nothing less than the return of junkspace to its birthplace, and out of the reunion Koolhaas has conceived a perverse new poetics of cool. Call it what you will: Miesian Mannerism, Funkspace, Junk Modern. Call it anything but Divine.

Ned Cramer is curator of the Chicago Architecture Foundation.

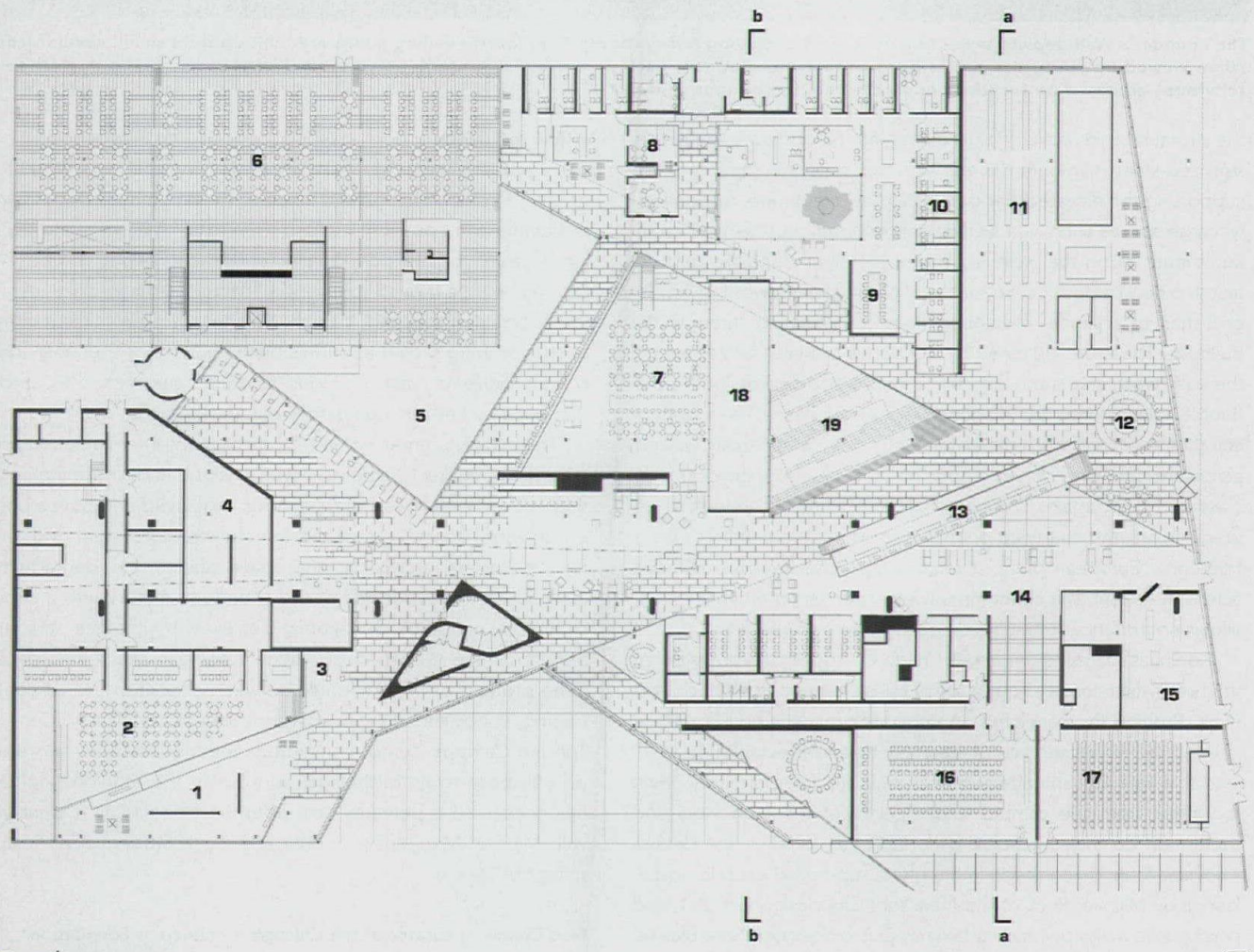


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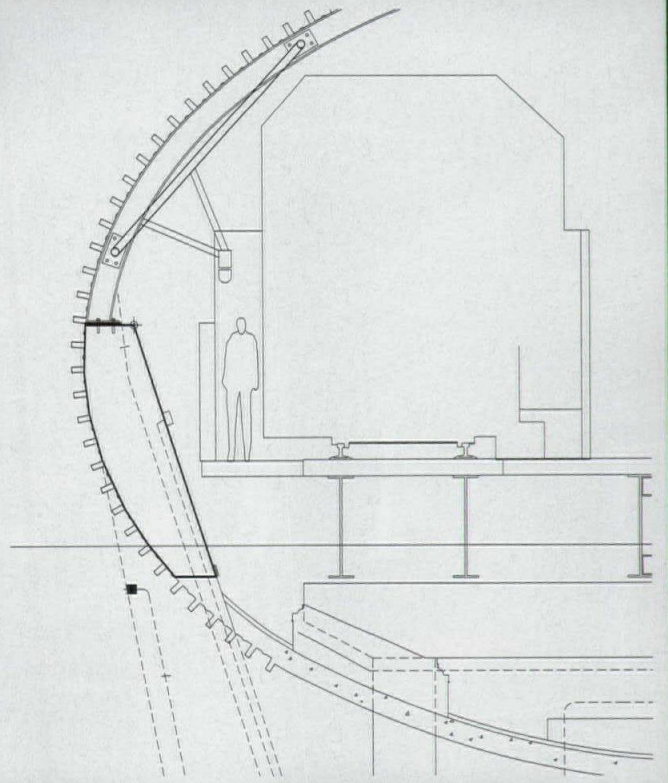
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|-----------------------------|---------------------------------|----------------------|
| 1 welcome center | 8 campus information center | 15 convenience store |
| 2 university club | 9 student meeting room | 16 ballroom |
| 3 reception | 10 student organization offices | 17 auditorium |
| 4 copy/postal center | 11 bookstore | 18 hanging garden |
| 5 Mies courtyard | 12 café | 19 ramped seating |
| 6 existing commons building | 13 computer stations | |
| 7 recreation/dining | 14 lounge | |



SOUND STUDIES

Rem Koolhaas likes friction; when disparate activities rub together, urbanism ignites. The elliptical tube muffling the roar of elevated trains over IIT's Campus Center is borne of such contravention. Conceived as 530 feet of cast-in-place concrete wrapped in a corrugated metal decking that doubled as formwork, the tube dips into Koolhaas's "main federating element": a folded concrete roof slab. (Actually, only the areas of the double-cantilevered roof over acoustically sensitive interiors are concrete mass. And while the tube's underbelly appears to serve as both roof and ceiling in a lounge area, the structures are necessarily independent, separated by up to 6 inches to allow for slab creep and live loads.) Other acoustical measures help reconcile mass transit and student life: Steel columns supporting the trestlework's plate girders, for example, were replaced with tapered columns of vibration-damping concrete. Some curtain walls sport mismatched glazing thicknesses on the same units—the differential helps cut off more sound frequencies—as well as insulating glass units filled with fluorescent-orange polyester tubes. Inside the center, the isolation techniques are more prosaic: Box-in-box construction, for example, protects a student radio station transmitting from within a few feet of Chicago's notoriously noisy "El."





A recreation area (above) sits directly below the stainless-steel tube that encloses the elevated train tracks, although the exposed corrugated metal is merely a symbolic gesture announcing the activity above. Roof and floor planes, which should be flat according to Miesian gospel, create an interior landscape of expanded and compressed spaces such as the computer center (below) and a ramped seating area (facing page).





The McCormick Tribune Campus Center, Chicago

client | Illinois Institute of Technology **architect** | Office for Metropolitan Architecture, Rotterdam, The Netherlands—Rem Koolhaas (principal); Dan Wood (project director); Kristina Manis, Jonilla Dorsten, Anne Filson, Sarah Dunn, Jeffrey Johnson (project architects); Gary Bates, Frans Blok, Gro Bonesmo, Eliot Bu, Becca Dudley, Martin Felsen, Adrienne Fisher, Bruce Fisher, Christina Fuchs, Laura Gilmore, Uwe Herlyn, Matthias Hollwich, Fernando Romero Havaux, Krystyan Keck, Adam Kurdahl, Vanessa de Assis Lamounier, Julien Monfort, Christian Müller, Matteo Poli, Julien de Smedt, Tuomas Toibonen, Angela van der Zee, Oliver Schütte, Joshua Ramus (project team); Erik Schotte, Bill Price (research and development); Vincent de Rijk, Bert Karel Deuten, Marc Guinand, Gaspar Libedinsky (models) **architect of record** | Holabird & Root, Chicago—Frank Castelli, Greg Grunloh, Dennis Vovos, Lyndsey Gemmell, Bryce Hanna, Michael Pancost, Jennifer Snider, Ji-Hun Jun (project team); Han Ying Lee, Michell Dremmer (interiors team) **engineers** | Ove Arup & Partners (structural); Terra Engineering (civil); Skidmore, Owings & Merrill (M/E/P); TNO/Renz van Luxemburg; Kirkegaard Associates (acoustic) **consultants** | 2x4; McGinty (graphics); Independent Telecommunications (telecommunications); Inside-Outside, Petra Blaisse with Kate Orff/Peter Lindsay, Schaudt Landscape Architecture (landscape); Inside-Outside (interiors); Studio Gang Architects, Chicago—Mark Schendel, Lynda Dossey (construction administration, welcome-center interiors); Sako & Associates (security) **construction manager** | Gilbane Building Company **area** | 110,000 square feet **cost** | \$48.2 million

Specifications

roofing | Neogard **curtain wall** | Neogard, American Grating **aluminum framing** | Wausau **ceilings** | Tectum, USG **paint** | Sherman-Williams **wall coverings** | DesignTex, Wolf-Gordon **acoustic panels** | Illbruck **aluminum flooring** | Power Stretch **toilet partitions/translucent glazing** | Panelite



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The passenger drop-off is spanned by 190 feet of brightly illuminated, silvery composite panels, supported by a large truss above it. The underside of the carport features eight soffited bulges showing where conveyor belts rise to the baggage-claim area. The narrow main terminal is highly transparent, admitting light and allowing ample views between programmatic elements and to the outside.

