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Improving Accessibility

Steps are now being taken to clarify the Americans with Disabilities Act for architects.

Since the Americans with Disabilities Act (ADA) was passed in 1990, architects have been confused as to the letter of the law. Practitioners can ask five officials to explain the same passage of the law and get seven different answers. The ADA's Standards of Accessibility, which are enforced by the U.S. Department of Justice, do not currently agree with many state and local building codes, nor with building conventions set by the American National Standards Institute (ANSI). As a result, several lawsuits have been filed against architects nationwide for alleged ADA violations, including a highly publicized suit against Ellerbe Becket last fall for errant design in its new sports stadiums.

Architects now have a chance to revise the law in a fast-moving review process currently under way in Washington. The Department of Justice, disability-rights groups, code officials, and building managers are taking another look at the ADA's unusual marriage of civil rights and building codes.

Currently, there is no single, uniform accessibility standard. The U.S. Access Board, an independent federal body, developed accessibility guidelines for federal and public facilities. The Justice Department adopted part of these guidelines into its own ADA standards for public accommodations. And ANSI has developed its own standards for use by manufacturers and others in the construction industry.

To streamline this multiplicity of rules, the Access Board convened an expert panel to review ADA after five years of experience with the law. Simultaneously, ANSI began revising its own accessibility standards. In early 1996, the Access Board's panel put its suggested changes alongside ANSI's proposed revisions to harmonize the two documents and aid compliance. The Access Board and ANSI are committed to ensuring that any changes to their respective standards will be as similar as possible. Yet, despite thousands of hours of tedious refinements, the Access Board doesn't have to accept these suggested new rules.

Presuming Justice adopts the Access Board's revisions in full, the rules still won't align with all state building codes. Only two states—Washington and Texas—have had their codes approved as ADA-compliant by the Justice Department; A dozen more states are heading toward approval soon, but many other states haven't started the process.

AIA sat on the sidelines of this debate until the two lawsuits were filed against Ellerbe Becket, which occurred just as the Access Board's review process had wrapped up last fall. Since then, the institute has been trying to persuade the courts that architects aren't directly liable for ADA violations. Its efforts have met with mixed success: A federal judge in Washington, D.C., has decided architects aren't liable, while Florida's federal district court determined that they are.

Arguing over liability won't end confusion among architects over what constitutes accessible design. What is needed is to resolve the liability issue before it arises. The ADA rules must be easier for architects to follow.

To help them comply, the Justice Department must embrace the Access Board's advice as fully as possible. And if Justice officials really prefer preliminary technical assistance over after-the-fact enforcement, as they claim, then they must work harder to certify state building codes under ADA. Architects should bear the responsibility to provide access to the disabled. But they need consistent guidance to do so effectively.

Deborah K. Dietsch

HAD ENOUGH EXCIT

SCHLAGE STEELCRAFT LCN

Digital devotion

Congratulations on your June issue. Your coverage of architecture and technology was the best ever. Finally—something to read.
Manuel J. Quijano
mjqaia@bellatlantic.net

I wanted to tell you how much I enjoyed the June issue. With its devotion to the digital world, this issue indicates how important these tools are to the profession.
Dean Mueller
Lucien Lagrange & Associates
Chicago, Illinois

Stopped thief

I read "Stop, Thief!" (*Architecture*, April 1997, pages 92-95) with interest. My attorney advised me long ago to exclude the arbitration clause from the AIA Owner-Architect agreement, as it effectively surrenders control to what can be a lengthy and costly process. When one of my designs was stolen by a client and another architect, I sued and obtained a settlement without substantial legal costs. If I had gone through arbitration, my costs would have been prohibitive and not covered by my liability policy. There is an unfortunate built-in incentive for arbitration boards to extend the process, since they are spending other people's money.
James McCullar
James McCullar & Associates
New York City

Pale ghost

The interior of the New York Life Building (*Architecture*, May 1997, pages 176-181), renovated by Gastinger Walker Harden Architects, is but a pale ghost of the original. The light quality that is essential to appreciate the sense of space and the plasticity of the structure is totally altered; the color scheme dematerializes and trivializes the interior proportions. It is sad to realize that in this country preservation efforts are too often attempts to "modernize" an old structure, rather than appreciate its cultural value. This is to be expected from the people sitting in the boardroom, but shouldn't the architects care?
Michele Chiuini
Ball State University
Muncie, Indiana

Sinister view

Your June editorial, "Museum Imports" (*Architecture*, June 1997, page 13) is a jingoistic aberration that almost compelled me to cancel my subscription. While you are entitled to your opinion, such xenophobic proselytizing serves only to undermine your credibility. I was particularly surprised by your tenuous claim that the selection represents the shunning of "the formal idiosyncracy and experimentation that has distinguished U.S. architecture." U.S. architecture can be exciting, innovative and dynamic, but it also often lacks the passion, lyricism, ferocity, and poetry of architecture from other countries.

You should consider whether or not an injection of architecture from a foreign architect may not in fact be welcomed by an often self-absorbed and intellectually turgid architectural culture. Is it required that schemes explore new territory or break new esthetic ground? Are the architects you describe really "anti-establishment" or just not commercial? More importantly, should your publication seen to be propagating such a questionable and latently sinister view?

I look forward to the outcome of these commissions and I applaud these museums for responding to sophisticated requirements with the selection of sophisticated architects—architects selected regardless of the nationalist sentiment espoused by your most peculiar editorial.
Mark Raymond
Port-of-Spain, Trinidad
West Indies

Sealant standards

As chairman of ASTM Committee C-24 on Building Seals and Sealants, I read with interest "Detailing Sealants to Last" (*Architecture*, May 1997, pages 184-186). The article was informative, but your initial premise that silicone sealants are more durable than other sealants misses a fundamental concept in reliable exterior wall design. Material durability is only one variable in a very complicated formula for wall waterproofing successes. Many other factors beyond the manufacturer's control, such as weather conditions, workmanship, and substrate preparation, can have a tremendous impact on sealant joint performance. Prudent designers recognize these variables and realize that achieving perfection in the installation of miles of sealant joint on a building is unlikely. They provide back-up waterproofing systems such as through-wall flashings or gutters.

Recent papers presented at ASTM C-24's annual symposia provide current information on structural silicone glazing and other sealant issues. One of them, "Seismic Behavior of Structural Silicone Glazing," points out the need to design structural silicone joints specifically for the large movements that occur during seismic events and shows the consequences of failing to do so. Another, "Structural Silicone Glazing: In-Service Reliability Evaluation," discusses a method that has been used to evaluate existing systems. ASTM is developing this method into a standard guide and developing other standards to address the coming need to evaluate aging systems. A subcommittee is nearing completion of the "Standard Guide to Structural Sealant Glazing," which will be an excellent reference for architects. We invite your readers to help us develop sealant standards and attend our symposium next January in San Diego.
James C. Myers
Simpson Gumpertz & Heger
Arlington, Massachusetts

Seismic codes

I enjoyed the well-written article on seismic design features for both new and existing wood buildings (*Architecture*, March 1997, pages 130-132). The Seismology, Code, and Existing Building committees of the Structural Engineers asso-ciation of Southern California have produced the many codes, ordinances, and guidelines now available in *California and from the* International Conference on Building Officials. Seismic design is not something restricted to the halls of academia.
Richard L. Hess
Hess Engineering
Los Alamitos, California

CORRECTION
Young & de la Sota Architects is architect of record of the Cybersmith cybercafé in Palo Alto (*Architecture*, June 1997, page 119).

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adline for submissions: October 31, 1997

Annual Awards for Visionary Design

Architecture continues the tradition of the P/A Awards to honor unbuilt projects. The purpose of this awards program is to encourage outstanding work in architecture and urban design before it is executed. Awards and citations will be designated by a jury of distinguished, independent professionals, who will base their decisions on overall design excellence and innovative ideas. Potential entrants are urged to interpret the call for outstanding work as broadly as possible. Entries, however, are limited to specific unbuilt projects that have been commissioned by real clients for execution. Judging will take place in November 1997, and winners will be notified in late November. The winning entries will be featured in the April 1998 issue of Architecture.

Jury

James Cutler
James Cutler Architects
Seattle

Zaha Hadid
Zaha Hadid, Architect
London

Dan S. Hanganu
Dan S. Hanganu Architects
Montreal

Carlos Jimenez
Carlos Jimenez Studio
Houston

Sheila Kennedy
Kennedy & Violich Architecture
Boston

Deadline for Submissions: October 31, 1997

Entry Form: Annual Awards for Visionary Design

Please complete and submit all parts intact with each entry (see paragraph 12 for instructions). Photocopies of this form may be used.

Entrant:
Address:

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

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

Entrant:
Address:

Project:

I certify that the submitted project was executed by the parties credited and meets all eligibility requirements (1-5). I understand that any entry that fails to meet submission requirements (6-16) may be disqualified. Signer must be authorized to represent those credited.

Signature:

Name (typed or printed):

fees: Subscriber $100 Non-Subscriber $135 Entry plus one-year subscription $135

Awards Editor
Architecture
1130 Connecticut Avenue, N.W., Suite 625, Washington, D.C. 20036
Project:

Your submission has been received and assigned number _____
(Architecture will fill in this number and return this receipt. Please retain it for reference.)

Entrant:
Address:

(Receipt)

Awards Editor
Architecture
1130 Connecticut Avenue, N.W., Suite 625, Washington, D.C. 20036

Entrant:
Address:

(Return label)

Judging will take place in November 1997.
Winning entries will be featured in the April 1998 issue of Architecture.

Eligibility

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

2 Real Projects
All entries must have been commissioned for compensation by clients with the authority and the intention to carry out the proposal submitted. In the case of design competitions, the only eligible proposals are those the client intends to execute.

3 Architectural Design Entries
Entries in Architectural Design may include only works of architecture scheduled to be completed after May 1, 1998. Indicate the anticipated completion date on Project Facts page (see item 7). Prototypical designs are acceptable if commissioned by a client.

4 Urban Design Entries
Entries in Urban Design must have been accepted by a client who intends to base development on them. Implementation plans and anticipated schedule must be explained in submission.

5 Verification of Client
The jury's decision to premiate any submission will be contingent upon *Architecture*'s verification that it meets all eligibility requirements. To that end, *Architecture* will contact the clients of projects selected by the jury for recognition. *Architecture* reserves final decision on eligibility and accepts no liability in that regard.

Submission Requirements

6 Binders
Entries must consist of legibly reproduced graphic material accompanied by adequate explanatory text in English. All entry material must be firmly bound in binders no larger than 17 inches in either dimension (9 by 12 inches preferred). Avoid fragile bindings. Supplementary documents, such as research reports or urban design appendices, may be bound separately to avoid unwieldiness, as part of the same entry. Slides should be submitted only as supplementary material. Unbound material in boxes, sleeves, etc., will not be considered.

7 Project Facts Page
To ensure clear communication to the jury, the first page in the entry binder must list Project Facts under the following headings: Location, Site Characteristics, Zoning Constraints, Type of Client, Program, Construction Systems, Funding, and Schedule. Supply square footages, costs, and specific materials where possible. All project facts should fit on one page.

8 Documenting the Process
Entries should document the design process, as well as its result. Entrants are encouraged to include copies of preliminary sketches, alternative preliminary schemes, information on context and precedents for the design, and excerpts from working drawings.

9 Research Behind Projects
Although *Architecture* is cosponsoring a separate competition for architectural research, we encourage the inclusion of any research performed in support of an architecture or urban design project that is otherwise eligible.

10 No Original Drawings
Original drawings are not required; *Architecture* will not accept liability if they are submitted. No models or videotapes will be reviewed.

11 Anonymity
To maintain anonymity in judging, no names of entrants or collaborating parties may appear on any part of the submission except on entry forms. Credits may be concealed by tape or other simple means. Do not conceal identity or location of projects.

12 Entry Forms
Each submission must be accompanied by a signed entry form (left). Reproductions of the form are acceptable. Fill out the entire form and insert it intact into an unsealed envelope attached to the binder's back cover.

13 Entry Categories
Identify each submission on its entry form as one of the following: Educational (including any campus buildings), House (single-family), Housing (multifamily), Commercial, Cultural, Governmental, Health-Related, Industrial, Recreational, Religious, or Urban Design. Mixed facilities should be classified by the largest function.

14 Entry Fees
An entry fee must accompany each submission. The fee is $100 for *Architecture* subscribers; $135 for non-subscribers. (Non-subscribers can choose to subscribe at a special rate of $35 per year and pay the $100 entry fee; see entry form.) Make check or money order payable to *Architecture*. Canadian and Mexican entrants must send drafts in U.S. dollars. Fee must be inserted in unsealed envelope with entry form (see 12, above).

15 Return of Entries
Architecture will return entries ONLY if they are accompanied by a self-addressed, stamped envelope. *Architecture* assumes no liability for loss or damage.

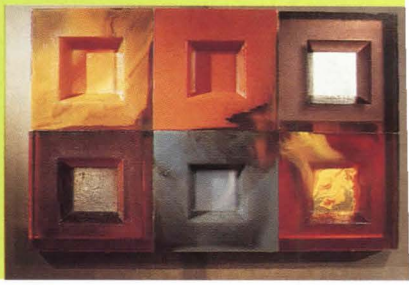
16 Entry Deadline
Deadline for sending entries is October 31, 1997. All entries must show a postage date as evidence of being in the carrier's hands by October 31. Hand-delivered entries must arrive at *Architecture*'s editorial office (address below) by 6 p.m. on October 31. To ensure timely receipt, *Architecture* recommends using a carrier that guarantees delivery within a few days.

Address entries to:
Awards Editor
Architecture
1130 Connecticut Avenue, N.W.
Suite 625
Washington, D.C. 20036

DEADLINE: October 31, 1997
Strictly Enforced

exhibitions

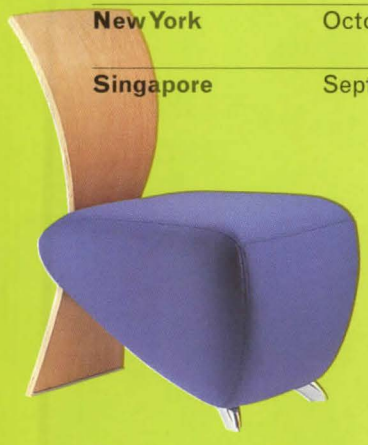
city	dates	exhibition	contact
Montreal	through September 28	**The Architecture of Reassurance: Designing the Disney Theme Parks** at the Canadian Centre for Architecture	(514) 939-7000
New York	through August 31	**Reversible Destiny: Arakawa/Gins** at the Guggenheim Museum SoHo	(212) 423-3500
	through September 19	**Is the Future Now? Gaetano Pesce: Material Explorations** at Material ConneXion	(212) 445-8825
	through October 19	**Do-It-Yourself Architecture for the Great Outdoors** at the Cooper-Hewitt, National Design Museum	(212) 860-6868
Philadelphia	through November 2	**Obscure Cities** at the Eastern State Penitentiary	(215) 236-3300
Washington, D.C.	through August 17	**Sheltered by Design** at the National Building Museum	(202) 272-2448



Gaetano Pesce's resin wall blocks at Material ConneXion in New York

conferences

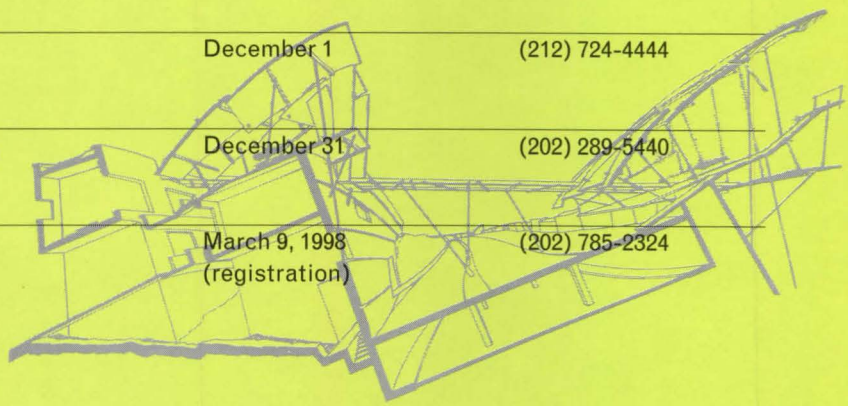
city	dates	conference	contact
Atlanta	October 28-30	**Metalcon International '97**	(617) 965-0055
Chicago	September 25-27	**Association for Preservation Technology conference**	(217) 333-4698
Laredo	September 5-7	**Borderlands Landscapes conference,** sponsored by the City of Laredo and Texas A+M University	(210) 791-7441
New Orleans	November 13-16	**American Institute of Graphic Arts conference**	(212) 807-1990
New York	October 29-31	**Interplan '97 and Batimat**	(800) 950-1314
Singapore	September 22-24	**International Convention on Urban Planning, Housing, and Design**	(65) 779-3078 fax



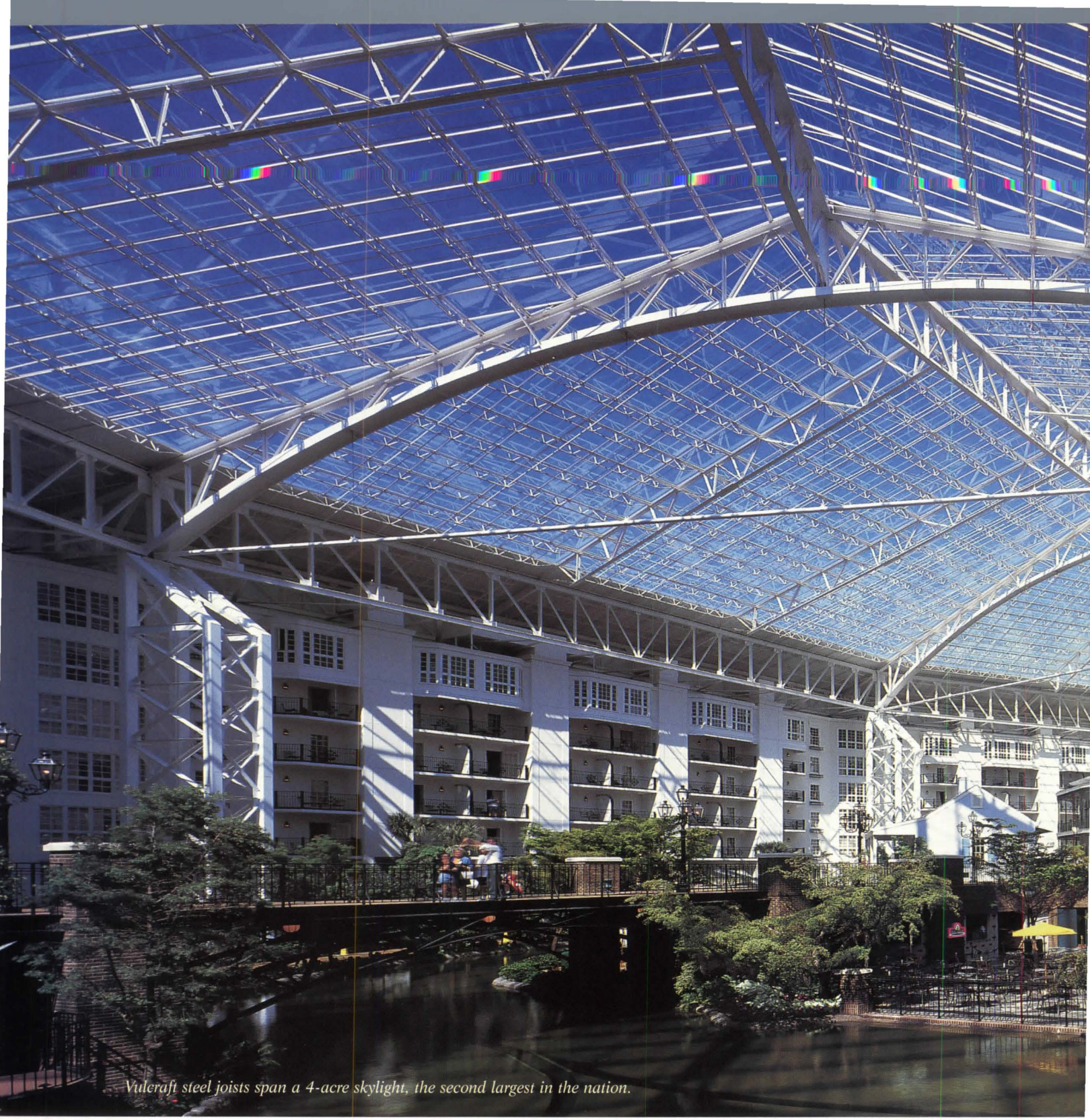
German manufacturer Dauphin's Bobo lounge chair will be exhibited at Interplan.

competitions

competition	deadline	contact
Investing in the Next Generation grants, sponsored by the Boston Foundation for Architecture	August 26	(617) 951-1433, ext. 232
Membrane Design Competition, sponsored by the Taiyokogyo Corporation	September 3	(81) (6) 306-3154
NOVA Award, sponsored by the Construction Innovation Forum	September 15	(313) 995-1855
Great American Home Awards, sponsored by the National Trust for Historic Preservation	September 30	(202) 588-6283
Launch Your Career in Exhibit Design competition, sponsored by Exhibitgroup/Giltspur	December 1	(212) 724-4444
Excellence in Gypsum Board Design & Construction Awards, sponsored by the Gypsum Association	December 31	(202) 289-5440
Urban Housing student design competition, sponsored by the Association of Collegiate Schools of Architecture and Otis Elevator	March 9, 1998 (registration)	(202) 785-2324



Winner of 1996-1997 ACSA/Otis design competition, urban housing designed by students at Ricardo Palma University in Peru



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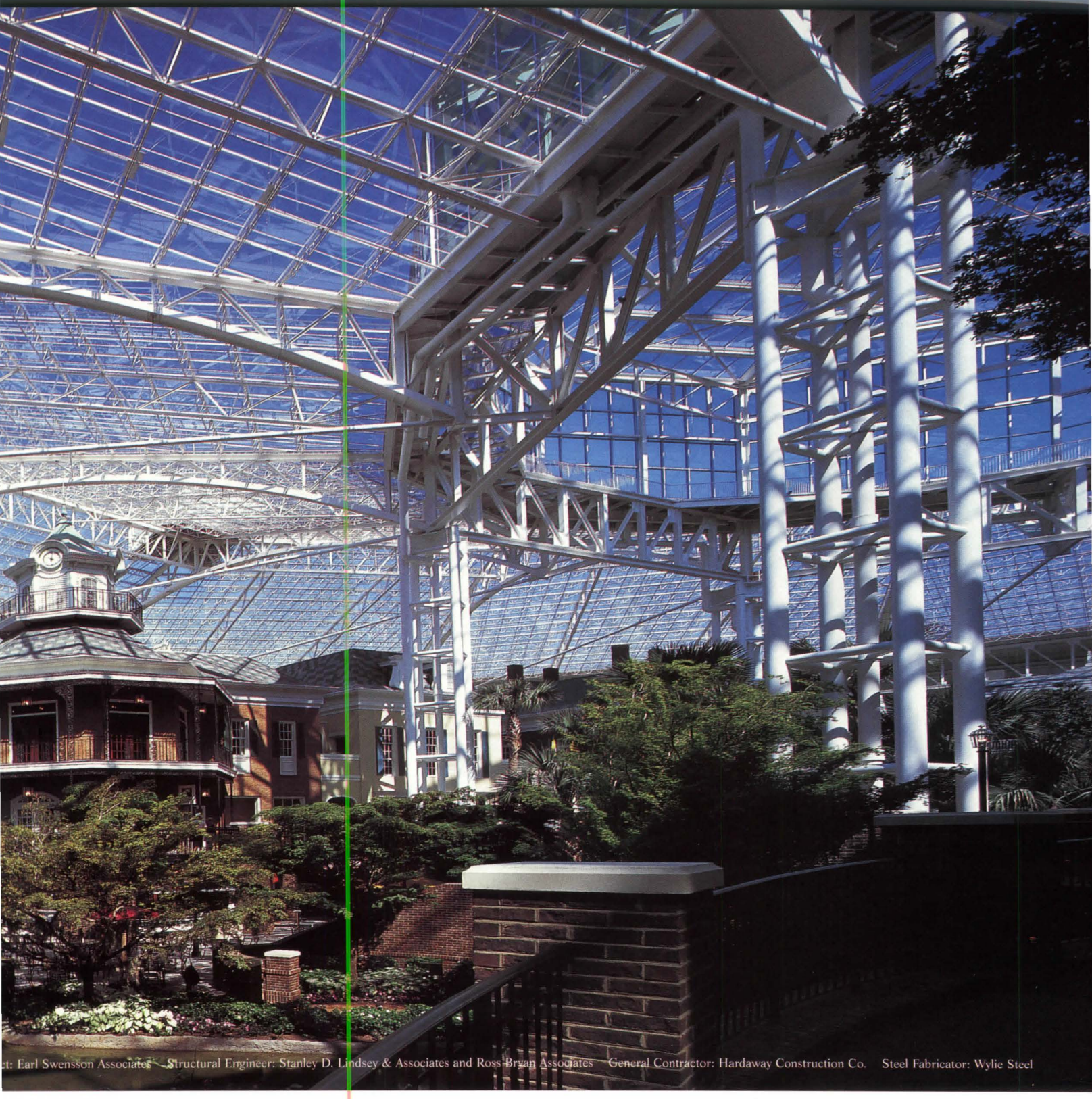

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EUROPE'S TALLEST TOWER

At 60 stories, the new Commerzbank headquarters in Frankfurt, Germany, is Europe's tallest tower. It is also the greenest—thanks to an environmentally conscious design by Britain's Foster and Partners. The triangular tower incorporates passive lighting and climate control systems. Structural columns, elevators, and utilities are located at the corners, leaving the building's core open as a continuous atrium and natural ventilation shaft. Linked to the atrium are a spiraling series of nine wedge-shaped, four-story winter gardens. Operable windows in offices and the enclosed gardens draw fresh air to the atrium. Ned Cramer

DISNEY HALL Saga CONTINUES

Frank Gehry's Walt Disney Concert Hall was shelved, permanently it seemed, until last fall, when a coalition of Los Angeles leaders, headed by businessman Eli Broad and Mayor Richard Riordan, initiated a campaign to resurrect it (*Architecture*, April 1997, pages 39-43). As of early July, $185 million of the $220 necessary was in hand: Disney Hall, with its billowing walls, might finally sail.

The good news, however, has suddenly soured. Broad's take-charge coalition now insists on a design-build process with a contractor who would guarantee a price cap. The contractor would also select an executive architect to complete the working drawings. "We need certainty at this point," says Broad. "If we were starting from scratch, it would be different. It's a project with a history." According to the coalition's scheme, Gehry would be given a short, unspecified amount of time to update the design, and then would assume an advisory role that effectively sidelines him as design architect with only the power of appeal to the client in the working drawing and construction phases. Facing the real possibility of repeating the project's breakdown with another set of unsatisfactory working drawings and the eventuality of a compromised building, Gehry wrote a letter to Broad offering to resign on May 30. "You can lose a couple of percentage points from the design, maybe between 5 and 10 percent, and the concept still holds," says Gehry. "At 15 percent, you've lost the project." On June 15, the coalition declared that the project would continue with or without Gehry.

Can the soul of this building survive a process that leaves the design without its primary defender? While some businessmen think cry-baby Gehry wants to pick up his marbles and go home, Los Angeles architects have lauded their colleague for protecting his design—and defending the integrity of a profession whose authority has been steadily eroded by such apparently "practical" scenarios. "Gehry is the only person who could possibly have a comprehension of the total project, from conception and idea development, to working drawings," says Michael Rotondi. Oddly, Gehry supporters find themselves in the anguishing position of not supporting the building if Gehry does not continue in the customary role.

Recent negotiations have tentatively yielded a structure that might salvage the situation: A group called the Disney I Committee would be constituted to act for the Music Center as client. In this configuration, Gehry would retain customary architectural duties, dealing directly with the contractor. The chair and members of such a committee have yet to be determined. Heavy downtown hitters are taking sides: Diane Disney Miller, daughter of Walt and Lillian, controls about $65 million of the project, and has made it clear she wants Gehry through all phases of the project. Rob Maguire, a prominent downtown developer and civic leader, has taken the position that design-build as proposed by Broad is unfeasible in a project of this nature.

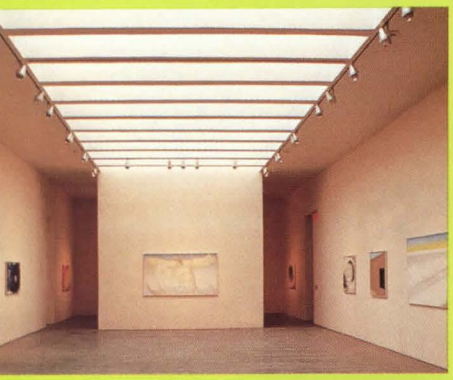
Notoriously short on civic buildings and public spaces, Los Angeles needs the building more than Gehry. But the only guarantee that it will be the building that the city—and history—wants depends on Gehry's ongoing, hands-on participation. Otherwise, this cultural monument may prove a monumental embarrassment. *Joseph Giovannini*

Quigley's LIBRARY

Last year, hometown favorite Rob Wellington Quigley was selected to design San Diego's public library over such internationally known architects as Michael Graves, Arata Isozaki, and Cesar Pelli. In July, after a month-long public review process, the city selected one of two schemes presented by Quigley and his collaborators—codesigner Cathy Simon of San Francisco-based Simon Martin-Vegue Winkelstein Moris, and Tucker, Sadler & Associates.

Quigley's design recalls Bertram Goodhue's California Building in San Diego's Balboa Park. The 260,000-square-foot library will sit to the north of a large plaza, and be entered through a three-story, skylit atrium. The sixth-floor reading room will be capped by a 75-foot-high latticed dome. The rejected scheme envisioned the reading room topped by a 132-foot-square, cable-stayed trellis. *N.C.*

O'KEEFFE Museum Opens



PAUL SLAUGHTER

More than 80 of painter Georgia O'Keeffe's voluptuous still lifes and Southwestern landscapes have a new home in historic downtown Santa Fe, New Mexico. The 13,000-square-foot museum opened last month in a former church renovated and expanded by New York architect Richard Gluckman. The project is Gluckman's second art gallery in Santa Fe; his first, SITE Santa Fe, devoted to contemporary artworks, opened in 1995.

Exhibition areas in the O'Keeffe Museum are designed to resemble the interiors of the artist's house in the nearby town of Abiquiu. Ten galleries, including what was the nave of the church (top left), surround a sculpture court. Gluckman unobtrusively adds another gallery, a store, and offices in a two-story wing to the east. N.C.

WILLIAMS | TSIEN Add to Hopkins Campus

In July, after holding an invited competition, Johns Hopkins University in Baltimore selected Tod Williams Billie Tsien & Associates to design a new 53,000-square-foot, mixed-use complex, combining a student union, art center, and administrative offices. The New York City-based husband-and-wife team bested Wilkes-Barre, Pennsylvania-based Bohlin Cywinski Jackson and architects Mikko Heikkinen and Markku Komonen of Helsinki, designers of the Embassy of Finland in Washington, D.C.

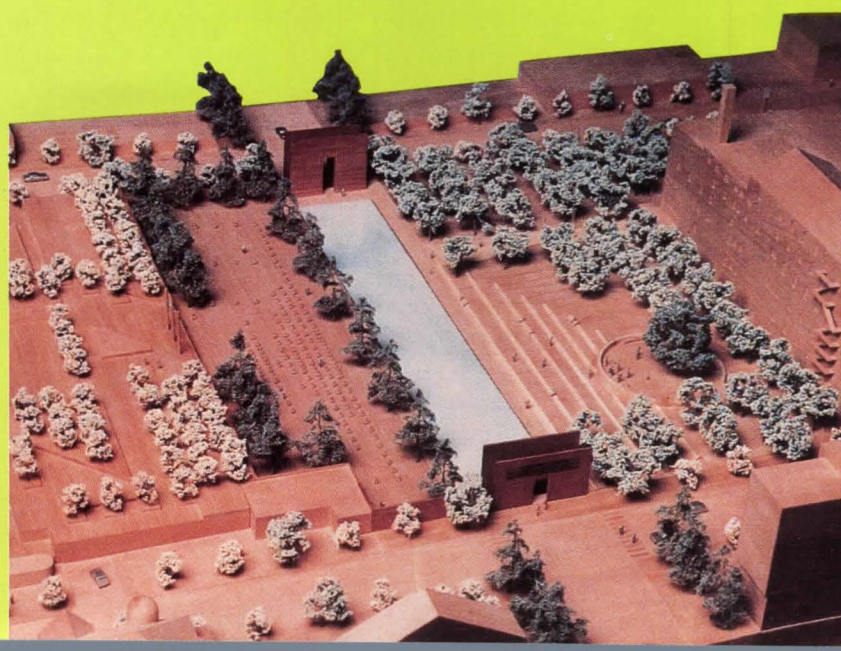
Williams and Tsien's winning scheme comprises a trio of low, brick buildings nestled into a hillside, and encloses a central courtyard. A black-box theater and café with a rooftop sculpture garden are built into the hill on the north. To the east, a linear, freestanding building contains art and dance studios, student offices, and a multipurpose room. Administrative offices are located above.

The building to the west houses music practice studios on the ground floor, and the film and digital-art departments on the second floor. Construction is scheduled to begin next fall, with completion anticipated in the summer of 2000. *N.C.*

Oklahoma Bombing MEMORIAL UNVEILED

A field of empty chairs will be the final testament to the Oklahoma City bombing. Designed by Torrey Butzer, Hans-Ekkehard Butzer, and Sven Berg of Berlin, Germany-based Locus Bold Design, the winning scheme for a memorial on the site of the Murrah Federal Building was announced on July 1. The winner was selected from five finalists and 624 entries in an international competition.

The 168 stone-and-glass chairs are arranged in nine rows; each chair will bear the name of one of the victims. Nineteen will be smaller, commemorating the children who died. A *reflecting pool to the* north will replace Fifth Street to create a continuous pedestrian precinct. Gates at each end of the pool will be inscribed with 9:01 and 9:03, signifying the moments before and after the bombing on April 19, 1995. On the other side of the pool, a low wall of granite salvaged from the Murrah Building will surround the Survivor Tree—an elm that withstood the explosion. The winning scheme will begin construction next year; $2.5 million of the estimated $9 million price tag has already been raised, all of it from private sources. *N.C.*



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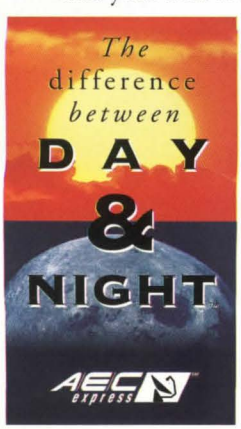

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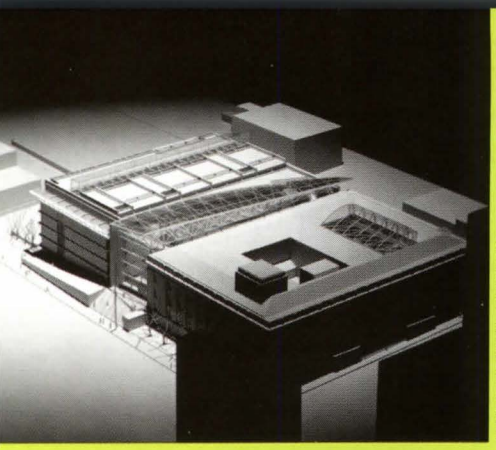

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Phifer's Salt Lake City Federal Courthouse

IN BRIEF

In Los Angeles, construction has begun on a new canopy designed by **Arata Isozaki** for his 1986 Museum of Contemporary Art. The glass-and-steel, tensile structure will shelter the sunken courtyard outside the main entrance. A new, 90,000-square-foot office building in Beverly Hills is being designed for Universal Studios by **Gwathmey Siegel & Associates**. In Salt Lake City, Los Angeles architect **Barton Myers** is designing the 60,000-square-foot Utah Museum of Fine Arts on the University of Utah campus. **Thomas Phifer and Partners**, with local firm **Naylor Wentworth**, has been selected by the General Services Administration to design a 229,000-square-foot annex and renovation of the 1932 Salt Lake City Federal Courthouse.

The Washington Monument will undergo a two-year, $5 million renovation by the National Park Service. While the 150-year-old obelisk is repointed, repaired, and cleaned, its exterior will be enveloped by a 555-foot-tall scaffolding designed by **Michael Graves**.

The Country Music Hall of Fame is being designed in downtown Nashville by local firm **Tuck Hinton Architects** on a site adjacent to the new Nashville Arena. The 125,000-square-foot hall will feature exhibits by Ralph Appelbaum, and is scheduled to begin construction in 1998.

The New York City Metropolitan Transportation Authority has narrowed its shortlist of candidates from 10 to five for the redevelopment of its Coliseum convention-center site on Columbus Circle: **Gary Edward Handel & Associates** and **Polshek and Partners**; **Skidmore, Owings & Merrill** and **Elkus/Manfredi**; **Cesar Pelli & Associates**; **Murphy/Jahn**; and **Robert A.M. Stern Architects** and **Costas Kondylis & Associates**. The city's Economic Development Agency still hasn't announced a scheme for the site of **Edward Durrell Stone**'s Two Columbus Circle. The winners of both commissions will be announced later this year. **Maya Lin** is designing a recycling plant for the Bronx Community Paper Company.

Architect **William L. Turnbull, Jr.**, died June 26 at his home in Sausalito, California. Turnbull, 62, was a partner of **Moore Lyndon Turnbull Whitaker**, architect of the landmark Sea Ranch condominiums. On June 25, 90-year-old Columbia University engineering and architecture professor **Mario G. Salvadori** died in New York City. **Nathaniel Curtis**, designer of the New Orleans Superdome, died June 10 at age 79.

Tuck Hinton's Country Music Hall of Fame

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Defending Disney

An exhibition in Montreal upholds the architectural merit of Disney's theme parks.

Disney has opened its secretive kingdom for the first time, to Karal Ann Marling, curator of an exhibition on view through September 28 at the Canadian Centre for Architecture (CCA). But Mickey Mouse needn't worry. *The Architecture of Reassurance: Designing the Disney Theme Parks* persuasively, even lovingly, upholds the architectural merits of the company's themed environments.

A cultural historian who teaches at the University of Minnesota, Marling uncovered spectacular drawings and models during her dig in Disney's attic. They are on display for the first time ever—and the show's principal joy. Marling lucidly explains the parks' formal designs and intent—particularly in Disney's use of color, scale, symbol, and orienting devices to relax and amuse tourists—making these ideas accessible to both architects and laypeople. The exhi-bition itself didactically re-creates the Disneyland diagram with galleries addressing its various themed areas.

Notably absent, however, is the architecture developed by Disney CEO Michael Eisner with such leading contemporary architects as Robert Stern and Michael Graves, as well as Disney's new town, Celebration. The show focuses on the environments designed by the Imagineers—the original Disneyland in Anaheim; Walt Disney World in Orlando; Tokyo Disneyland; and Disneyland Paris (formerly EuroDisney).

Marling's unprecedented access to Disney's archives makes the exhibition and her accompanying catalog essay the first survey of the theme parks' creation based on research, rather than mere observation. But the case for Disneyland's sophistication has been made before. Marling's view of the park as "a powerful critique of the manifest ills of Los Angeles in 1955" in its reassuring pedestrian pathways, mass transit, and traditional urban scale, for example, echoes Michael Sorkin's 1992 essay, "See You In Disneyland," which asserts "Disneyland less redeems LA than inverts it."

In the exhibition, Marling differs from other critics' opinions, avoiding the issue of Disney's corporate mindset. Her catalog essay goes further, and summarily dismisses criticism of the company's commercial values and environmental controls. "The charge of sinister intent is the risk art often runs when it sets itself apart from the operative norms of its time," she writes.

You don't have to love Disney, or admire its intentions, to appreciate the power of its product. *The Architecture of Reassurance* fairly assesses the company's architecture for its comforting psychological impact. But less convincing is the show's purported objectivity. Even without Disney sponsorship, Marling ends up an apologist for the entertainment company, concluding: "A trip to a Disney park is like going to heaven. A culmination of every dream and hope. A summation of American life." *Ned Cramer*

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Houston

Its oil hangover now lifted, the Texas metropolis pushes civic improvements.

Having endured the long-term slump caused by the 1982 oil market crash, Houston is gushing with energy once again, with a wealth of building and infrastructure upgrades now in the pipeline. There is uneasiness, however, about the role of the city government in these improvements. During the three-term administration of Mayor Bob Lanier, the city has figured prominently in center-city real estate initiatives. This role is unusual, given the city's notorious preference for minimal public "interference." Houston remains the only major U.S. city without a zoning code.

Downtown development illustrates the city's ambivalent role. Since the 1980s, preservationists have promoted rehabilitation of Houston's historic core, which comprises 70 of the 300 blocks in downtown. Over the last three years, their efforts have gained momentum. Two loft conversions of historic commercial buildings in 1995 and two more in near-town locations proved so successful that three additional residential conversions are under way. In June 1996, the City of Houston bought the Rice Hotel, a 17-story landmark built in 1913 and vacant since 1978. The city leased the Rice to developer Randall Davis, who was responsible for three of the loft conversions, for transformation into 350 rental apartments by architects Page Southerland Page. Work is proceeding feverishly in order to have the Rice ready before term limits end Lanier's tenure in January 1998.

HESTER + HARDAWAY PHOTOS

Rice Hotel (1913) is being converted into lofts.

In addition, major infrastructure improvements are about to take place downtown. The most dramatic is the Ballpark at Union Station, a 42,000-seat baseball stadium by HOK Sport that will be integrated with Houston's 1912 railroad station. Voters authorized public subsidies for the six-block project in November 1996. In January, a group of civic leaders announced a complementary initiative, the Cotswold Project, designed by San Francisco landscape architects Peter Walker, William Johnson & Partners. This project proposes a 79-block landscaped "parking district," bisected by an eight-block pedestrian promenade from Market Square, in the heart of the historic core, to the ballpark site. The Cotswold Project is contingent on the city's authorization of a privately run authority that will collect revenue from on-street parking meters and an underground garage to fund urban design improvements, maintenance, and a private police force.

But these efforts are happening without planning coordination. Lacking the planning infrastructure a zoning code would mandate, the city of Houston has no policies for directing such activity. Will the ballpark "save" downtown, or will it simply promote further demolition for surface parking lots? As backers of the Cotswold Project are discovering, the city is not prepared for public-private ventures. Because it has no procedures to follow, the city's negotiating style can seem like obstructive behavior, even though backers of the parking plan are acting at the behest of Mayor Lanier. The Cotswold Project is also embroiled in negotiations with the public transportation authority, Metro, which claims its master transportation plan for downtown will be compromised by narrowing streets, slowing traffic, and diverting bus routes, all components of the Cotswold Project.

The city's fragmented approach to urban rehabilitation is proving disastrous to Fourth Ward, Houston's oldest African-American neighborhood, which is on downtown's western edge. Fourth Ward contains two historic districts: Freedmen's Town, an area of picturesque Victorian cottages lining narrow streets, and Allen Parkway Village, a superlative public housing complex built between 1940 and 1944 by Houston's first Modern architects, MacKie & Kamrath. The housing complex's low-income residents fought for 18 years to preserve and rehabilitate it. But the mayor's office, acting through the city's Housing Authority, won approval from state and national preservation agencies in December 1995 to destroy two-thirds of Parkway Village and have developers build subsidized "affordable" housing on its parklike site. The effect on nearby Freedmen's Town will be devastating.

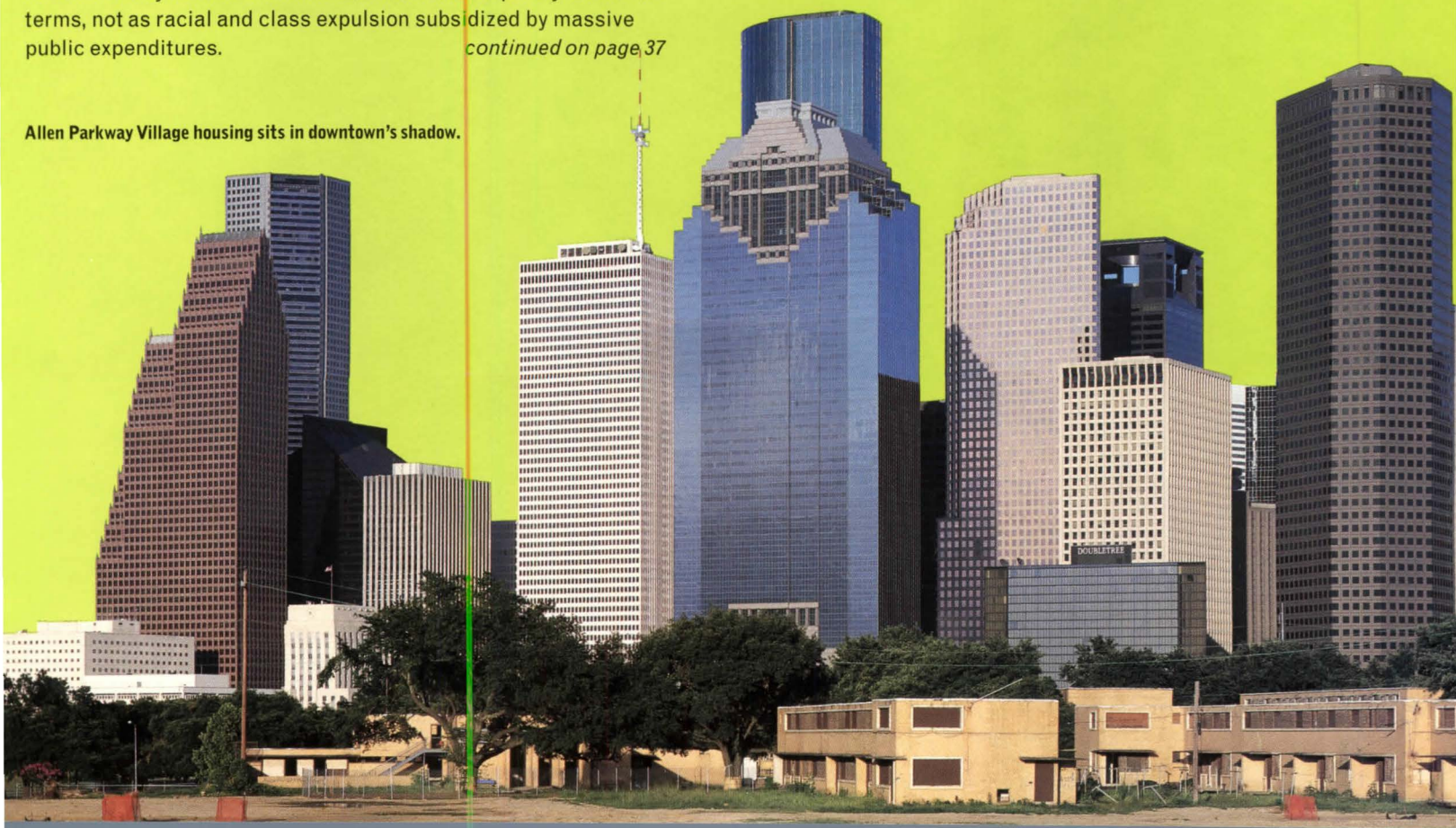
At the mayor's behest, the Houston Renaissance Foundation, a charitable organization whose board of directors represents real

Refuels

estate interests, was organized to "revitalize" Freedmen's Town. The foundation promises to deliver new "affordable" housing in Freedmen's Town, but quixotically, not at prices low enough to make it affordable for the low-income minority families who now live there. City leaders view this contradiction in purely economic terms, not as racial and class expulsion subsidized by massive public expenditures.

continued on page 37

Allen Parkway Village housing sits in downtown's shadow.



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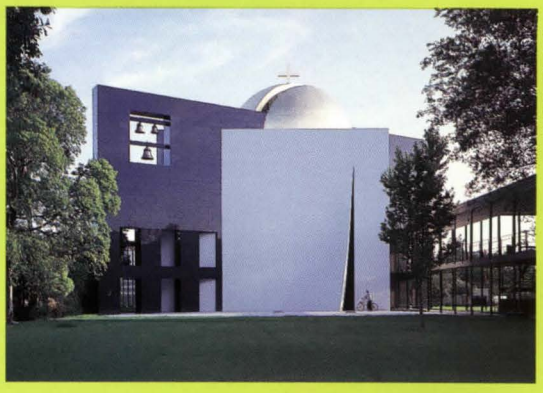
Beyond these conflicted projects involving the city of Houston, the architecture scene is lively. One of Houston's most remarkable venues is the West End, a lower-income, near-town neighborhood and site of the "tin house" phenomenon. "Tin" is a code word for the galvanized metal siding that architects apply to new houses in the West End, which is dotted with pre-engineered metal buildings. Architects Cameron Armstrong, Rob Civitello, Natalye Appel, Val Glitsch, Linda Steffy, Murphy-Mears, Robert Morris, David Guthrie, and architect-artist Frank Zeni routinely design Modern houses in this area for middle-income clients attracted to its funky character. There are now more significant, architect-designed houses in the West End than in nearby River Oaks, Houston's most prestigious neighborhood.

In the institutional precinct south of downtown along the oak-lined Main Boulevard, a discreet building boom is underway. The Museum of Fine Arts began construction in May on a two-block site for a 185,000-square foot museum annex and a parking garage designed by Rafael Moneo with Kendall/Heaton Associates.

Another Houston patron of significant architecture, Rice University, lies in the Main Boulevard civic arena. Rice has completed three new buildings over the past year. The most recent, Butcher Hall, a chemistry and nanotechnology laboratory building designed by Antoine Predock and Brooks/Collier, engages its unpromising site with spatial invention. It does not fetishize ornament or styling, as do the other two buildings, Duncan Hall, a computer science facility by British architect John Outram and Kendall/Heaton Associates, and the James A. Baker III Institute for Public Policy by Hammond, Beeby & Babka of Chicago and Morris Architects. Completed during this same time period in residential neighborhoods near Rice are notable urban houses by Wittenberg Architects and Francois de Menil.

The institutions comprising the Texas Medical Center, located across Main Boulevard from Rice, have not been patrons of ambitious architecture. Therefore, the architectural competition held by the University of Texas-Houston for its School of Nursing marks an encouraging departure. Patkau Architects of Vancouver, British Columbia, was awarded the commission in March for a dramatically tapered, 10-story classroom and office building faced with latticelike sunscreens. While UT-Houston raises the necessary funding, programming and schematic design for the Nursing and Biomedical Sciences Building are slated to begin in December.

Between Main Boulevard and downtown is the Montrose district, home to the Menil Collection and the University of St.



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Chapel of St. Basil by Philip Johnson, Ritchie & Fiore

Thomas. There, two new chapels—Francois de Menil's Byzantine Fresco Chapel (*Architecture*, April 1997, pages 68-75) and Philip Johnson's Chapel of St. Basil (*Architecture*, March 1996, pages 52-53)—were dedicated in February and June, respectively. Johnson's flamboyant, gold-domed chapel is an addition to the campus of delicately scaled, steel-and-brick Miesian buildings he designed for St. Thomas 40 years ago. The chapel has its share of gratuitous formalisms. But its tall, light-filled interior is a reminder that Johnson still has spatial ideas. A third Houston chapel, dedicated in April, is the open-air Proler Family Chapel at Woodlawn Cemetery. Designed by Solomon Architecture of San Francisco, it employs air-scooping wall and roof planes to provide shelter in Houston's hot, extremely humid climate.

The spirit of high endeavor that has guided Houston's pre-eminent art and architecture patron, Dominique de Menil (*Architecture*, April 1997, pages 49-53), is infectious. Her patronage inspired art dealer Hiram Butler to bring artist James Turrell and Houston architect Leslie Elkins together with a Quaker community to design a Quaker meeting house on an open site in a working-class neighborhood. While still at an early stage of development, plans for the meeting house will feature copious natural light as its principal component.

What makes Houston exciting is that ordinary people can accomplish extraordinary things. An example is Project Row Houses, two blocks of identical shotgun cottages in the African-American neighborhood of Third Ward. Houston artist Rick Lowe, working with Deborah Grotfeldt and Diverse Works Artspace, assembled the real estate in 1994, recruited corporate volunteers to rehabilitate the cottages, and now runs a program of temporary installations by artists. Architect Sheryl Tucker worked with Project Row Houses on rehabilitating one of the blocks as transitional housing for single mothers. Project Row Houses mixes art, social work, and community relations in inspired, spontaneous ways. It is a symbol of what is best about Houston.

Houston has not repented of its old ways. Its chaotic sprawl and anarchic landscapes can still scandalize those whose image of the perfect city is Boston or San Francisco. But Houston is a more interesting city than it was in the boom days of the early 1980s. It is more introspective, more self-aware, and more willing to search out local identities, even in architecture. *Stephen Fox*

Stephen Fox is a Fellow of the Anchorage Foundation of Texas.

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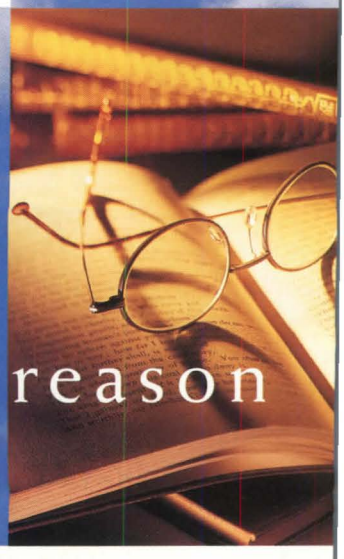
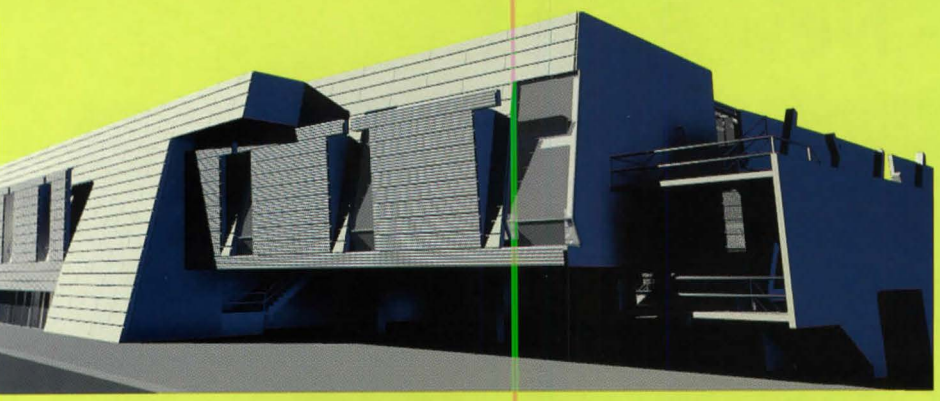




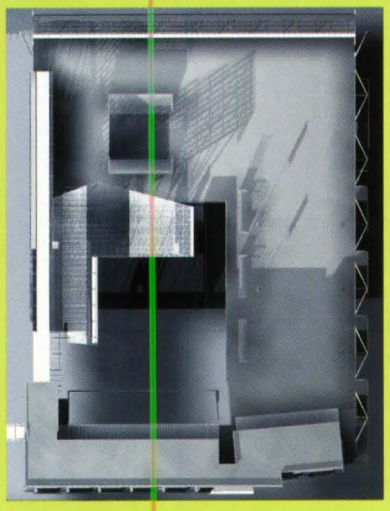
Corrugated-steel panels punctuate plaster-finished south facade.

Long Beach International Elementary School
Long Beach, California
Morphosis and Thomas Blurock Architects

Another victim of public-school overcrowding, the Long Beach International Elementary School in Long Beach, California, is currently housed in temporary trailers in a fenced-off parking lot. But when school opens in September 1998, Long Beach International's students will occupy a new, 2-acre complex designed by Morphosis with Pomona, California-based architect of record Thomas Blurock Architects.

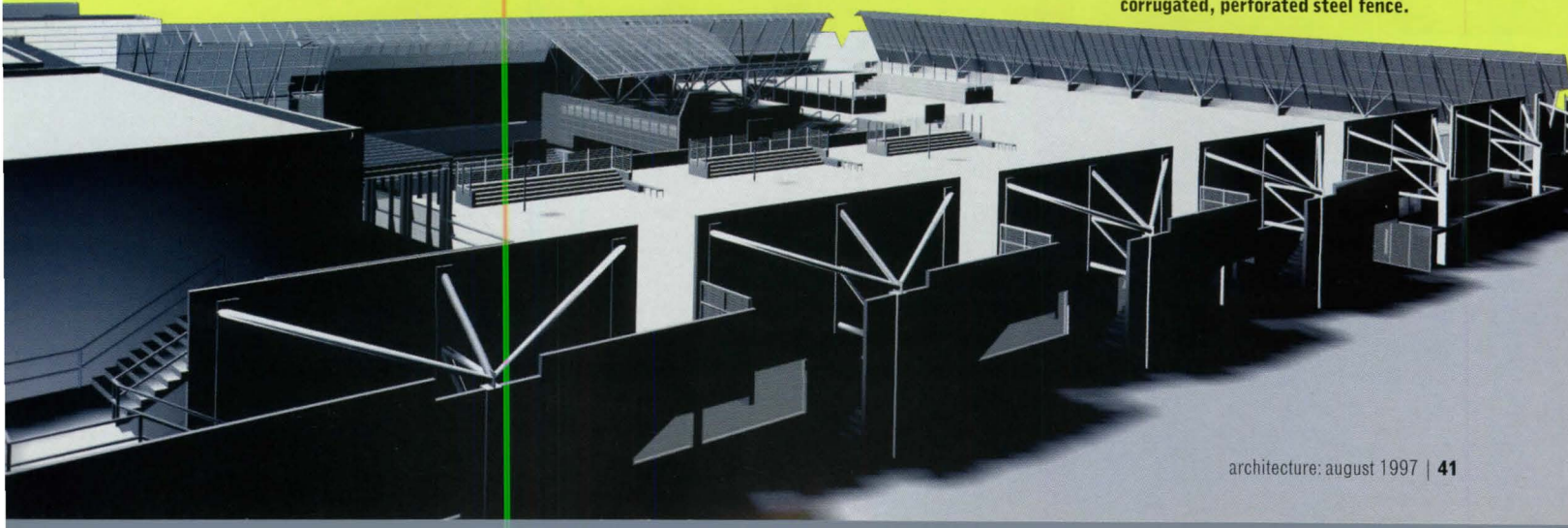
The 91,000-square-foot building is finished in smooth-troweled plaster and organized around an internal courtyard. To the south of the court, a three-story wing houses third-, fourth-, and fifth-grade classrooms. Windows in the sloping, gray plaster-faced exterior wall are framed by canted corrugated steel panels. A massive, one-story block surrounds the courtyard's other three sides: It houses a lobby and administrative offices to the west of the courtyard; a parking garage to the east; and classrooms, a library, multipurpose room, and cafeteria to the north.

The concrete roof of this one-story block provides the school's principal outdoor play area. A running track, basketball courts, baseball diamond, and other sports facilities are edged by bleachers. The perimeter of the roof deck is enclosed by a corrugated, perforated steel fence, supported on a steel-tube frame. To the east, the fence is broken every 40 feet, to provide access to emergency stairs. To the west, a steel canopy shelters a playground for younger students. *Ned Cramer*



Two-acre complex encloses courtyard.

Rooftop play area is surrounded by corrugated, perforated steel fence.



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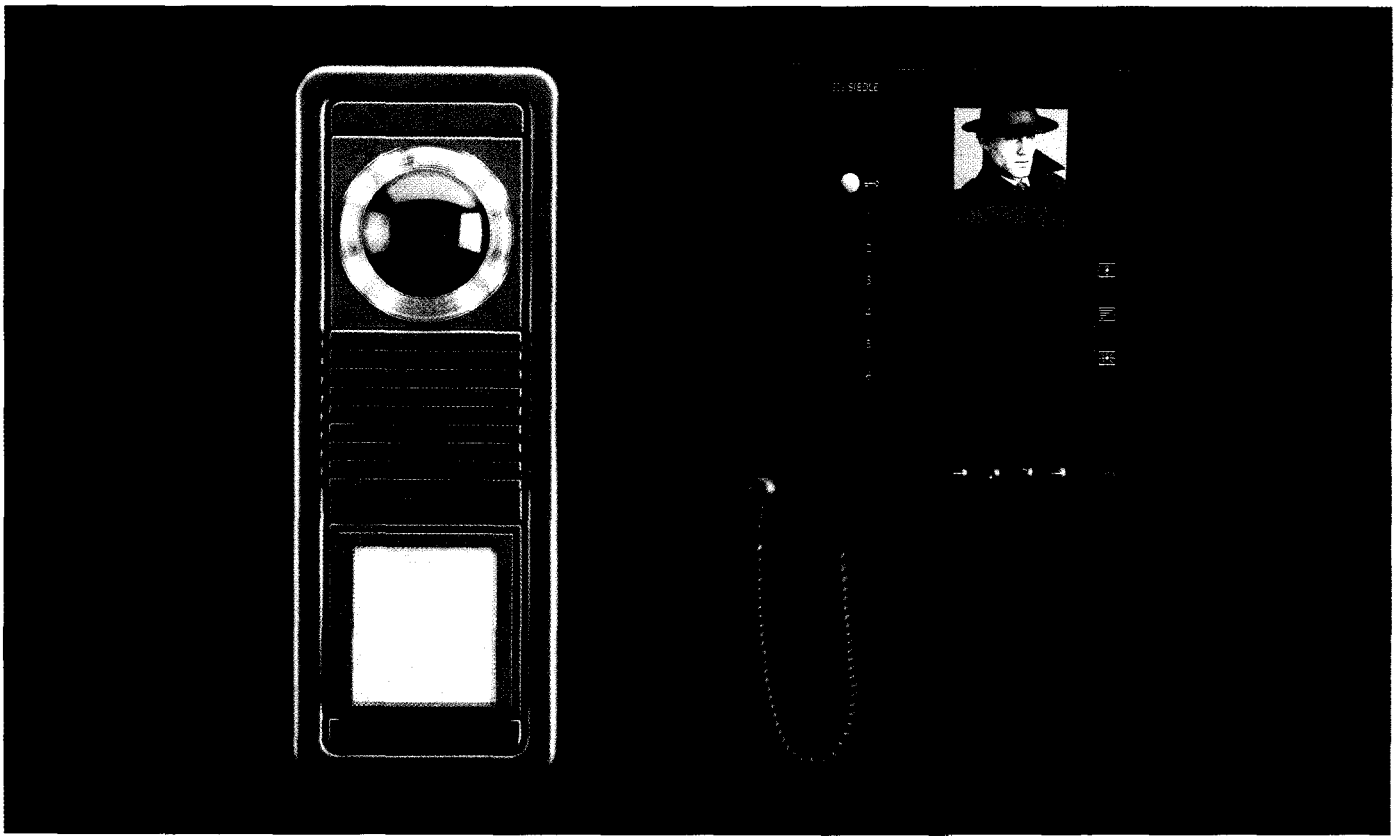

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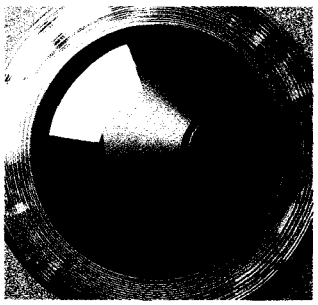

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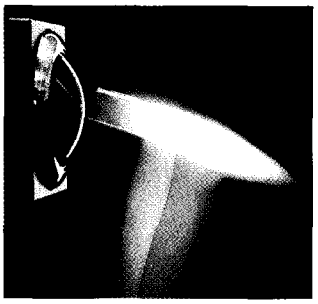

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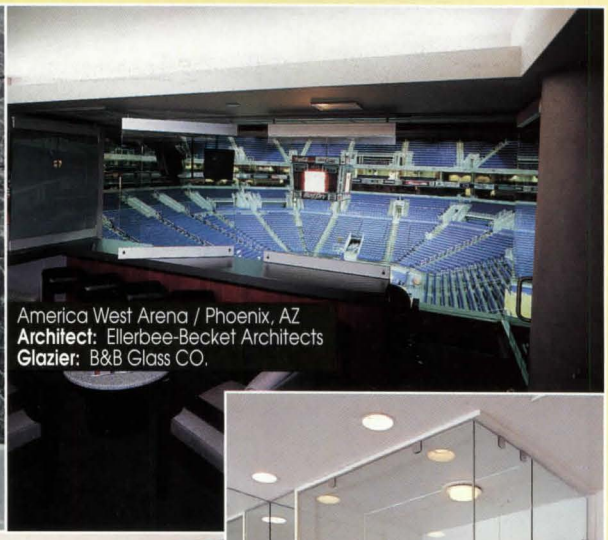
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Architect: Ellerbee-Becket Architects
Glazier: B&B Glass CO.


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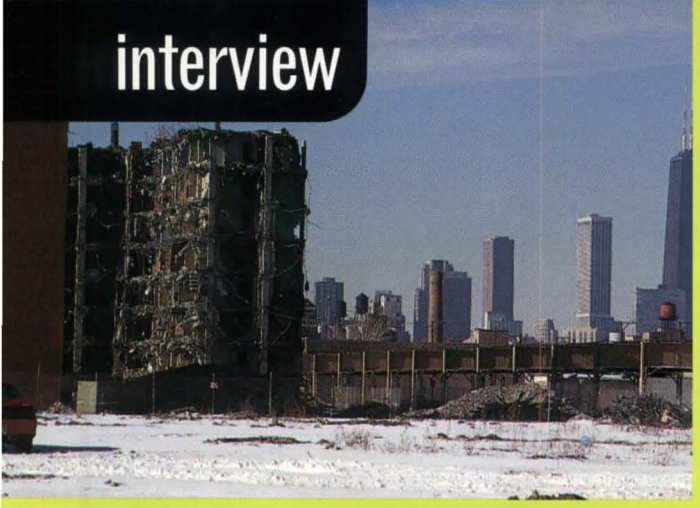

Chicago's Henry Horner Homes yield to the wrecking ball as part of HUD's HOPE VI program of public housing replacement.

Faced with budget cuts, HUD Secretary Andrew Cuomo plots a new way of housing Americans.

Housing

In January, 39-year-old Andrew Cuomo was confirmed as Secretary of the U.S. Department of Housing and Urban Development (HUD), having previously served as Assistant Secretary of Community Planning and Development under his predecessor, Henry G. Cisneros. Cuomo, the son of former New York Governor Mario Cuomo, arrived at HUD with a strong housing record in New York State. In 1986, the younger Cuomo founded the nonprofit Housing Enterprise for the Less Privileged (HELP), which developed transitional housing for the poor in Brooklyn, the Bronx, Albany, and Greenburgh, New York. Cuomo is now applying this experience at HUD, implementing new programs to revamp and replace outdated public housing.

ARCHITECTURE: Why have you devoted your career to housing, particularly for low-income Americans?
ANDREW CUOMO: I first entered the housing field as a builder and manager, not as a government official, because I saw the lack of affordable housing as a major problem in this country. I believed I could make a difference. I focused my attention where the problem was greatest: housing for the poor and the homeless.

How have America's affordable housing supply and demand changed since you first became involved with these issues?
The housing situation has improved in some places, and in others, it's basically static. Cities such as Charlotte, Minneapolis, and Detroit are seeing some of the highest homeownership rates ever. Public housing is improving in most cities as well. We've demolished a lot of the really troubled public housing and are replacing it with new public housing that is less dense, more integrated, more townhouselike. But the demand for affordable housing, the need, is growing. Over 5 million American families spend more than 50 percent of their income on rent. And the need is not just limited to the cities; it's in rural areas and suburbs, too. It's a critical issue.

CHK Architects' Lexington Terrace in Baltimore replaces high-rise projects with rowhouses that continue city's street and block patterns.

How has government support of housing changed?
We're working more closely with people at the local level. Let's look at homelessness. In the early 1980s, as homelessness began to explode in America's cities and towns, some prominent people said nothing could be done about it. So whatever money was being spent was used to create emergency shelters and little else. One of the things I'm most proud of is the Continuum of Care that we developed for the homeless, a new concept that went beyond emergency shelter and instead helped the homeless populations move from the streets to becoming more self-sufficient with medical and child care, literacy training, and help finding jobs.

When I served as chairman of the New York City Commission on the Homeless, we put the continuum in place at Housing Enterprise for the Less Privileged (HELP), an organization I founded in 1986, and made HELP the nationally recognized model

of transitional housing for the homeless. And when I came to HUD as assistant secretary, we implemented the Continuum of Care policy nationwide.

How does your agenda for HUD differ from that of your predecessor, Secretary Henry Cisneros?
The last four years have given me a greater perspective on the job. I can't think of anything we would not agree on: The biggest differences are the time periods in which we are serving. Henry had a difficult challenge, but he was successful in making the idea of reinventing HUD a part of the agency's culture. Today, no one thinks of public housing the same way they did four years ago.

I'd like to see American communities become stronger and healthier, taking a bottoms-up, empowerment approach to their physical and economic development problems. I also want to help more families become homeowners. I want to see an end to homelessness in this country.

Maverick

How does the current Congress treat public housing programs?
Most people in Congress, and many American citizens, believe that the old approach to public housing didn't work. And I agree. But the Americans who care the most about public housing are the families who live there today. They want a decent, safe place to live and a chance to make a better life. Their dreams and goals are no different than yours or mine, and we should never forget that.

We've reached a consensus with Congress on broad goals about what is broken in public housing, and what is required to fix it. We agree on the steps that we must take, including consolidating the existing public housing programs; merging the tenant-based certificate and voucher programs; deregulating well-performing public housing authorities (PHAs); and instituting actions that will help failing PHAs to become more effective—or replace them.

Earlier this year, we proposed a legislative package to Congress—the Public Housing Reform Act of 1997—that will bring about the greatest change in the public housing program since its creation by the U.S. Housing Act of 1937. There are similar legislative proposals in the House and Senate.

We would crack down on waste, fraud, and abuse in troubled housing authorities and allow well-run authorities to operate with less oversight and more flexibility. All three bills support reforms to help public housing residents move from welfare to work, to bring more working poor families into public housing, and to protect residents from crime and drugs.

But we have serious reservations about the House bill in its current form. One major disagreement is the bill's failure to ensure the availability of public housing for the poorest Americans, which

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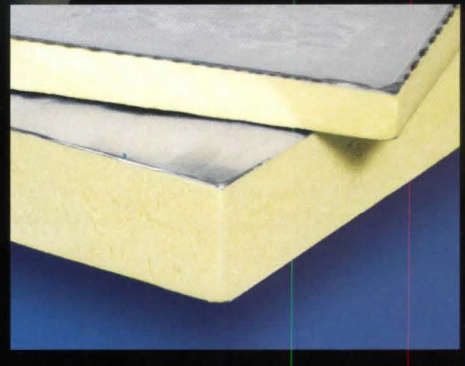

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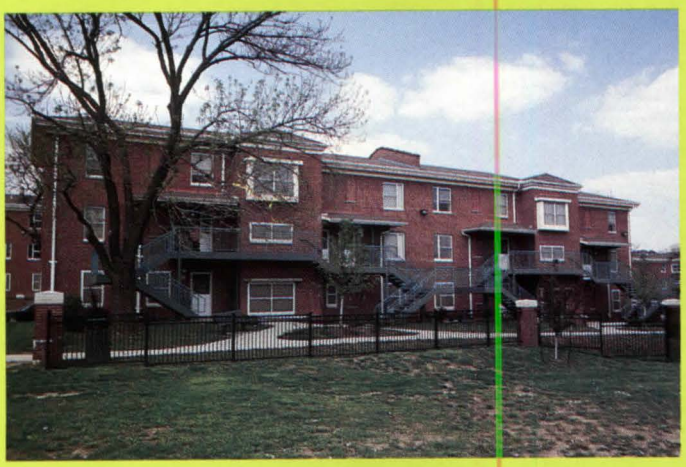
will create a threat of increased homelessness. While the Clinton Administration supports bringing more working poor families into public housing, the House bill goes too far by allowing up to 65 percent of newly admitted public housing residents to earn moderate incomes.



HUD's HOPE VI program is both renovating salvageable public housing units, as at Kansas City's TB Watkins development (top), and razing towers and building anew, as at Baltimore's Lafayette Courts, by CHK Architects (above).

What do you see as the ideal relationship between HUD and local housing officials?
First of all, let me say that the top-down, Washington-knows-best model doesn't work. A rigid federal bureaucracy is not only inefficient, but counterproductive to innovation and local initiative. As part of a complete management overhaul, we're building a new management model that dramatically deregulates and reorganizes federal oversight of America's public housing. HUD should let top-performing public housing agencies spend more time delivering vital services to residents and less time complying with unessential regulations or filing unnecessary reports. HUD's management responsibilities should include assistance, support, and reasonable funding for local housing actions and initiatives, without requiring HUD approval.

We need to ensure greater accountability of taxpayer funds by empowering the federal government to take swifter, stronger actions to crack down on poor performers and improve the management of troubled public housing agencies.