MAKING CONCESSIONS

Kohn Pedersen Fox | US Airways
International Terminal One |
Philadelphia

by C.C. Sullivan

Philadelphia's new 780,000-square-foot international terminal for US Airways by Kohn Pedersen Fox (KPF)—which, the *Philadelphia Inquirer* crowns, “lifts the city out of its bleak airport past”—succeeds by flaunting airport planning conventions. For example, rather than burying the arrivals sequence underground as is done at most airports, the so-called “sterile corridor” that leads arriving passengers to customs inspections is an elegant, glass-enclosed bridge on the third floor, drenched with sunlight and views of runways, departure gates, and even the ticketing hall and curbside drop-off. Rather than sitting under the departures hall, the skylit baggage claim is an elevated, ceremonial space that suggests the true significance of this international gateway. Instead of a rectangular arrivals hall, travelers enjoy an iris-shaped room topped with an impressively sloped space frame. And rather than a traditional “hammer-head” gate, a slender concourse pier resolves into a slick passenger scoop. Similarly gratifying programmatic inversions are found throughout. All of these innovations, and the systems that make

them work, are fully expressed tectonically, down to the fine detailing one comes to expect from KPF. If international travelers know Philadelphia at all, they will pinch themselves to make sure they're not dreaming: Until the new 13-gate terminal opened in September, this airport was the ugliest duckling of big-city aviation.

Alas, no good deed goes unpunished. This dazzlingly modern, fast-tracked feat of engineering and travel technology is undermined in insipid—though not uncorrectable—ways by its very own client, a four-headed beast led by US Airways. (The airline may at least be commended for selecting KPF solely on the basis of a verbal interview.) The other supposedly expert owners included a construction manager, a program manager, and Philadelphia's Division of Aviation, known ever so suitably as DOA.

Without trivializing an important new building that transforms Philadelphia into a cosmopolitan hub for the jet set, it's useful to examine the laundry list of client lapses that undermine the design's experiential intent and, in isolated cases, obliterate its functionality. While the missteps distract little from the terminal's architectural accomplishment, they invariably occurred for petty reasons or due to shoddy execution, and they produce results that often contradict their rationale. Following are some noteworthy examples:

◊ **In-house standards.** Why would DOA staff engineers insist upon unilaterally controlling major design elements, such as interior finishes and signage? Who knows, but that's what they attempted. KPF

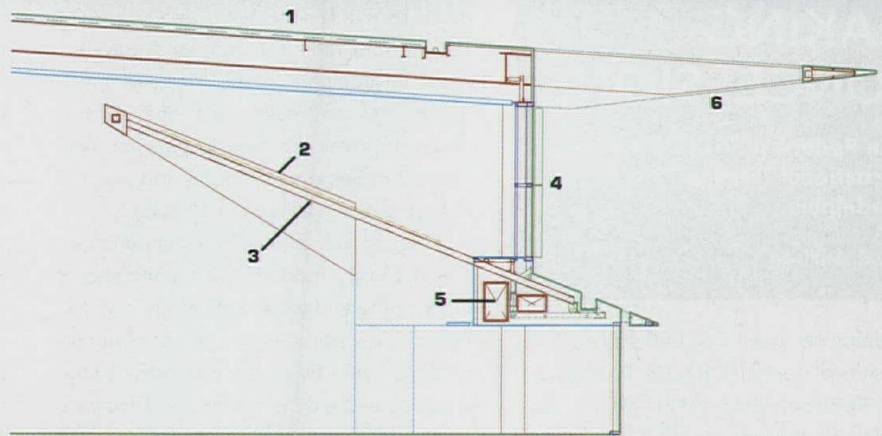
and US Airways vigorously and rightfully opposed the DOA's desire to see more of the dingy-grey ceramic wall tiles and dated maroon signage that mark older terminals. But their resistance was undermined elsewhere. Very late in the project, DOA unveiled a final scheme for concession signage—a design that had never been reviewed or endorsed by the architects. Even more degrading to the architecture are the kitschy artworks commissioned by Philadelphia's Office of Arts and Culture (undoubtedly using the same contracting methods that have drawn FBI attention to Mayor John F. Street and his cronies). At one end of the ticketing hall, for example, a bas-relief astronaut floats on a cartoonish outer-space backdrop; and billboard-sized calligraphy from the *Declaration of Independence*, a sort of ham-handed historical graffiti, mar the otherwise elegant arrivals hall. They're especially out of place in such cosmopolitan, sleek surroundings.

◊ **Passenger amenities.** The most egregious architectural lapse might be the mishandling by US Airways and the DOA of a critical intersection at the main terminal's western end, where it joins the concourse pier—an architecturally powerful convergence offering long views from both axes and a location where KPF originally proposed to place a highly visible, stylish lounge. Instead of such a celebratory landmark, however, a duty-free shop now obscures the drama and orientation of this corner, covering up its colliding structural geometries and acutely angled projections. (Fortunately, a retrofitted shadow



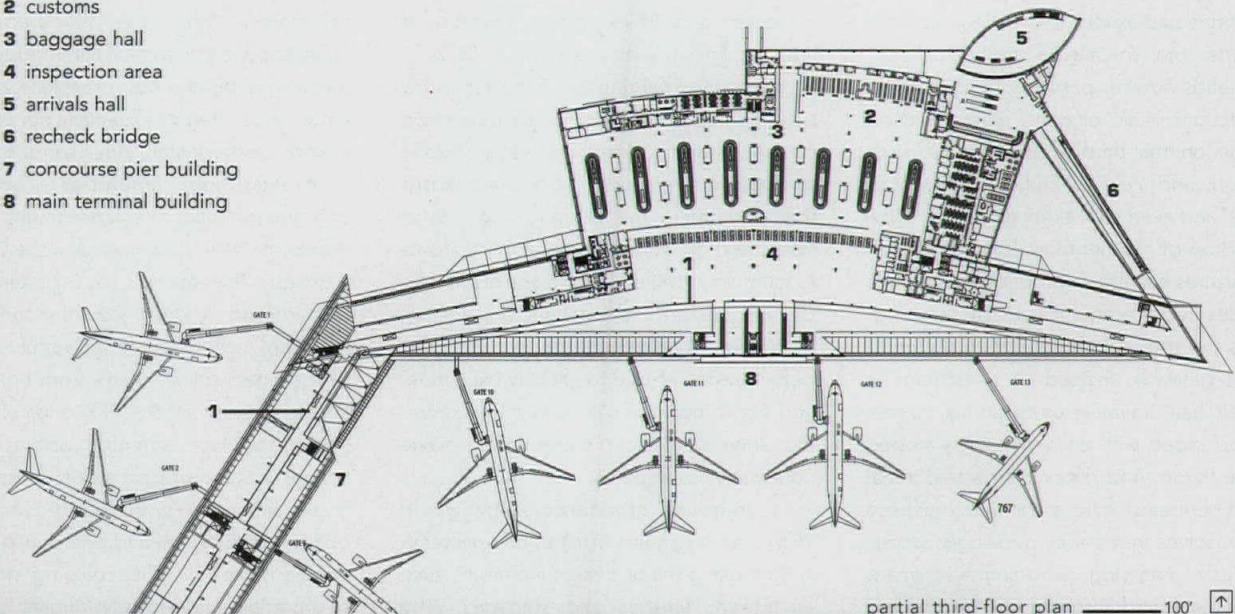
Aerodynamic eaves project from glass-finned curtain walls at the converging masses of the main terminal and the long concourse pier (top). The powerful corner was to contain an elegant lounge; airport authorities later decided to partition it off as a duty-free shop.

- 1 fully adhered single-ply membrane
- 2 light fixtures
- 3 painted steel tube
- 4 low-emissivity insulated glass curtain wall with glass fins
- 5 slot windows
- 6 open-joint insulated metal panels and framing system

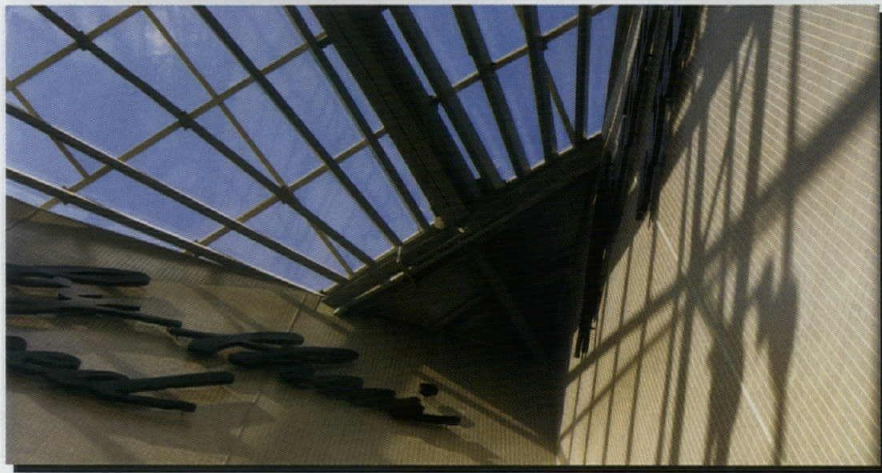
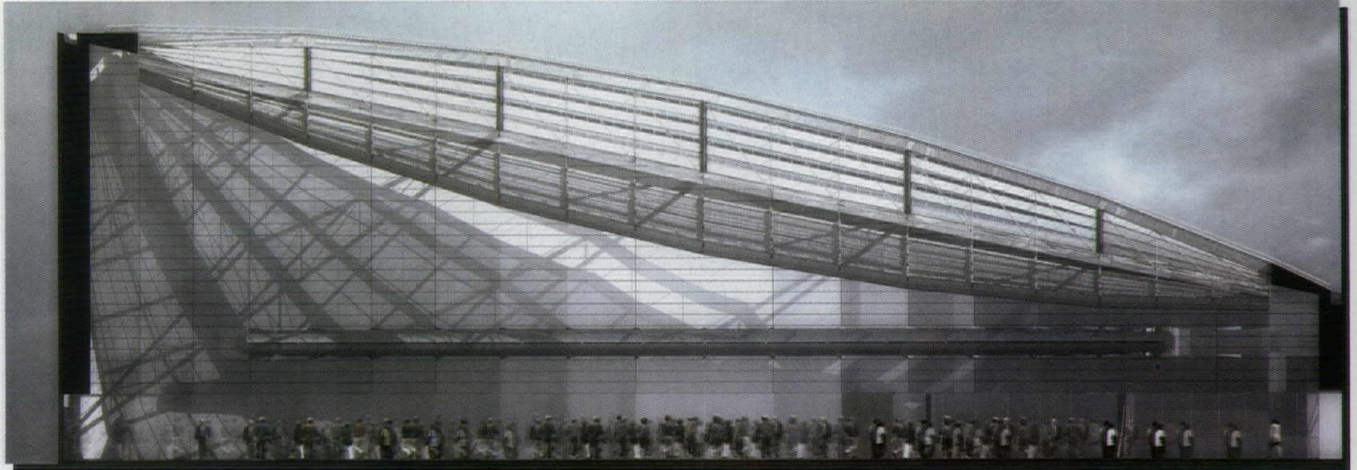


partial section at northwest wall ——— 7'

- 1 sterile corridor
- 2 customs
- 3 baggage hall
- 4 inspection area
- 5 arrivals hall
- 6 recheck bridge
- 7 concourse pier building
- 8 main terminal building



partial third-floor plan ——— 100' ↑



Kitschy art installations dilute two major spaces: the ticketing hall (not shown) and the arrivals hall (top), a skylit, iris-shaped room. The sweeping beauty of the space is disrupted by outsized calligraphy reproduced from the *Declaration of Independence* (above).

box maintains the integrity of the curtain-wall exterior, with its glinting 12-inch glass fins.) In other places, well-meaning airport officials applied similarly retrograde logic to please concessionaires. For example, every eighth column or so is painted in a vulgar pastel with presumably commerce-inducing icons (e.g., martini glasses) to alert unwary travelers as to the location of food stalls and newsstands. Why they thought this might boost business is unclear; the column-signs and color-coordinated banners are unreadable and enigmatic from any distance and meaningful only to the concessionaires' landlord, MarketPlace Redwood, which separately commissioned the work.