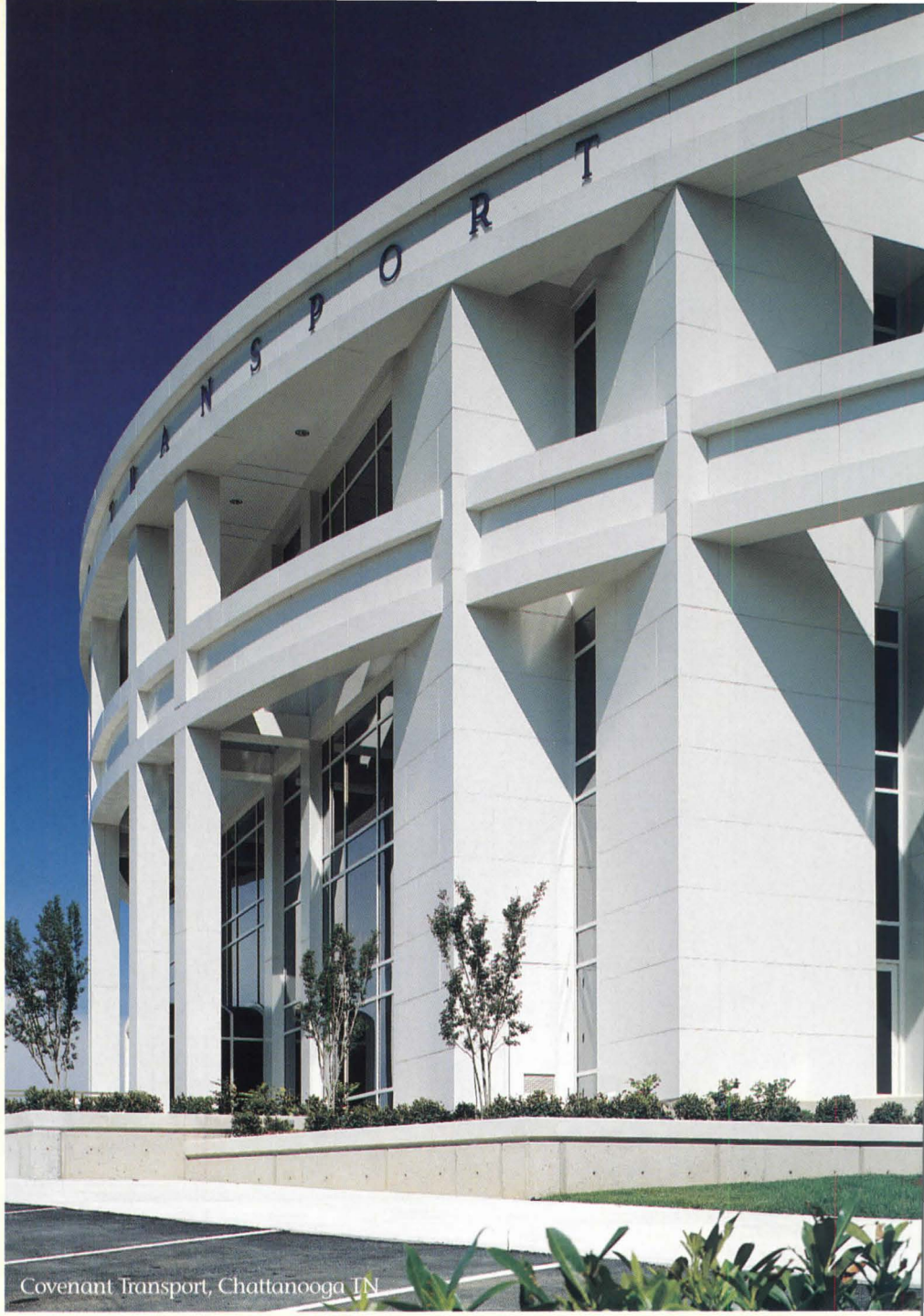
Local managers and housing officials should be able to innovate and capitalize on their strengths, but also feel free to seek guidance and assistance. If they have a solid understanding of their local problems—and of their own strengths and weaknesses—they will be more effective and will receive less unnecessary attention from HUD program staff. We expect local officials to be accountable for their actions, and act in the best "good government" sense when they spend taxpayers' dollars.

Your HOPE VI program is being touted as a new paradigm in public housing, but isn't it a new paradox as well? While HUD is tearing down 100,000 of the worst units, only 40,000 or so are being replaced. Where will the displaced tenants live?
No tenant is being displaced by the redesign of public housing, HOPE VI, or any other effort. Where we are working with localities to tear down old public housing developments and replace them with buildings built to the neighborhood scale, we're working to make sure that these developments have mixed-income populations, not concentrations of the city's poorest residents. Other tenants who relocate receive housing vouchers, and HUD will provide them with rental assistance wherever they choose to live. I also need to point out that a very large portion, perhaps the majority, of the units we're demolishing are vacant and uninhabitable.

Why are New Urbanist principles driving the design of HUD's replacement housing?
We stress New Urbanist principles because we've seen that they work. Developments that use these principles are planned with the human element in mind. They offer a mix of houses, townhouses, apartments, and businesses, and are more cohesive than suburban subdivisions. Streets flow with the community, rather than ending in cul-de-sacs or dead ends. Houses present their faces to the neighborhood rather than being set back and isolated. There are sidewalks that people actually use. By design, these communities make it

"You Really Can Afford To Be Versatile."

Alan Derthick, Architect



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easier for people to interact with neighbors and also walk to shops and—ideally—jobs. This is not just mixed-use zoning squeezed into suburban-subdivision design.

The HUD Homeownership Zones program follows these principles. These zones are a comprehensive approach to the overall revitalization of inner-city neighborhoods. Communities that apply for funds are encouraged to incorporate the basic principles of New Urbanism, which bring sustainable development down to the street, block, and lot level. This means human-scaled, pedestrian-friendly streets; development of grocery and retail stores to meet everyday needs within a comfortable walking distance; links to mass transit; and public spaces.

But they must be done right. Shoehorning sterile suburban models into inner cities and claiming they represent New Urbanism can undermine the goals we have, and have begun to achieve, through our work and partnership with the architectural community.

While a few of the new lower-scale HOPE VI housing projects are designed by good architects, the majority represent mediocre talent. Why doesn't HUD follow the example of the General Services Administration's Design Excellence program and urge the nation's very best architects to compete for this work?

HOPE VI was created to encourage creativity and innovation in public housing, both in how public housing is managed and, very importantly, how it looks. The goal of HOPE VI is not to make bad housing projects better, but to eliminate the concept of projects altogether. As you suggest, this will require good architecture.

HUD targets excellence in design through conferences and seminars, and we encourage local agencies to use the best talent available. Likewise, we always encourage the quality architects and innovators in design that come to our attention to work with our grantees. And some of them are doing just that. Each year we see improvements.

But ultimately, HOPE VI is implemented at the local level, and local housing agencies determine what partners, including architects, will help them create a quality product at a reasonable cost. Perhaps you could encourage the architectural community to reach out to local housing and development agencies, and play an even greater role in helping solve these problems.

What is the biggest challenge facing HUD?

It's becoming evident that the decline of cities during the 1970s and 1980s has slowed, stopped, and has even begun to reverse. But the reality is that most large American cities are still lagging behind the economic renewal that is sweeping the country.

In our cities, poverty has doubled since 1970, and the level of unemployment is disproportionately high. While unemployment is the lowest it has been in almost a quarter-century, central-city joblessness is five or six points higher than the surrounding suburban rate. Cities continue to face deep-seated problems that threaten not only their own long-term health, but the health of their suburban communities.

Our challenge, and we readily face it, is to build on the success of the last four years and use our momentum to meet the needs of urban American in a way that empowers us all. Our success or failure will largely determine the fate of many cities, neighborhoods, and suburban areas as we reach the 21st century.

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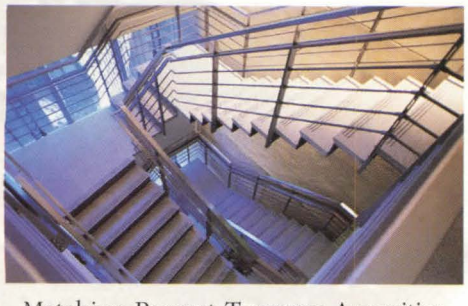

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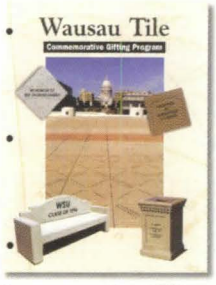
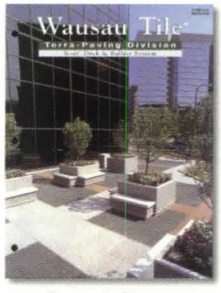


Commemorative Gifting



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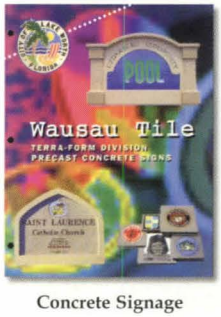

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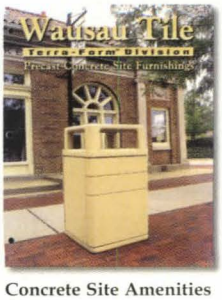

Concrete Site Amenities

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City leaders in Providence, Rhode Island, have worked hard in recent years to entice people back to the city's streets and waterfront. They redeveloped the Woonasquatucket River, passed tax incentives for artists, and encouraged creative uses for old buildings. With so much going for Providence, why are city leaders jeopardizing this success with a 1,100-foot-long, 600-foot-wide shopping mall on the edge of downtown?

The Providence Place Mall, designed by Arrowstreet of Somerville, Massachusetts, will dominate the city's core and forever alter its historic character. While the facade, designed by architect Friedrich St. Florian, a professor at Rhode Island School of Design, incorporates references to the surrounding architecture, its mass completely dominates the scale of downtown.

Malling Providence

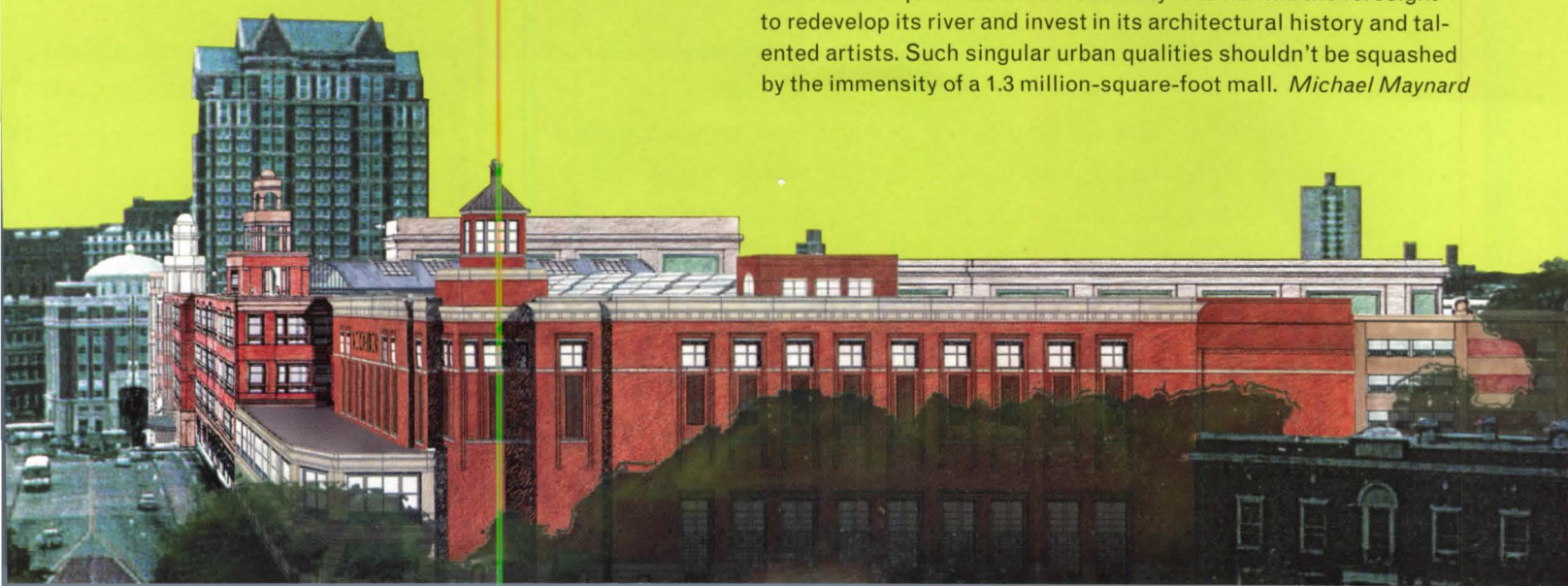
A 1.3 million-square-foot shopping center threatens the comeback of Rhode Island's capital.

The architects added street-level retail and doubled the number of pedestrian entrances to open up the mall. But with 150 shops and three major anchor stores, a food court, and a multiscreen movie theater, the mall will essentially operate as a city unto itself. Most vehicles will enter 10 levels of mall parking via Interstate 95, the major road through Providence. Visitors will tread carpeted floors and traverse tiled corridors without ever having to step onto city sidewalks. To insulate visitors further from the streets, a skywalk between the mall and the nearby Westin Hotel is planned.

The site of the mall, between Interstate 95 and Francis Street, was in dire need of redevelopment. But this plan, which required the demolition of two historic school buildings, attaches the retail leviathan to the downtown in the coarsest fashion.

The mall is only part of a 13-parcel mixed-use development that will create expansive, suburban-style buildings to accommodate larger businesses in a city that has benefited tremendously from its distinctive, 18th- and 19th-century architecture.

Providence has become a more vital place in which to live and work over the past decade because city leaders had the foresight to redevelop its river and invest in its architectural history and talented artists. Such singular urban qualities shouldn't be squashed by the immensity of a 1.3 million-square-foot mall. *Michael Maynard*



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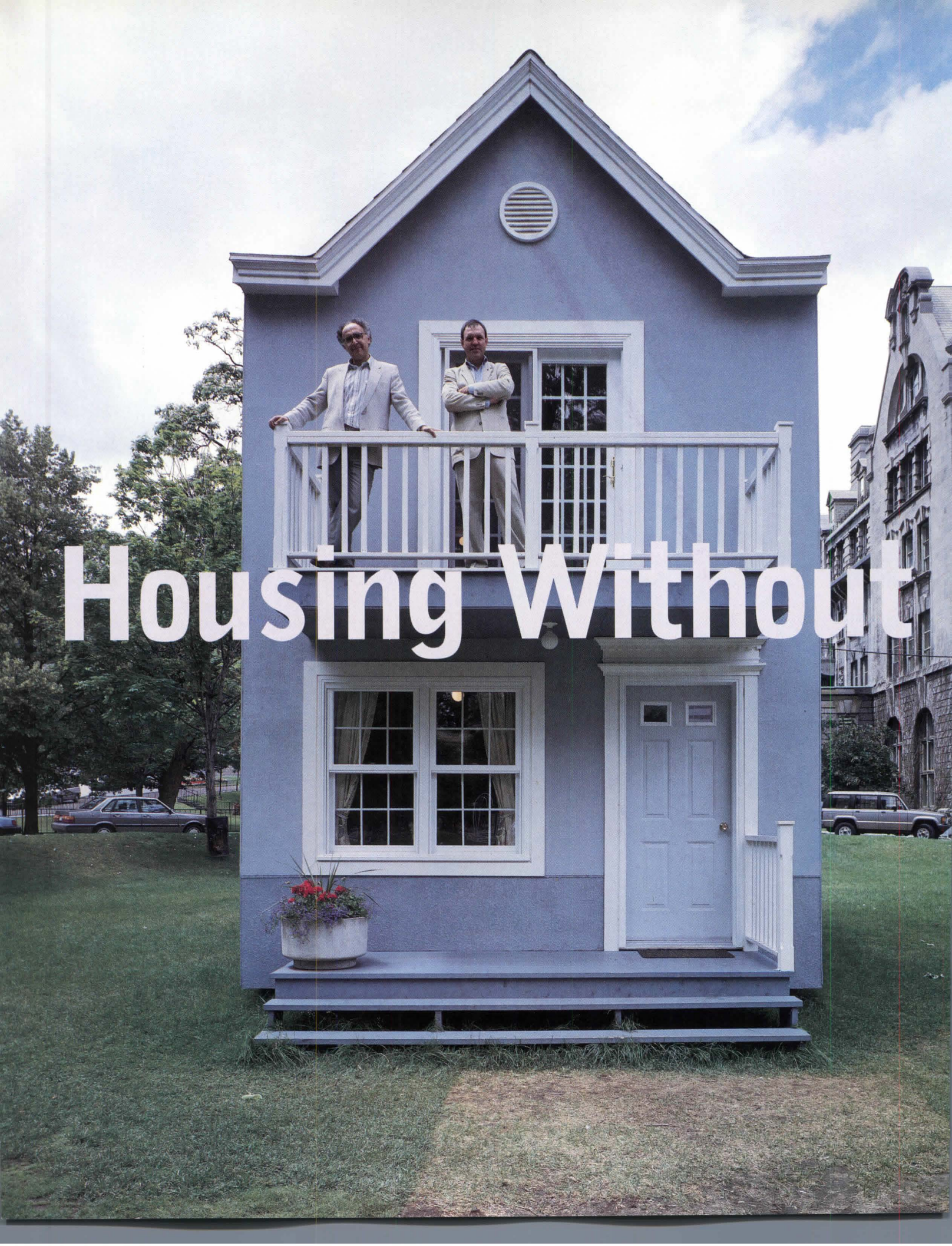
HOUSING REFORMS

From mainstream single-family houses to rental apartments for the poor, American housing is changing incrementally, rather than radically, to avoid the mistakes of the past. Homebuyers want new features that will boost resale values, not architect-designed special effects. Even when their houses burn down, as in the Oakland hills, homeowners are apt to choose indulgence over innovation in rebuilding.

The federal government has embarked on a massive program to replace its failed high-rise housing projects, but with fewer units, which are modeled on traditional townhouses. Similarly, the Disney corporation has taken a page from the New Urbanists in founding Celebration, a new community based on small-town yesteryear.

Progressive housing is taking place in places where architects and nonprofits team up to make the most of dwindling funds. California continues to be an incubator for affordable multifamily housing design, while in rural Alabama, Auburn University architecture students learn the basics of shelter by building houses for the poor.


Housing Without

by Witold Rybczynski

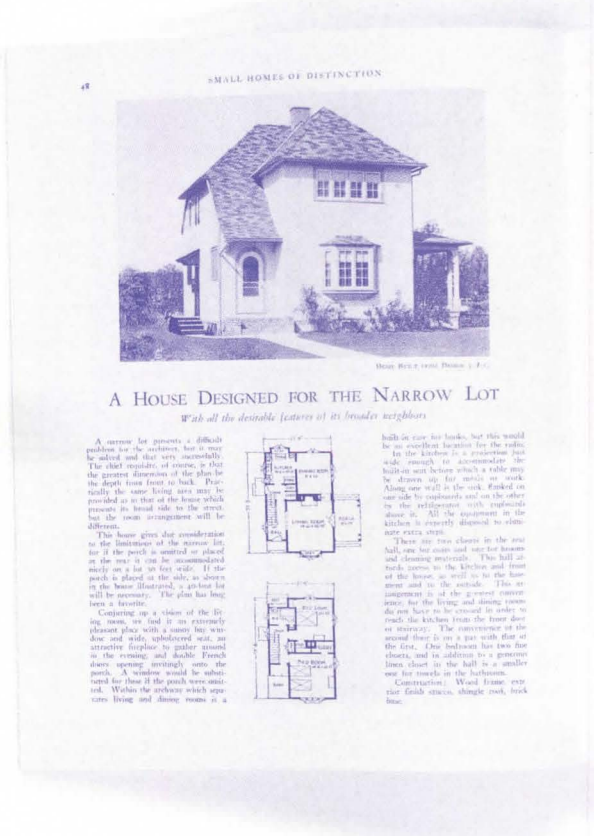
Architects

The other day, I overheard a university colleague of mine bemoaning the fact that "this country doesn't build housing anymore." In fact, according to the U.S. Bureau of the Census, more than a million housing units have been built annually for the past 25 years. In a good year like 1978, the total surpassed two million. The majority of these units belong to one category—single-family houses. In 1970, such houses accounted for 57 percent of all housing units; by 1980, this fraction had risen to 70 percent; and in 1990, it was 75 percent.

It is understandable that my colleague did not consider these million or more houses to be "housing." "Housing" is what architects design. Single-family houses—except for a tiny number of custom designs—are produced by an industry that makes scant use of architectural services. Occasionally, an architect or, more likely, a technician will tinker with the street facade and the roof shape, or add some interior details. Notable exceptions are the recently retired Jack Bloodgood, a Des Moines-based architect who established one of the most successful plan services in the country, and Santa Barbara-based practitioner Barry Berkus. But for the most part, architects have not greatly influenced the housing market.

It was not always so. Until about the 1930s, architects did play a significant role. Talented practitioners like Grosvenor Atterbury and Robert Rodes McGoodwin, who both built country estates for the wealthy, also worked for developers: Atterbury in Forest Hills Gardens in Queens, New York; McGoodwin in Chestnut Hill, Philadelphia. When Mary Muhlenberg Emery was building the model community of Mariemont (planned by John Nolen) outside Cincinnati in the 1920s, she engaged Atterbury and McGoodwin as well as Paul Cret, Edmund Gilchrist, and Wilson Eyre. These celebrated high-society architects did not feel that commercial housing was beneath them. Gilchrist had chaired President Hoover's Conference on Home Building and Home Ownership; Eyre was the founder of *House & Garden*.

In 1919, the Architects' Small House Service Bureau was started by a group of Minnesota practitioners. The bureau soon spread nationally. For more than 15 years, it published and distributed stock plans for modest residences. These charming and ingenious designs were republished in *Authentic Small Houses of the Twenties* (Dover, 1987). Yet these and similar initiatives ultimately foundered. The architectural profession became uncomfortable with the notion that architectural design was a commodity that could be marketed. After all, the role of the Mother of the Arts was to uplift and educate the public, not to pander to popular tastes. When architects' attempts at educating the public in design failed—as in the case of European Modernism—the profession turned elsewhere: to corporations, institutions, and wealthy individuals. The housing industry was left to care for itself.


SMALL HOMES OF DISTINCTION

A House Designed for the Narrow Lot

With all the desirable features of its broader neighbors

In 1990, author Witold Rybczynski (facing page, right) and Avi Friedman created Grow Home (facing page and following pages) to show that good design can reduce construction costs. In the 1920s, stock-plan books, such as Small Homes of Distinction (right), made house designs accessible to the public.

In hindsight, it is obvious that the architectural profession made a big mistake choosing haute couture over pret-a-porter. In 1990, single-family house construction represented a $108 billion industry and accounted for 30 percent of the money spent on building construction in the nation. But more was lost than architectural fees. Three quarters of Americans live in single-family houses. The architect might have been as familiar and trustworthy a figure as the family doctor. Yet the average family does not equate the home with architecture, nor with architects. Perhaps that is why cinematic architects are more likely to be portrayed by Richard Gere than by Tom Hanks. Although Hanks has played an architect—in "Sleepless in Seattle"—it was Gere in "Intersection" who best captured the public image of the profession: glamorous,

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insouciant, distant—definitely someone who worked for "them," not for "us."

There are several reasons that architects do not design more commercial housing. "The chief problems that the architect who works with developers faces are low fees," says Melanie Taylor. Taylor, an architect whose New Haven, Connecticut, firm often works with homebuilders, was asked to design the showcase "House of the Nineties" for *House Beautiful*. She points out that the profits in real-estate development occur at the back end of the project, whereas design is almost entirely a front-end cost. "Developers take risks, and they expect architects to share these risks," she adds. "The problem is that they are rarely willing to share the profits."

Another reason sometimes given for the relatively minor role that architects play in the housing industry is that architecturally designed houses are expensive. That is often true, but I think the real difficulty lies not in price but in value. Price dictates what we can, or cannot, afford; value determines whether or not we think we are getting our money's worth. Architects' values are not those of most homebuyers. Architects place an emphasis on exterior appearance, on interior spatial effects, and on unusual materials and details. Yet for the homebuyer, the interior takes precedence over the exterior, and floor space is more important than what is often referred to as "architectural space." Likewise, most people are satisfied with conventional materials like clapboard siding or brick and are put off by corrugated metal or raw plywood.

The difference between price and value is particularly important at the lower end of the market. In 1990, Avi Friedman and I built a model house on the campus of McGill University in Montreal to demonstrate how innovative design could reduce housing cost, and hence expand homeownership. Yet we didn't start with a design idea. Instead, we conducted market surveys to determine demand. We studied the industry. We talked to developers. We worked with a builder to simplify construction. We implemented cost-cutting measures such as small structural spans and reduced floor area, without jeopardizing quality. The house had to be cheap, but it couldn't look cheap. It had to represent good value. The result, which we christened the Grow Home, was a 14-foot-wide rowhouse with an estimated selling price (in Montreal) of less than U.S. $60,000.

The Grow Home was front-page news in several major Canadian newspapers. It ran as a feature story in *The New York Times*, and was broadcast on "Good Morning, America." More importantly, it was covered in the local building industry press. Within a year, an adventurous developer had built 87 Grow Homes. They sold like hotcakes. He immediately built 90 more. Over the next two years, numerous versions of the Grow Home were built all over the Montreal region. Friedman, presently the director of McGill University's Affordable Homes Program, estimates that "there are 6,000 Grow Homes that we know of in eastern Canada—and more elsewhere."

Homebuyers have often been described as conservative, if not downright traditional. This is an inaccurate characterization. As the rapid acceptance of Grow Home demonstrates, the public is receptive to new ideas. Indeed, over the last several decades, domestic interiors have changed radically. Bathrooms are bigger, and there are more of them. Kitchens are elaborately appointed. Formal arrangements have given way to informal, flexible spaces that flow into one another. The separate living room has been replaced by a living area adjacent to an

open kitchen, the solution that Frank Lloyd Wright advocated years ago. (Wright's device of turning the back of the house to the street never caught on, however, and neither did his proposal to do away with basements.)

The exterior is a different story. The Modernistic features of the 1950s ranch house—picture windows, breezeways, horizontal lines—have disappeared. Two-story houses have become popular again, and so have porches and bay windows. Period styles have come back in favor: Colonial, Victorian, and Craftsman. The one style that is notably absent from the market is Modern. The same people who are perfectly happy to fill their open-plan interiors with Bauhaus knock-offs have resisted contemporary design when it comes to the exterior of their homes.

"The public has a desire for history and a sense of scale and place," observes Peter Calthorpe, who has developed architectural guidelines for builders in several new planned communities. "The problem is that the sensibility of most architects doesn't match the everyday esthetic of homebuyers." Joseph Duckworth, CEO of Realen Homes, the second-largest homebuilder in metropolitan Philadelphia, points to another shortcoming of Modernism. "Modern houses look best standing alone in a rural setting," he says. "When there are several of them together, there is too much competition. They just don't look good in a row on a street." The growing success of the New Urbanism movement demonstrates that the converse is also true: The best streets are composed, more or less, of traditional buildings.

When visitors to the Grow Home model house were asked "Do you like the traditional appearance of the Grow Home?" the overwhelming majority—94 percent—responded positively. This taste for more or less identifiable domestic features—a pitched roof, a balcony, a paneled door, divided lights, moldings—is sometimes described as nostalgia. But it is really no more nostalgic than wearing a suit and tie or a summer frock. It represents a desire for a loose—often very loose—set of well-understood conventions within which one can express one's individuality and personal taste. Given the relatively rigid requirements that determine the interior layout of houses, it is also a simple—and relatively inexpensive—way to create visual interest and variety. The architectural conventions associated with these so-called styles are not rigid. Mediterranean and French Country, for example, are more a matter of image than historical accuracy. Nevertheless, there are conventions. Many architects who place a premium on innovation see these as intolerable constraints. Homebuyers have no objection to the tried and true. With their life savings at stake, it makes financial sense for them to be cautious. As Friedman puts it: "Young buyers are not gamblers."

The architectural profession is grounded in the relationship between architect and client, just as it was once grounded in the relationship between architect and patron. Yet the buyers of production houses are not clients—let alone patrons—they are consumers. Consumers are different from clients. Clients are usually closely involved in the design process; consumers care only about the outcome. Clients are attracted to individual designers; consumers aren't. They don't know—or care—who designed the Mazda Miata or the Bose Wave Radio. They just like the product. Satisfying consumers does not preclude innovation or outstanding design, as both the Miata and the Wave Radio demonstrate, but it does mean that the innovator must anticipate consumers' demands.

There is another difference between consumers and clients. In the normal course of events, house clients are committed to building. But house consumers are not necessarily committed to buying. They shop around and compare. They may choose to become tenants, or buy an old house, or postpone buying a new one. They have options. Architect and sociologist Robert Gutman once pointed out that one of the reasons that so many famous architects are associated with social housing commissions is that they can dictate the design—which is often unconventional—to the prospective users. In the housing market, the shoe is on the other foot: It is the consumer who is the dictator.

Witold Rybczynski is the Martin and Margy Meyerson Professor of Urbanism at the University of Pennsylvania.

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WHY DOES THE GOLDEN STATE PRODUCE THE BEST MULTIFAMILY HOUSING IN THE COUNT

BY JOSEPH GIOVANNINI

California

Gone are the days when a single HUD grant application sufficed for the funding of a 400-unit low-income housing project on a piece of cleared land. But affordable housing is still being built: The disappearance of many federal funding programs has not defeated the cause so much as simply altered its process and a project's final form and size. Many of today's most successful projects are refinements of a longstanding trend toward smaller structures woven within existing neighborhoods as part of an overall strategy of incremental development and community building. Funding for these more modest visions comes from multiple sources cultivated by professionals who have acquired considerable financial sophistication patching together quilts of deals, often simultaneously involving federal, state, city, foundation, and for-profit mechanisms. The smaller amount of money reinforces the shift in the scale of housing from large to small.

A complex of circumstances has made California fertile ground for affordable housing over the past decade. A provision in the state constitution prohibits governments within the state from owning or financing affordable housing without a referendum. "The law created a niche for nonprofit organizations that in many other states would be filled by local housing authorities," explains Mary Murtagh, executive director of one such nonprofit, the Ecumenical Association for Housing in San Rafael. Murtagh also notes that state laws require that 20 percent of tax increments resulting from redevelopment be applied to affordable housing.

Some HUD mechanisms are still in place for certain federal programs such as housing for the disabled and elderly. President Ronald Reagan's legacy to the housing programs he eviscerated was a system of tax credits, whereby for-profit organizations provide up-front equity in exchange for future tax write-offs (the vast majority of current affordable developments involve such tax credit deals, though demand far exceeds tax-credit caps).

In the Bay Area, nonprofits tie into an established tradition of political activism. Notes Mort Frank, a Redwood City-based architect who chairs AIA's national housing committee, "You have tightly organized racial and ethnic groups, and they've learned how to organize to effectively demand what's rightfully theirs. Architects and planners have learned how to join these groups, to channel their energy in effective ways."

"San Francisco has these neighborhood-based groups that have been around for 25 years and have become increasingly sophisticated. They were just ripe to get money and received many awards from the late 1980s through the mid-1990s," says Ann Ostrander, a former director of the Mission Housing Development Corporation. "From the early 1990s, there was really good money available for affordable housing, especially in Northern California, where there are strong nonprofit organizations that were able to secure funds through a very competitive state bond pool."

That pool, the result of a bond state voters approved in the late 1980s, has dried up, and the emphasis in the federal tax-credit program has shifted, from the city to suburban and rural areas. "Right now, it's a bad time for housing unless you're doing suburban or rural projects," says Ostrander, though there's currently federal money for single-room occupancy (SRO) facilities, she says. But in San Francisco, as federal and state monies have shifted or evaporated, the city is irrigating its own pools with a hotel tax fund and assessments on residential and office developments over a certain size. Last November, the city of San Francisco passed its own local bond measure for housing.

"I'm jealous as hell that San Francisco has local money, and they do great projects," says Perla Easton, president of Inclusive Homes, a for-profit company that puts financing together for low-income housing in Los Angeles. "Los Angeles had a citywide housing program that's now down to nothing. The downtown redevelopment money has ended—the tax increments collections are ending—and the federal money has dried up. This year, there's going to be a dramatic drop off—maybe one-twentieth of what it was two years ago. San Francisco and Los Angeles are going in opposite directions."

Ostrander says that marrying proposals and good architects is appealing to funders. "If there's a good nonprofit that writes a good proposal and has a good site, the nonprofit enhances its prospects all the more if it hires a good architect," she explains. "In San Francisco, you've got many architects keen on doing low-income housing. They don't want to do private houses at $500 per square foot. They're tired of doing pink marble; these are progressive people dying to do socially responsible work."

Ostrander remembers piecing together small chunks of financing from a dozen different sources in one project, and the small amounts seem to favor small projects: "It seems to be easier to sneak little ones in," she says, adding, "Some kinds of organizations have grant caps, which go further on small projects."

Small also means simpler, less expensive construction. "Beyond a certain scale, you have to abandon Type 5 (wood-framed) construction, which keeps buildings cheap and cheerful, and avoids seismic complications," says Mort Frank. "Staying small also makes it easier to avoid the NIMBY battles—Not In My Back Yard. It has always been a mandate that the project fit into a community's physical character, which is rarely high-rise. Keep it low and small."

Collectives

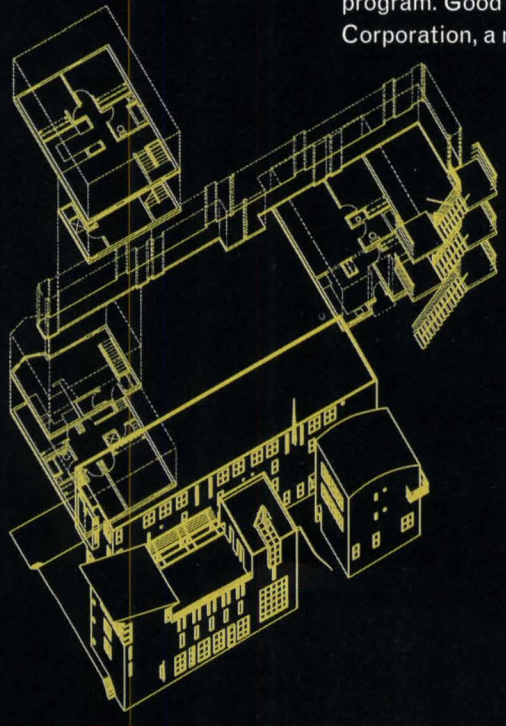
Four-story Good Samaritan Community Center is divided into community center (left) and a gray, bow-roofed structure containing apartments (right). More housing units are contained in bar building at rear of site. Flats occupy ground floor, and two-story apartments are located on top three floors, accessible from third-floor corridor (axonometric).

Good Samaritan Family Resource Center and Housing
San Francisco, California
Mark Horton/Architecture and
Simon Martin-Vegue Winklestein Moris

The Loma Prieta earthquake of 1987 compromised the structural integrity of the Good Samaritan Center, since 1900 a social home for a long chain of immigrant groups in the Mission District of San Francisco. In rebuilding this facility, the Center decided to add housing to its broad social services program. Good Samaritan teamed with Mission Housing Development Corporation, a not-for-profit housing developer, to create a hybrid complex of apartments, meeting spaces, and classrooms.

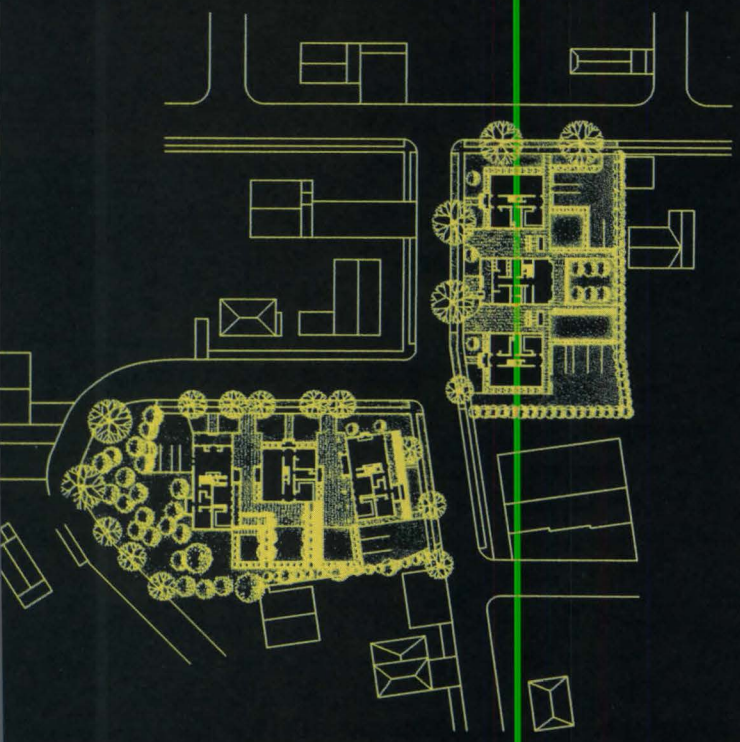
The site occupies a transitional zone on a six-lane boulevard between the huge San Francisco General Hospital, which is located across the street, and an adjoining small-scale commercial and residential district. The new complex had to hold its own on the streetfront without overwhelming nearby buildings.

San Francisco architect Mark Horton positioned the more public component of the project—the 14,500-square-foot community center—hard by the street. The rear facade overlooks a long, narrow backyard. Horton has differentiated each of the volumes so they are visually discrete; the formal variety ranges from the vernacular to the nearly monumental. The architect draws on a rationalist esthetic of forms, which lends a gravity to the project without historicizing details.



GOOD SAMARITAN FAMILY RESOURCE CENTER AND HOUSING, SAN FRANCISCO, CALIFORNIA
CLIENTS: Mission Housing Development Corporation and Good Samaritan Family Resource Center **ARCHITECTS:** Mark Horton/Architecture, San Francisco, and Simon Martin-Vegue Winklestein Moris, San Francisco—Mark Horton, Cathy Simon, Peter Winklestein (principals), Michael Harris, Linda Sobuta (project architects), Chris Deam, John Gentile (project team) **LANDSCAPE ARCHITECT:** Steven Abrahams Landscape Architecture **ENGINEERS:** Structural Design Engineers (structural), JYA Consulting Engineers (mechanical), Bhatia Associates (electrical) **GENERAL CONTRACTOR:** Roberts-Obayashi Corporation **COST:** $4.9 million **PHOTOGRAPHER:** Sharon Risedorph

Six group houses are clustered in trios on each of two parcels on opposite sides of street. Clapboard and board-and-batten siding, and variously shaped roofs distinguish wood-framed structures. Diagonal timber braces support long eaves.



Vest Pocket Community
Fairfax, California
Solomon Architecture and Urban Design

The context was a quintessential suburban neighborhood, and Solomon's design for a cluster of low-income housing responds in kind for a diverse intergenerational community. The visual comfort of this community of neighborly houses stems from Solomon's adaptation of a vernacular style and from the manipulations of volume and roofline that diversify the buildings' scale and profile.

The entire project is predicated on the demographic trend toward nontraditional families: The nuclear family made up of a working dad, at-home mom, and 2.2 kids is now more the exception than the norm.

Solomon's floor plans are designed to accommodate the private needs of single-parent families and individuals, whether disabled or elderly, while affording them common space within the houses that encourages a sense of a larger social unit.

One of the six structures is a community house, containing child-care space, laundry, mailboxes, and a meeting and dining space large enough for everyone in the project. In their contextual agreement with the neighborhood, the houses implicitly treat residents as integral citizens of Fairfax rather than as a community apart.

VEST POCKET COMMUNITY, FAIRFAX, CALIFORNIA
CLIENT: Innovative Housing **ARCHITECT:** Solomon Architecture and Urban Design, San Francisco—Daniel Solomon (principal-in-charge), Philip C. Rossington (project architect), Susan Haviland, Gary L. Strang (project designers), Gregory Baird, Lev Weisbach, Stuart Wright (project team) **LANDSCAPE ARCHITECT:** GLS **ENGINEERS:** Structural Design Engineers (structural), J.L. Engineering (civil) **CONSULTANT:** Katie Crecelius (housing) **GENERAL CONTRACTOR:** Joseph DiGiorgio & Sons **COST:** $1.6 million **PHOTOGRAPHER:** Bambi LaPlante

Boyd's front facade (facing page) is divided into a tiled base, stucco mid-section, and top floor banded with louvered windows set in a metal-clad cornice. Lobby (below left and center) is enlivened by checkered inlaid linoleum. In large common kitchen (below right), punchy multicolored tiles pattern walls. Ground floor incorporates lobby, kitchen, living area, and courtyard.

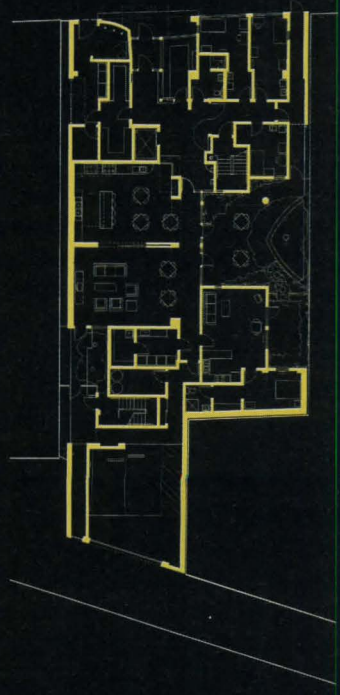
The Boyd Hotel
Los Angeles, California
Koning Eizenberg Architecture

No stranger to tight budgets, the Santa Monica firm Koning Eizenberg Architecture discovered that when it comes to the bottom line, volume and natural light baked into the design resist cuts.

For a four-story, 61-unit single-room occupancy hotel planned for a long, narrow infill lot in a rugged area of downtown Los Angeles, Koning Eizenberg designed an active, graphic facade. Inside, by carving the courtyard and a light well from the perimeter, the architect was able to draw light into the ground floor.

The architect lowers and raises ceilings to vary height, and keeps sight lines open to maximize security and expand the space. The common rooms open directly onto a garden patio in the pocket of the U-shaped building. The architect chose resilient materials to withstand the wear and tear of a densely occupied structure.

In many small ways, Koning Eizenberg has created an upbeat environment that brings dignity to Skid Row: the interiors exhibit a positive temperament that supports the occupants individually, while the plan, with prominent indoor and outdoor public spaces, cultivates community. This is a design that cares.



THE BOYD HOTEL, LOS ANGELES, CALIFORNIA
CLIENT: Skid Row Housing Trust **ARCHITECT:** Koning Eizenberg Architecture, Santa Monica, California—Julie Eizenberg, Hank Koning (principals), Neil Peoples, Kevin Tyrrell (project managers), Tim Andreas, Michael Ching (project team) **ENGINEERS:** Parker-Resnick (structural), Khalifeh & Associates (mechanical, electrical), **GENERAL CONTRACTOR:** E.G. Bowen Company **COST:** $2.2 million
PHOTOGRAPHER: Benny Chan, Fotoworks

Individually angled cubic masses and projecting terraces erupt on the facade of the long, narrow block (above), the result of plan shifts inside. Bowed terrace fronts (right) echo curves in street.

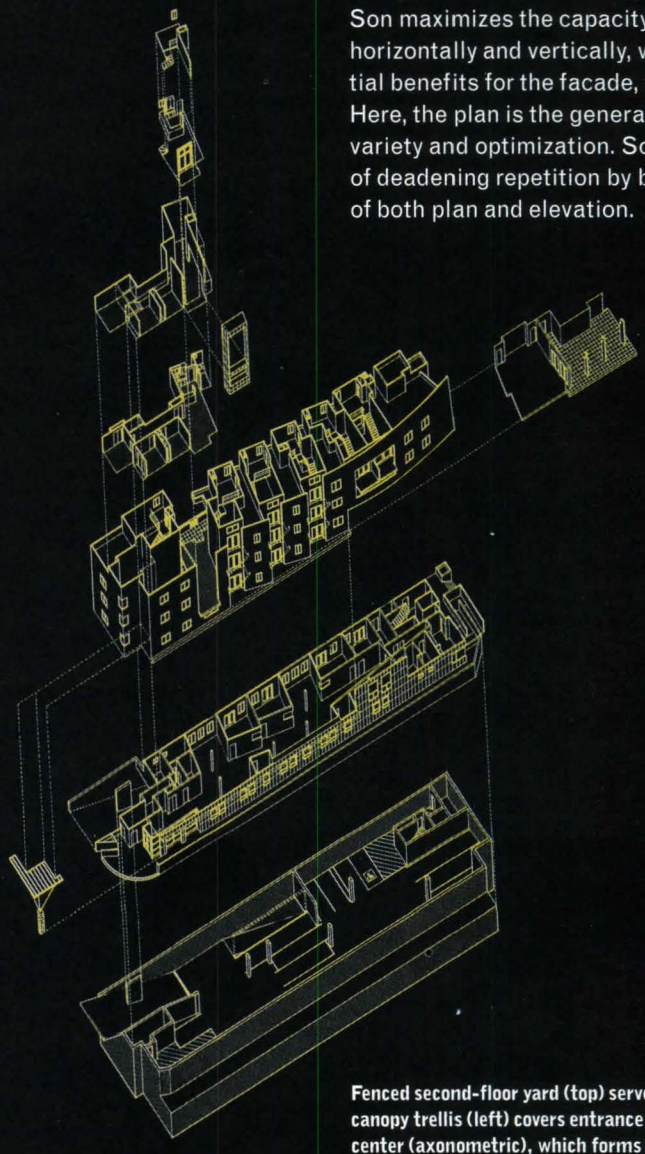
KOREAN YOUTH AND COMMUNITY CENTER, LOS ANGELES
CLIENT: Korean Youth and Community Center **ARCHITECT:** *Hak Sik Son, Architect, Santa Monica, California*—Hak Sik Son (principal), John DiGregorio, Heung Soo Kim, Alice Kimm, Richard Song (design team) **LANDSCAPE ARCHITECT:** David Kim & Associates **ENGINEERS:** Jitu Mehta and Associates (structural), Han Engineering (mechanical), YSY (electrical) **CONSULTANT:** Inclusive Homes (project management) **GENERAL CONTRACTOR:** Ko-Am Construction Company **COST:** $3 million **PHOTOGRAPHER:** Dennis Freppel

Korean Youth and Community Center
Los Angeles, California
Hak Sik Son, Architect

The standard typologies of apartment houses and offices are usually based on cellular organization. Architects may go to great lengths to individualize apartment and office units on a facade, but the differentiation is usually cosmetic and seldom affects the plan.

In designing the 43,000-square-foot Korean Youth and Community Center in Los Angeles, which developed low-income housing on the upper floors, Santa Monica architect Hak Sik Son eschews the beehive model for the complex intricacies of the Chinese puzzle. Son's floor plans may look like a chaotic gaggle of L-shaped apartments set at fanning and angular geometries, but ingenious shifts of each apartment off the orthogonal cumulatively add up to an extra bedroom on each level.

By loosening and mixing his geometries, Son maximizes the capacity of the building both horizontally and vertically, with unexpected spatial benefits for the facade, which is fragmented. Here, the plan is the generator of both formal variety and optimization. Son has lifted the curse of deadening repetition by breaking up the rhythm of both plan and elevation.



Fenced second-floor yard (top) serves as a community space; canopy trellis (left) covers entrance to ground-floor youth center (axonometric), which forms a base for the stuccoed apartments above. Two intermediate floors of apartments are topped by loft units with mezzanine bedrooms, which allow extra floor of bedrooms otherwise forbidden by code.

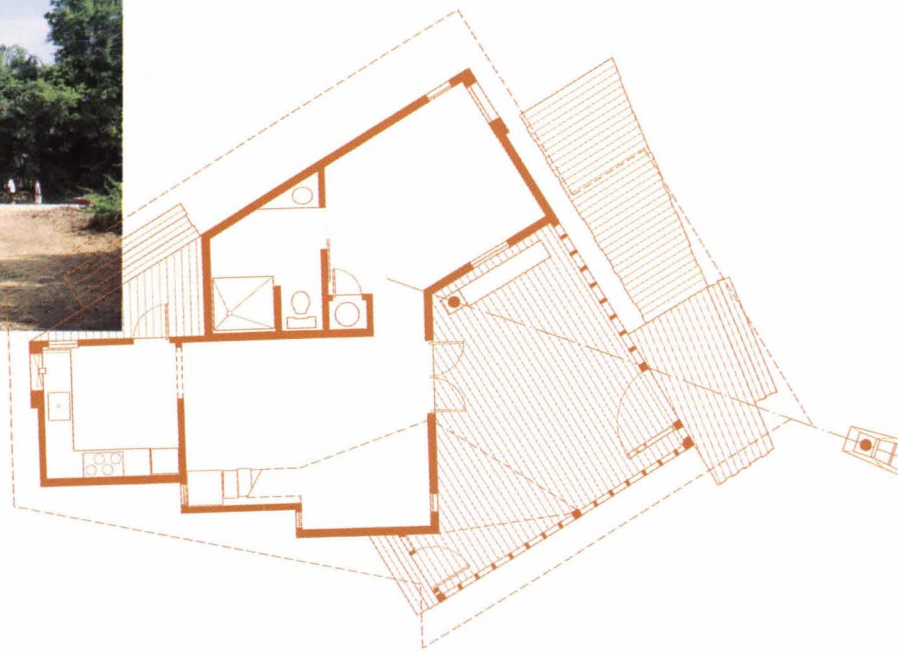
Southern

Auburn University's Rural Studio
continues its housebuilding for the poor of Hale County, Alabama.

By Reed Kroloff

Comfort

House is clad in corrugated metal and salvaged timber. Attic vents lift in summer to aid ventilation, seal in winter for insulation. North- and east-facing screened porch shades master bedroom and living room.



Butterfly roof reveals conventional wood framing. Screened porch has sleeping loft and salvaged heart-pine wall. Interior walls are clad in plywood (facing page).

Each fall, Samuel Mockbee brings 12 students from Auburn University to Greensboro, Alabama, to design and build houses for the poor of surrounding Hale County. Supported by the Alabama Power Foundation and other private sources, the Auburn Rural Studio's latest effort is located in Mason's Bend, a poverty-stricken corner of Hale County too small to merit inclusion on state maps.

Located less than 100 yards from their earlier 850-square-foot straw-bale house for another impoverished family (*Architecture*, October 1994, page 62), the new house is designed for Anderson Harris, 74, a retired farmer, and his 70-year-old, disabled wife, Ora Lee. "In addition to environmental issues, much of the investigation had to do with their special needs," explains Mockbee. The Harrises had been living in a tin shanty on the same site, with no heating or indoor plumbing. Their new, one-bedroom, one-bathroom house comprises 600 square feet arranged as two intersecting rectangles angled to create a 250-square-foot screened porch facing north and east.

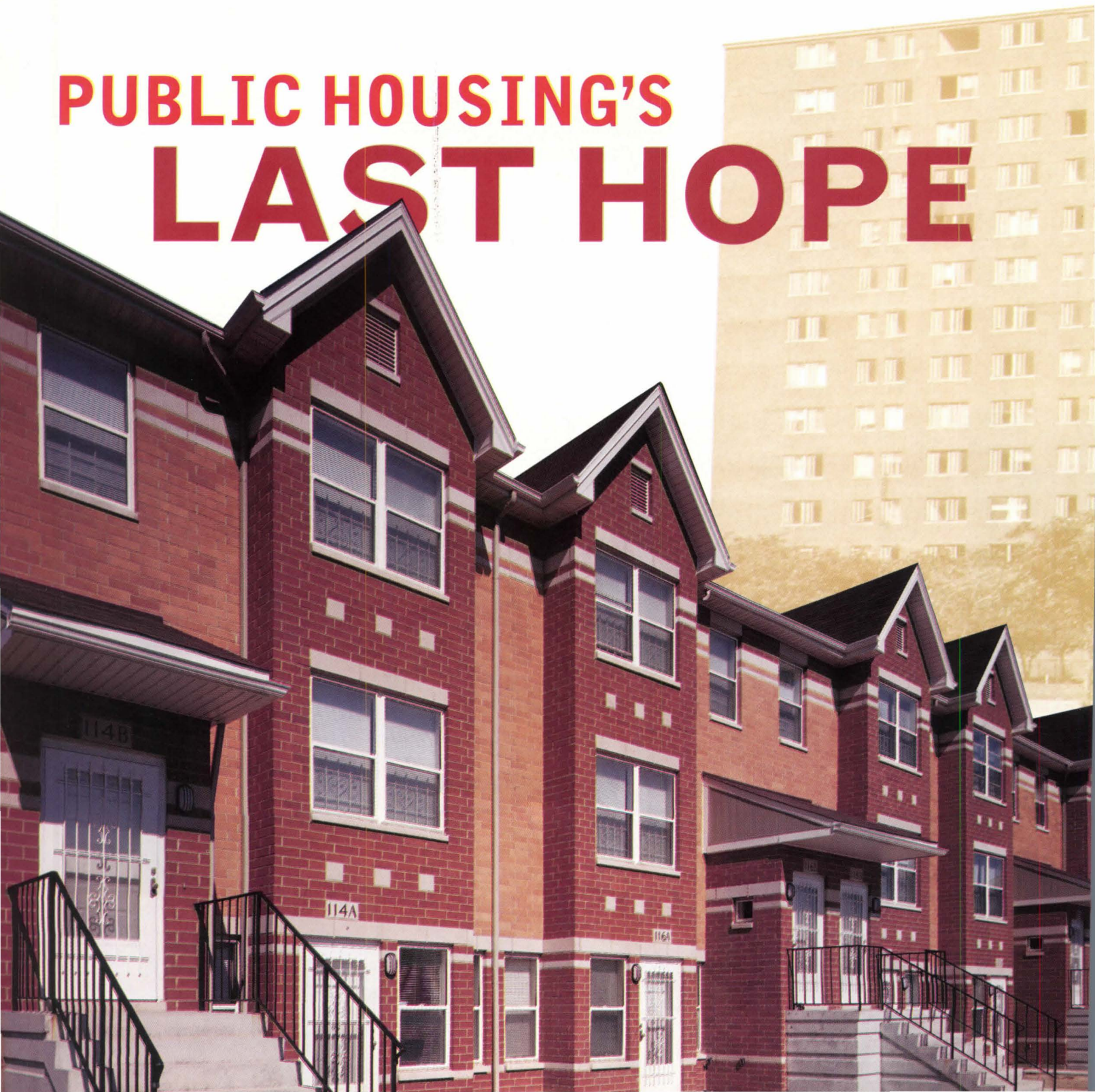
While the students were attentive to the Harrises' special physical needs, natural ventilation drove the design. "The whole building is essentially just a big screened porch," explains Mockbee. "It breathes naturally." The butterfly-roofed porch acts as a shading device for the house, as well its informal living room. Air is drawn through the building with the aid of a wall-mounted exhaust fan and clerestories that enhance convection. In winter, insulated, awning-style panels cover the clerestories and the house is heated with a wood stove. Clad in corrugated metal and heart pine recycled from a 105-year-old church being razed nearby, the Harris house cost about $25,000 to build, plus $5,000 more for a cistern and wetlands-sensitive septic system.

HARRIS HOUSE, MASON'S BEND, ALABAMA

CLIENTS: Anderson and Ora Lee Harris **DESIGN/BUILD ARCHITECTS:** Rural Studio, Auburn University— Joe Alcock, David Austin, Cliff Brooks, Catherine Bunn, Bay Chapman, Josh Cooper, Joshua Daniel, Adam Gerndt, JoBeth Gleason, Robert S. Hill IV, Stephen Hoffman, Charles Hughes, Jeff Johnston, Melissa Kearley, John Keener, Kristen Kepner, Jeffrey Marteski, Jeremy Moffett, Andrew Moore, Justin Patwin, Bryan Pearson, Michael Renauld, Tommy Replogle, John Ritchie, John Schuman, Nathan H. Simmons, Timothy Sliger, Michael Spinello, Robert Sproull, Elizabeth Stallworth, Ian Stewart, Todd Stewart, Jon Tate, Melissa Teng, Jimmy D. Turner, John Waters, Samuel Watkins, Bill Whittaker, Jake Wiseman, Heather Wootten **STUDIO CRITICS:** Richard Hudgens, Charles Jay, Samuel Mockbee, Michael Robinson, D.K. Ruth, Tinka Sack, Jeff Tate, Christian Trask **COST:** $30,000 **PHOTOGRAPHER:** Timothy Hursley

The federal government is tearing down high-rise projects to build garden apartments and village greens, but the poorest renters may not get a chance at this New Urbanist dream.

PUBLIC HOUSING'S LAST HOPE



By Bradford McKee

For the past three years, the U.S. Department of Housing and Urban Development (HUD), landlord to the nation's poorest people, has been holding hands on the front porch with New Urbanist architects and planners. The courtship sparked just as HUD was preparing to demolish its most dire public housing projects in 36 cities nationwide. In 1994, former HUD Secretary Henry G. Cisneros launched a new set of sweeping public-housing reforms called HOPE VI. This $1.5 billion federal program is razing 100,000 of the government's most abject apartment units and redomesticating their tenants in townhouses surrounding shady lanes and tidy town squares drawn largely from New Urbanist pattern books.

Under the HOPE VI program, the federal government is throwing out the old rule book that created the Corbusian nightmare of Chicago's Cabrini-Green housing project, Newark's Christopher Columbus Homes, and the Vaughn Apartments in St. Louis, where gunslingers and crack ghouls overran anonymous corridors, stalking enemies and innocents alike. Yet, behind the neat facades of America's new public housing, there will be much less space to shelter the truly needy.

The Clinton Administration and Congress are severely cutting back the country's commitment to impoverished renters, trashing the ideal that the government guarantees even the poorest Americans decent, affordable shelter. Since 1995, the federal housing budget has shrunk by 25 percent. Public housing alone has been cut from $8 billion per year to $6 billion.

Rob the poor, help the rich

Accordingly, of the 100,000 federally subsidized units being razed under the HOPE VI program, the government is only replacing 40,000 units. Competition for this smaller number of apartments will be harder for the poorest prospects—those whose income amounts to between 20 percent to 30 percent of the local median—because Congress wants to pit them against working-class wage earners on the waiting list for leases, ostensibly to create "mixed-income" communities.

Meanwhile, both the President and Congress are pushing to give more tax breaks to homeowners, expanding what currently amounts to $66 billion in annual mortgage subsidies to the middle and upper classes—quadruple the sum HUD spends on housing the poor. And the cuts in public housing coincide catastrophically with the end of welfare and federal benefits to legal immigrants.

As the government races to end the dependency of the poor, the burden falls all the heavier on the architecture of public housing to support self-sufficiency and safety. In many respects, New Urbanist architecture offers the perfect recipe—logical, context-driven solutions to fill in decayed neighborhoods, most of which were originally cut from old urban cloth.

It is dispiriting, however, to witness the summary rejection of Modern architecture as a progressive social agent. The old Modernists working for HUD after World War II would have some success stories, too, had they benefited from the regulatory carte blanche enjoyed by today's picket-fence proselytes. For the past 50 years, the government dictated every last dimension of the spiritless bunkers it called public housing, and history blames Modernism for their failure. The new rule book, specifically section 941.203 of the Code of Federal Regulations, states that new public housing units "shall be designed, constructed, and equipped so as to improve or harmonize with the neighborhood they occupy, meet contemporary standards of comfort and livability, promote security, and be attractive and marketable to the people they are intended to serve." It sounds like a step forward. Still troubling, however, is the fact that the New Urbanists and their design dogma are arriving in the halls of HUD just in time to become persuasive instruments in the agency's instant downsizing plan. Conservative architecture is helping to fulfill a conservative political agenda.

Dramatic turnaround

But there's no guarantee of HUD's continuing commitment to any type of architecture at all. The Clinton Administration's second-term HUD Secretary, Andrew Cuomo, a longtime activist for the homeless in New York state (pages 44-49, this issue), is less captivated by design matters than his predecessor Cisneros, a former urban planner and mayor of San Antonio, in whom architects from the Congress for New Urbanism (CNU) found a fast friend. Cisneros found New Urbanist religion early in Clinton's first term through one of his special assistants, Marc A. Weiss, a Columbia University planning professor and proponent of the movement.

Specifically, Weiss brought in architects Peter Calthorpe of San Francisco and Ray Gindroz of Urban Design Associates in Pittsburgh, who, along with Milwaukee Mayor John Norquist, have each chaired the CNU's inner-city task force. Before long, Weiss started circulating an "issue brief" on HUD letterhead outlining the potential of New Urbanism to relieve the misery of public housing projects. "Rebuilding public housing neighborhoods with hundreds of new townhouses," Weiss wrote, "presents an exciting opportunity to create better and more livable communities." Cisneros consummated his agency's partnership with the CNU in May 1996, when he signed on to CNU's charter at the group's fourth meeting in the better and more livable community of Charleston, South Carolina. "This is the most important and dramatic turnaround in this country's public housing policy in 50 years," contends Gindroz.

Fresh look at housing rules

Two months after Cisneros allied himself with the CNU, in July 1996, HUD implemented a set of regulatory changes that, among other things, eliminated the rule requiring one-for-one replacement of every apartment HUD demolished. That rule had stymied HUD for years from tearing down the slums it created, because the agency didn't have the budget to replace each one. The new regulations allow local public housing authorities to give rental vouchers to the tenants they can't keep, send them out into the private market—badly squeezed for affordable housing—and call each voucher a replacement. With those people out of the way, HUD allows local housing officials to spend funds previously earmarked for

MARK CRAIG, DOUG SNOWER PHOTOGRAPHY

"modernization" on demolition and construction of new units. HUD's HOPE VI package of policy revisions literally clears the worst sites for reclamation following CNU's low-density prescription.

The CNU's influence over HUD has its benefits. Before the current reforms were made, HUD focused on building units for the lowest cost, omitting human factors such as privacy, security, and local character from its equation. Some of the nation's best architects were ratcheted into producing the nation's worst housing. Skidmore, Owings & Merrill designed Chicago's Henry Horner Homes (facing page) in 1957; the now-demolished Ellen Wilson Dwellings in Washington, D.C., were designed by Arthur Heaton, architect of high-end houses and institutional landmarks in the city's neighborhoods across town.

The federal government viewed public housing as "projects" to manage and contain, rather than neighborhoods to nurture and knit to the cities around them. Inspired by Le Corbusier's Plan Voisin, most of the projects consisted of towers in a park, sequestered from existing street grids. But the idea failed because the government neglected to maintain the towers and the parks, and tenants weren't compelled to take care of territory they could not clearly call their own.

Mixed bag of designs

In today's best-designed HOPE VI projects, traditional town planning and architecture create a strong sense of urban structure as well as domestic propriety for inner-city residents. For example, the new Ellen Wilson complex in Washington, D.C., designed by local architect Weinstein Associates, and the new Lafayette Courts community in Baltimore, designed by Washington-based CHK Architects, both draw on the surrounding stock of 19th-century brick rowhouses for inspiration. They will wear nicely on their historic urban neighborhoods.

But in other cities, the CNU's ideas are slower to sink into the design process. Chicago's new Henry Horner Homes and Centennial Place near downtown Atlanta all give residents back their streets, but the housing still stands apart in isolated zones of its own. Rather than emulate the predominant housing types in their cities, these developments appear more suburban than urban.

The goal of the HOPE VI program, HUD officials maintain, is to make the poor blend in with everybody else. "It's crucial to reduce density and create a mixed-income environment," remarks Weiss. Not that this strategy will make public housing residents any less poor. Many public housing residents, in fact, have good reason to be nervous and upset as they pack their bags for a new place they can't see, especially when they learn their departure is making way for "mixed income."

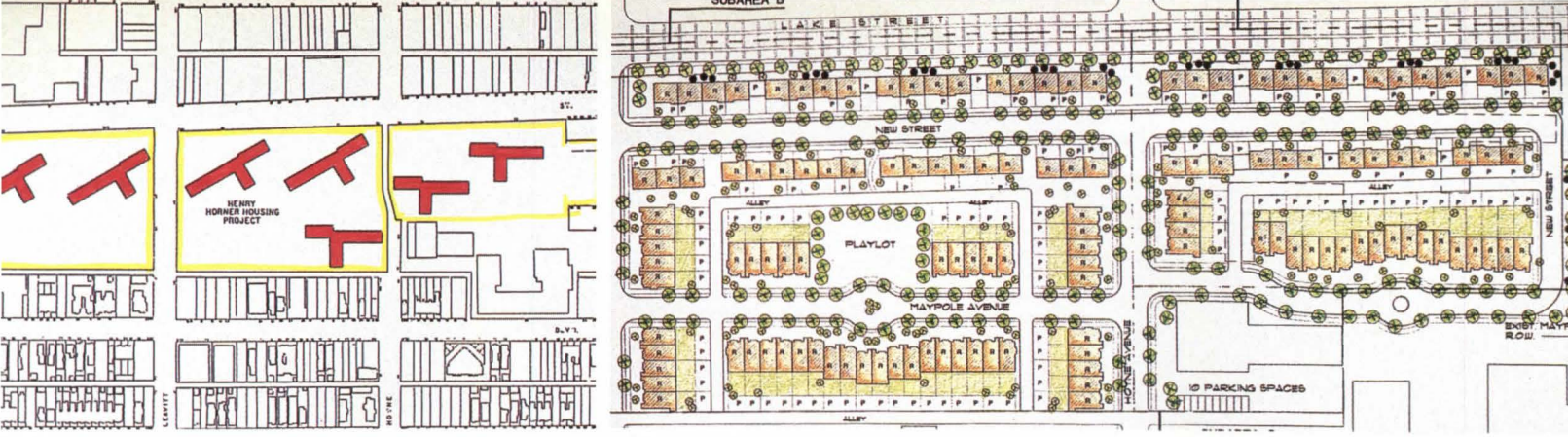
Currently, 85 percent of public housing is reserved for people making no more than 50 percent of local median income. Under a pending Republican proposal passed by the U.S. House of Representatives this year, two-thirds of future housing assistance could go to households earning up to 80 percent of median income, with only one-third of units dedicated to housing the most needy families, many of whom will be passed over to make new developments meet mixed-income criteria.

Exodus begins

As a result, a diaspora of ill-prepared voucher-holders are hitting the private rental market at a bad time: The nation needs about 5 million more affordable units of what conservatives call "choice-based housing" to fill the current supply gap. Yet, House Republicans propose letting housing authorities hand their tenants vouchers without any warning, and without any analysis of the local market's ability to absorb them. "Unfortunately," laments Oakland-based architect Michael Pyatok, a master of affordable housing and community-based design, "both HUD and CNU subscribe to the erroneous assumption that concentrations of poor people are the major source of their maladies, and that dispersing them...will make neighborhoods more functional and stable."

Lots of low-income communities create their own forms of social order through block associations, business incubators, churches, and schools. Indianapolis's Martin Luther King Community Development Corporation, for example, is one of hundreds of urban neighborhood groups nationwide helping families find housing, start small companies, and fight crime. The best of HUD's New Urbanist rollouts will reinforce such spontaneous traditions, particularly in those places furnished with basic amenities such as transit stops, job-training facilities, child-care centers, and safe places for kids to play.

But HUD's decision to disperse people simply because they are poor sets up many former public housing residents for discrimination in a hostile housing market, leading only to another, deregulated form of economic isolation. HUD's breakup and rebuilding of public housing communities to the exclusion of the poorest Americans serves mainly to deconcentrate the lowest-income citizens, robbing residents of their political power as an interest group. Despite shades of enlightenment in public housing design, many well-meaning architects are stuck servicing a depraved federal policy. Let the poor renter beware.



Former site plan of Henry Horner Homes oriented buildings away from streets (top left). Derelict high-rise towers and barren open space fostered dense environment of rampant crime. New site plan (top right) fills blocks with attached townhouses facing streets.

CHICAGO

High-Rise to Low-Rise

Henry Horner Homes, Solomon Cordwell Buenz & Associates

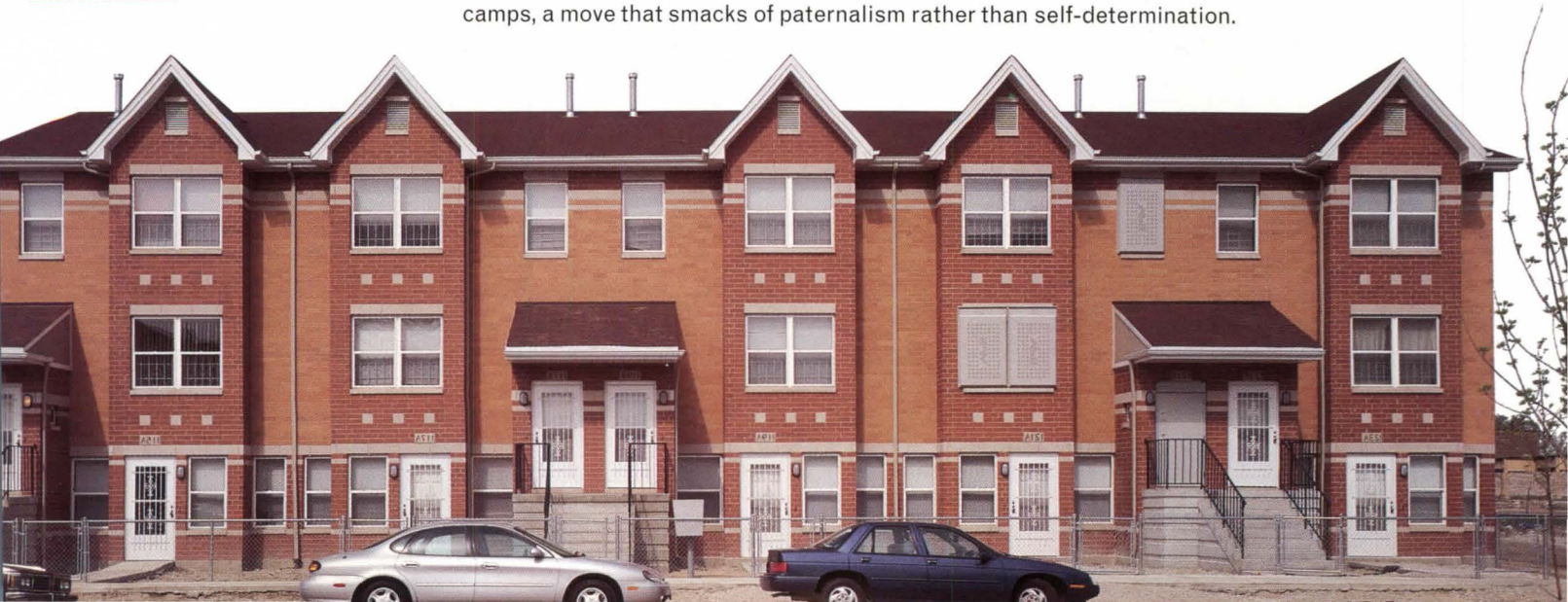
The epic disaster of Chicago's public housing tells all that is wrong with federal housing programs for the poor since the 1940s. The Henry Horner Homes, 11 high-rise buildings just west of downtown, have long stood as an icon of public housing's failures. This year, however, marks a dramatic turnaround on the Horner project's half-square-mile site, as this pocket of despair tries to become a typical Chicago neighborhood.

In a six-year effort, the Habitat Company, court-appointed receiver of the corrupt Chicago Housing Authority, is tearing down 466 units in several high-rise buildings and replacing them with the same number of two- and three-flat buildings on the same site. Only half of future tenants will be current Horner residents with very low incomes. Current tenants who can't get in will receive Section 8 vouchers to find housing elsewhere.

Chicago architect Solomon Cordwell Buenz & Associates (SCB) replanned the site as blocks of attached townhouses and flats, and designed the first 200 units, 82 of which were completed in May. The townhouses are clad in brick veneer panels, with precast lintels and bands across the facades, and an irregular rhythm of roof gables. Entrances are set in one-story bays covered by deep awnings. "We chose forms, shapes and fenestration from existing neighborhood buildings and translated that into a 1997 design," notes SCB Executive Vice President Thomas Humes.

Unfortunately, this project didn't involve much interaction between architect and tenants. Officials at Habitat acted as translators between the two camps, a move that smacks of paternalism rather than self-determination.

New attached townhouses approximate scale of common Chicago housing, with pitched roofs, gabled bays, and raised porches. Entrances onto street act as security device to keep public spaces under surveillance.



ST. LOUIS

Taking Back the Streets

ROBERT BETTS PHOTOGRAPHY

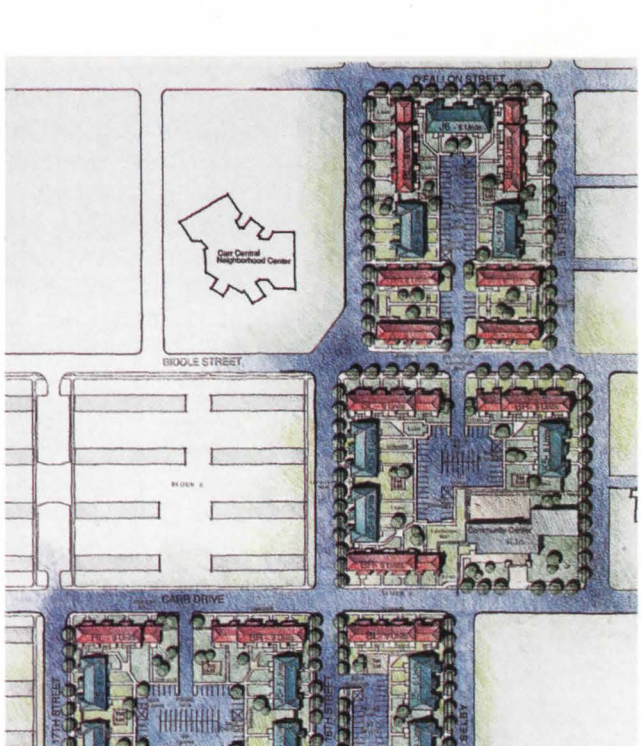
Carr Square Village, Trivers Associates

Carr Square Village, on St. Louis's north side near downtown, is taking back the streets it lost to superblocks in the 1940s. When its original 53 buildings holding 658 units first opened, the neighborhood contrasted starkly with the city's typical turn-of-the-century brick rowhouse blocks. Yet in redeveloping the neighborhood as a proto-HOPE VI project, residents told architect Trivers Associates that they didn't want radical changes to the architecture. "Many of these people have lived here 40 or 50 years," explains Principal Andrew Trivers, "and they're very attached to their original homes."

The completed first phase encompasses 27 buildings. Trivers demolished 12 buildings blocking the original street grid and designed the same number of new buildings along restored streets. Remaining units were enlarged and restored, for a total of 182 one- to four-bedroom units, down from 300. Each apartment gained its own front and rear entrances and yards demarcating private from public space. Trivers relieved the hard-edged, bunkerlike profiles of the two-story buildings with intersecting hipped roofs; deep, bracketed eaves; and gabled porches. New fenestration patterns respond to local norms; masonry details include a four-square of yellow tiles above each front porch.

Residents, who have managed Carr Square independently since 1973, worked intimately on the redevelopment, from apprenticing with subcontractors to selecting cabinets, finishes, and closet doors. Trivers explains that he tried not to distinguish old from new buildings: "There was a fear among residents that the new buildings would be much better than the old."

Carr Square Village's new grid of streets and sidewalks (site plan, below) replace empty lots between buildings, reinforcing "defensible" spaces of proprietary front and back yards lighted by new lampposts (below left). New blocks secure parking at center with single outlet to street; fewer buildings, larger units reduce density from 32 units per acre to 19. Original housing's monotonous profile (bottom left) is diversified with new hipped roofs, bracketed porch gables, and soffit details (bottom right).



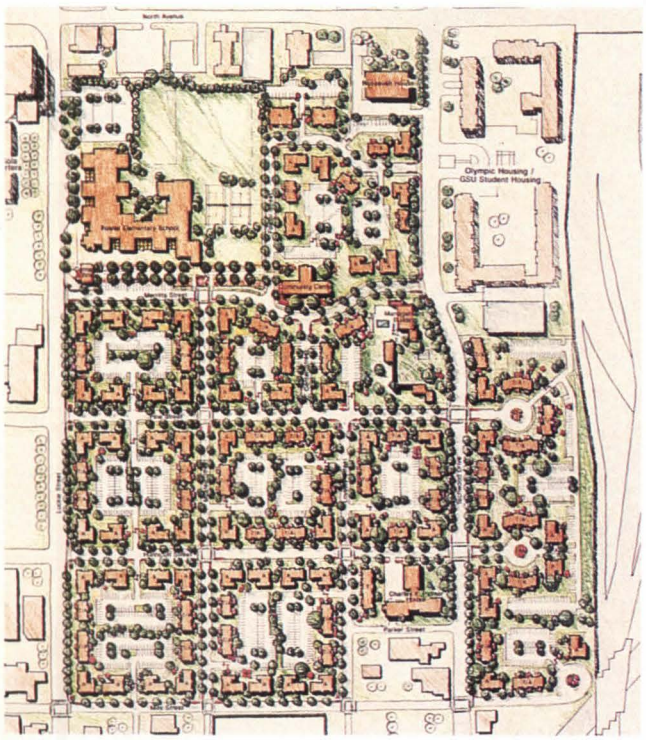
ATLANTA

Middle-Class Amenities

Centennial Place, Carlsten, Pucciano & English

The nation's first public housing project is becoming a model for the federal government's mixed-income neighborhood. The 1,067 units of Atlanta's 62-year-old Techwood and Clark Howell Homes are being razed and replaced by the $72.4 million Centennial Place, a 900-unit enclave nestled up against the Georgia Tech campus on 49 mid-town acres that form part of a National Historic Site. Ranks of alien, introverted apartment blocks are giving way to more articulate apartments and townhouses of a type native to Atlanta's shady streets.