On the land side—and also after most of KPF's design work was done—the airport inexplicably chose to move a taxi waiting area into plain view of arriving passen-

gers, who now can observe a daily encampment of cab drivers sunning themselves, playing cards, or eating lunch. Even worse, the airport blissfully obscured much of its own architectural achievement from public view by making its massive parking garage of clumsy precast blocks higher and wider than originally planned. From the highway, this unwieldy structure obscures the alluring roofscape and shimmering expanse of the new terminal.

⇨ **Security enhancements.** Because much of the project's execution occurred after the attacks of September 11, 2001, perceived security threats drove many downstream design changes. Some were clearly needed: more closed-circuit cameras in ticketing and departure zones, room for automated explosives-detection equipment behind ticket counters, and boxy steel armatures for screening areas.

Others seem gratuitous: Banks of flight-information monitors in the ticketing hall, for example, considered potential cover in a gunfight, were backed up against elevator banks; now they not only can hide nefarious activity but they also obscure a major means of egress. In another case, thinking that athletic terrorists might toss weapons over the ticketing queues and into departures lounges, security officials raised by 2 feet a glass partition separating these two zones. The changes, including many unseen but critical enhancements, added nearly \$100 million in materials and labor to the final cost.

⇨ **Project management.** While one can't absolve the architectural firm from its due share of responsibility for a poorly administered design-build project—by some accounts, the budget ballooned to 85 percent over initial estimates—the fast-track process was laden with big-name consultants and public-sector managers unprepared to work outside of the city's standard competitive-bidding rules. The lure of overlapping design and construction schedules attracted the DOA's then-aviation director Dennis P. Bouey, who in 1998 hoped to accommodate US Airways' need to quickly move a fleet of new aircraft to the facility and, later, to capture a seasonal travel surge. But US Airways and the DOA continually revised the original scope of work, and in the end, the poor organization of the two groups—as well as weather and permitting delays—tacked on a full year to the airline's wait. And at \$42 million per gate, the terminal is far more expensive than comparable facilities set to open soon in Houston, San



From many vantage points, the airport's dynamic structure and programmatic elements are revealed to visitors. The strong composition stands up to such intrusions as a wayward green column (demanded by the airport's master concessionaire) and tepid artworks.

New International Terminal, Philadelphia

owner | City of Philadelphia **client** | US Airways **architect** | Kohn Pedersen Fox Associates, New York City—William Pedersen (design principal); A. Eugene Kohn (senior principal); Anthony Mosellie (principal-in-charge); Trent Tesch (senior designer); Bernardo Gogna (project manager); Liatt Avigdor, Li Min Ching, Jennifer Francis, Hidehisa Furuta, Zohed Jilal, Scott Loikits, Ayhan Ozan, Basak Yuksel (project team) **associate architects** | Kelly Maiello, Philadelphia; Pierce Goodwin Alexander & Linville (interiors) **engineers** | Severud Associates (structural); Burns Group (M/E/P); Urban Engineers (civil) **consultants** | Burns & McDonnell (project management); DMJM Aviation (program management); BNP (baggage handling); Synterra (landscape architecture); Daroff Design (signage, millwork); SPG3 (foodservice, retail); Thinkframe (graphics) **construction managers** | Turner Construction; Gilbane **photographs** | Woodruff/Brown **area** | 780,000 square feet **cost** | \$550 million

Francisco, and—also by design-build delivery—Dallas.

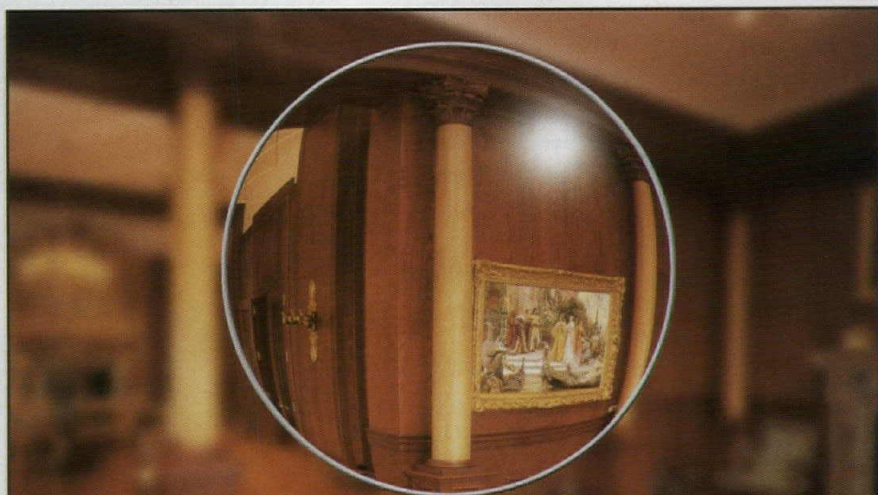
As much cause as effect, leadership changed constantly for what was Philadelphia's largest public project ever. While the architect remained throughout, US Airways swapped their construction manager (Turner Construction replaced Gilbane) when the work was well underway, and the city of Philadelphia employed no fewer than three aviation directors during the course of the project. Numerous US Airways officials left their jobs during the work, including former vice president of facilities Robert Hazel (now an airport consultant). Local politics and the souring economy added new meaning to force majeure: In January 2000, Mayor Street succeeded Edward G. Rendell, who, with then-city solicitor, Stephanie L. Franklin-Suber, vigorously advocated an unusual bond-financing deal and the skirting of standard municipal reviews to make the design-build approach happen. The new mayor soon renegotiated the city's oversight role to more closely manage the process. And in August 2002, US Airways declared bankruptcy.

INVERTING EXPECTATIONS

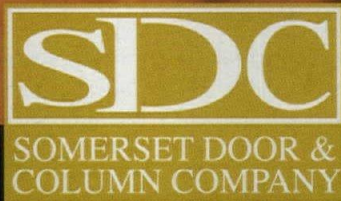
In spite of the tumult and the client's uncanny ability to undermine itself, the work succeeds. This is due largely to the strength of the initial concept and the convincing leadership of KPF design principal William Pedersen, who marshaled his firm's talent in a few months of schematic design to upend traditional notions of airport circulation patterns. The result gives physical expression to the building's structure as well as the disparate circulation elements that, although segregated, are visually apparent to the building's users. Many of these flows were often in conflict during conceptual planning—vehicular traffic, pedestrians, baggage, aircraft—yet their convergence yielded architectural opportunity. The splendid baggage hall, for example, resulted from the airport's unusual single-level vehicle access and the need for headroom

over rail lines that parallel the surface road. Unable to fit trusses for the 190-foot clear span comfortably underneath the volume, the design team flipped the structure to the roof, a move that led to its sawtooth profile and skylights—and one of the world's friendliest homes for baggage carousels.

Unexpected pleasures are what Philadelphia's new international terminal is all about. KPF's brief, unfettered design prerogative at the project's inception ensured that even the value engineering of a long and chaotic construction phase would not affect the enduring integrity of the building's intent. ■



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SOCIAL FABRIC

A tensile carport for a Chicago row house is complex to design, but easy to erect.

by Julia Mandell

Tensile structures are complex exercises in engineering sophistication. Pioneered by German engineer Frei Otto in the 1960s, these fabric constructions demand detailed calculations and thus, usually remain in the domain of engineers. Recently, however, architect Jeanne Gang, principal of Chicago-based Studio Gang, wanted to try her hand at building with **woven material**. "I've always been interested in fabric," she says. "I wanted to try to make it structural."

A carport in a Chicago neighborhood of row houses gave her the opportunity. The clients, whose home backs onto an alley that also functions as a communal gathering space, sought to shelter their car without affecting the social aspect of their parking area. "I hoped to encourage interaction and maintain a sense of lightness," says Gang.

Hence her adventure into tensility, and the challenges that came with it. Because the site was tight, it was a struggle to hold the structure in tension with minimal support. "Usually tensile structures are pulled into tension by numerous cords that extend either out beyond the area actually sheltered by the material or to the floor like a tent," Gang explains. "Here we wanted to leave space for people to pass underneath on all sides."

Through experimentation with small-scale models, Gang settled upon a winglike figure braced on a surprisingly minimal steel frame. **Y-shaped supports** stabilized with concrete pull the canopy down at center points on each side and up at all four corners, providing a double-curved surface that is strong enough to withstand both snow loads and uplift caused by wind.