In designing the new neighborhood, local architect Carlsten, Pucciano and English returned to the original grid of urban streets, and arrayed apartment entrances toward them; parking lies at each block's center. The three-story buildings contain either one- and two-bedroom flats, or two- to three-bedroom townhouses over two-bedroom flats.



Exterior details draw from those of the historic, rehabbed Cupola apartment building within the site, and endow the otherwise boxy buildings with a sense of lower scale. The townhouses' hyphenated, cross-gabled profiles gain depth from projecting bays and garden stairs. Materials change to give the buildings vertical variety: Red brick panels hold the ground, contrasting with pale-yellow vinyl siding on some units, white fish-scale shingles on the pediments, and slate-colored pitched roofs. Jack arches mark ground-floor entrances beneath brick galleries, which support second- and third-floor porches detailed with while balusters and double posts topped by simplified, flat capitals.

The gestures on the exterior conspire with amenities inside to make Centennial Place seem like upscale housing. Unlike the projects they replace, the new apartments come equipped with appliances, security systems, cable television, and air-conditioning. No wonder: Forty percent of new units are set aside for market-rate renters; 20 percent are reserved for tenants making up to 60 percent of local median income, with the remaining 40 percent available to the poorest families. When coupled with the fewer number of units, the quest for mixed income amounts to 807 fewer apartments to hold Atlanta's poorest families.

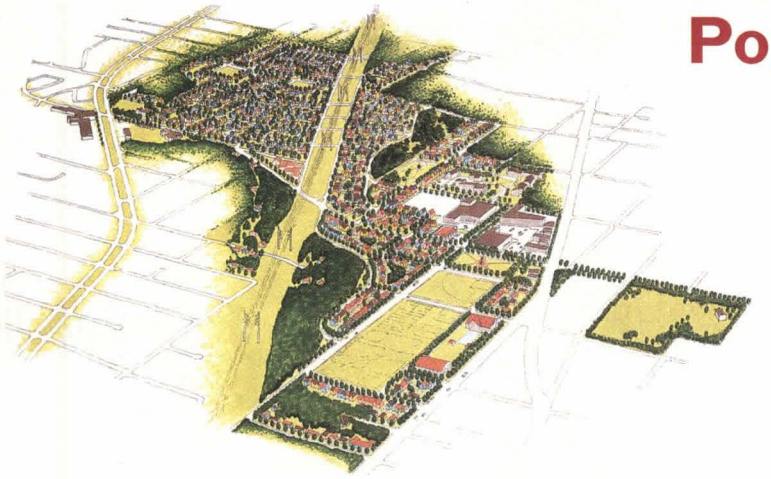
ATLANTA HOUSING AUTHORITY

Twelve-block urban grid of Centennial Place (site plan, top left) reintegrates former Techwood and Clark Howell Homes site into mid-town Atlanta. New plan eliminates unpatrolled public yards of now-demolished Techwood (far left). End unit facade of razed public housing reveals utilitarian detailing and poor proportions of original projects (left).

First completed units of Centennial Place direct sight lines from individual entrances toward the street, emulating Atlanta's traditional neighborhoods of wood-framed houses. Parking, however, is sequestered between buildings rather than on the street, following a suburban pattern.

SEATTLE

Porches, Yards and Parks

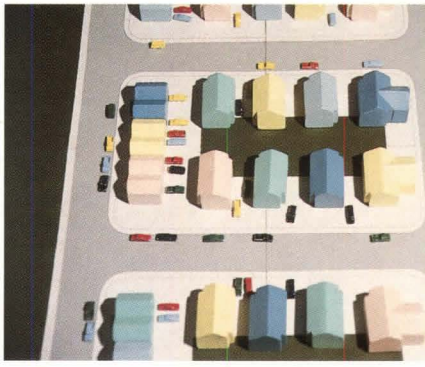


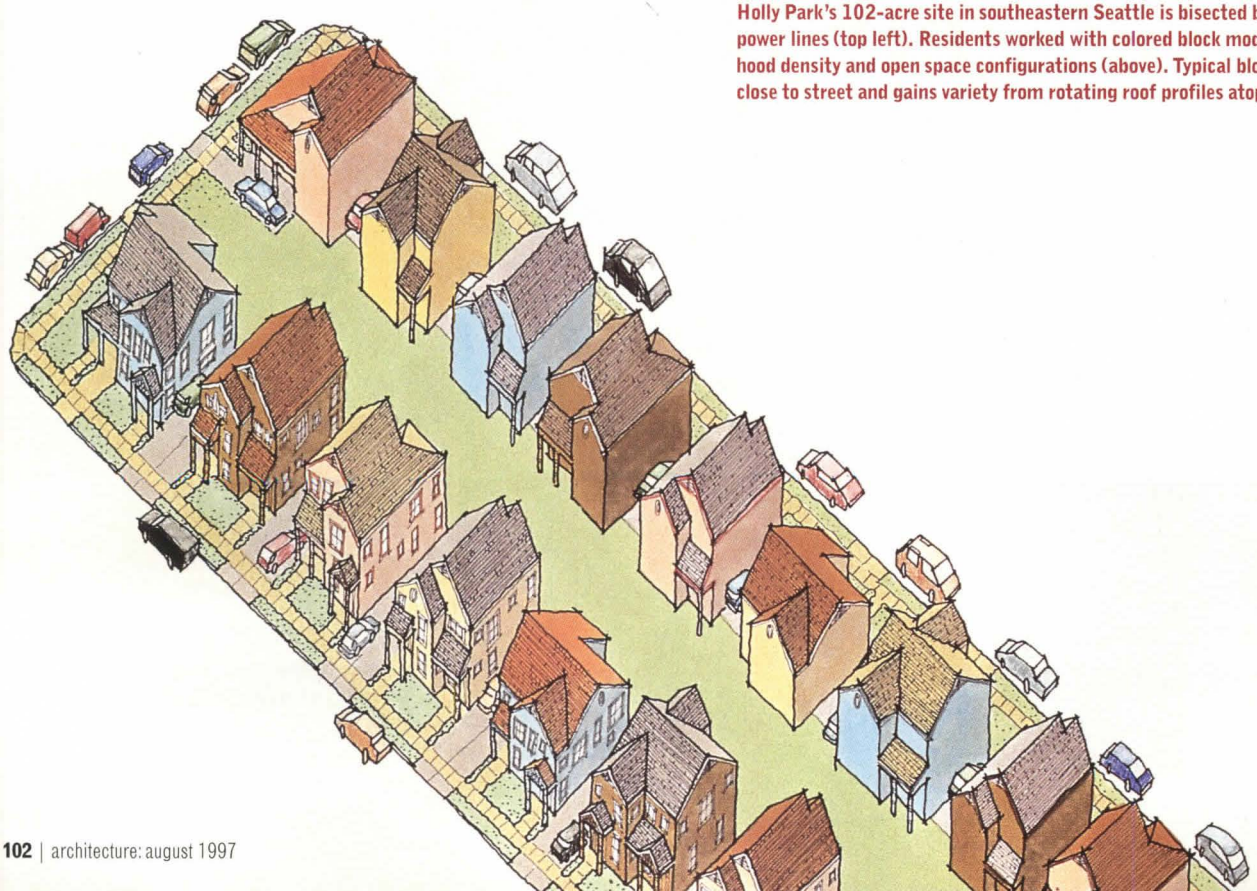
Holly Park, Wallace Roberts & Todd

In the early 1990s, the Seattle Housing Authority singled out the Holly Park Garden Community as its most distressed public housing development. Holly Park started out as housing for war workers in 1941; typologically, it differs greatly from public housing in most U.S. cities, with 893 one- and two-story wood-framed dwellings scattered sparsely across 102 acres of Seattle hillside. It was also anomalous among Seattle neighborhoods, lacking dense street frontage ranged on a regular urban grid. Holly Park's alien environment added to the isolation of residents, who by 1990 came increasingly from Africa and Southeast Asia and experienced tension with settled whites and African-Americans.

In 1993, the housing authority won a $49 million HOPE VI grant to leverage a $130 million redevelopment of Holly Park, the first phase of which is to be completed in 1998. Architect Wallace Roberts & Todd of Philadelphia entered the project with the firm goal of increasing density and blurring Holly Park's new edges into surrounding neighborhoods. All urban design decisions, however, were reached in conference with approximately 60 residents.

The residents strongly opposed the unprogrammed open space in their neighborhood, which encouraged crime. Thus, among the first design moves was to keep open space limited to two small public squares. Existing park land within the site was traded for land along commercial corridors where it would be easier to watch. The architect let residents experiment with small color-coded house models to design blocks, streets, and buildings to their desired density.





Holly Park's 102-acre site in southeastern Seattle is bisected by right-of-way for large power lines (top left). Residents worked with colored block models to develop neighborhood density and open space configurations (above). Typical block (left) places porches close to street and gains variety from rotating roof profiles atop multifamily units.

WASHINGTON, D.C.

Capitol Hill Harmony

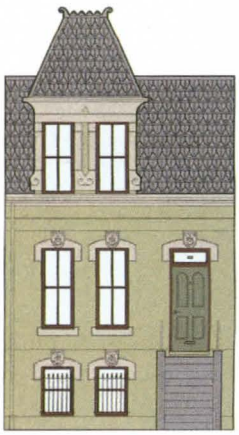
Ellen Wilson Housing, Weinstein Associates

Community efforts to rebuild the Ellen Wilson Dwellings in the historic Capitol Hill district of Washington, D.C., began in 1988, years before HOPE VI. The design started as a pro bono project for local architect Amy Weinstein of Weinstein Associates. Local activists, stalled for years by the city's housing department, finally managed to get then-Mayor Sharon Pratt Kelly to sign their development proposal just before the deadline to file for the first HOPE VI grants in 1994.

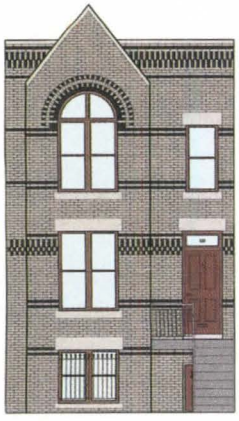
Weinstein's project was conceived by years of close work with local residents. Named for First Lady Ellen Wilson (wife of President Woodrow Wilson), the 1940 complex of 115 barrackslike apartments fell into ruins, was evacuated in 1980, and razed in 1996. Weinstein's replacement neighborhood, now under construction, will hold 154 families when completed in early 1999.

Weinstein designed new streets according to the L'Enfant Plan for Washington. The streets will be fronted by a mix of variations on Capitol Hill's richly variegated three- and four-story rowhouses, hyphenated by look-alikes of the Hill's 18th-century two-story clapboard Colonials. Residents' incomes will be mixed as well, according to a four-tier triage structure of market-rate, submarket, Section 8, and fully subsidized units. Weinstein contends she's backed away from the social-policy debate on whether the classes are bound to clash under such living arrangements. "We just wanted to design regular housing," the architect asserts. "It'll work for anybody."

At Ellen Wilson housing, rhythms of surrounding streets will be replicated through consistent massing and ornament. Weinstein economically devised 16 facade variations for the townhouses by deploying specially shaped bricks to create light and shade as well as engaged columns, belt courses, and corbelling. Iron riser details on front stair will be cut by computer to create filigree patterns.



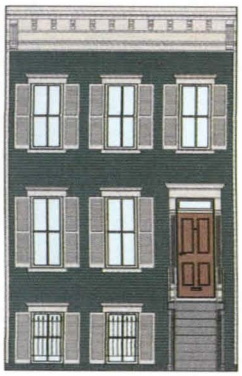
Second Empire



Ruskinian

Dutch/Flemish

Masonry Vernacular



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PITTSBURGH

Urban Density

Allequippa Terrace, Goody, Clancy & Associates with Profido Weiskopf Associates and Graves Associates

President Franklin Delano Roosevelt opened Pittsburgh's 1,600-unit Allequippa Terrace public-housing development in 1936 on a hillside atop an abandoned coal mine. By 1990, the neighborhood had turned into a New Deal nightmare—it became one of the six poorest census tracts in Pennsylvania. In 1993, longtime neighborhood activist Tom Murphy was elected mayor on a platform that promised to rebuild the troubled complex. Mayor Murphy named himself chairman of the city's housing authority, but his first proposals fell flat on resident distrust. Through long negotiations to hash out residents' grievances, local housing officials and the Allequippa Terrace Residents Council agreed on a HOPE VI rebuilding plan in 1995.

Goody, Clancy & Associates of Boston, which designed the first phase of 105 apartments and 53 townhouses, relates Allequippa strongly to Pittsburgh's urban precedents while not copying the exact exterior geometries of bays, porches, and hipped roofs. Most faithful is the site's density, at 41 units per acre, which was hard to have approved in the face of the "misinterpreted New Urbanist concept that every unit should be a little house with a porch," remarks Principal Joan Goody. Denser multifamily units save money and land, Goody argues. "We've had to fight hard to convince the mayor that four-story elevator buildings will enhance the neighborhood."

The reactionary pressure to build lower-density housing threatens to make affordable housing impossibly expensive. Yet, Allequippa Terrace imports Goody, Clancy's best ideas from Boston's Harbor Point (1978) and Langham Court (1991), which have proved that high-density subsidized housing is not only viable in urban contexts, it is usually better than suburban-style transplants.

Hilltop site of Allequippa Terrace slopes up to 100 feet; houses cling to slope in local fashion (top left). Masses of high-density apartments are relieved by hipped roofs and bays (above). Townhouses are arranged along outer ridge of site (left); apartment blocks are located at center.

BALTIMORE

Reviving the Rowhouse

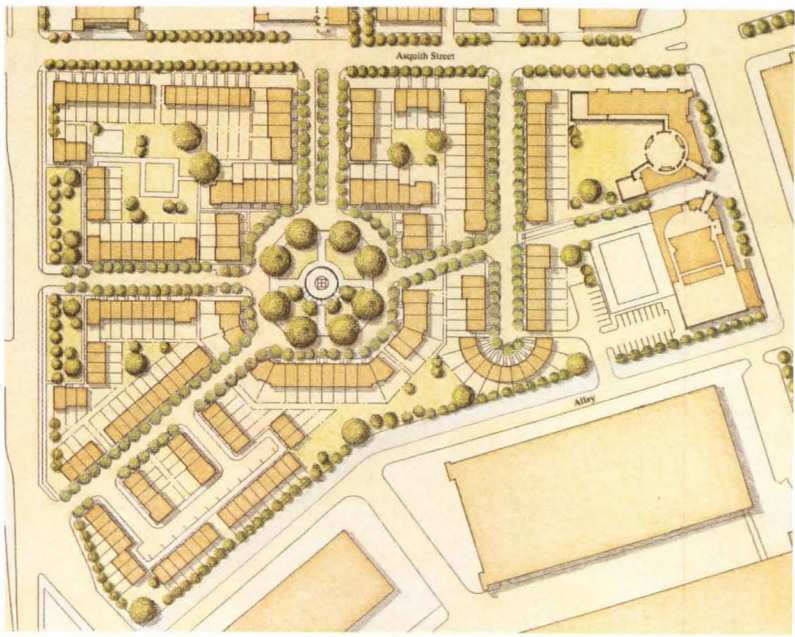
CHARLES BARRETT AND MANUEL FERNANDEZ-NOVAL

Lafayette Courts, CHK Architects and Planners

The distinctive element of Baltimore's flat-faced rowhouse neighborhoods is a concrete stoop of three or four steps up to each front door. CHK Architects of Washington, D.C., restores the familiar stoop, and also service doors along the front elevations, in rebuilding Lafayette Courts, a 21.5-acre neighborhood of new three- and four-bedroom rowhouses plus a 110-unit building for elderly tenants. The 228-unit development replaces 771 units in six high-rises and 17 low-rise buildings demolished on the same site in 1995. Construction is to be completed this fall.

The buildings at Lafayette Courts are recessively unfancy, designed to stand as backdrops to Baltimorean streets and public spaces. CHK worked with future residents to design streets that provide clear neighborhood portals, are easy to patrol with the eye, and clearly separate public and private turfs. Each block shares a common, semipublic space reached by the surrounding backyards. "We cut off the second means of escape," contends CHK President John Torti. Anonymous space has been eliminated.

For the architecture, CHK had to negotiate with design-build contractor Harkins Builders to keep crucial elements in the $52.3 million budget. CHK hiked up the height of each building two feet above the topmost lintels to sustain strong street walls down the rows, carving out dramatic corridors. The architect argued for gabled end units clad in brick rather than vinyl, to anchor corners.



Frequency of front porches and windows activate typical street leading to rehabbed 1940s community center (top left). Lafayette Courts' public spaces are surrounded by townhouse frontage for security (top right). Streets are centered on a public square (site plan, right); most blocks contain semipublic zones behind private yards.

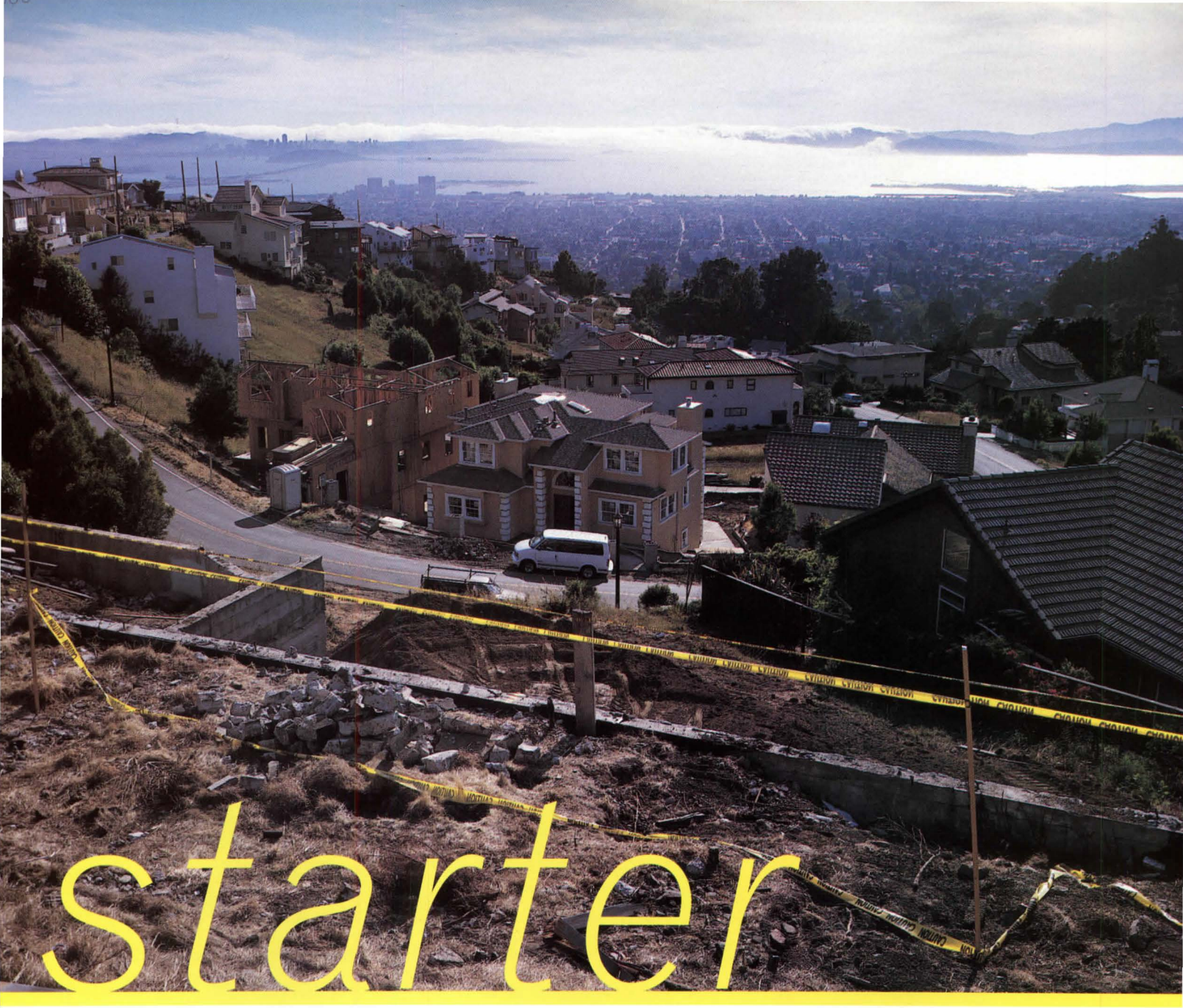
Fire

Indulgence, rather than innovation, is the mandate in the fire-scorched Oakland hills.

By Aaron Betsky

There is a famous story that, during a strong earthquake in Los Angeles, architect William Pereira stood in the middle of his drafting room shouting, "Shake, baby, shake." One can imagine a similar jubilation among architects in the Bay Area when, on October 20, 1991, a fire started raging through the hills above Oakland and Berkeley. Hard hit by the economic recession, these designers could look forward to 3,000 new house commissions by the time half the fire departments of California had finally brought the fire under control three days later.

Not only had 3,345 houses and 465 apartments disappeared (along with 22 lives), but the owners of these now empty lots were ideal clients. "They came to us with a clean slate," the late architect Frank Israel remembered; "no possessions and furniture they wanted to build around, no memories or preconceptions." These homeowners were well-educated, many of them affiliated with the nearby campus of the University of California at Berkeley. They were the kind of people who, says Oakland architect Lucia Howard, " had kept a tradition of experimentation alive for over a century."



starter

Drive up into those hills now, six years later, and you will begin to wonder whether the cleansing fire was really such a blessing. Less than 60 percent of the lots have new houses on them, giving the whole scene a forlorn appearance. A few masterpieces of domestic architecture dot the still barren hills, but most of what has risen is indistinguishable from the bland and bulbous concoctions of stucco, red tile roofs, and off-the-shelf building elements that populate most of California. It may even be a little worse here.

"It's the helium effect," explains architect Jim Jennings. "The city of Oakland let owners build back the original square footage plus 10 percent, but a lot of that space was composed of apartments and rooms that had crept into basements, garages, nooks and crannies over the years. When it was all built out as space with 10-foot-high ceilings, it seemed huge."

Add to this "mansionization," as fire zone resident Judy Holland calls it, the fact that the landscaping that once hid many of the houses (and was fuel for the fire) will not grow back for another few decades. "All those empty lots let you look up at the backs of

View of fire zone in Oakland hills (facing page) reveals foundations of burned houses. Empty lot (above) overlooks Oakland flats leading to San Francisco Bay.

The Oakland hills were meant to burn, which is how nature does its housekeeping. act of trying to build on such an unstable terrain— is thus doomed to look like the

the houses behind them so that they seem rather monumental," as another resident, Tom Haw, puts it, and you have a landscape that most visitors perceive as pretty near a wasteland. "It does seem a bit overwhelming out there now," sighs Holland.

Are architects to blame for this overblown building? "A lot of residents got taken by architects and contractors in the first few months after the fire," claims Haw. "But after that, you got better buildings. Now it's the classic 'bell curve,' with a few masterpieces and a lot of mediocre houses." Others blame architects more directly. Author David Kirp, writing in *Harper's*, accused architects of perpetrating "crazy contraptions" and "monster houses" on the hills. "Much of what has happened since 1991 bears witness to the triumph of selfishness: immense and ugly structures designed without a care for context or consanguinity." In cahoots with greedy neighbors, says Kirp, architects replaced a charming, rambling neighborhood with an architectural travesty.

The architecture that graced these hills, however, was never that good and it is not that bad now. The Berkeley and Oakland hills were the site of some wonderful houses and neighborhoods, but as Holland points out, "We didn't really have that much of a sense of community until right after the fire." What the hills did shelter was the myth of *The Simple Home*, the title of a 1895 book by bungalow popularizer Charles Keeler, whose vision found an architect in Bernard Maybeck. Their 1898 Hillside Club, next to the Berkeley campus, was a quaint community of bungalows and shared gardens. Most of it burned in a 1923 fire, however.

In the years since then, successive generations of architects kept alive what came to be known as the Bay Area Style. "They are always small in scale, often woodsy, sheathed in redwood; they suggest a visual mode which is vernacular and anti-urban, seem to be related to their respective 'place' in the landscape, and are usually filled with visual and ideological contradictions," wrote historian David Gebhard. The Bay Area School perpetuated the myth of building small homes that would be honest in their materials, open and appropriate to their setting, and modest in their aspiration to make a home in what its designers thought of as an Edenic world.

The whole realm of architecture—from the stories it endeavors to tell to the very air-conditioned, fire-and earthquake-resistant, propped-up artifice it really is.

Some such houses were among the 3,500 that burned in 1991, but they were the exception. Most of the houses in the area were a hodgepodge of different styles and approaches to their surroundings, from romantic cottages to Renaissance palazzi. Not only that, but the ideals behind these homes were inherently elitist: Because of their views and relative isolation, the hills of California are the preserve of the rich, a fact that came out with a vengeance during conflicts between the poorer inhabitants of the "flats" and the hillsiders over the allocation of city resources to the fire zone. The very nature of the woodsy kind of building on the hills also helped intensify the fire, as San Francisco City Planner Evan Rose points out: "All that eucalyptus, those narrow streets, it all just went up."

In terms of planning and zoning, there was not much the cities of Oakland and Berkeley had done to improve or protect architectural features. Over the years, stricter and stricter regulations about the kind of building materials—nonflammable shakes, treated wood siding—had been introduced. The streets were a virtual jungle of highly flammable eucalyptus, closely spaced houses, and electricity wires, all of which later contributed to the spread of the fire. The very character that attracted many residents to the hilly area also made it dangerous.

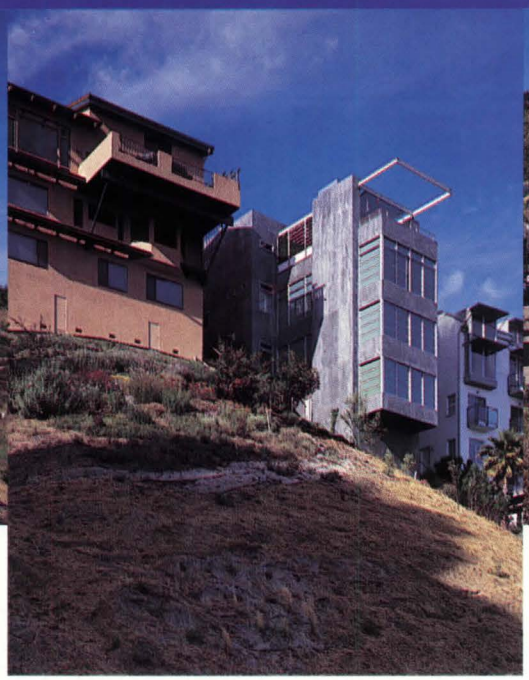
Oakland allowed two large developments to occur in the area: about 250 apartment units in a glen adjacent to Route 24 and the Bay Area Rapid Transit corridor, and several hundred houses and condominiums called Hiller Highlands. It was in the latter fragments of upscale suburbia, where building density was high, that many of the deaths occurred as people fled their cul-de-sac residences and piled into the relatively narrow streets. These developments now appear to have been rebuilt with very few modifications, though both egress requirements and landscaping constraints (no flammable plantings) have been tightened.

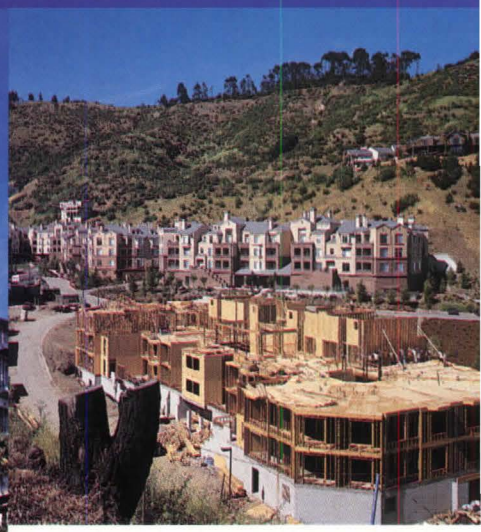
The fire cleared out the vegetation and exposed the remaining buildings for what they were: good or bad, but certainly not part of the landscape. After the fire, some horrible new buildings did appear. At first, the cities of Oakland and Berkeley (where approximately 70 of the burned houses were located) were eager

Bischoff House (1995) by Stanley Saitowitz (far left) and Becker House (1994) by Jim Jennings (left) are two of the best new houses in the fire zone.

Short-Marrow House (1993) by Paul Wang and Associates (left) flanks Paulett Taggart Architects' Osborne-Risbrough House (1995).

Parkwood condos are being rebuilt in a canyon next to a freeway without any significant changes to their design or siting.





to hand out building permits and put up few restrictions on new construction. Neighbors such as Haw organized "Phoenix" groups—community lobbying organizations that formed self-help groups for the victims, held thank-you parties for rescue workers, and argued with city and state agencies for tighter controls and improvements such as the burial of utility lines. Partially as a result of this pressure, both cities set up "one-stop" centers where owners could build as-of-right if they followed certain rules.

It took six to nine months to set up what Oakland City Zoning Administrator Walter Yee calls "the Rolls Royce of review processes." The regulations were, all participants agree, clearer than most. In Oakland, houses were reviewed on a "point" system: Square footage could be added if the driveway and the walkway were separate, if there were roof breaks and different volumes, and if the house in general broke up its bulk. Berkeley went further. New homeowners had to obtain signatures from all of their neighbors—front, back, side, across the street, and diagonally across the street—before the house could go up. "It was a great process," says planner Leslie Gould, who ran it as a consultant for the city of Berkeley. "You couldn't get too nasty about your neighbor's house because you had to get their signature too. It let everyone see the designs at an early stage and work it out among themselves before it came into a public forum, where things sometimes get nastier." Both Oakland and Berkeley have used the process as a model for other neighborhood review revisions.

Yet there were no fundamental changes in zoning and planning policies. Both Oakland's apartment complex and the Hiller Highlands condos were rebuilt. Most houses made use of existing foundations and thus had the same relation to their neighbors as before, except that they now were—or just looked—bigger and thus closer together. Only the trees and shrubs that hid all, but also helped destroy all, were gone. Streets were the same, and the daily dance of construction trucks through these winding roads makes it clear that access will always be a problem. City agencies could only encourage more variations within the building envelope and an awareness of what can help retard fires within a pattern that had been set years ago. "It is not up to the city to play dictator anywhere," says Evan Rose, and Gould agrees: "We just streamlined the process, not necessarily the outcome."

The result is not so much a neighborhood as a collection of contained bulk that breaks apart into different volumes and exhibits a variety of styles, materials, and forms. There is a great deal of mediocrity, but there are also some interesting structures. In addition to the bulky, pastiched monstrosities that rose immediately, and the apartment complexes that have been rebuilt with no apparent style or logic, the houses fall into four categories: historicist or vernacular buildings that are broken down into pavilions; expressive, narrative structures that present a theme or tell a story; Modernist machines-in-the-garden; and houses that respond to both the natural and man-made topographies of their sites.

The houses are not so much a neighborhood as a collection of contained bulk that break

The first category subdivides buildings into collages of small pieces. These pavilions then seem even smaller because their pieces—from porches to roofs to window surrounds—are designed as part of a collage of domestic quotations. In some cases, these fragments of children's drawings of the idea of a house have an alluring appeal. Yet there is a thinness to this work. Without a clear context from which to grow, most of these efforts are difficult to distinguish from the developer versions of the same pastiche.

The narrative houses are almost exclusively the province of Oakland-based Ace Architects. There are a few more sedate fantasies, such as the Italianate palazzi that pretend these hills overlook Florence rather than Oakland, but Ace has pushed the

Roof of Parsons House (1993) by Regan Bice Architects rises with slope of hill and is held to site by stair tower.

House on Ocean View Avenue by Stanley Saitowitz (1995) presents a metal facade to future fires and curves with site's contours.

Drager House by Frank Israel and Annie Chu (left) is one of the few pieces of innovative architecture in the Oakland hills.

idea of creating a fantasy environment to the extreme. They have designed a house sporting giant saxophones and another one that looks like a ruined castle. These are houses that have something to say, but shout their themes over bland spatial arrangements.

The opposite of such strategies of expression is the appearance of a few abstract, white boxes that stand for nothing but their own machined perfection. The best of them are by San Francisco-based architect Jim Jennings. These are light, delicate affairs; most of them sport the modest size and openness to their surroundings that are typical of Bay Area Style houses.

A topographical response to the realities of this area is even rarer. "When I looked at this site," says San Francisco architect Stanley Saitowitz, "I didn't see so much a context of buildings as I saw its geology and geography." Instead of pretending to fit into, tell a story about, or stand in contrast to the landscape, Saitowitz abstracts the conditions around him, which include not only the hills themselves but also the roads and terraces that have transformed them.

The most monumental of these landscape tracings is Frank Israel and Annie Chu's Drager House (1994). Its copper roof asymmetrically slides down over the stucco walls in a skewed version of the Shingle Style roofs of the 1880s. Inside, a staircase follows the hill, connecting a rambling array of rooms that seem to both burrow into the ground and reach out to distant views.

Yet none of these houses, with the possible exception of the Drager House, is truly innovative and memorable. Sadly, they are just variations on a theme. There was a chance for more here. Given the tremendous amount of money available (more than $1.5 billion in insurance settlements, an average of $500,000 per house), the innovative traditions of these hills, the high level of education of the homeowners, and an almost exemplary planning process, some truly innovative houses should have emerged.

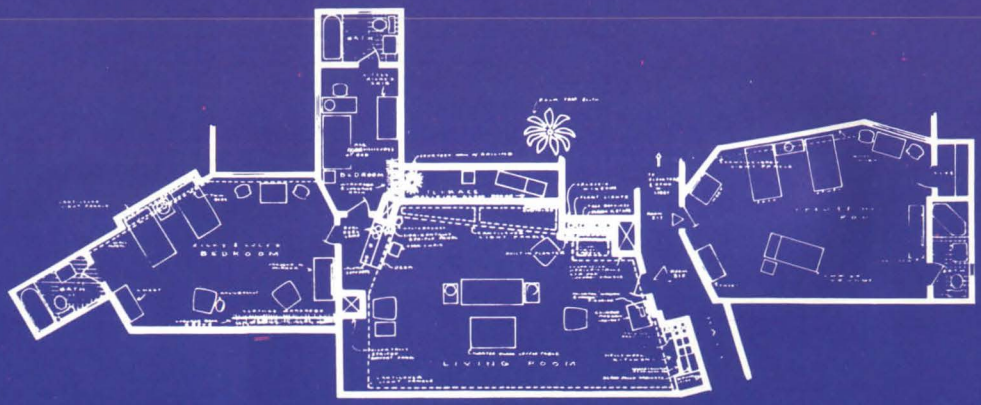
Richard Fernau is a local architect who turned down several commissions in the fire zone because he felt that it would be difficult to make good architecture in this situation. Fernau thinks there was a reason why good architecture is difficult to find in the fire zone: "Most of the time, when people come to us, they are ready for an architect. They have dreams. These people had nightmares. They were trauma victims. They just wanted back what they had." Moreover, Fernau points out, "The single-family home is no longer the place for architectural experimentation. There is too much pressure and too much money involved." Instead, he says, the freedom to try ideas out has now moved from the architect-designed single-family home to the second or vacation home.

apart into different volumes and exhibits a variety of styles, materials, and forms.

The essential problem exhibited in the fire zone is that architecture is in a bind. Because it must concentrate on building isolated, "maxed-out" objects, it, by definition, puts the needs of the individual client before the coherence of the context. Because it must serve those clients, it must subsume whatever stories the architect has to tell. In this case, architecture also has to exist in a landscape in which, as Rose points out, "houses maybe don't even belong." The hills are meant to burn, which is how nature does its housekeeping. Thus, architects have a difficult role to play. They can recommend safer building materials, which the planning codes already tell them they must. They can encourage clients to break up the mass of their houses and articulate their pieces, which the zoning codes encourage through square footage incentives. A few architects succeed in at least creating some elegant boxes and putting a good face on all the regulations. But ultimately, they are building for clients who want as much usable and resellable space with as many views as possible, situated in an area that could easily be ravaged again by fires or earthquakes.

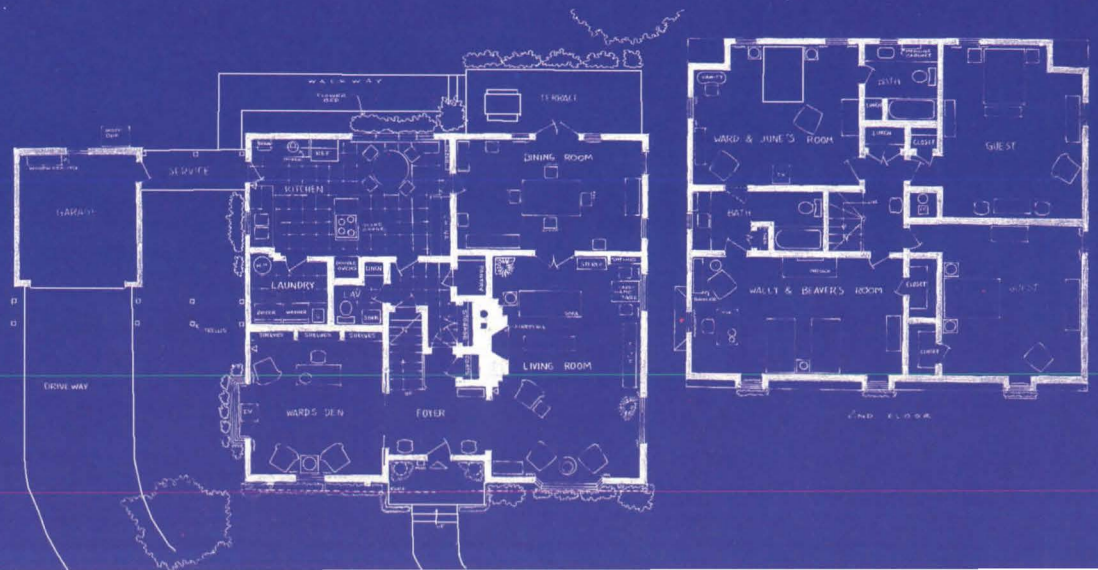
Teleburbia

Artist Mark Bennett translates his memories of classic TV sitcoms into house plans. *By Ned Cramer*

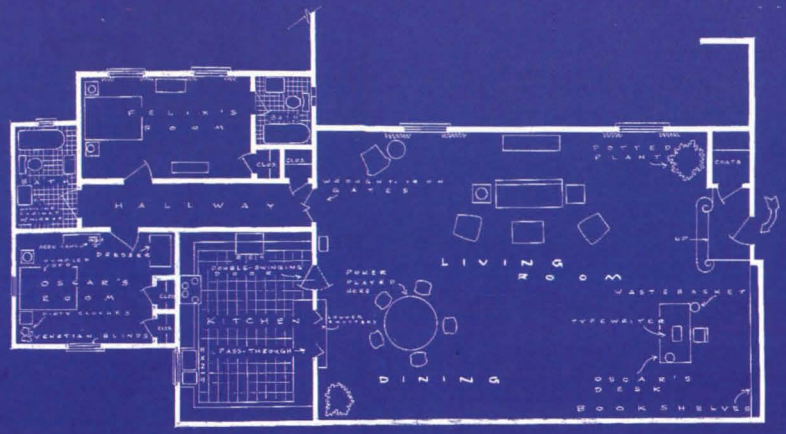


I Love Lucy : 1951–57

Leave it to Beaver : 1957–63



The Jetsons : 1962–67



The Odd Couple : 1970–75

Mark Bennett is a self-confessed television addict: "I used to run three red lights to get home to see 'I Love Lucy.' That's a dangerous way to live." Now the 40-year-old artist channels his TV compulsion into floor plans of the houses and apartments of popular sitcoms.

Bennett's floor plans of Oscar Madison and Felix Unger's Park Avenue pad, the Addams family's kooky Victorian manor, and Ward and June Cleaver's picture-perfect residence don't record the actual sets, but Bennett's own perceptions of these TV dwellings as real places. They are not based on research or documentation, but Bennett's memory: "I figured if I knew enough about these people, I could become part of them." The artist even fantasized in his youth about a subdivision that offered potential owners a choice of TV show-inspired model homes. "Instead of a Spanish Villa or a Ranch Modern, you could order a Samantha Stevens or a Mike and Carol Brady," Bennett explains.

Bennett's high-school-drafting-class-rendering style perfectly suits its nostalgic subject. The value of his fantasy blueprints lies not in technique, however, but in the ability to tap into our collective media memory.

Bennett's plans are currently on display through August 10 at Washington, D.C.'s Corcoran Gallery of Art. The exhibition travels to the Cleveland Center for Contemporary Art in September.

PHOTOS © PHOTOFEST

Real communities aren't theme parks, as Disney discovers in Celebration, Florida.

By Reed Kroloff

DISNEY BUILDS A

In Celebration, 13-year-old Megan Mumey and her friends know the merchants at the corner store, and the merchants know Megan and her friends. Neighbors stop to chat with 75-year-old Robert Worth as he makes the rounds from the lake to the post office to the bank in his three-wheeler. Folks around town are beginning to notice the handiwork of 48-year-old Peg Owens and her community garden club. From its Kentucky horse-farm entrance to its Savannah-inspired downtown, this community, now rising on 4,900 acres of swampland south of Orlando, Florida, is the picture of small-town living. But the picture is more image than reality, and it may stay that way.

For Celebration is a creation of the Disney Corporation, master of idealized ephemera and landlord of the Magic Kingdom located just across the street. Celebration's neat, orderly world, just outside the company's Florida theme park, is a classic Disney confection: a community established by fiat, architecture lifted from early 20th-century pattern books, and the messy rancor of politics and social conflict banished. It is the Neotraditional stepchild of Walt Disney's earlier, futurist-inspired vision for an Experimental Prototype City of Tomorrow. But in Celebration's post-Walt world, the sober town hall has no mayor or city council, and the nostalgic town seal is emblazoned with a corporate copyright. Celebration labors under the burdens of its own conceits and the inherent contradictions that spring from them.

Disney's creative powers, however, are prodigious, and Celebration's integrity reflects them. Very few subdivisions are so comprehensively planned, carefully constructed, or beautifully maintained. "Everything is just so peaceful here," sighs a waitress who works in, but can't afford to live in, Celebration, where single-family homes, starting at nearly $160,000, cost somewhere between 20 and 30 percent more than comparably sized properties in other Orlando-area subdivisions.

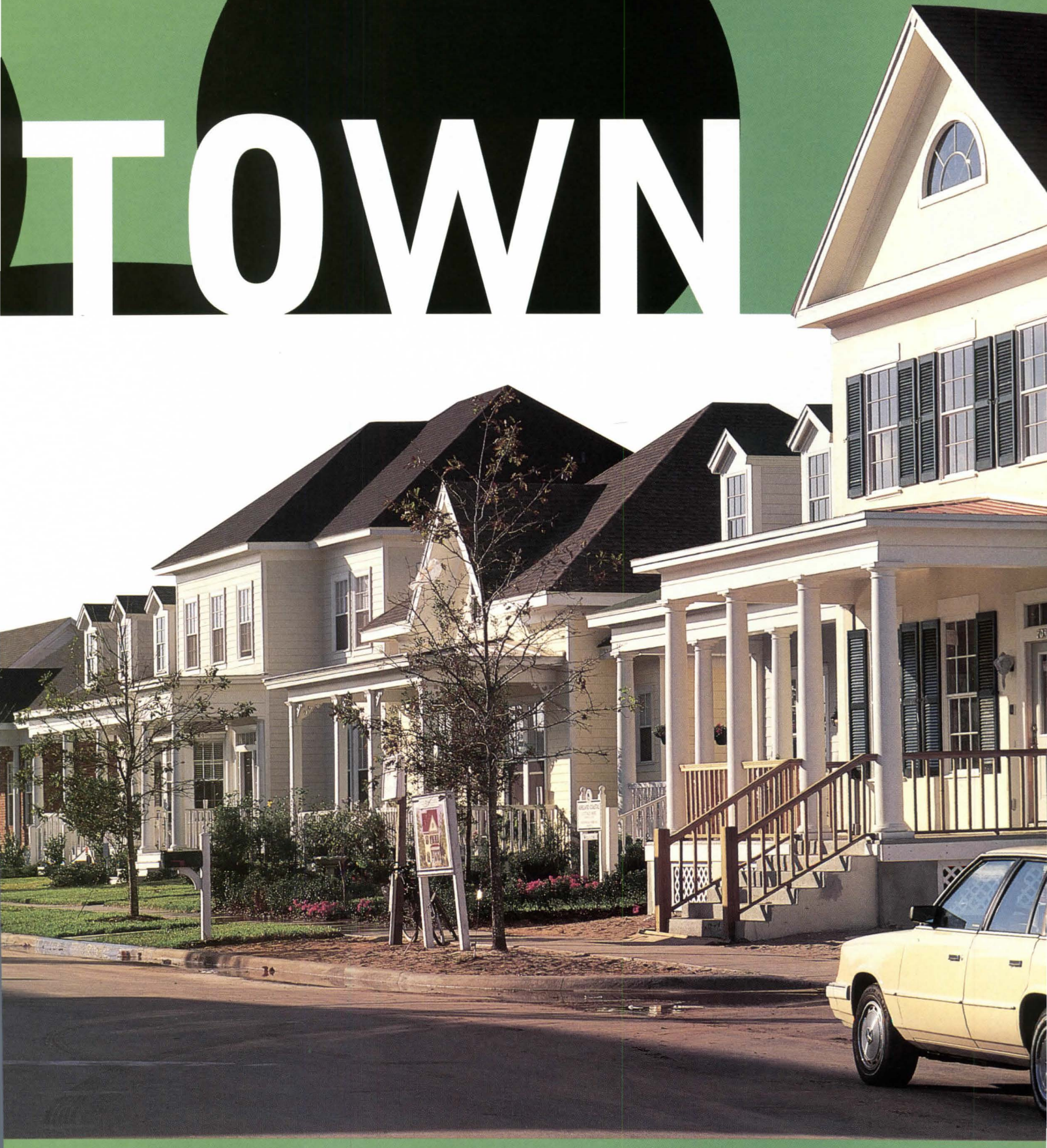
In many ways, the New Urbanist planning and revival architecture do create an environment of repose, one that is enhanced by Celebration's remote location and the ever-present hand of Disney management. "Things are always on the 'perfect' level here," marvels resident Pat Anderson, formerly of Bourbonnais, Illinois. "The streets are swept; downtown is clean. Even the construction sites are clean. It's like we're living in a Disney town."

She is. Disney owns all the land, the downtown, the commercial sites at the edge of the development, all the currently built apartment units, and, for quite some time, will effectively own town hall. Because Celebration is unincorporated, it has no elected officials. Instead, as in many planned-area developments, citizens are represented through community-development districts and associations, both of which apportion governing authority like stock ownership: the more you own, the more power you have. At Celebration, that makes Mickey the big cheese. This consolidation of authority is the shrouded underside of Disney's creative success story, the steel fist inside the white glove. Control is how Disney keeps the town so clean, how it keeps the picture perfect.

The power grab, however, fails to concern Celebration residents. In fact, their relationship with the company is

PETER AARON / ESTO

TOWN



Apartments top stores along downtown streets.

PETER AARON / ESTO PHOTOS

Most downtown parking is tucked behind commercial buildings.

the stuff most developers only dream about. "We came here because of the Disney name," explains Judy Bright, a homemaker who moved to Celebration with her husband and four children from Reading, Pennsylvania. David Haeuszer, who with his wife and three children fled the "killing cold" of Rochester, Minnesota, for Florida goes even further: "With Disney, I have total confidence. If more companies had their approach to customer service, the world would be a better place."

In their minds, Disney's compulsions are a natural outgrowth of its reputation for quality, and they seem willing to forgo some sovereignty to secure it. "I'm happy Disney will retain control for the next 20 years or so," intones insurance agent Rodney Jones, who moved to Celebration with his wife and daughter from an exclusive Orlando subdivision, "if it means the quality will remain high."

Rather than demonstrating a disturbing naïveté, the sentiments of these and many other Celebration residents are an indictment of the American political and planning processes. This generally well-educated community is so frustrated with suburban banality and the benighted state of urban politics that they have opted out, and are now willing to place themselves in the hands of a benevolent corporate dictator. According to David Haeuszer, "In other cities, there are just too many things to change in order to make life good. Here everyone has the same opportunity to build a life for their family, and Disney allows this to happen. They try to get rid of all the negatives. If I can't have a mayor, I'm happy with Disney. I don't think they will misuse their authority."

Disney authorities point out that Celebration's governing structure is designed to cede political control to its residents over time: As more and more land is sold, Disney will become a minority shareholder, and theoretically could be voted down. That's not likely, however, as the company will remain the single largest landowner in perpetuity. Unlike most developers, whose game is to sell their land as quickly as possible, Disney has no intention of divesting its commercial holdings within Celebration—which taken together equal an enormous block of votes in any system based on property values. For better or worse, Disney is in the community for the long haul.

By jealously holding onto the reins, Disney will ensure that its goals of a clean, well-lit community are maintained. Yet in doing so, the company effectively hamstrings one of this country's basic tenets, self-governance. Celebration projects the image of government, not the substance.

Like any other large-scale developer, Disney also controls the physical landscape, through the Celebration Pattern Book devised by Pittsburgh-based Urban Design Associates. The pattern book limits houses in Celebration to six styles—Classical, Victorian, Colonial Revival, Coastal, Mediterranean, and French—and also dictates how they can sit on the development's four lot types. "The styles were selected," according to Celebration's design cop, architect Joe Barnes, "because they are comforting." Comforting perhaps, but also competitive: extensive preconstruction market research indicated that these styles would be the most marketable. And lest anyone forget, David Pace, Celebration's director of residential real estate, reminds, "We're here to sell houses."

To inspire builders and buyers, Disney built three model houses, just two blocks from downtown. They are tasteful, well-built embodiments of the pattern-book principles, with the craftsmanship and attention to detail that characterize fine custom homes. But they are not for sale.

Most Celebration residents will live in production housing, where their choice is limited to the models of two builders: Florida-based David Weekley Homes and Oak Brook, Illinois-based Town and Country Homes. The remaining 20 percent will live in apartments and custom homes. Within this restricted pool, Celebration still manages to develop significantly greater architectural diversity than most other subdivisions, certainly no small accomplishment. There is genuine variety from block to block, where houses are distinguished by their architecture rather than only by their street number. Color and cladding materials vary, and from the street, there isn't a single garage in sight.

But step beyond the pretty facades and any pretense of authenticity vanishes. Celebration houses are the usual developer bait-and-switch that substitutes undifferentiated volume for architectural integrity. Even the more modest houses nearly burst at the eaves from the vaulting excess of space stuffed inside them. Plans tend to feature minuscule bedrooms, and priced at more than $100 per square foot, they are expensive little spaces. It's no wonder Celebration children choose to spend so much of their time rollerblading outside.

Architectural inadequacies don't seem to bother residents. In fact, they are curiously dispassionate about

Lakeside pavilion attracts locals and tourists.

Celebration is buffered by golf course and wetlands.

Celebration's architecture altogether. "The architecture is nice," relates Pat Anderson, "but it is not one of the most important things for me." Rodney Jones and family had always lived in a contemporary-style house. "But we thought it might be nice to try something else for a while." They opted for Classical.

Anderson, Jones, and most others are much more concerned with the task of building community. They point proudly to Celebration's infrastructure and planning as evidence that Disney is serious about it, too. The inventory is impressive: a working downtown with shops and restaurants, a Robert Stern-designed medical center, Philip Johnson's town hall, Michael Graves's post office, a fiber-optic cable system that links all the houses and carries Celebration's own intranet, a community pool and tennis courts, nature preserves that surround and dot the town, and most importantly, the Celebration Foundation and the Celebration School.

The idea behind the Celebration Foundation, explains Brent Herrington, who as community services manager, is Celebration's unofficial city manager, "was to jump-start many of the community-development functions that might otherwise have taken more time." Supported by funds from Disney and a $250 assessment from the sale of each new home, the nonprofit foundation serves as both a welcome wagon and a clearinghouse for the tiny community's active volunteer organizations, including Boy and Girl Scouts, a local choir, and a nascent theater company. Remarkably, Foundation Director Kathy Johnson reports an active volunteer corps of more than 100 adults—or approximately 20 percent of Celebration's current adult population—and the number swells significantly for special events. "People here want to get involved," claims Gregory Schroeder, who leads the choir when not running his interior design practice. "It's an important part of why many of us came," he adds earnestly.

Schroeder's right. Most Celebrants seem driven to participate in the community, to build a town out of all the props that they have been given. It's an enthusiasm the Disney Corporation both anticipated and supports. In addition to paying the salaries of Johnson, Herrington, and their 15-member staff, Disney also underwrites the intranet and community activities ranging from lectures to senior citizen lunches. Combined with the infrastructure improvements, it's an impressive investment—one that dwarfs the pool, clubhouse, and real-estate office that serve as "community centers" in most sun-belt developments.

Town hall (left) has no mayor or council. Post office (right) is by Graves.

Given their magnitude, it's hard to believe that Disney's efforts in this area are anything less than sincere. Nevertheless, as expressed by Celebration's affable senior executive officer, architect Tom Lewis, there is an undeniable diffidence behind the company's facade of relentless cheerfulness. "We're not building a utopia here," Lewis explains. "We never intended to. What we're doing is trying to lay a framework from which residents will or will not build a community."

Lewis's cautious tone may reflect a lurking fear on Disney's part that its own nostalgia-laden promotion of Celebration has built

Production housing maintains pattern book guidelines—on exteriors.

up unreasonable consumer expectations about what the company is willing or able to provide there. It could also reflect a chastened attitude after Disney's painful lesson at Celebration School.

Celebration School is the darling of both the community and the Disney corporation. No other issue or institution galvanizes greater support or attention. Disney donated the school's prominent site, paid Boston-based architect William Rawn to design the building, and then plowed $5 million more into program enhancements. Those enhancements include expanded assessment programs, computer technology, and additional teacher training. Osceola County built the facility and provides its staff. Celebration parents donate hundreds of hours of time. It's truly a community effort. It is also unusual. The school's innovative, Disney-sponsored curriculum was developed by nationally prominent educators specifically for Celebration. Among other things, the curriculum clusters children by age group rather than by grade, recasts the role of teachers from sage to facilitator, and emphasizes self-paced learning.

Disney trumpeted the school in marketing the development, attracting a large cohort of baby boomers with young children as a result. Asked why they moved to Celebration, more families list the school over the architecture, the planning, and everything else. "We always say we bought a school and they threw in the house," laughs Jackson Mumey (see facing page).

Imagine everybody's discomfort, then, when a squabble over the school grew nasty enough to induce several families to abandon Celebration altogether, noisily—and publicly—charging other residents with a "Stepford Wives" mentality about dissent. Disney was horrified as curious hordes of local and national press descended on their hamlet hunting for a story that might bring the company and its precious new town down to earth.

As the media spin on Celebration lurched out of its company-prescribed orbit, Disney reacted with alarm, dispatching blue-suited attorneys to quiet the unhappy families with a ham-fisted confidentiality agreement. That only added fuel to the fire. Sensing an even greater public relations disaster, Disney ultimately backed down, and the families left. But not before the damage had been done, with critics gleefully trumpeting the fracas as a rebuke to Disney's peculiar brand of paternalism.

For Disney, an entertainment company, getting used to the particularities of small-town life may be difficult. Only in theme parks is reality checked at the gates. In small towns, where everyone's business becomes everyone else's business, maintaining the fiction that image matters more than substance is all but impossible. Ultimately, the company must determine whether it is willing to relinquish control, to allow reality to cloud its image. The recent school battle suggests Celebrants are ready for that. Is Disney?

Small parks dot community.

TIMOTHY HURSLEY PHOTOS

Townhouses are Celebration's most affordable housing.

GLEN MILLER

A CELEBRATION FAMILY

SPEAKS OUT

Forty-five-year-old Sara and 43-year-old Jackson Mumey moved to Celebration in March, with their children Megan, 13, and McKenzie, 11. The Mumeys own a company that prepares students to take standardized exams, and are also paid consultants to Celebration School. The Mumeys have lived previously in South Florida, California, and the Washington, D.C., area.

Why did you move to Celebration?

JACKSON MUMEY: Mostly because of the school. We were excited about the Celebration School concept of letting children work to their fullest potential.

Given all the press attention given to Celebration, do you feel like you're living in a fishbowl?

SARA MUMEY: It's just a part of what it's going to mean to live here. But we moved here intending to stay.

Why do you think people are so interested, even suspicious of Celebration?

JACKSON MUMEY: Because it raises the bar. If this works, why would someone expect less of the next developer? I think Celebration is asking a lot of questions: Will people come to a place like this? Will they pay more than they would for the same house in Orlando; will anything really be different? The answer to each of those is yes. This place is about creating community.

What do you mean by community?

SARA MUMEY: For instance, McKenzie broke his arm one day downtown. By the time we got back from the hospital that evening, 26 different people had called to see how he was doing. And we hadn't even fully moved in yet. This isn't artificial. This isn't staged. We have a much greater sense of connection with our neighbors than we ever did in other places.

Do you think the architecture contributes to the criticism that Celebration is just a stage set?

SARA MUMEY: I think the opposite would be true. We came from a true Stepford subdivision in Florida—every house exactly the same. Just because you look back towards the kind of houses that used to be built doesn't make it artificial. What makes it different is that Disney did things in a sequence that is different: Downtown was built before there were houses, the school started before there were many kids. We take advantage of all of it: We go downtown to eat four or five times per week. We go to the park and the pool. We sit on our front porch and talk.

MEGAN MUMEY: I'm used to the kind of neighborhood where every house was a different shade of beige, with the big garage out front and lots of driveways. I love saying I live in the green house next to the purple house on the corner. And because my friends are almost all within walking distance, I don't have to beg my parents to take me everywhere.

JACKSON MUMEY: This is a chance to start from scratch and see if we can do better. Sometimes that gets interpreted as someone playing with utopia, although I've only heard that from the outside. But for the same reason that Celebration makes some people uneasy—because it raises expectations for something better—it gives other people great hope. We hear people from all over the country saying, "I've been looking for a place like Celebration for a long time, and I didn't think I could ever find it."

What about the people who grew disenchanted with Celebration and left?

JACKSON MUMEY: This community is made up of people with some pretty basic agreements about wanting to try new things, take some risks, wanting to be at the beginning of something. This transcends politics. We are big liberals, but our best friends in towns are total conservatives. We share fundamental beliefs about doing what is important for the community and families. The people who left voiced some things that others have voiced who still live in the community. The difference is that the people who left chose to take their complaints to the *Washington Post*, the *Wall Street Journal*, and MSNBC. They chose deliberately to go out and attempt to leverage the celebrity of Celebration as a power play to get what they wanted. The vast majority of people here said, "Just a damn minute. You want to resolve these issues, we'll work to resolve them. But we won't do it by negotiation through third-party media sources." And we weren't wrong to take that position. This community is not about bullies. It's about differences of opinion, yes, but also about finding ways to resolve those differences.

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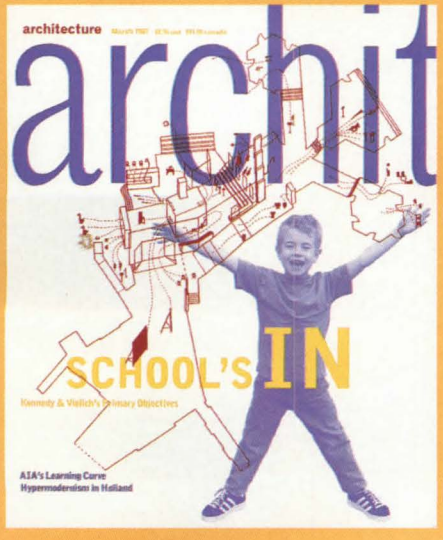

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ecture

Technology + Practice

Integrating building systems takes careful preparation but pays high dividends. New, shallower access floors allow insertion of complex mechanical systems and wiring even in historic buildings. But these intricate support networks must be coordinated early, before it's too late to start over. Such planning is getting easier, as computer modeling software now allows an architect to study form and structure simultaneously before a project begins, reducing the risk of costly changes that disrupt the flow of projects.

Preservation Technology

Re-creating Wright

Frank Lloyd Wright's Pope-Leighey House is moved for the second time and re-erected with a combination of new and salvaged components.

New masonry and straightened-and-stiffened cantilevers are among most visible improvements made to Pope-Leighey House during its recent reconstruction.

By Ann C. Sullivan

Eighty-seven-year-old Loren Pope witnessed the third incarnation of his 1941 dream house when it reopened to the public last year. Twice dismantled and rebuilt, the Pope-Leighey House is one of Frank Lloyd Wright's affordable Usonian models, which were precursors to the single-story ranch that dominated post-World War II suburban development. The 1,200-square-foot structure incorporates Wright's novel radiant-slab heating, load-bearing wood composite walls, and a carport. It was built and furnished for Pope, then a copy editor at *The Evening Star*, for $7,000.

Highway expansion prompted the first relocation of the Pope-Leighey house from Falls Church, a Washington, D.C. suburb, to Mount Vernon, Virginia, in 1965. Marjorie Leighey, who had bought the house from

Wright-approved porch (top) was added after initial construction, but rebuilt incorrectly after house's first move. Quinn Evans re-created it as originally designed and reinstated original driveway configuration (above and left).

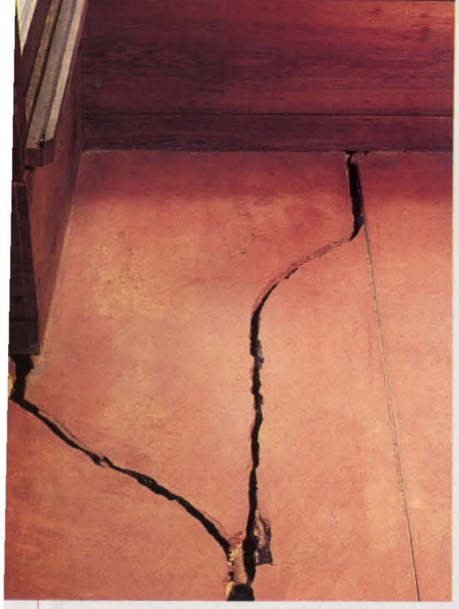
Pope, deeded it to the National Trust for Historic Preservation, which dismantled and moved the structure 16 miles to Mount Vernon's Woodlawn Plantation, a Trust property once owned by George Washington.

The Woodlawn move saved the Wright house from demolition, but exacerbated structural problems because of poor soil conditions at the new site. Last spring, Quinn Evans/Architects resituated the house 30 feet away from its previous location. In the midst of dismantling and rebuilding the house, the Washington, D.C.-based firm repaired, reinforced, and replaced aging structural systems, mechanical components, and finishes. This time, the construction bill totaled $750,000. The cost was paid for by the Trust, private contributions, and labor donated by local subcontractors.

Preservation challenges

When Quinn Evans first inspected the Pope-Leighey house in 1991, the architects found glaring structural faults caused by improperly prepared soil and an inadequate foundation. Large cracks sliced through brick foundation walls and cut across the concrete floor slabs. Movement of the foundation racked and deflected exterior wood walls.

In addition to site-borne structural failures, the residence suffered problems common to Usonian houses: Cantilevers sagged and bearing walls struggled to carry the weight of roof

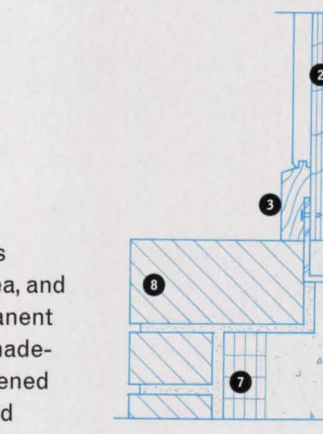


Expansive clay soil caused floors to crack and joints to separate, so house was repositioned to an area of carefully prepared soil 30 feet away.

Quinn Evans replaced termite-infested beams in dining room with engineered-wood timbers.

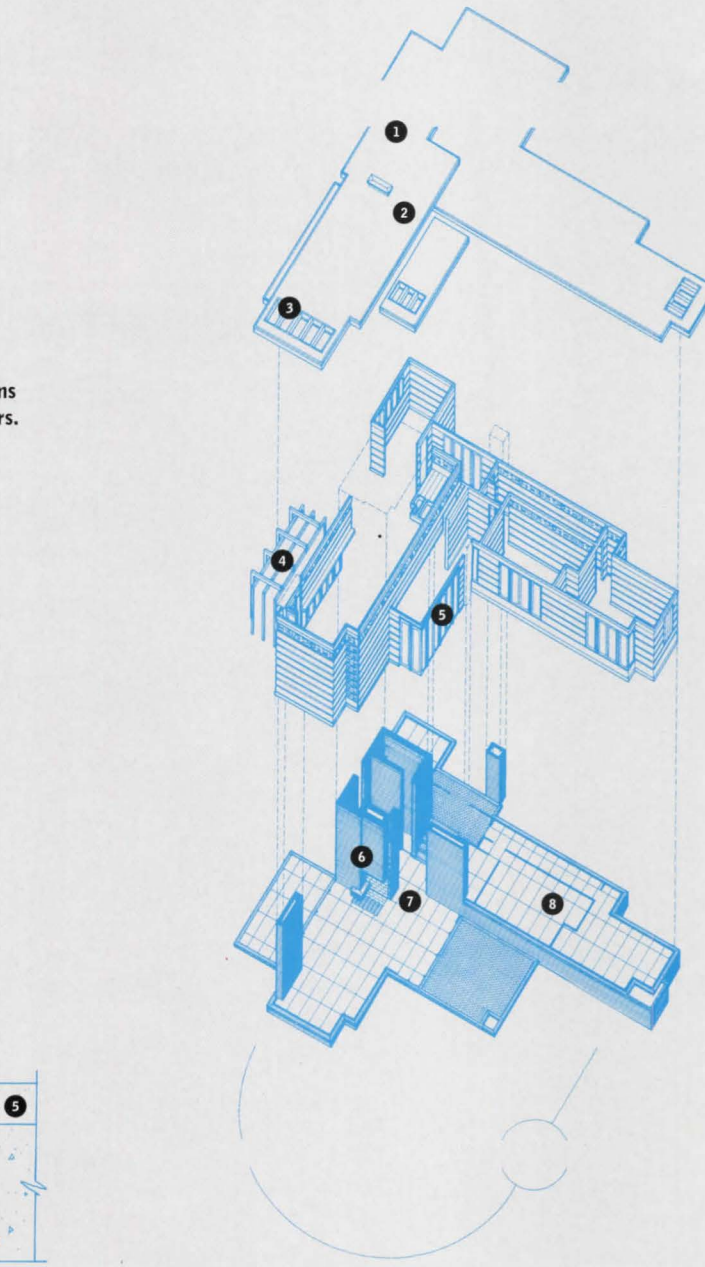
loads. Water pooled on flat roofs above the living room, dining area, and master bedroom, causing permanent deflection of the roof framing. Inadequate drainage provisions worsened water damage to eaves and wood siding. Numerous repairs between 1972 and 1991 failed to curb the house's accelerated deterioration.

Quinn Evans and the National Trust considered whether to repair the house on site or dismantle and rebuild it. Investigations revealed that the contractor for the first reconstruction, Howard Rickert, had reused only 60 percent of Wright's original building materials. Rickert had re-erected wood walls, windows, doors, roof structure, and built-in furniture, and reinstalled portions of the



Wall section at base

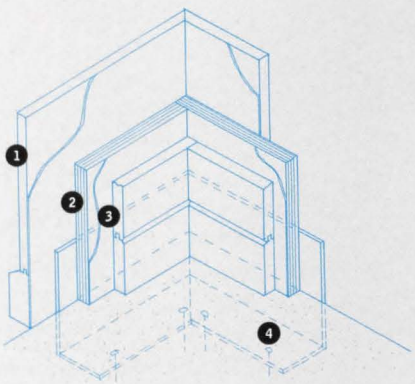
1. existing cypress siding
2. 3/4" marine-grade plywood
3. steel angle
4. expansion anchor
5. 2" top slab
6. 5" concrete slab
7. 2" rigid insulation
8. brick skirt



Axonometric of house

1. eave drainage system removed; interior drain installed
2. roof insulation added
3. all cypress panels restored
4. screened porch reconstructed
5. all wood doors and windows restored
6. all masonry replaced
7. plumbing replaced; original fixtures retained
8. new boiler and radiant-heating system installed

New concrete block foundation (above) was set into place prior to relocation of house. Radiant heating system (top right) was installed prior to pouring of concrete floor. Improperly built fireplace (right) was corrected during reconstruction; vertical groove in new masonry provides anchor for plywood walls. Corner separation was solved with steel angle embedded in concrete footing and bolted to wall (below).



Corner reinforcement

1. existing cypress siding
2. 3/4" marine-grade plywood
3. steel angle
4. 2" top slab

radiant-heat piping. However, he had not salvaged the bricks of the foundation and bearing walls, opting instead for new bricks; and he recast concrete components.

Given this re-creation, Quinn Evans decided to replicate the structure 30 feet northwest of its 1965 site. New foundation walls, floor slabs, masonry bearing walls, roof framing, and mechanical and electrical systems coexist with original wood walls, windows, doors, interior furnishings, and fixtures. This strategy allowed the architect to build on better-prepared soil, stabilize the structural systems, and re-create Wright's original landscaping, including a hemicycle lawn omitted from the previous reconstruction.

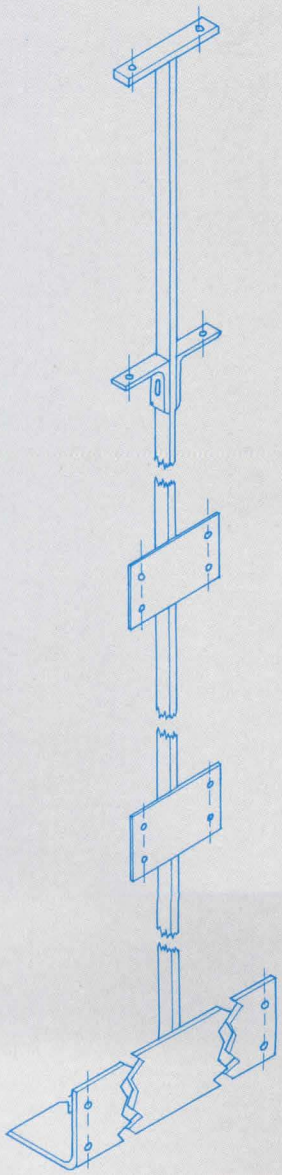
Also restored is Wright's intended visual approach to the house. After the first move, the house was improperly oriented so that drivers approached from the opposite side of the house and from above, with the roof visible. A new driveway makes the vehicular approach from below, as Wright envisioned.

Foundation modified

The original foundation consisted of a cast-in-place, on-grade slab with a thickened concrete edge. The 1965 building crew modified Wright's design with a concrete strip footing and reinforced masonry foundation walls, but didn't provide enough support for the concrete slab. Quinn Evans rejected both precedents and

View of living room wing before reconstruction shows sagging cantilevers, sunken corners, and old cypress siding and masonry.

Quinn Evans reframed roof with laminated wood timbers, sanded and refinished original siding, and replaced all masonry. Weakened wooden roof supports between clerestory windows, which caused wall buckling, were replaced with steel rod-and-anchor configurations (drawing, far left), stretching from floor to roof.



Roof support

added concrete footings under the entire perimeter and detailed a new reinforced-concrete slab with a red-tinted, scored top to match Wright's design. New brick-clad bearing walls and exposed foundation walls replicate the joint size and mortar color of the original house.

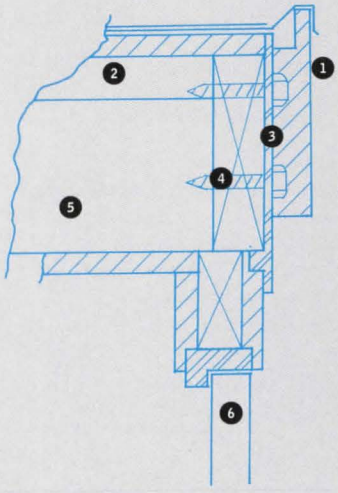
Restoring the envelope

Wright originally wrapped the Pope-Leighey house in board-and-batten cypress siding. Around the living room, he detailed a clerestory of geometric openings carved out of the cypress panels. When the architect examined the house in 1991, water stains and blemishes had dulled this unpainted exterior, initially designed to be maintenance-free.

Cladding problems weren't only cosmetic. Structurally, these load-bearing sandwich walls, comprised of two 3/4-inch-thick cypress panels and a 3/4-inch-thick core of inexpensive fiberboard sheathing, were pulling apart at the corners. The cypress window sills were deformed, and cracks threatened the integrity of Wright's clerestory and his geometric window panels stacked on the northeast corner.

As in the first reconstruction, Quinn Evans took apart and reassembled the perimeter woodwalls. In the process, the architect replaced deteriorated fiberboard cores with 3/4-inch marine-grade plywood and sanded and refinished the cypress siding. To stop shifting and deforma-

Badly damaged windows, planter, and cypress siding (left) were all restored (below).



Cantilever reinforcement

1. new clear cyprus to match existing contour
2. shim
3. 6"x1/4"x18'-0" plate reinforcement
4. 1/2"x3" lag bolts, 30" o.c.
5. 1 3/4"x5 1/2" laminated lumber
6. door

tion of the walls, base conditions and clerestory windows were reinforced with 5/8-inch steel rods running from the floor to the roof and anchored to the walls. "There was minimal structure in between each of the transom sashes," explains Michael Quinn, principal of Quinn Evans/Architects. "That's essentially what caused the failure of the walls."

Deflection of the roof structure and cantilevered trellises led Quinn to reframe most of the roof. New 2-inch-by-8-inch engineered wood beams, concealed in the ceiling, replace aging wood joists. He also replaced the roofing membrane, added insulation, and reconfigured eave drainage to divert run-off water from the exterior walls.