The correct **loads and tensioning** were determined through the use of a proprietary computer program called "Tensyl" created by Angus Palmer, a structural engineer then in the New York City office

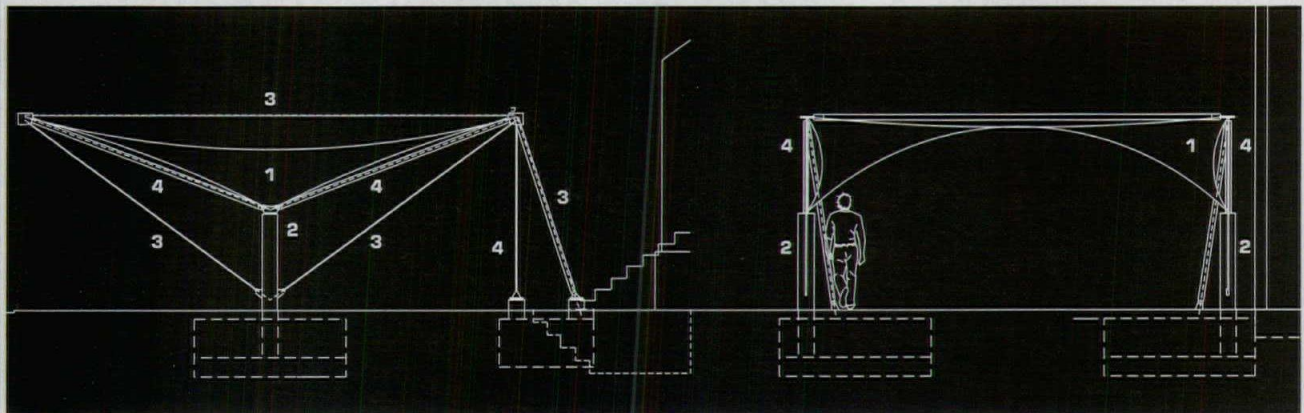


The white carport, whose brightness Studio Gang emphasized by whitewashing the adjacent wall, contrasts with the brick of the townhouses around it (above). The tight double curvature of the canopy can be seen clearly in section (below).

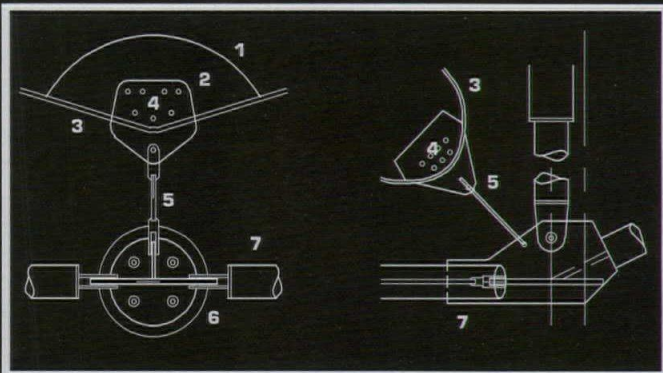
of Buro Happold Engineers. The data helped verify the proposed fabric form, ensure stability under all load cases, and determine member forces, allowing Palmer and Gang to quickly ascertain the size and thickness of the supports and cables and to calculate the required base sizes. They also chose a fabric, a polyvinyl chloride (PVC)-coated polyester from French fabric maker Serge Ferrari. Ferrari's "preconstraint" coating method entails applying the protective PVC coating while the polyester is in tension, improving its stretch characteristics.

All that remained was construction, which turned out to be a community event, satisfying Gang's aspirations: The **sewn fabric panels** arrived in a sort of laundry bag from the local fabricator, and rather than hire anyone, the clients rallied the neighbors—and their architect—and put up their very own tensile structure in an afternoon. ■

- 1 polyester canopy
- 2 concrete-filled galvanized-steel pipe
- 3 support cable
- 4 galvanized-steel framing



sections ——— 4'



connection details — 8"

- 1 polyester canopy
- 2 reinforcing
- 3 support cable
- 4 plastic panel membrane
- 5 stainless-steel tie bar fitting
- 6 concrete-filled galvanized-steel pipe
- 7 galvanized-steel framing

To connect the canopy and its supports, the flat fabric is pulled taut by grommited plastic panels looped with U-bolts (above). The stainless-steel support cable keeps the canopy stable yet flexible (left).



Off the Wall, Huntington, NY
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www.cascadecoil.com
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Joseph J. Scarpulla Architect, photo: Chris Bausch

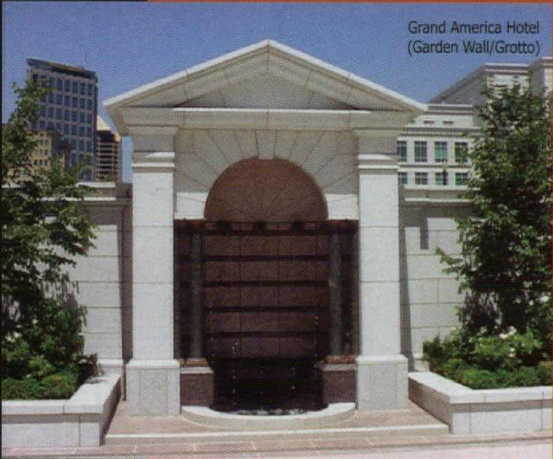
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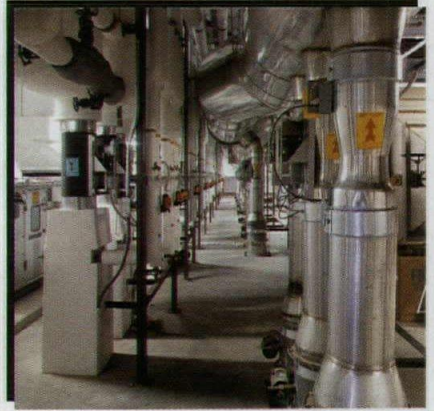
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Anshen + Allen used a "wolf in sheep's clothing" approach to the Contained Research Facility; it's modeled on a simple barn (above left). Inside is the "hot rod," the equipment that allows the building to operate as a biosafety-level-3 research greenhouse (above right).

M/E/P WITH MUSCLE

Anshen + Allen | University of California, Davis Contained Research Facility | Davis, California; Hellmuth, Obata + Kassabaum | Darwin Centre at the Natural History Museum, Phase One | London

by Jamie Reynolds

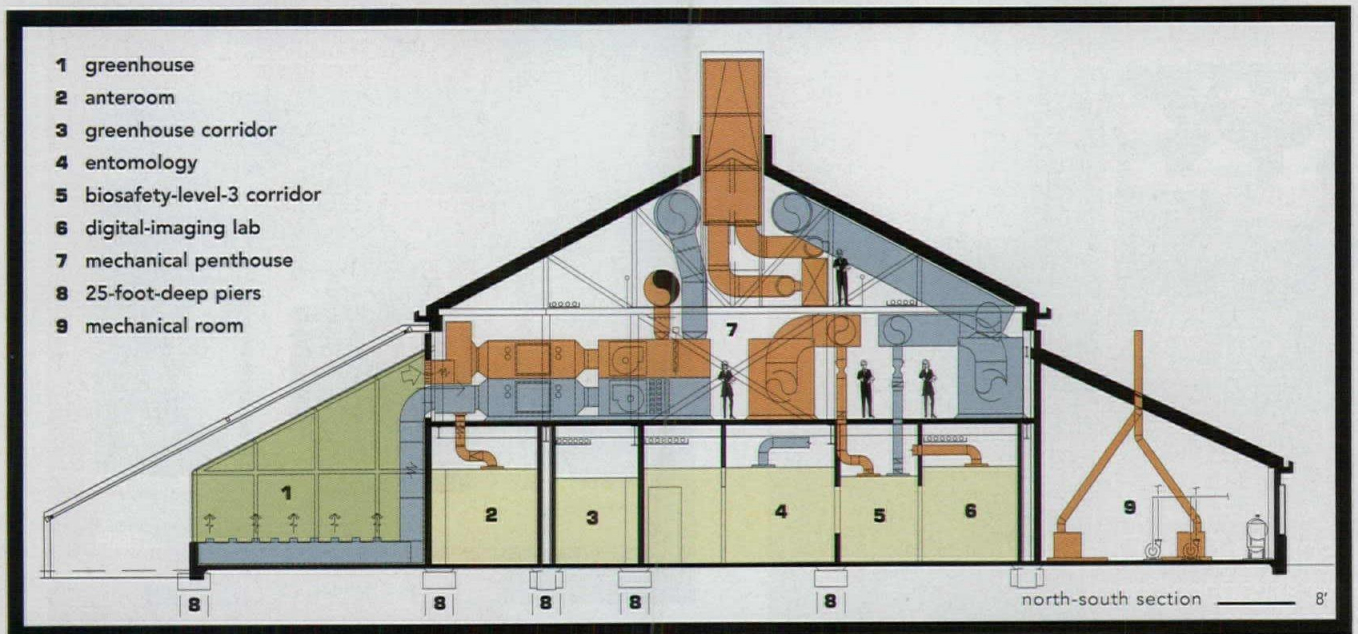
Mechanical, electrical, and plumbing systems are integral to any structure, but two recent projects—on separate continents, but both holding volatile biological materials—use M/E/P systems for **containment and**

safety in ways that dominate their programs.

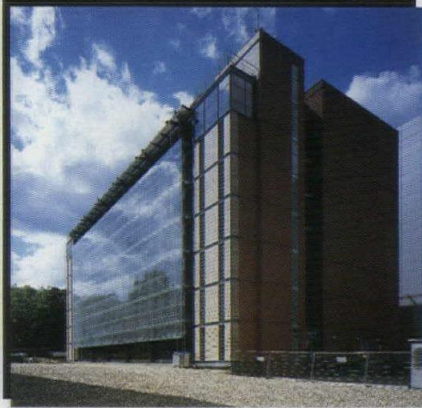
Designated a biosafety-level-3 facility (the rating system's second-strictest level of quarantine), the University of California, Davis's Contained Research Facility (CRF) holds experiments on dangerous agricultural pests in the very heart of farm country. A 24,000-square-foot "shower-in, shower-out" facility, the CRF features greenhouses that are totally sealed from the outside world. The building is mostly taken up by what designers at San Francisco-based Anshen + Allen dubbed the "hot rod," a 100,000-pound gleaming M/E/P system they worked on with Arup's San Francisco office. Air is changed eight times per hour, cooled by dual 175-ton **rotary chillers**, 95-percent **HEPA filtered** coming in, and totally filtered going out. All outgoing liquid is subjected to a grinder pit and then cycled in boilers for 20

minutes before being cooled for safe expulsion. Each greenhouse features its own **air-purification unit**, which can be maintained without breaching the sealed facility and allow for a "hoteling" feature: Different experiments can be going on at different times in each unit. In turn, says project architect Brett Kelly, "the building can be completely serviced while experiments are ongoing." An 800-kilowatt **emergency generator** ensures the facility doesn't lose power for more than 10 seconds. These measures are necessary to prevent spores and other crop-threatening microbial agents from escaping. "The science being done here dictates the robustness of the M/E/P," says design director Jeff Logan.