The firm's drainage solution was a controversial decision, admits Quinn. "The house originally had an open eave system" he explains, "and rainwater just splashed down the exterior." Adding downspouts would have been unsightly, so the design team resloped the roof to the center and installed rain leaders, which are concealed in interior masonry walls and a closet.

Quinn Evans restored the original natural cypress finish of windows and doors damaged from moisture and insects; refurbished their original hardware; and installed weatherstripping as necessary. Existing plate glass was replaced with laminated glass to reduce ultraviolet rays and meet life-safety codes.

Before Quinn Evans' reconstruction, interior masonry and floor in living room (above) were visibly worn. Architect replaced masonry, refinished cypress ceiling panels, and poured new color-matched concrete floor. Furniture is mostly original to 1941 house.

CLIENT: National Trust for Historic Preservation **ARCHITECT:** Quinn Evans/Architects, Washington, D.C.—Michael Quinn (principal-in-charge); Cheryl Jacobs (project manager); Marcie Meditch Murphey (project architect) **LANDSCAPE ARCHITECT:** EDAW, Inc. **ENGINEERS:** James Madison Cutts (structural); Smith & Faass Consulting Engineers (mechanical, electrical); Gage-Babcock & Associates (fire protection); Law Engineering (geotechnical); Dewberry & Davis (civil) **CONSTRUCTION MANAGEMENT:** A.J. Dwoskin & Associates. **RESTORATION CONTRACTOR:** Kendall Pierce **PHOTOGRAPHER:** Maxwell MacKenzie.

Modern systems

The house's long-deteriorated mechanical and electrical systems were also replaced. Quinn Evans installed a new gas-fired boiler and radiant-heat system, comprised of polyethylene pipes cast into the floor slabs, that adhere to Wright's original design concept. Below-slab heating ducts service a new forced-air ventilation, air-conditioning, and humidity-control system for the building's long-term conservation. New fire detection and security systems were also installed; and the roof structure conceals a contemporary dry-pipe sprinkler system. Grounded electrical wiring replaces existing wiring, and historic lighting fixtures were restored as well.

Off the living room, Quinn Evans detailed a new screened porch to match the original, including removable screen roof panels. The architect also restored the original natural cypress finish on interior wood ceiling panels and trellises, which were damaged by roof leaks, and reinstalled the pieces as well as original built-in furniture and shelving.

Appreciation over time

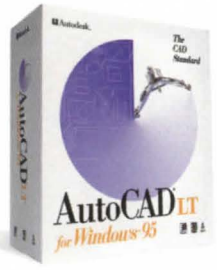
Loren Pope publicized his experience working with Wright, whom he called "the world's greatest architect and one of its greatest men," in an article he wrote in *House Beautiful* in August 1945. Of his dream house, Pope wrote: "It is the only kind of house fit for man to live in. It is not expensive. It is the only kind that has anything to offer the spirit." Pope, who finally secured financing for the house through his employer after several banks scoffed at Wright's plans, also noted "The lending public is way behind the buying public in its stunted judgement of what kind of house is desirable and valuable."

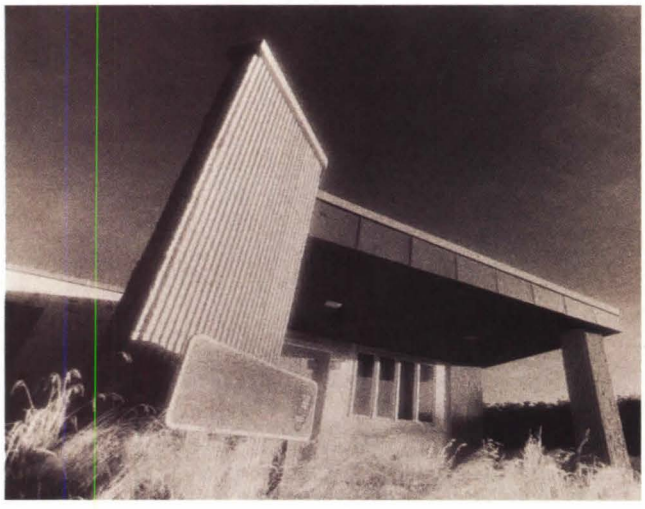
Today, preservationists recognize what Pope knew 50 years ago. As Quinn points out: "In this little house, there are so many aspects that tell about the evolution of American residential design as influenced by Frank Lloyd Wright—the ranch style, the carport, the open living and dining room plan. It's the beginning of a movement."

AutoCAD LT Case Study. #2 In A Series.

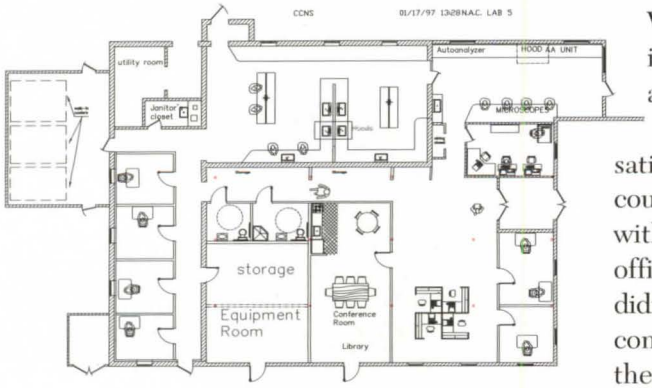
"Out here nature moves at a slow pace, but not us. Converting an entire building took under a month."

--Michael Rivetts, engineering technician, Cape Cod National Seashore





To get a job done fast, sometimes you just can't wait for the experts back at the home office. Sometimes you need to take matters into your own hands. That's what the Maintenance Division of Cape Cod National Seashore did when they decided to use AutoCAD LT® for Windows 95® to quickly turn a nearby, 50-year old Air Force building into a modern biology research facility. "Rather than waiting for the National Park Service Boston Architecture and Engineering office to get to our projects, we decided to implement AutoCAD LT. That way we could tackle some of the design projects we had in the queue ourselves," says Michael Rivetts, an engineering technician with the Maintenance Division. Prior to installing AutoCAD LT on a Pentium®-based PC, the Maintenance Division toyed with another low-cost CAD system. Big disappointment. With its limited feature set, inefficient toolbar setup, and plotting and printing problems, no one found it satisfactory. Worse, they couldn't exchange design files with other parks service offices because this product didn't offer DWG file format compatibility with AutoCAD,® the park service's design tool standard. Said Rivetts, "AutoCAD LT was extremely attractive to us because of its cost-effectiveness and the fact that it's so easy to use and fully compatible with AutoCAD.



We hoped that by installing the application we'd be able to complete more projects internally, which is precisely what happened." On this job, Rivetts simply obtained a hard copy of the original building floor plan, which he re-drew in AutoCAD LT. He and his colleagues then rearranged interior walls to indicate laboratory boundaries and office sites. With the help of Autodesk's Symbols Library, things like work tables, sinks, and bathrooms were quickly added. National Park Service biologists will soon be using the new 5,800 square foot facility to examine natural resources, dune migration, and water quality. And many other abandoned buildings are also being redesigned for modern park and government use.

AutoCAD LT is available for $489 at most software retailers. For information call 1-800-228-3601, ext. A147 or visit www.autodesk.com.

Autodesk® DESIGN YOUR WORLD™

Practice

Hiring Smart in a Labor Shortage

It's a seller's market out there. So firm principals are putting extra effort into finding talent to support a surge of construction nationwide.

By Vernon Mays

Two months before graduating with a bachelor's degree in architecture from the University of Houston this spring, Allen Swift launched his job search. Swift mailed résumés and followed with phone calls to small general practices, hoping his first job would expose him to a variety of project types and offer more responsibility than drawing washroom details. Swift, a Houston native, was eager to try someplace new. Reno, Dallas, Nashville, and San Francisco all beckoned, and the 23-year-old found opportunity at every turn. "I had nine offers on the table," he says.

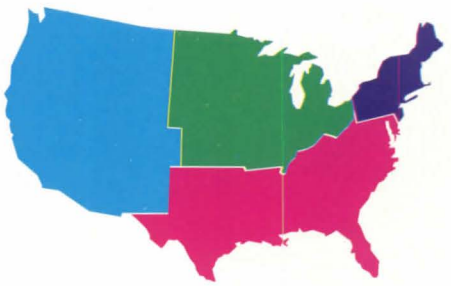
The balance was tipped through a chance meeting with Ken Ross, principal at Houston's Watkins Carter Hamilton Architects, at a college seminar on interviewing skills. Swift struck up a conversation with Ross and visited him soon afterward. Although Ross's firm, which employs 75 people and focuses on healthcare, was at the far end of the spectrum from where the young architect began his search, the interest shown by Watkins Carter Hamilton in cultivating Swift's talents was enough to draw him to the firm. They promised Swift more responsibility than other firms, stressed their emphasis on intern development, and designated one of the principals as his mentor. "Money wasn't the deciding factor; it was really the education I'll be receiving," he says.

Swift had the good fortune to step into the profession during a seller's market. As the beneficiaries of low national unemployment, which dipped to 4.8 percent in June, the lowest in 26 years, young architects are moving easily into entry-level jobs. More seasoned architects with two to five years of experience are in greater demand.

SURVEY OF ARCHITECTS FOR HIRE

In a national survey conducted in May by the American Institute of Architects, 70 percent of architecture firms reported that the market of available architects for hire is either "somewhat tight" or "very tight." About 100 firms, balanced by size and region, took part in the survey. The greatest difficulty in hiring qualified architects seems to be in the South and West. "My reading of this is that the economy is very healthy," says AIA Chief Economist Kermit Baker.

HOW WOULD YOU DESCRIBE THE CURRENT MARKET OF ARCHITECTS FOR HIRE IN YOUR AREA?



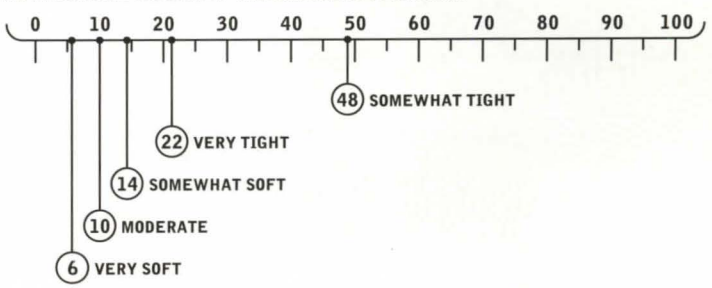
NORTHEAST REGION
Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, and New Jersey

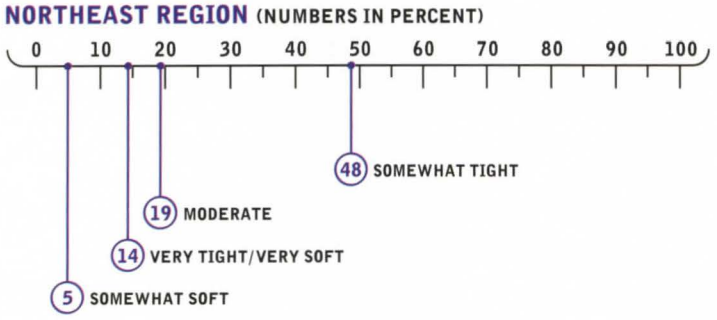
MIDWEST REGION
Ohio, Michigan, Indiana, Illinois, Iowa, Missouri, Kansas, Nebraska, North Dakota, South Dakota, Minnesota, and Wisconsin

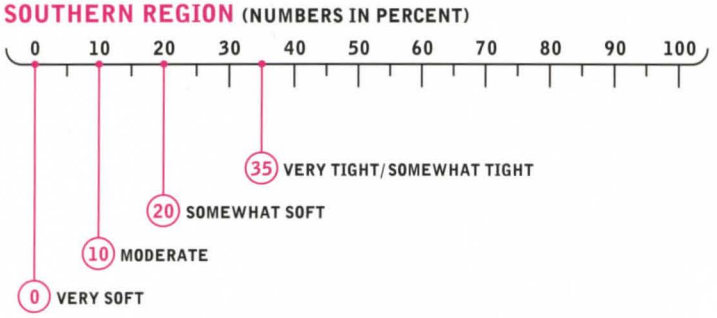
SOUTHERN REGION
Delaware, Washington D.C., Maryland, Virginia, West Virginia, Kentucky, Tennessee, Arkansas, Texas, Oklahoma, Louisiana, Mississippi, Alabama, Georgia, Florida, North Carolina, and South Carolina

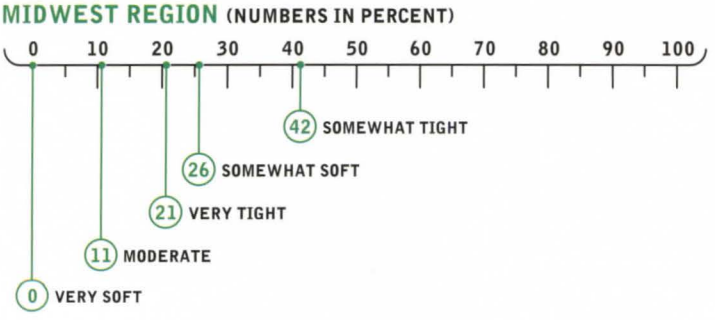
WESTERN REGION
Colorado, Wyoming, Montana, New Mexico, Arizona, Utah, Nevada, California, Oregon, Idaho, Washington, Alaska, and Hawaii

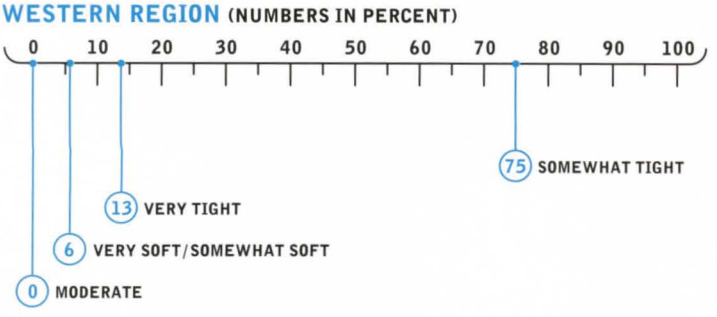
NATIONAL SURVEY (NUMBERS IN PERCENT)











Yet at every level, architects in search of opportunity are blessed with positive choices rather than mere survival options. "It's not just a matter of looking for a job, but for career opportunities," says Robert Larlee, director of Los Angeles operations for Hardy Holzman Pfeiffer Associates. "[Candidates] are more proactive in questioning what the firm can provide for them.

Recruitment strategies

In such a competitive climate, firms are reassessing salary and benefits packages, as well as strategies for attracting and retaining staff. Architects need to put as much effort into attracting qualified employees as they invest in securing the next commission, says Kathryn Sprankle, of the San Francisco office of management consultants Zweig White & Associates. The moral here: When the supply of architects is high, firms believe they can slide by with a casual approach to hiring. But in today's tight market, good recruiting requires the same attention and energy as good marketing. Who, during the recession five years ago, would have foreseen such a rapid turnaround in the marketplace for architects?

With rare exception, this story is being repeated from coast to coast. In a national survey conducted in May by the *American Institute of* Architects, 70 percent of firms nationwide reported that the market for architects in their area is tight.

Nearly one-third of that group reported "very tight" conditions, which means they are having trouble attracting architects at many experience and skill levels. When analyzed by region, the figures indicate even more difficulty hiring qualified people in the South and West, says Kermit Baker, AIA's chief economist.

Firms are vying for the same talent: people who have strong design abilities, who are leaders both in the studio and in the field, and who can help clients envision projects.

Mid-level hires prove elusive

Principals agree that the most needed architects are the ones with a few years of experience under their belts. "Everybody in the industry is looking for the elusive intermediate—those people who left the industry five or six years ago when there were no jobs," says Laurie Dreyer, director of human resources at Gensler, which has 13 offices in the U.S. and three abroad. Now Gensler is seeking to fill about 100 positions firmwide. But the pickings are slim, Dreyer reports.

To generate a sufficient wave of interest, Gensler ran a $5,000 ad in the *Los Angeles Times*, resorting to newspaper advertising for the first time in years. The surge of résumés ended in about 10 days, but Dreyer says finding more than 150 good candidates easily justified the cost. Gensler also offers its employees cash incentives to bring good people to the firm, which makes marketers out of the entire staff. And, in search of Generation X, the firm recently has begun to post entry-level positions on the Internet.

Another option is to hire talented senior people as mentors who will attract good young prospects, maintains Barry Alan Yoakum, vice president at Allen & Hoshall, a 200-person A/E firm in Memphis that is currently expanding its architecture department. Because Allen & Hoshall's international practice is growing, Yoakum also dangles the likelihood of travel as a benefit of employment.

Salaries spike with demand

The short supply of architects also is driving salaries up in some markets. Entry-level pay in Houston used to be in the low- to mid-20s, says Tom Daly, of Ray Bailey Architects in Houston. "Now it is definitely in the high 20s. And if the candidate has a master's degree or special skills and can jump in quickly, they can start as high as $30,000 to $32,000. That has happened in the past three years."

More money isn't necessarily the trick to capturing the best people. At Gensler, Dreyer plays up the firm's considerable benefits, which include health insurance, paid vacation, a retirement plan, and profit sharing. "And you have to be aware of the age of the person," she says. "People in their twenties don't worry about sick leave. But people with families want flexible hours, health benefits for their children, and life insurance."

For positions in specialized building types or for senior-level managers, the search for personnel may reach far beyond city and state boundaries—often with the help of recruitment agencies or management consultants. But many firms struggle to recruit the best people in their own backyard. How do others manage a substantive recruitment effort half a continent away?

Streamlining searches

The first step to a national search is to focus, says Sprankle. For example, don't look nationwide for that expert in biotechnology facilities, look in the markets where biotechnology is active. Ask people in the biotechnology industry who they like to work with. Or click on the ProFile Web page for firms that specialize in biotechnology buildings.

Certain costs associated with distant recruiting—relocation expenses, for example—are unavoidable, says Sprankle. How much you pay is wholly dependent on the resources of your firm, but the most common arrangement is for full reimbursement of the mover's bill, travel to the new location, and agreement to provide one to three months of temporary housing while the family looks for a new home. Some firms reimburse for moving expenses if documented by a receipt. Others simply award a signing bonus, typically in the $15,000 range.

Don't show up late

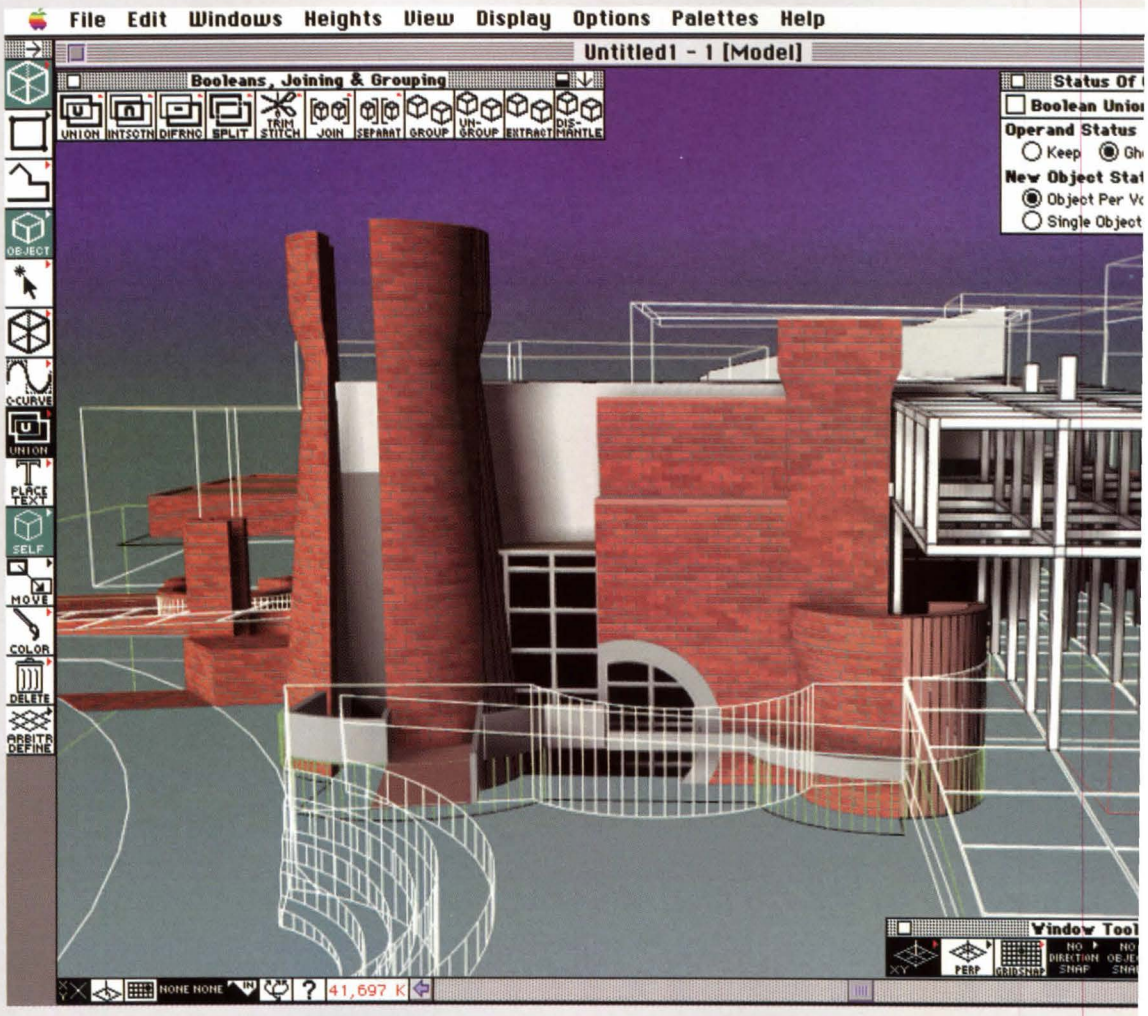
Because many architects aren't motivated primarily by money, employers are forced to give more consideration to the intangibles they offer. Employees across America are weighing personal life issues more heavily in their career decisions, asserts Sprankle. And because many firms are being selective in their search for people with a track record of excellent client relationships and good communications skills, they need to take more care with the interviewing process. "We still hear stories about principals showing up late for interviews," says Sprankle. That lack of respect for job candidates can sour a firm's reputation quickly and, in a tight hiring market, the effects can be devastating.

Instead, Sprankle recommends that firms enter an interview situation with a clear idea of the duties a new employee will perform. Prepare an interview plan so that everyone who meets the candidate will give consistent information about the position. And be prepared to discuss the firm's business goals so that interviewees will know exactly how they fit into the overall picture.

Computers

Software, Simple to Slick

New programs improve modeling, rendering, and drafting, no matter what an architect's computer expertise.



Form•Z 2.9 mixes wire-frame renderings with fully rendered building components, allowing viewers to see elements of Peter Eisenman's Wexner Center for the Visual Arts that would otherwise be obscured.

By Ann C. Sullivan

Architects at all levels of digital experience will appreciate the new software releases reviewed on the following pages: Electric Café's ModelShop 2.5, Graphisoft's ArchiCAD for TeamWork, and Autodessys's form•Z. ModelShop 2.5 is an entry-level modeling program geared for simple 3-D design. For more complex operations, ArchiCAD for TeamWork expands Graphisoft's flagship CAD package to allow file sharing across networks and platforms. For the established computer guru, form•Z has been expanded with new modeling and rendering features.

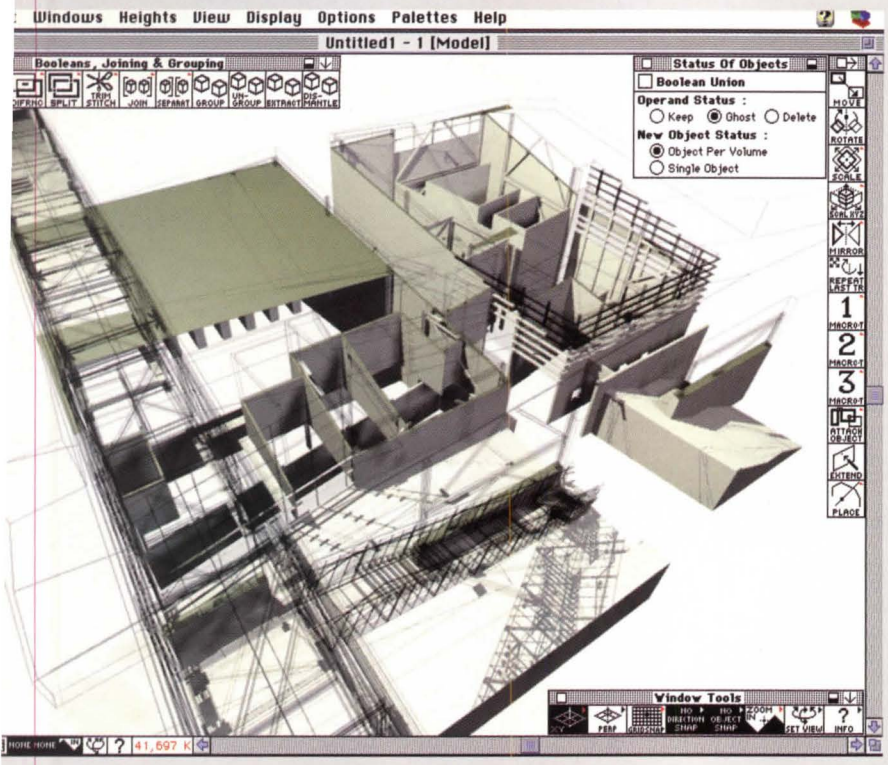
ModelShop 2.5 targets new computer users. The $349 modeling package is for drawing, not drafting. Nor does it create photorealistic renderings. It has 15 drawing tools and 15 viewing and editing tools to other programs' hundreds, explains reviewer Patrick Mays, director of management information systems for HOK in San Francisco. The idea is that architects unaccustomed to conceptualizing on computer can learn basic commands and quickly become productive.

Released in June, Graphisoft's ArchiCAD for TeamWork emphasizes document sharing. ArchiCAD has always attracted architects with its all-inclusive 3-D modeling, rendering, and drafting approach. Jerry Laiserin, principal of Design-Practice-Design Group in Woodbury, New York, observes that the program's collaborative structure targets large firms where multiple team members require access to a single project database.

Form•Z 2.9 from Autodessys delivers several new features for serious modelers, notes Bruce Palmer, director of technology at Gensler in New York. One of the most impressive new tools is Metaformz, which creates forms by assembling geometric modules, such as ovals and circles. With RenderZone, architects can combine wire-frame and shaded drawings and manipulate lighting.

All three programs share a design orientation that distinguishes them from *production packages*. They all remain loyal to the Macintosh platform, for which each package was originally conceived. ModelShop is only available for the Macintosh; ArchiCAD for TeamWork and form•Z 2.9 also have Windows versions.

form•Z 2.9 Autodessys



In modeling Diamond Ranch High School in Diamond Bar, California, Morphosis and Thomas Blurock Architects make full use of 2.9's versatile modeling capabilities. They can study internal components while still grasping the building's external form.

By Bruce Palmer

Described as a "form synthesizer," form•Z from Autodessys is the most versatile modeling software available for the personal computer. Originally developed for the Macintosh, form•Z for Windows was released in 1996. In April, Autodessys delivered an incremental upgrade, version 2.9, for both platforms. Its powerful new features, coupled with increased speed, may have long-time users wondering what the vendor could possibly offer in the future.

Often when software is ported to a new platform, it doesn't conform to the established protocols of the new operating system. Instead, the program maintains the look and feel of the primary system. This conflict can make the program harder to learn for those unfamiliar with the original operating system. Autodessys has done an admirable job avoiding these pitfalls. Its success can be partially attributed to the fact that form•Z has its own look and feel, having never fully adopted some Macintosh conventions. The program operates identically on both types of computers. It will seem a little foreign to users of both; however, once learned, the interface is logical and straightforward. The excellent documentation, a rarity in the world of computer software, not only explains the nuances of the interface, but also fully illustrates instances when the Mac and Windows versions differ.

Included in the latest release of form•Z are all the tools needed to build 3-D models of any description. Forms can be extruded from 2-D entities or constructed from scratch. The versatile "skinning" tools allow for the projection of profiles along simple or composite paths.

Some of the most powerful new features in version 2.9 facilitate "organic," as opposed to orthogonal, modeling. Metaformz, Autodessys's version of metaballs, expedites the composition of irregular forms. In a nutshell, both Metaformz and metaballs fuse together independent objects with each separate component influencing the whole. The process is similar to the sketching of the human body as a series of ovals before adding detail. By definition, metaballs have previously been limited to spheres, but Metaformz allows a variety of geometries to be used as the basis for the composite.

Several basic rendering methods are included in the modeler, but the program has always offered an optional add-on for high-end visualization. RenderZone is a fully integrated interface to LightWork Design's rendering engine. Although form•Z is promoted as a complete 3-D program, RenderZone is a must for serious modeling. RenderZone adds $500 to form•Z's base price of $1,495. Users of the previous version can upgrade for under $200. These enhancements give you quite a bit for your money and justify the price.

RenderZone's new ability to map displacements on simple surfaces facilitates the rendering of complex 3-D geometries. In lieu of modeling curtains, for example, a user can place a simple rectangle in front of a window. The shaded variations of the displacement map result in the creation of the soft undulations of folded fabric. Similar to bump maps used to create texture in renderings, displacements have the added ability to modify the geometry. While bump maps create the illusion of a textured surface in a rendering, displacement maps actually mold the surface of the entity. The potential of this method can be seen when gray-scale topographical information is used as a displacement map. A fully accurate terrain model can be created in no time by mapping the image and providing the overall altitudinal extents.

Other improvements to RenderZone include the addition of "gel" lights, "blurs," and transparent shadows. Gels can be used to project images like a slide projector or to create ambience by casting a hue over an entire scene. Blurs mimic the effect of using a short depth of field to highlight objects in the foreground of an image by rendering objects in the background less distinctly. Transparent shadows are the result of light

Form•Z 2.9's enhanced shadowing techniques helped Kaplan/McLaughlin/Diaz Architects bring this 3-D image of the International Vaccine Institute in Seoul, Korea, to life.

passing through objects pervious to light. These features compare favorably to other rendering programs.

From the start, Autodessys designed form•Z to coexist with other software. It readily accepts design information developed with other programs and can export completed models in a number of popular formats. While drafting commands are included, they are intended to support modeling, not the preparation of construction documentation. Overall, version 2.9 succeeds in providing excellent drafting and modeling tools, and import and export utilities.

Form•Z is intended for all types of design modeling, not just architecture, which adds to the versatility of the program, but 2.9 includes new features of special interest to architects. Panoramic renderings can be saved in both virtual reality markup language (VRML) or Apple's Quicktime VR format. Simplified view matching eases the process of montaging model data with site photography, and "straight up perspectives" can be rendered to create realistic scenes while maintaining the verticality of walls.

Bruce Palmer is the director of technology in Gensler's New York office.

UNDER THE HOOD

SYSTEM REQUIREMENTS

Apple Macintosh

- 16MB RAM minimum, 32-64MB recommended
- 500MB hard disk, 1.0GB recommended
- Double-speed CD-ROM drive
- Graphic card with 2MB RAM, 4MB recommended
- 3-button mouse

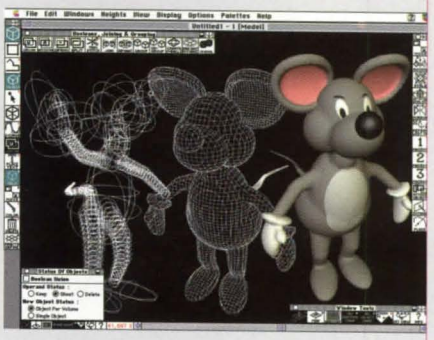
Windows

- Windows 95 or Windows NT (3.51 or higher)

COMPATIBILITY

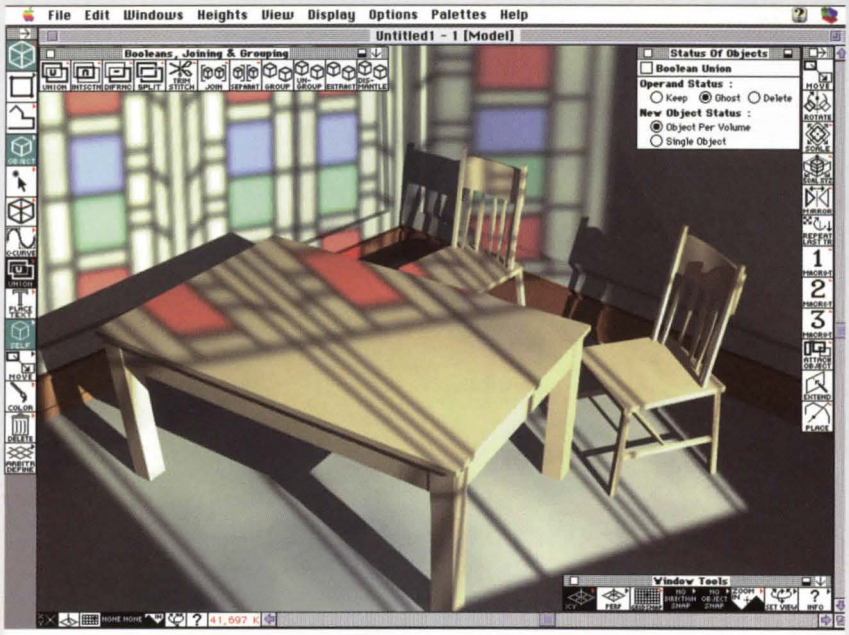
- Supports DXF and DWG bidirectional formats
- Can export to Excel

NEW FEATURE



Form•Z expands on metaballs technology with Metaformz, its own method of creating free-formed objects. Here, the mouse is shown (from left) as a primitive metaform, a mesh of metaforms, and finally, fully rendered.

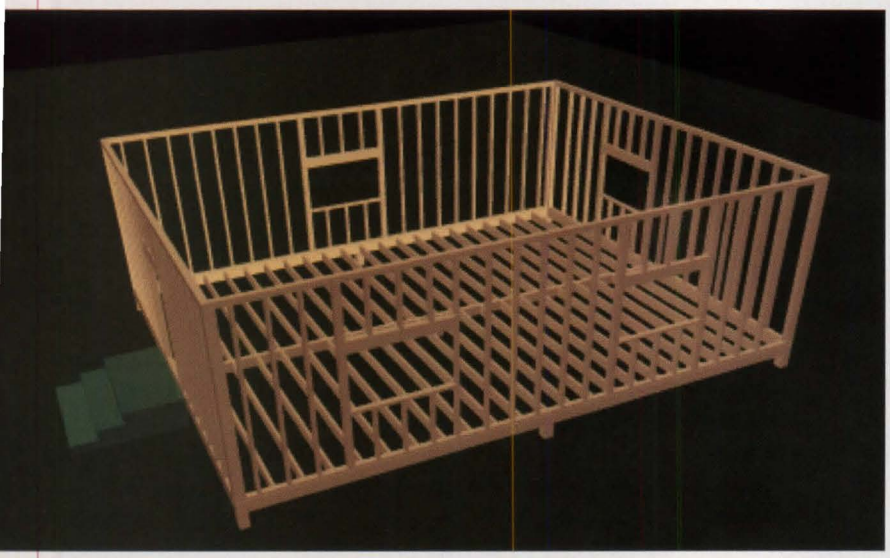
Frank Lloyd Wright would have appreciated 2.9's ability to incorporate realistic transparent shadows from stained glass. Images in background can be blurred for greater depth-of-field effects.



ModelShop 2.5 Electric Café

By Patrick Mays

Most architectural practices still suffer from a schism between senior designers accustomed to drawing by hand and younger designers responsible for producing electronic documents. Complex modeling and production software requires extensive, costly training, which makes it difficult for seniors to get up to speed with CAD. ModelShop 2.5 from Electric Café offers welcome relief from this problem with simple interface and an environment designed specifically for seasoned architects.



ModelShop image shows one-to-one correspondence between shapes in model and actual structure of house. The final animation progressively reveals the foundation, rafters, trusses, and sheathing.

ModelShop is not a drafting package, but a simple concept modeler. Its emphasis is on three-dimensional massing and visualization, similar to programs such as form•Z, Design Workshop, and UpFront. Unlike these more sophisticated programs, however, ModelShop is not a photorealistic renderer. Conceptual design information generated in ModelShop can be exported for high-end rendering or two-dimensional production as a DXF file, Autodesk's standard drawing file format.

ModelShop returned to the market in January after several years of neglect by its previous owners at Paracomp and then Macromedia. Software developer Scott Burgess, who had worked with ModelShop since 1990, purchased the program from Macromedia and rereleased it with his own company, Electric Café of San Francisco. Not only did Burgess correct past problems with cutting options, but he also incorporated excellent new features, including Boolean intersection and texture mapping. The environment is very stable compared to the old product, which used to crash frequently.

ModelShop is designed for the Power Macintosh. The Macintosh still appeals to many designers because of its ease of use. In fact, some of the most intuitive Windows applications found their beginnings on the Macintosh, including PageMaker and Photoshop from Adobe. A Windows version of ModelShop is rumored, but Electric Café has not confirmed such plans.