In London, meanwhile, sits the Darwin Centre, a 120,000-square-foot edifice featuring an equally volatile cargo: more than



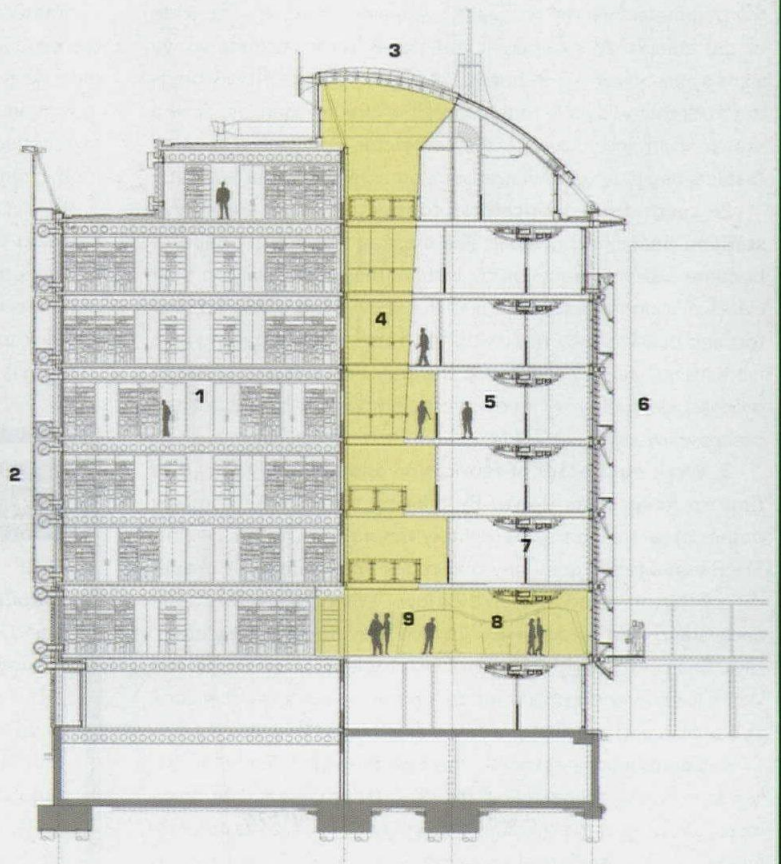
TOP LEFT AND TOP RIGHT: ROBERT CANFIELD



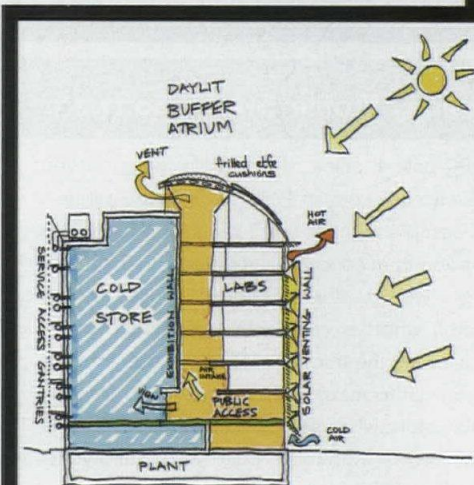
The Darwin Centre's south façade allows maximum daylight penetration, aiding the microscope work inside while venting against heat gain (above left). Half the building is cold storage for some 20 million biological specimens suspended in ethanol-filled jars (above right).

20 million biological specimens stored in jars of 80-percent ethanol solution. "It's a great hazard sitting in central London," says project architect Guy Comely, a threat that led HOK International to work with a "bespoke fire engineer" that would allow them to go beyond the normal **prescriptive fire codes**. (Buro Happold provided engineering support on the project.) The north side of the building contains specimen storage, which must be kept at 57 degrees Fahrenheit to prevent evaporation and build-up of ethanol in the air. The rooms are rated for 2 hours of fire protection. **Ventilation** and cooling systems hang on the north façade, allowing for easy maintenance. A **smoke- and fire-funneling atrium** separates the specimen storage from the laboratories, which are provided with ventilation and power via a central "service spine." The southern façade admits ample daylight for microscopy scientists through a heat-vented curtain wall.

- 1 cold storage for specimens
- 2 service access
- 3 inflated transparent cushion roof
- 4 atrium
- 5 microscopy labs
- 6 heat-vented solar wall
- 7 service spine
- 8 public access
- 9 cold-storage viewing window



north-south section 12'



section schematic 30'

TOP LEFT AND TOP RIGHT: PETER DURANT/ARCHELIVE

Talking Shop with SHoP

Sharples Holden Pasquarelli masters the CAD/CAM process. by Julia Mandell

For many reasons, an increasing number of architects are investigating computer-aided manufacturing (CAM), the fabrication of building components using a variety of computer-driven machines from laser and waterjet cutters to computer-numeric-controlled millers and routers. The technology enables the rapid production of customized building components. But working with CAM, or more accurately, CAD/CAM, entails a high level of involvement. Because the approach is still out of the ordinary, it takes careful planning and knowledge of the available processes and materials to successfully and cost-effectively work with CAM.

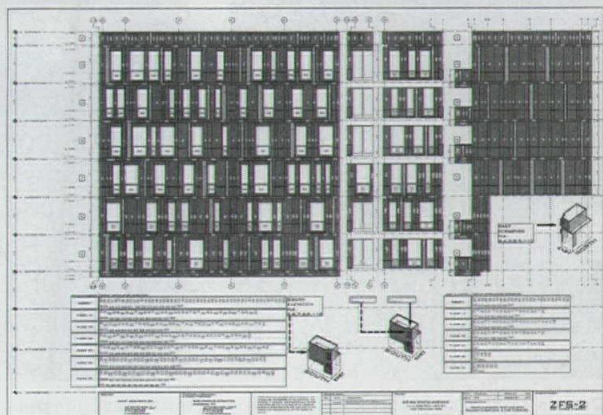
The principals of New York City-based Sharples Holden Pasquarelli, also known as SHoP, have devoted their practice to exploring and refining this process. Since 2000 they have been developing a design/build philosophy that looks to the means and methods of "customized construction" and CAM to formulate unique designs. According to William Sharples, one of the studio's five partners, architects must consider some fundamental guidelines for working with such novel approaches.

1. Consider methods and materials from the beginning of conceptual design. "Think about materials early!" declares Sharples. "For us, everything about a design is determined by the parameters we will be dealing with when building. The scale of the components depends completely on what material we want to use: How big a sheet of metal can you get? How big is the truck that you have to transport it in? Rather than just draw a sketch and hand it over to the contractor, we reach a solution that lets us get unusual things built, on time and under budget."

2. Learn from fabricators, contractors, and tech-savvy staffers. Busy firm principals like those at SHoP don't need to become experts in technology. Instead they should rely on their clued-in younger associates and the knowledge of the fabricators and builders they work with. "Our staff is always talking with fabricators," says Sharples. "At the very beginning of a design process, we gather as much information as we can about the processes we may use for fabrication and construction."

3. Work out details of fabrication and assembly ahead of time to keep costs down. By thinking through the complex details of fabrication and assembly before the process begins, SHoP manages to quiet any objections from potentially skeptical contractors—and to keep bids low. "When contractors don't understand how something will work, they throw money at it," says Sharples. "They have typical problems they anticipate. When we choreograph a solution for them in advance, they look at our plan and see that it won't make things difficult."

4. Communicate assembly through drawings. For SHoP, the key to their managerial role in the CAD/CAM process is their drawings. "Drawing is the medium through which architects communicate, but the traditional conventions don't help much for this type of high-tech building," believes Sharples. "Now that build-



SHoP's CAD/CAM methods were put into action recently when the firm designed Porter House, a renovation and addition to an apartment building in New York City that resulted in 22 residential units, each with a different façade configuration. Working with the Long Island-based roofing contractor Nick Martone of Martone & Sons and metal CAM fabricator Maloya Laser of Commack, New York, SHoP devised a façade system of precut steel panels that arrived on the building site labeled for assembly, minimizing construction staging. The drawings that accompanied the parts—including a full component schedule (above)—left nothing to chance.

ing production is changing, the drawings need to change, too."

Rather than a standard set of construction drawings, the studio produces detailed shop drawings that have more in common with directions for assembling model airplanes than with typical architectural plans. Every single building component is inventoried and appears on a schedule accompanied by axonometric construction drawings.

Producing these drawings is time intensive, but the understanding they promote between architect and builder is indispensable to SHoP's brand of innovation. "We are trying to produce groundbreaking architecture," says Sharples. "But where we want to change things is in the practice. The legacy we want to leave is a new process for building." ■

Technology Profile: SHoP's Software

SHoP runs a PC-based office. The studio began using **AutoCAD** (www.autodesk.com) in 1999, because the partners found it was the best platform for working with fabricators and making the transition from conceptual modeling to CAM. For 3-D modeling work, the designers use **Rhino** (www.rhino3d.com), which is affordable and interfaces well with AutoCAD, allowing the transfer of Rhino images into the AutoCAD page format to make drawing sets. Rhino files can go directly to fabricators, who use PCs almost exclusively. The fabricators SHoP works with also often use **Solidworks** (www.solidworks.com), a 3-D mechanical design software. ■

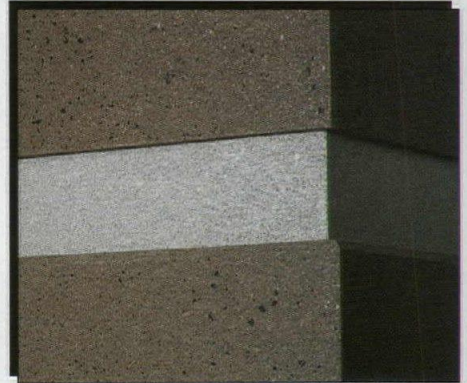
EIFS and stucco: mimicry and moisture resistance

When a look-alike will do, the stylistic versatility of exterior insulation-and-finish systems (EIFS), or synthetic stucco, can't be beat. The layered façade system can mimic any cladding material from slate to brick. Expanding on this capability, **Dryvit Systems** (www.dryvit.com) has introduced a new surface line called TerraNeo (top), which incorporates into its mixture mica chips and multicolored quartz aggregates that sparkle, creating a unique stonelike effect. Encased in a clear, 100-percent-acrylic binder for durability, the surface covering is available in 10 colors. Another new EIFS surface is Fiber-47, a factory-blended three-coat stucco finish system from **Parex** (www.parex.com); it eliminates quality-control concerns that come with mixing in the field. Made of glass and polypropylene fibers to prevent cracking and to increase durability, all that is added at the job site are sand and water.

While mimicry is one EIFS attribute, dura-

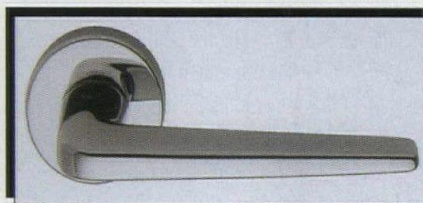
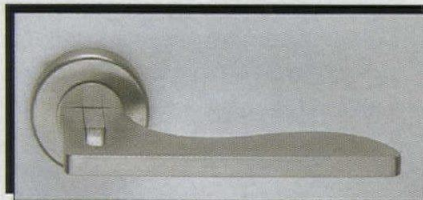
bility remains a concern: Do the waterproof finish systems actually stand up to harsh weather? To address this need, **Sto** (www.stocorp.com) has introduced Sto Guard, part of their revised system called EIFS NexT, which stands for "new exterior technology." Sto Guard is a liquid building wrap applied over sheathing; it eliminates leakage from staple holes or tears. Sto Guard not only protects the finished structure, but during the recent construction of the Waccamaw Community Hospital (bottom), in Murrells Inlet, South Carolina, Dallas-based architecture firm The Curtis Group relied on Sto Guard to protect the half-built project from heavy rains and coastal storms during construction. ■

FOR INFORMATION ON EIFS SYSTEMS,
CIRCLE 121 ON PAGE 145.



getting a handle on doors

Italian door-and-cabinet hardware manufacturer **Valli & Valli** (www.vallievalli.com) has a long tradition of commissioning designs from renowned architects, including Norman Foster, Richard Meier, Ron Arad, and Michael Graves. This year the line introduces three new works. A door pull by English architect John Pawson, known for his minimalist structures, combines simple circular and rectilinear forms and is constructed in solid brass with a satin-chrome or satin-brass finish. Another Brit, architect David Chipperfield, produces an elegant door lever, also in solid brass, with a choice of chrome, satin-chrome, or brass finishes. Chipperfield, whose work includes furniture, interiors, buildings, and large-scale urban projects, employs simple but effective details, such as a tapered shape for comfortable handling. Another lever in the line is the work of Droog, the iconoclastic Dutch design collective. A study in materials and process, this object takes advantage of laser-cutting technology, which allows the



handle to have a minimum of parts and results in a sleek and economical construction. The flat surface of the lever, made of stainless steel, can be imprinted with a corporate logo. Specifiers may choose from polished or satin finishes.

The AJ Lever Handle is a classic design that Danish modernist master Arne Jacobsen developed in 1955 for use in his interiors for the SAS Royal Hotel in Copenhagen.

Originally produced by manufacturer Carl F. Petersen, the handle is now available in the United States from **The Ironmonger** (www.ironmonger.net), one year after what would have been the late architect's 100th birthday. The lever is available in two sizes in polished brass or satin nickel.

For the look of wood without the material's typical problems such as warping, rotting, cracking, or splitting, **Therma-Tru Doors** (www.thermatru.com) has developed the Classic-Craft fiber-glass door system, in two contemporary styles. The Mahogany Collection recreates the look of Honduran mahogany while delivering thermal protection and durability. The Rustic Collection offers the look of stained wood, combining smooth-grain panels and arches with modern fiber-glass materials and technology. ■

FOR INFORMATION ON DOORS AND
HARDWARE, CIRCLE 122 ON PAGE 145.



ARCHITECTURE CONFERENCES

BUILDING BETTER SCHOOLS

Architects, educators, and experts team up at a series of regional conferences created by ARCHITECTURE magazine

TOP 10 ISSUES IN K-12 SCHOOL DESIGN

- 1 Mold / IAQ
- 2 Cost
- 3 Sustainability
- 4 Enrollment / Utilization Data
- 5 Phased Renovations / Adaptive Reuse
- 6 Acoustics
- 7 Educational Technology
- 8 Multiple Uses
- 9 Lighting / Daylighting
- 10 ADA / Universal Design

Source: Architecture Conferences

TOP 10 ISSUES IN HIGHER EDUCATION DESIGN

- 1 Sustainability
- 2 Educational Technology
- 3 Enrollment / Utilization Data
- 4 Phased Renovations / Adaptive Reuse
- 5 Cost
- 6 Lighting / Daylighting
- 7 Flexible Furnishings / Layouts
- 8 ADA / Universal Design
- 9 Formal / Stylistic Issues
- 10 Acoustics

Source: Architecture Conferences

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What does it take for an architect to excel in today's educational market? Aiming to assess the state of the U.S. educational market from an architect's point of view, *Architecture* magazine—in concert with 15 sponsors and scores of educational facility leaders and expert consultants—launched a series of four conferences this year under the banner BUILDING BETTER SCHOOLS. The events in Boston, Los Angeles, Chicago, and metropolitan New York City brought a multidisciplinary discussion to the perennial and varied issues that affect today's K-12 and higher-education administrators and facilities.

The Markets: Still Booming?

Most pertinent to the regional meetings were overviews of design and construction activity planned or currently underway. Against a backdrop of declining state budgets and, in many places, surging student enrollment, the presenters noted robust activity in school bond issues nationwide. According to Dun & Bradstreet, about half of the nation's colleges and universities have projects in planning or underway in 2003, totaling some \$11 billion. America's K-12 schools, on the other hand, anticipate spending just under \$20 billion through year-end, down from an all-time record \$21.5 billion in 2002. Yet available funds for education projects appear somewhat diminished, even at many private institutions with record-level endowments.

Numerous public schools, however, are undertaking novel planning initiatives to guide the next several years of work. A 10-year plan is in high gear for the Los Angeles Unified School District (LAUSD), which is building 80 new schools, expanding 79 other campuses, and planning the equivalent of another 40 new schools in playground space and classroom additions. (This is the same agency that, from 1980 to 2000, built a mere 24 schools total—and no high schools.) In Boston, the Massachusetts Division of Capital Asset Management and the state's Board of Higher

Education have just released a 10-year program for the state's system of universities and community colleges, entailing some \$1 billion in new construction and renovation projects. Likewise, many other school systems and institutions around the country report ambitious long-range capital plans.

Of course, the key for architects is to become active in the markets, and a large part of the BUILDING BETTER SCHOOLS program was devoted to creating winning proposals, presentations, and marketing strategies for educational owners, as well as how to be a more effective service provider. Panel discussions organized by marketing experts such as Boston's Michael Reilly and New Jersey's Sharyn Yorio—and by practitioners like Kimberly Knight of Frederick Fisher Partners, Santa Monica; and Deborah J. Hodges of Plunkett Raysich Architects, Northbrook, Illinois—provided tips and strategies for firms looking to expand their educational practices.

K-12: Smaller and More Innovative

Around the country, much of the upcoming educational spending is tied to regulatory compliance—notably President Bush's *No Child Left Behind Act*, which became law last year—as well as school reform initiatives. In cities from Seattle to Baltimore and from Los Angeles to Chicago, educators and facilities planners are developing new schooling concepts that center on more personalized student-teacher interaction and smaller, more decentralized school buildings. The goal? Better student performance.

"Factory-modeled schools—I like to call them 'cells and bells'—probably aren't the best model for educating our kids," says Victoria Bergsagel, principal of Seattle-based Architects of Achievement, a consulting firm. She points to innovative new school designs based on "learning clusters," "academies," or "project-based learning" approaches that are springing up around the country. Secondary-

school examples include Seattle's Todd Beamer High School, San Diego's High-Tech High, and the Peace Street Campus in Providence, Rhode Island. Key themes for these exciting projects, says Bergasagel, are collaborative spaces, flexible furnishings, indoor-outdoor spaces, and lots of glazing, among others.

Spurred by early successes—and by huge donations from the Bill and Melinda Gates Foundation and George Soros's Open Society Institute—the small-schools movement is spreading fast. In Los Angeles, schools superintendent Roy Romer promised in early September that the city's educational investment would focus on “smaller and more personalized schools” in coming years. And with \$50 million from the Gates Foundation, the New York City Department of Education plans to divide existing large schools into multiple clusters, a centerpiece of its recently proposed \$13 billion capital budget.

Higher Education: Survival of the Fittest

At universities and colleges, competition is the name of the game. Administrators and department heads hope that new facilities will help attract students, retain the best faculty, and secure corporate and federal research grants.

Another state imperative is reversing brain drain. “People tend to settle near where they get their degrees, and before 2000 we saw that Connecticut was second only to Alaska in losing young educated people,” says Jon H. Alvarez, senior project manager at the University of Connecticut. “But after three years of an active building campaign, our enrollment is up, our minority enrollment is up, our endowment has grown by 400 percent, and our average SATs are up by 50 points.”

Campus architects and facilities directors from urban schools voice perennial concerns about accommodating construction projects on limited lands. Susan G. Santon, assistant vice chancellor at UCLA, describes how a highly flexible “surge building” serves three departments displaced by seismic retrofit work—a recurring West Coast dilemma. Bob Holliday, director of project management at the University of Chicago, and John C. Rutigliano, assistant vice president at New York University, have large construction programs that often necessitate adaptive reuse, work in occupied structures, and negotiation with other stakeholders.

For many large universities, the biggest issue is how to efficiently and quickly build. At Indiana University, with 13 projects underway and 15 in planning totaling \$800 million, campus

architect Robert E. Meadows has five delivery methods at his disposal, including design-build, multiple primes, and job-order contracting. For the University of California system, where enrollment will grow by more than a third in the next seven years, contracts have been standardized for multiple primes, construction management at-risk, and design-build, says Michael Bade, assistant director of design and construction. Other schools, like the University of Illinois, are bound by qualifications-based selection rules, says campus architect Cliff Carey. For his team, an Internet-based project-management tool and more front-end project study help make up for the reduced administrative resources at the school's disposal.

The Challenges: Acoustics, Mold, and More

While not the most pressing concern overall for K-12 schools and higher education, the most prevalent issue driving school construction nationwide is sustainability. Presentations by green-design experts at BUILDING BETTER SCHOOLS showed the range of definitions for the approach: the energy analyses by Adrian Tuluca, principal of Steven Winter Associates, Norwalk, Connecticut; the integrated photovoltaics in building designs by Gregory Kiss of New York City's Kiss + Cathcart; and the California High-Performance Schools initiative, known as CHPS, developed in part by San Francisco architect Charles Eley and the lighting designer James R. Benya of West Linn, Oregon. Like the U.S. Green Building Council's LEED ratings and the National Institute of Standards and Technology's BEES software, the CHPS program is gaining acceptance nationwide as a standard for green—and healthy—school design.

Other school health issues eclipse this positive aspect, however. Mold and indoor air quality are the No. 1 issues facing schools today, say facilities leaders like George Semenech of Connecticut's State Department of Education and Doug Pearson of the Madison Metropolitan School District in Wisconsin. In fact, both have created standard policies for remediation and for avoiding mold problems in new construction for facilities in their jurisdictions. “The way to control mold growth is to control moisture,” comments Franco Seif, a consulting engineer with Clark Seif Clark, Chatsworth, California. “This is a golden statement about indoor mold management.”

Another new concern for architects designing schools is the new ANSI standard

S12 for classroom acoustics, which was released this year. Many school districts and authorities have adopted the standard for new construction, says Chris Savareid, director of architectural acoustics at Cambridge, Massachusetts-based Acentech. Also high on the agenda this year are school and university evacuation plans, says Kevin McGuire, an ADA and evacuation specialist based in Boston and Newburgh, New York, as institutions reconcile their accessibility strategies with needs for better security and safety in emergencies.

In many cases, attendees at BUILDING BETTER SCHOOLS found that these design imperatives contradict each other. For example, while ample daylighting and glazing area correlate with higher student achievement, they can negatively affect classroom acoustics. And though acoustical panels and carpet can improve acoustical performance, they can harbor mold colonies if not maintained properly.

Today's Students: Wired and Inspired

Of course, technology is also changing how schools are built. For example, Todd Ullah, of the LAUSD's Instructional Technology branch, showed how on-demand high-definition television can be used for curriculum planning. But whether they are well-budgeted or undercapitalized, school districts find the high cost of procuring and maintaining technology to be a constant concern, say such administrators as Jim Davis of Milwaukee Public Schools and Susan Wallerstein of Greenwich (Connecticut) Public Schools. Supporting the computer-integrated educational platform, however, is on their wish list for new architectural projects. Not only do the technologies demand better connectivity, cleaner power, and more effective M/E/P systems, but they also require better storage areas, suitable furnishings—even deeper lockers to fit laptops inside.

As our speakers showed, architects are often rising to these challenges to better serve today's students and their educational institutions' core missions: preparing young men and women to contribute positively to society. The most inspirational message came from William Habermehl, superintendent of schools for Orange County, California, even as he recounted the challenges of one overcrowded school districts. Like his best teachers, he says, the best architects “use their creativity and energy to do more with less, and to make a difference in the lives of their students.”

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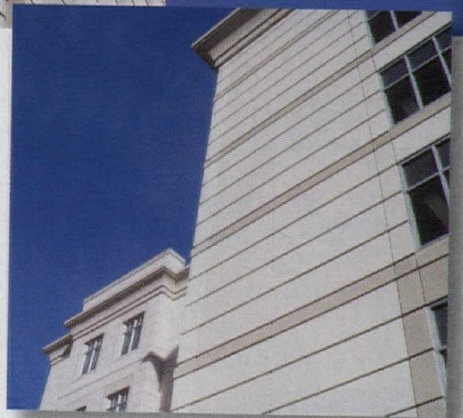
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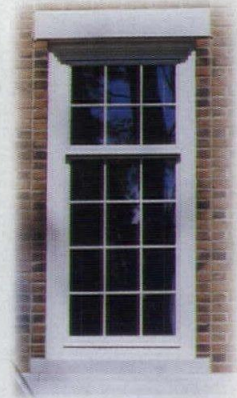
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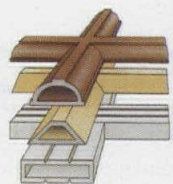
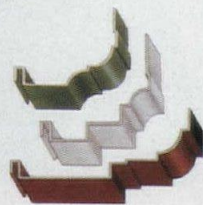
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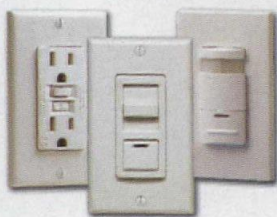
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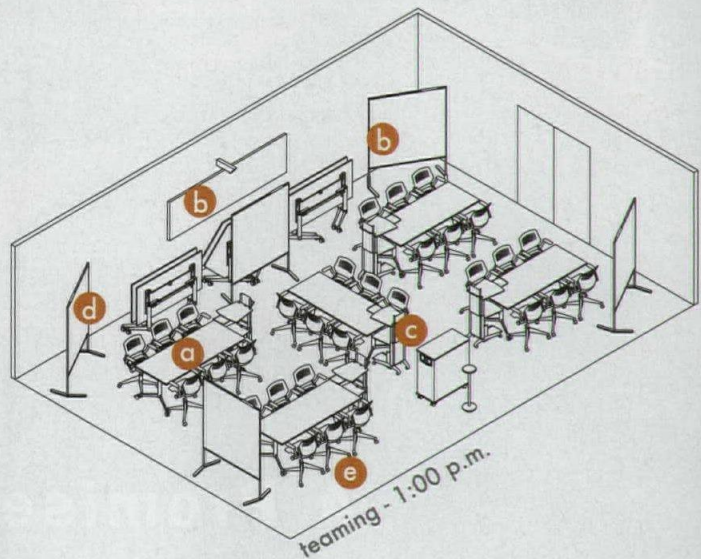
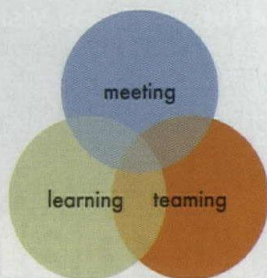
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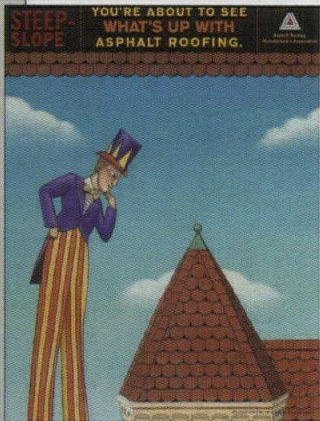
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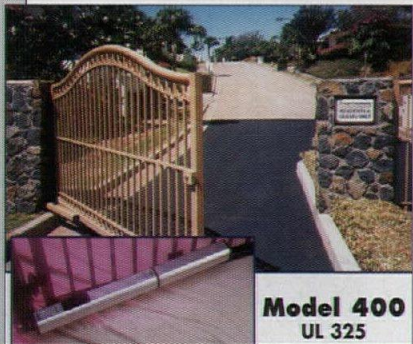
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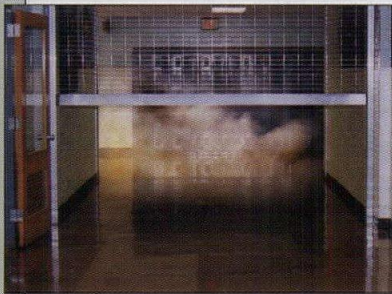
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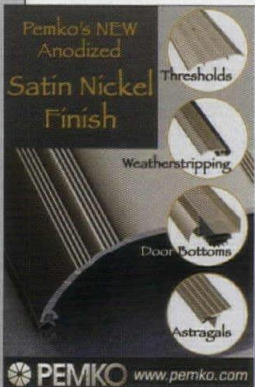
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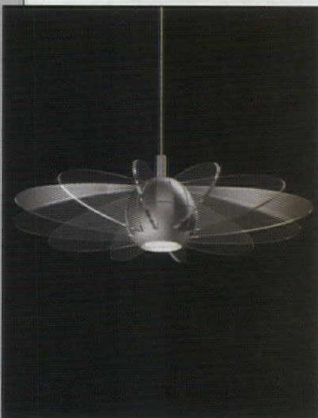
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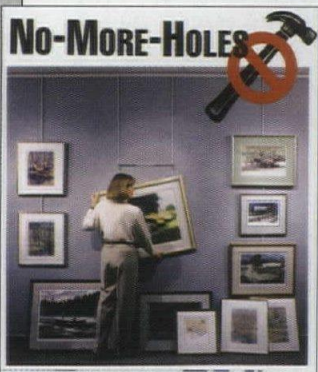


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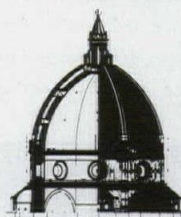
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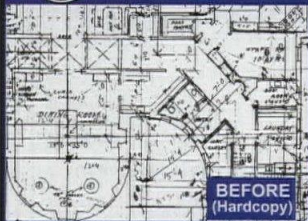
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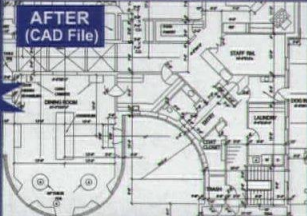
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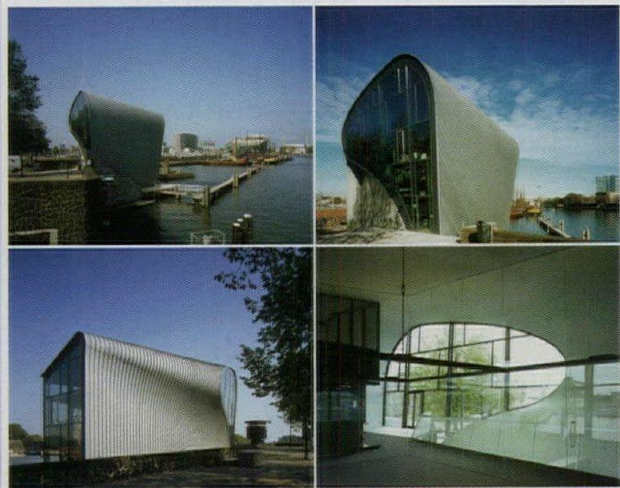
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VENUE

Amsterdam Centre for Architecture | Amsterdam

| www.arcam.nl Few cities have architecture critics;

even fewer have architectural information centers. Amsterdam is one of them and has been since 1986, when the Amsterdam Centre for Architecture, known as ARCAM, opened its doors. An impressive resource for all things architectural and urban design-related (books, maps, lectures, public debates), the organization moved into its first freestanding home this autumn, fulfilling its own mission in the process. The design by René van Zuuk, a young architect working in the Dutch town of Almere, establishes a boldly sculptural presence on the IJ River a short walk from the city's central train station; shaped like an inverted raindrop, the little building shares a pier with Renzo Piano's 1997 ship-shaped science museum, NEMO, reusing the columns and floors of a pavilion originally constructed as an annex to that structure. Van Zuuk added a floor and wrapped the three-story structure in corrugated zinc-clad aluminum and glass, enclosing offices, exhibition space, and meeting rooms. The result is a rare, high-profile venue for architecture. **Abby Bussel**

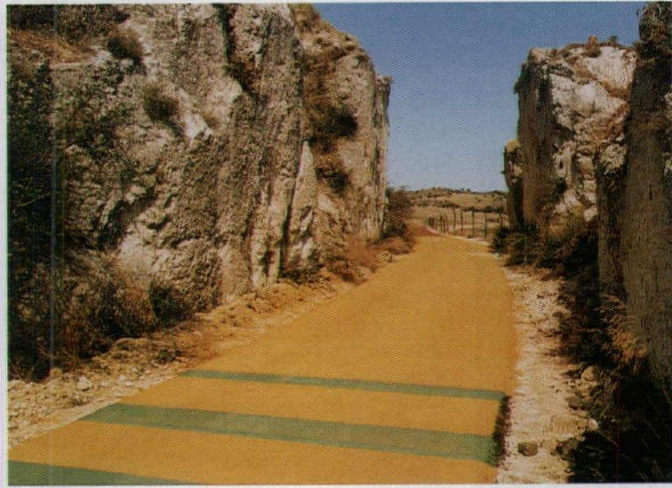


BOOK

Critical Regionalism | Liane Lefaivre and Alexander

Tzonis | Prestel The basic tenet of this modest volume is

that in an increasingly globalized world, architects can continue to build in a way that authentically incorporates local landscape and culture, while infusing their projects with a strong strain of sustainability as well. Before launching into a wide-reaching survey of regionalist works that they feel fit this bill—by practitioners ranging from Alvar Aalto to MVRDV, Oscar Niemeyer to Renzo Piano—Netherlands-based authors and academics Liane Lefaivre (an *Architecture* editor-at-large) and Alexander Tzonis offer twin introductions that serve as both history lessons and cautionary tales. The nationalistic *Heimatarchitektur* of the Nazis, the fierce anti-International Style stance championed by *New Yorker* columnist Lewis Mumford, and the experiment in cultural kitsch that was the Hilton Hotel in Istanbul—all provide the up-and-down lead-in to the regionalist successes of the second half of the last century. The bulk of the book is wisely left to showcase works, such as Santiago Calatrava's Ysios Winery and Foreign Office Architects' Yokohama International Port Terminal, that the authors believe are prime examples of regionalism. **Jamie Reynolds**



JOURNAL

Log | www.anycorp.com Three years ago, two

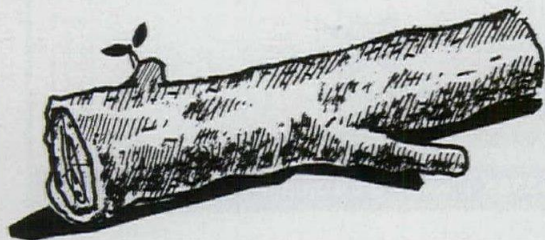
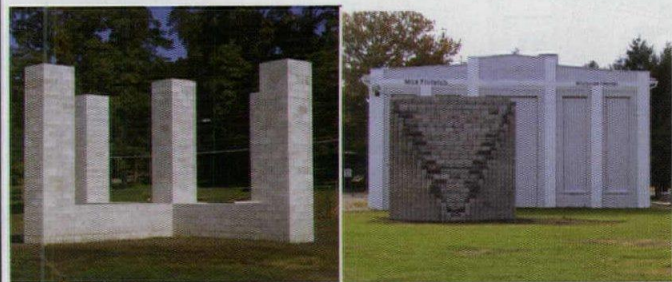
journals of architectural theory, *Any* and *Assemblage*, ceased publication. This fall, former *Any* editor Cynthia Davidson fills the void with the launch of *Log*, a platform for "observations, speculations, and ideas on architecture and the city at this point in our time and space." The first edition includes essays on topics ranging from mainstream issues (Davidson on Ground Zero, Anthony Vidler on Koolhaas) to fanciful musings (Mark Rakatansky compares architecture to an ice-cream sundae.) The journal is a hopeful answer to the current scarcity of critical writings on architecture, and best of all, it is a surprisingly readable addition to the notoriously word-locked world of theory. **Anna Holtzman**

EXHIBITION

Max Protetch Sculpture Beacon | Beacon, New York |

| www.maxprotetch.com The Max Protetch Gallery in

Manhattan, which began showing architectural drawings in 1978, recently opened a second branch with an outdoor sculpture garden in Beacon, New York, also home to the Dia:Beacon art museum. The gallery's upstate satellite provides a platform for large-scale works; its inaugural exhibition comprises a series of gray brick-and-block structures by Sol LeWitt that resemble mysterious memorials. The five-acre facility, sited next door to an art fabrication foundry, includes a 5,000-square-foot gallery building that used to serve as the foundry's paint shed, as well as the house of the foundry's former owner, which will be turned into live-work units for artists associated with the gallery. **Anna Holtzman**



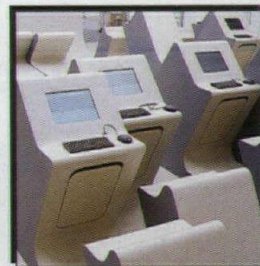
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OMA/AMO

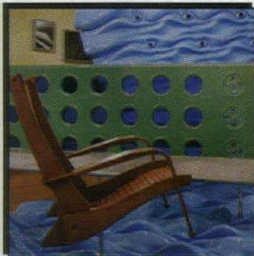
An exhibition on Dutch architect Rem Koolhaas, his firm OMA, and its think-tank branch, AMO.
NEUE NATIONALGALERIE
www.smpk.de
Through January 20

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Michael Maltzan
Work by the Los Angeles-based architect who designed MoMA's temporary Queens home.
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December 1–January 19

LONDON
Emerging Architecture
Winners of the ar+d awards, sponsored by *Architectural Review* and design company d line.
ROYAL INSTITUTE OF BRITISH ARCHITECTS
www.architecture.com
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Jean Prouvé

Furniture, architectural elements, and photographs relating to three of the French architect's buildings.
COLUMBIA UNIVERSITY ARCHITECTURE GALLERIES
www.arch.columbia.edu
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Samuel Mockbee
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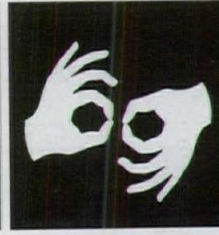
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THE CARROT AND THE STICK OF UNIVERSAL DESIGN



Ecologically minded design has become second nature—and good business. Why hasn't accessibility?

by Peter Slatin

Though it has taken time, green design has become a happy part of the lexicons of architecture, construction, and even real estate. But a design dimension that should have become its equal in the journey from advocacy to inevitability has been left behind. Universal design still presents a hurdle that most would rather walk around than take a run at. Sustainability is a goal that has seeped into design consciousness as a mainly positive force; accessibility, on the other hand, is still perceived as a design slum. In this unappealing district, the turbulent streets harbor beneficent ideas, but getting to and nurturing them seems more trouble than it's worth.

Is this a bad thing? Or is it less a reflection of skewed priorities than of the difficult and dangerous ways that public and private forces can collide in bringing decision-makers' attention to matters they would rather ignore?

Consider two acronyms: LEED and ADA. One beckons: Leadership in Energy and Environmental Design, administered by the increasingly powerful U.S. Green Building Council (USGBC). The Americans with Disabilities Act, under the aegis of the U.S. Department of Justice, threatens. The intentions that drove the creation of these initiatives, and the characteristics they embody, neatly express the perceptual chasm that grows between them. Put simply, LEED certification, a voluntary rating system, is something for building professionals to strive for; along with the environmental benefits that certification establishes, come impressive commercial ones. This green imprimatur also carries with it a host of marketing possibilities, from the self-con-

gratulatory to the full-blown publicity campaign. In addition, although no tax incentives come directly through LEED, the designation does offer a strong platform for various financial incentives at municipal and state levels; similar federal programs are likely to be established soon. The USGBC is a nongovernmental organization, but its makeup includes public officials who are able to assist or even lead the way in tying LEED into various tax programs and development bonuses.

Then there's ADA. Compliance and cost are its watchwords. Although bringing businesses and their facilities into compliance does allow owners to qualify for tax benefits, these are capped at \$20,000 per year in a combination of credits and deductions.

ADA compliance is rarely thought of as a building's most exciting design element. What good does it do to say one has met the minimum standard? Even those who reach well beyond the minimum to find creative and exciting solutions to accessibility challenges will, at present, find little value-added in the effort. Although universal design does sometimes drive large-scale renovations, it almost never forms the design underpinnings for new construction. Even in the accommodation of an aging population either in healthcare facilities or at home, where many Americans are choosing to "age in place," accessibility is not often a defining or marketing strategy.

CAUSE AND RESPONSE

The present state of affairs can be traced to the roots of ADA and LEED. ADA was the climactic result of protests by disenfranchised citizens seeking redress. It was intended to mandate the arrival of the disabled community into the mainstream. It was born with the force of law, even though what that law requires is less than crystal clear. LEED, however, emerged from consensus-building

efforts across a spectrum of grassroots advocacy and professional groups.

It seems as if these tracks to plus and minus thinking on green and universal design are now firmly grooved into the terrain. And initially, it appears that cutting new tracks is impossible, or at best impractical. That isn't the case. Because while the initiating organizations, acts, and actions stem from divergent impulses, they share a common root: fear. We fear a sick planet and what it can do to us. Yet we know we can do something about it, something that, even in minuscule increments, will make a difference. We face this challenge with vigor, with at least a partial knowledge of the target and the desired outcome. Most important, we fear environmental calamity collectively, which makes it easier to address publicly.

But facing universal design is a less appealing task, involving more personal and complex questions that are difficult to place in global terms. Although everyone is vulnerable to changes that could put him or her in the camp of those most affected by constructed barriers, it is a truth that humans rarely confront. Those changes, after all, will come about most likely from violent accidents or extreme disease. The ability to alter that course of events seems out of reach.

The truth is, however, that universal design addresses what all of us, and those we love, will need at some point in our lives. As much as sustainability represents a goal with measurable societal benefits, so does accessibility. It's time to face the fears that assign the challenges of disabilities to others. Once we accept that we are already there—in a world that has too many unnecessary hurdles—good design will have to become as natural to us as a walk in the park.

Peter Slatin is founder and editor of *The Slatin Report*, a Web-based real-estate news service.