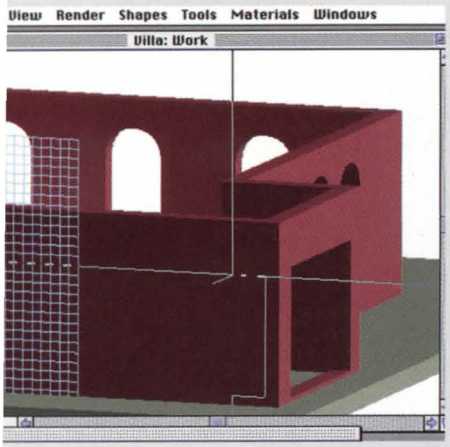
Instead of multiple toolbars with hundreds of functions, a single, simple drawing palette offers 15 drawing tools, and 15 viewing and editing tools—all that's needed to produce the most complicated building masses, but not two-dimensional production drawings like those generated in AutoCAD or MicroStation.

Objects in ModelShop begin as two-dimensional profiles, drawn with familiar drawing tools such as rectangles, ovals, polygons, and bezier lines. Extrusion heights give volume to these geometric profiles, stretching the two-dimensional outlines into the third dimension. Three-dimensional accuracy is maintained by typing in x, y, z coordinates as numeric points in space. Alternately, shapes can be dragged with a mouse until they look right, snapped to a grid, or referenced with x, y, z coordinates. A drawing plane is visible as a grid for spatial reference, and the grid can be placed at any orientation or location.

Once objects are created, ModelShop has many options for redefining their shape. The simplest method is to drag and reshape the two-dimensional profiles. There are also commands for turning a block of geometry into a path to make walls, changing wall thickness, and adjusting sides to rounded shapes.

The most powerful modeling tools in ModelShop are Boolean subtraction and intersection, which can be used to punch one or more shapes out of another object. This makes it easy to create wall openings for doors and windows. Even after subtracting one shape from another, you can still edit the object that created the void as if it were still there. The speed and efficiency of these Boolean functions surpasses even 3D Studio Max from Kinetix.

Two-dimensional floor plans or site drawings can be imported as DXF or PICT files, and then extruded in ModelShop or used as templates for adding more detail. With the library feature, which is similar to symbols or blocks in other CAD programs, an architect can take a group of shapes, such as furniture or unit plans, make them into a library, and then place copies into a model with one click. Libraries can be adjusted as a whole or replaced by a different set of objects. They also have the advantage of being RAM efficient—in other words, complex models use very little memory or disk space.



Drawing a box on the wall is used to punch an opening in the wall for a door. The visible grid and crosshairs, shown along the current drawing plane, can be repositioned and reoriented using several different methods.

The appearance of objects is defined by assigning materials to them. This could be as simple as different colors for different objects; or, special lighting characteristics and textures can be added to create brick, concrete, or wood. ModelShop 2.5 uses Apple's QuickDraw 3-D technology for rendering. This feature provides preview-quality hidden-surface or wire-frame rendering and anti-aliasing to smooth out rough edges. Other presentation tools, such as shadow casting and transparent materials, will be available in ModelShop 3.0, scheduled for release this fall.

Nothing is as helpful as motion for visualizing three-dimensional space, and ModelShop 2.5 supports basic, but effective, camera-based walk-throughs. ModelShop's walk-through facilities are based on a timeline. Views from the model window are dropped into the timeline to establish key frames. The software generates the in-between frames to create smooth camera motion. Once in the timeline, key frames can be moved in time, replaced, or previewed. Projects created in ModelShop can be exported in a variety of formats for presentations or additional rendering and animation.

Priced at $349 for new seats and $79 for upgrades, ModelShop 2.5 is a basic, affordable modeler. It's not as sophisticated as form•Z, for example, but for the senior designer just getting comfortable conceptualizing on the computer, complexity is not always desirable. Download a free demo copy of ModelShop from the Electric Café Web site at *www.elecCafe.com.*

Patrick Mays is the director of management information systems for HOK's San Francisco office.

UNDER THE HOOD

SYSTEM REQUIREMENTS

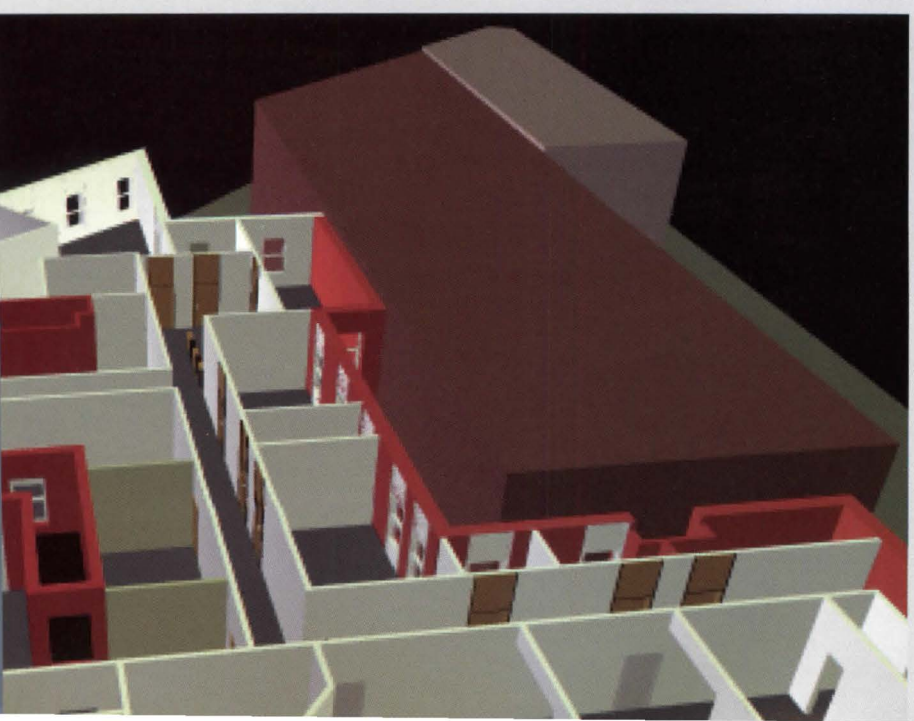
- Power Macintosh
- 16MB RAM, 24MB recommended
- CD-ROM drive
- Color display

COMPATIBILITY

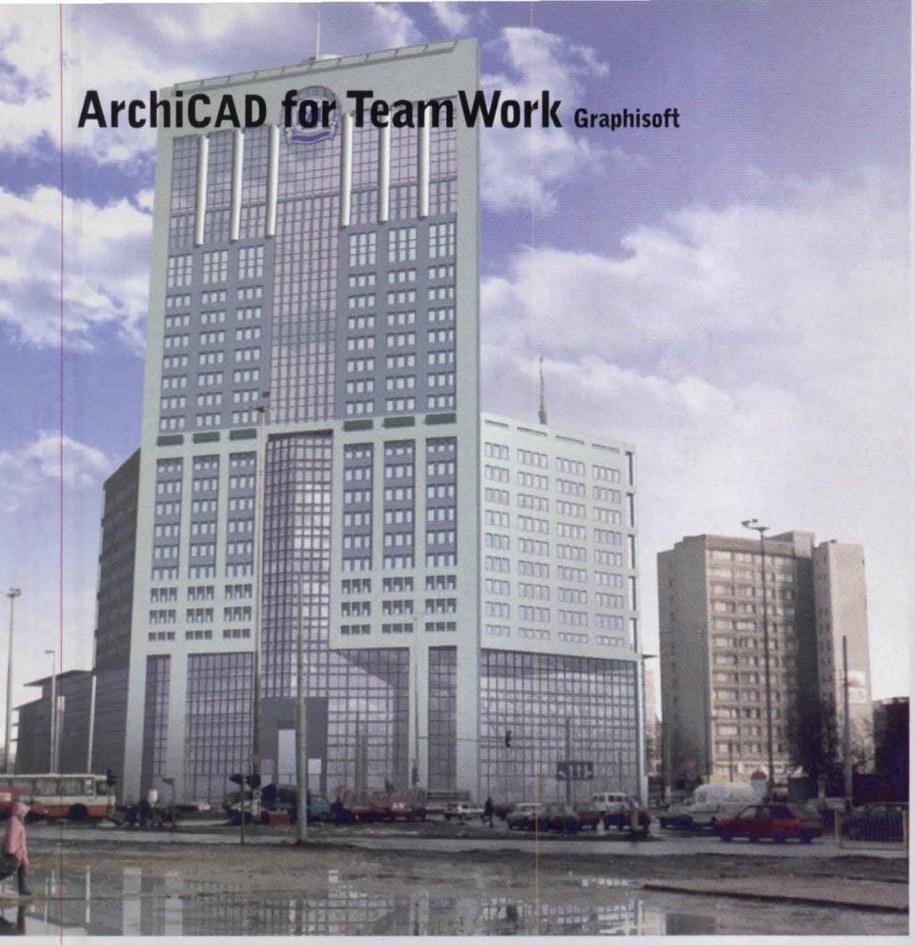
- Imports PICT, DXF, 3DMF
- Exports PICT, Hi-Res PICT, DXF, 3DMF, VRML, and QuickTime

NEW FEATURE

ModelShop 2.5's tool palette (above) contains all tools for creating, editing, lighting, and viewing 3-D models. The nine shape tools work similarly to their counterparts in two-dimensional drawing and illustration programs, such as MacDraw and FreeHand. Model of the Electric Café office building in San Francisco (left) was created from blueprints using numeric entry to ensure accuracy. Other buildings on the block were created with massing boxes to show scale and location, but not detail.



ArchiCAD for TeamWork Graphisoft



Large-scale projects require tools for dividing and managing CAD work. Rendering of PZU Tower in Poland, designed by ArchiCo-Projekt, demonstrates how TeamWork facilitates administration and visualization.

By Jerry Laiserin

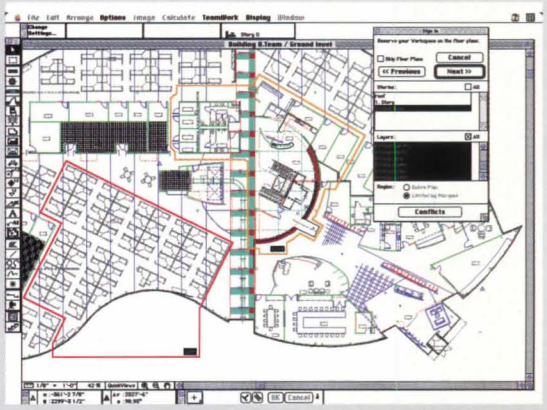
Historically, CAD methods are better suited to the way computers work than the way architects work. Most CAD systems demand that design components be divided and managed according to the computer's internal logic. Such techniques rarely mesh with the way a real project team might wish to share the load of a real project.

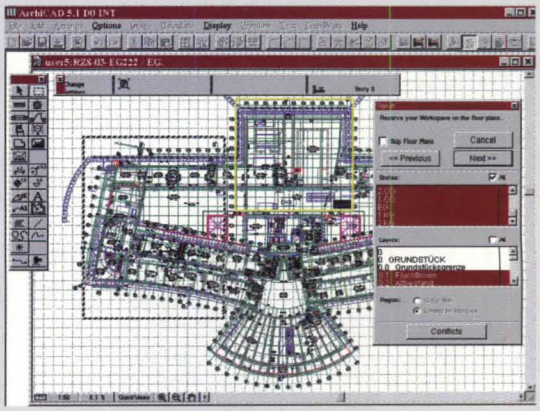
Nearly all major CAD programs also organize drawing elements in layers, a concept harking back to manual pin-bar overlay drafting. A few systems, like the up-and-coming AllPlanFT from Nemetschek Systems (*Architecture*, April 1997, pages 150-151) and the minicomputer-descended microGDS from Graphic Data Systems, turbo-charge the power and flexibility of layering by making each layer a separate file (although this, too, carries a burden of administrative complexity).

The aptly named ArchiCAD for TeamWork, the newest release from Graphisoft, ups the ante with a two-pronged approach that addresses not only how project work is divvied up, but also how the divided elements are tracked and integrated back into the project. Starting with the well-established 3-D, single-model, single-file core of ArchiCAD 5.0, the TeamWork product allows multiple users to select (or be assigned) individual "workspaces," each comprised of any combination of layers in any selected portion of the building. A simple marquee tool defines the plan boundaries of the workspace, with a dialog box allowing selection of stories and layers within the marquee. As with today's most advanced document-management software, ArchiCAD for TeamWork notifies the user if any portion of the selected workspace has already been checked out to another user. Such conflicts are easily recognized and resolved, without complex advance setup.

ArchiCAD for TeamWork's most powerful feature is the ability to work off-line. Each user's active workspace, along with a compact read-only satellite file of the entire project, runs locally on that user's own machine. This minimizes local-area-network (LAN) traffic while the users are connected, but more importantly, allows multiple users to work simultaneously on the same project even while not connected. Team members needn't be in the same office, nor even in the same firm.

Sophisticated computer users familiar with the "replication" feature in groupware products like IBM's Lotus Notes will immediately recognize the principle behind ArchiCAD for TeamWork's "send & get changes" command. Any consultant, branch-office worker, or traveling-team member instantly can update her local view of the entire project (and her collaborators' work in progress) while concurrently updating the central project file with the most recent progress from her own workspace. This local-to-server synchronization, and vice versa, applies not only to project files but to ArchiCAD's object libraries of building elements and materials as well.





Software's sign-in phase enables multiple team members to work in designated areas of the project simultaneously.

In this initial release, the "send & get changes" function requires either a direct, on-site LAN connection or a remote-access dial-up connection to the LAN. Graphisoft anticipates adding Internet connectivity by the end of the third quarter this year.

Although ArchiCAD for TeamWork has been positioned as Graphisoft's bid to expand its beachhead in the large-firm, large-project segment of the CAD market, there is much here to delight the small-firm, sole-practitioner core-user base as well. The built-in "administrator" and "team leader" modes of project-file control have obvious benefits for larger firms with big project teams, and splitting these managerial functions into computer-related and project-related levels is an especially deft touch.

However, these same tools will be

TeamWork retains the modeling and rendering power that ArchiCAD is known for. The Drawing Studio capitalized on those features for a presentation of Lujiazui-Shanghai Office.

equally useful for the sole practitioner who must juggle freelancers and part-timers with disparate skills and schedules. In any size firm, the new layering and enhanced "hotlinking" features of Graphisoft's PlotMaker will be welcome.

Not everything is perfect with TeamWork. Currently, each team member is restricted to a single, contiguous workspace, although this limitation can be finessed with some creative gerrymandering of marquee selections. The potentially useful TeamWork Notes utility, for annotating and sharing comments about versions and changes, could benefit from more powerful searching and sorting tools. On Windows platforms, the overall product betrays its Apple Macintosh origins with small deviations from interface standards, but the result is less painful than some cross-platform efforts in the opposite direction.

Graphisoft has not been as aggressive in World Wide Web connectivity as industry leaders AutoCAD and Bentley Systems' MicroStation, especially Bentley's Publisher offering. While ArchiCAD can now be bundled with Artlantis Render, it is no match for the benchmark Lightscape Visualization System that now comes bundled with the recently resurrected ARRIS CAD from Sigma Design. ArchiCAD also fails to match the integrated true solid-modeling and sketch/gesture recognition capabilities benchmarked by Netmetschek's AllPlanFT. Finally, even though ArchiCAD's 3-D model views are never more than a mouse click away (and are publishable in both VRML and QuickTimeVR formats), all editing of ArchiCAD models is still confined to two-dimensional views only.

On balance, Graphisoft's ArchiCAD for TeamWork represents a significant new approach to aligning CAD with the natural workflow of a design office. Especially impressive is the ease with which novice CAD users can access this newfound power. With the TeamWork version, ArchiCAD finally sheds its undeserved reputation as a niche player and joins the ranking contenders.

Architect and industry analyst Jerry Laiserin is CAD in Practice Editor of ACADIA, the quarterly journal of the Association for Computer-Aided Design in Architecture.

UNDER THE HOOD

SYSTEM REQUIREMENTS

Apple Macintosh

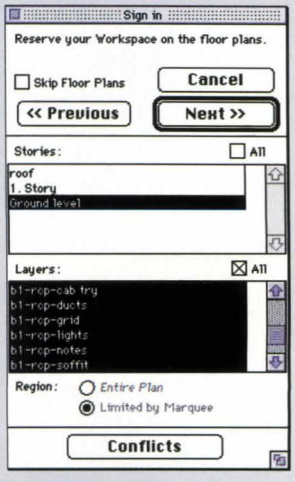
- **Macintosh 680x0 with coprocessor, Power Macintosh recommended**
- **16MB RAM minimum, 32MB recommended for 680x0 Macintosh; 24MB RAM minimum, 40MB recommended for Power Macintosh**
- **40MB hard disk space minimum, 100MB recommended**

Windows

- **PC with minimum 486, Intel Pentium recommended**
- **Windows NT 3.5 or Windows 95**
- **16MB RAM minimum, 32MB recommended for Windows 95; 32MB RAM minimum, 48MB recommended for Windows NT**
- **50MB hard disk space minimum, 100MB recommended**
- **Minimum 256-color video card, 24-bit true color recommended**

COMPATIBILITY

- **Imports: DXF, DWG, ZOOM, WAVEFRONT, PICT/BMP/GIF/TIFF, Plotmaker imports HPGL/2**
- **Exports: DXF, DWG, VRML, 3DMF, PICT/GIF/BITMAP/TIFF, 3DF, FACT, Artlantis Render, Wavefront, QTVR, REALVR, Plotmaker exports HPGL/2, EPSF**



On shared projects, team members sign into workspaces by selecting all stories, layers, and plan areas. Software then automatically detects conflicts between workspace selections.

NEW FEATURE

Technology

Under-Floor Access

Advances in flooring systems and building controls allow architects more flexibility, creativity, and cost efficiency in their designs.

By James L. Standish and Kenneth Silver

Integrated under-floor distribution and building automation systems may not affect the way a building looks, but their influence on its flexibility and cost can be large. As Tom Hysell, a project manager with Architectural Associates in Minn-eapolis, notes, "Architects don't necessarily need to know how to put a system together, but they certainly need to understand what everybody's talking about—so that they can work with engineers to create a system that suits their design."

The "integral under-floor" combines mechanical, electrical, and telecommunications systems in compact under-floor zones that allow these discrete systems to be managed in modules. For building automation systems, the term "integrated" means the tying together of wiring, hardware, software, and electronic devices required for monitoring and controlling such building functions as lighting, temperature, humidity, and security.

Integrated building automation and access floors are more complicated to deal with in renovations, where technical needs must be balanced against the constraints imposed by structures born long before central air conditioning or computerized telecommunications. As architect Françoise Bollack, whose Manhattan firm specializes in historic renovations, notes, "We don't have *any preconceived* notions about what will work—we just try to let the building be what it is. This means not letting any one system 'wag the dog.'"

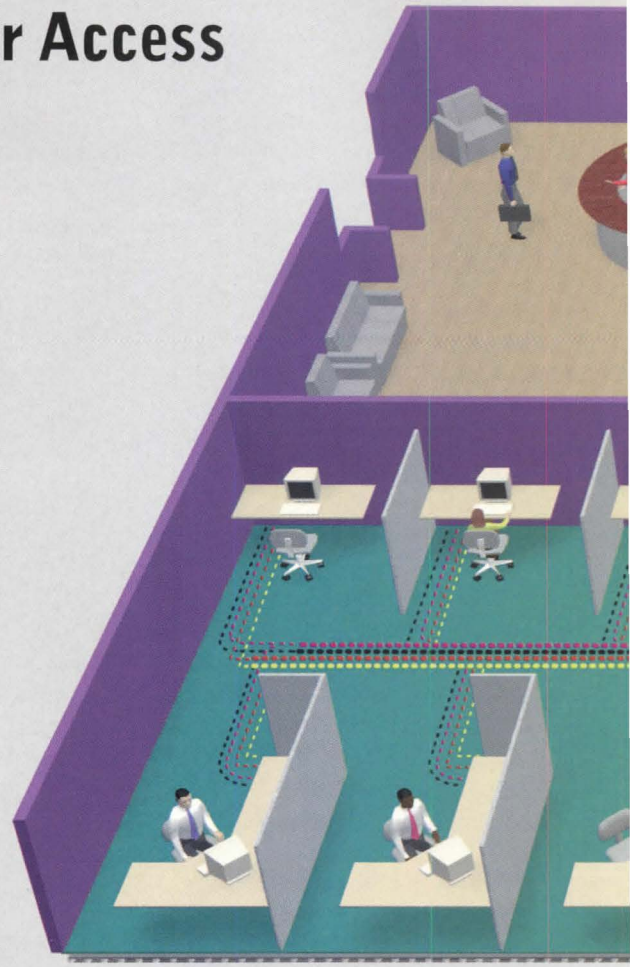
Integrated floor systems

Access floors have long proved their worth in the delivery of electrical power and voice-and-data hookups to individual workstations. Recently, however, new products and revisions in cabling standards are making access floors more appropriate for a wider range of applications and easier to weave into structural frameworks. Moreover, a European trend toward using under-floor spaces as plenums in air-displacement ventilation systems is beginning to catch on in North America. Access floors remain expensive, but an integrated approach to building systems allows architects to boost workspace flexibility by utilizing under-floor spaces in a wide variety of applications in offices, trading floors, and computer rooms.

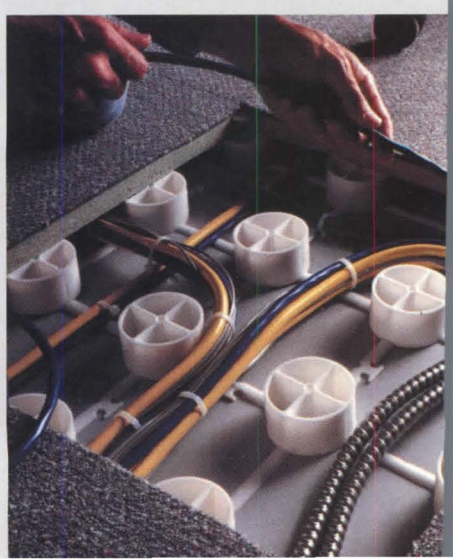
Shallower access floors

Over the past few years, access floors suitable for electrical service and telecom delivery have become much shallower. The typical depth of 6 to 8 inches (from the top of the floor slab to the top of the finish tile) now can be reduced to 4 inches; with brand-new "super-shallow" flooring products, the depth is even less. These innovative floors are useful in buildings with limited slab-to-slab heights or restricted floor strength. They allow access floors to be added without squeezing ceiling heights or requiring new structural bracing. The shallower the floor, the fewer problems that are encountered, especially in retrofits.

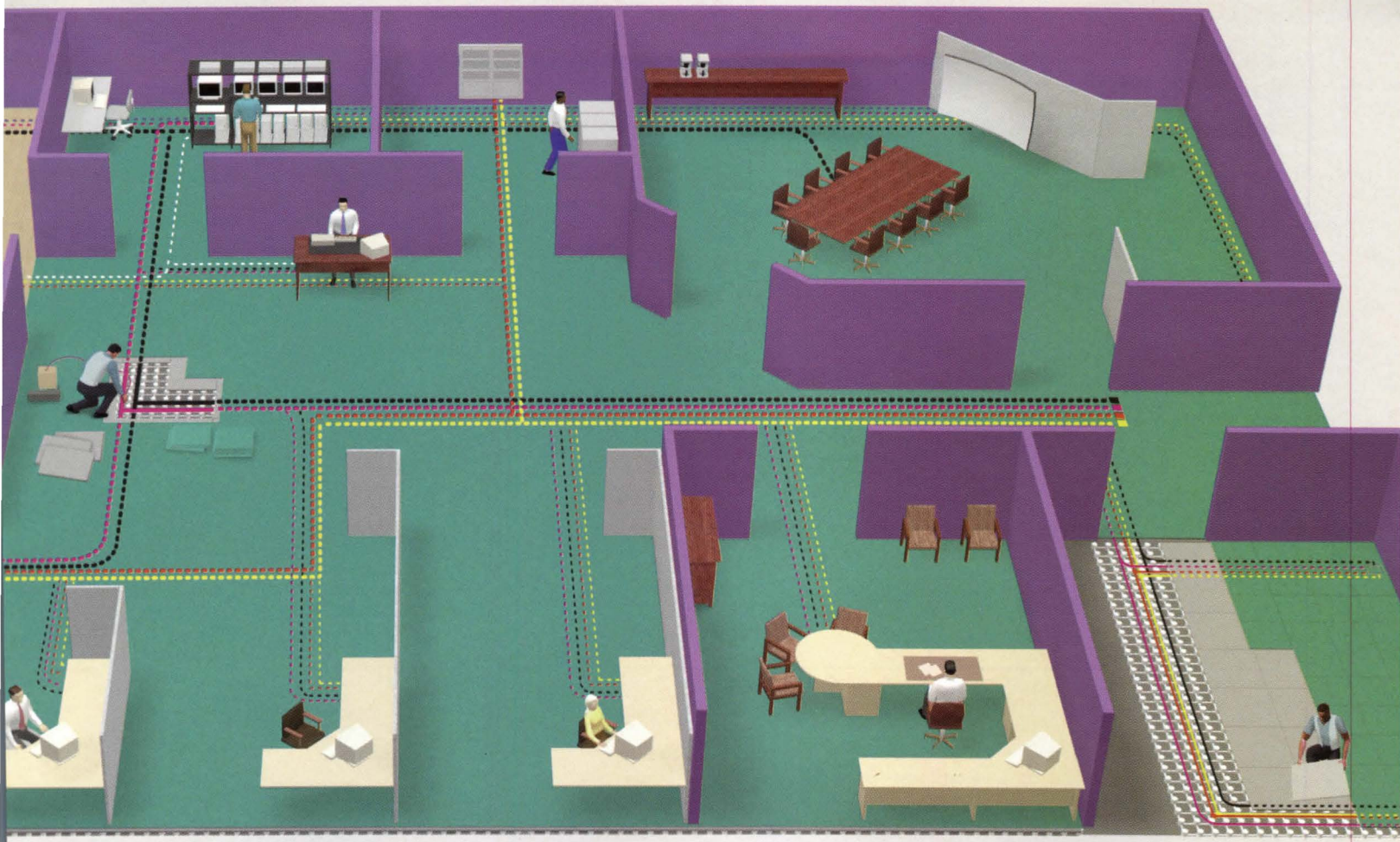
However, as Ken Lunstead, an architect with Gensler in New York City, points out: "In trading floors,



Raised floor enables communications, computer, and electrical wiring to be efficiently distributed and maintained (above). Each color represents a different service being directed to offices and meeting rooms from a single closet.



Electrical cables installed between plastic supports of raised floor tiles (below) are separated from telephone and computer cabling.



data centers, and other high-tech installations, architects must go with conventional thicknesses of 8, 10, 12 inches or more, since the narrower floors just aren't deep enough to handle all the required cabling."

New capability standard

The broader applicability of access floors has been boosted by the greater flexibility introduced by the 1996 change in the Electronic Industry Association/Telecommunications Industry Association's 568 standard for telecommunications cabling. This revision eliminates the need to change the full length of wire from an individual workstation to a telecommunications closet when rearranging furniture. An interruption placed in the cabling makes connecting to and disconnecting from a network simpler than ever.

Unfortunately, the introduction of this new standard doesn't mean that voice-and-data functions will become just as easy to "plug into" as ordinary electrical service—extensive retesting may still be necessary after some reconfigurations. It will, however, reduce a company's dependence on outside contractors to rearrange electronic equipment and furniture by allowing owners to make simple changes on their own.

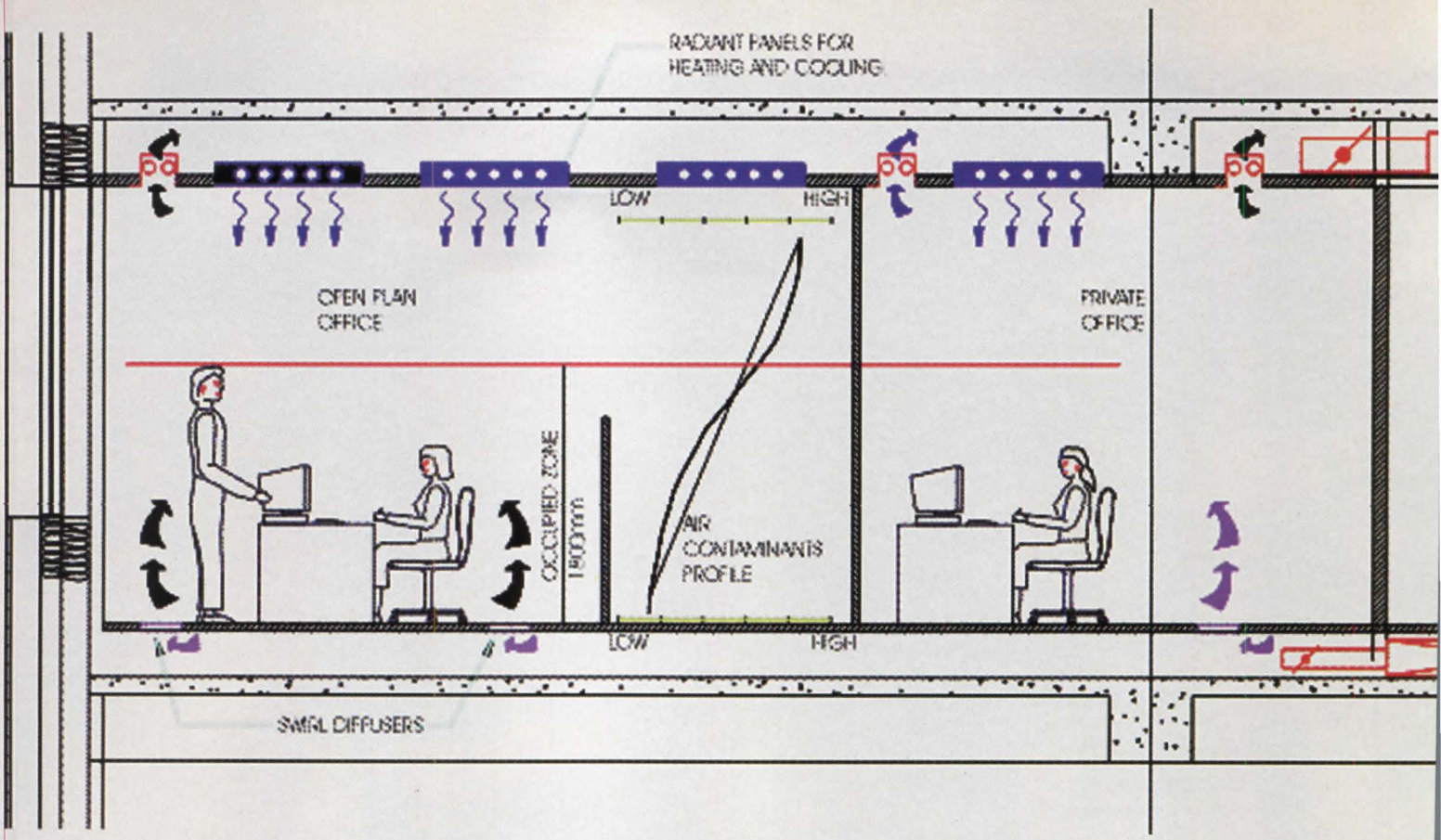
Under-floor ventilation

Reduced-depth access floors cannot be used as combined air plenum/electrical/telecom delivery spaces. They're too shallow to handle the air volume, which typically requires a depth of at least 12 inches under floor tiles if the plenum is delivering all air for the space, or 6 to 8 inches if the HVAC system combines under-floor ventilation delivery with radiant cooling/heating panels. Where space is available, under-floor ventilation systems offer significant benefits, including improved indoor air quality, because they work by displacement.

In displacement systems, fresh air is delivered at floor level. The natural radiant effect of the human body causes the air to rise, gathering contaminants such as carbon dioxide and volatile organic compounds from carpets and finishes; stale air is then exhausted through grilles or return-air lighting fixtures in the ceiling.

Where under-floor ventilation is used in conjunction with radiant heating and cooling, it is possible to achieve a much more uniform level of comfort control than would be possible with conventional HVAC systems. Displacement systems are less drafty than conventional systems as they move less air to work properly. These systems also allow occupants to fine-tune their local environments by adjusting individual air diffusers.

The expense of access floors may be offset by construction cost savings resulting from reductions in floor heights when a displacement ventilation system is combined with



Sectional diagram of office shows combination of under-floor air system and ceiling-mounted radiant heating panels.

a radiant heating and cooling system. Because these combined systems move a smaller volume of air than traditional forced-air systems, a 6- to 8-inch clear raised floor is usually sufficient. Radiant heating and cooling panels can be located within the normal plane of the lighting system, 8 to 10 inches from the ceiling. By eliminating much of the ductwork required by traditional HVAC systems, floor-to-floor heights can be reduced—a significant cost savings in new construction. Reduced floor-to-floor heights also help make such systems a promising alternative for retrofits of older buildings with limited floor-to-floor heights.

In offices where more than 15 percent of workstations are reconfigured each year, the higher initial cost of raised floors is more than compensated for by the lower labor and construction costs of implementing changes. For example, since there's no ductwork involved in under-floor ventilation systems, changing the location of a ventilation grille becomes a relatively easy task—workers simply pull up the floor tile in which the grille is set and move it to a new location. Changes to electrical and telecommunications systems are also simpler and less expensive to perform with the modular wiring systems used in access floors.

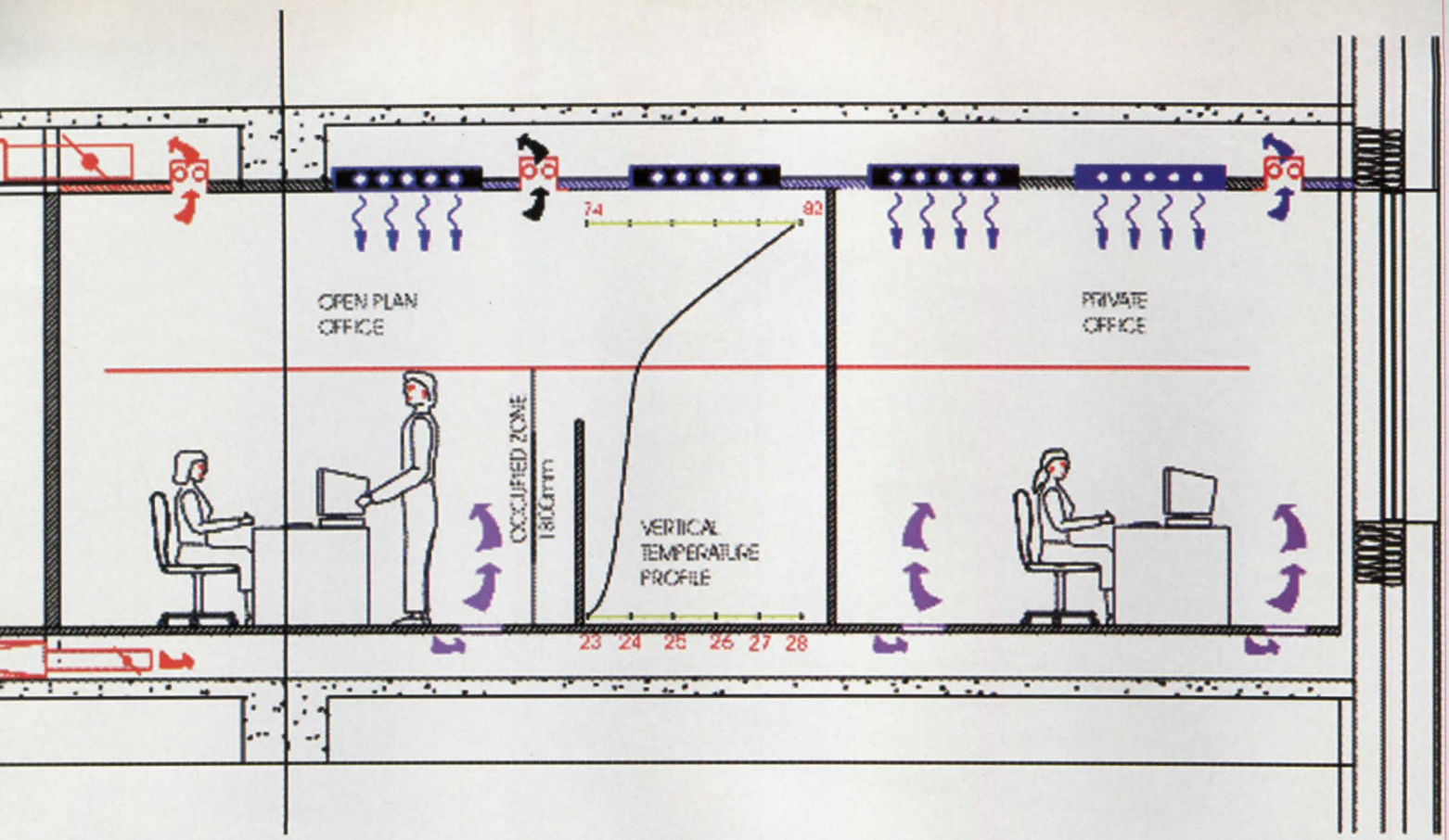
Combined air displacement/radiant systems can potentially reduce overall energy use by 30 percent. Additional savings may result from the lower costs of maintaining cabling installed beneath access floors by in-house staff, reducing dependence on outside contractors.

Peer-to-peer controls

More big news in systems integration concerns the standards that allow different automated building functions such as temperature control, lighting, and security to communicate. Until very recently, almost all systems and devices produced by different manufacturers have used proprietary protocols. These protocols restrict the ability to mix and match discrete systems to achieve the most flexible and cost-effective combination for each building. The situation is changing dramatically as more manufacturers are incorporating standards-based protocols into their control and monitoring devices.

The widening use of standards-compliant equipment in building-control devices has revolutionary implications. Such peer-to-peer devices—so called because they can "talk" to one another as equals—permit extremely decentralized networks, greatly enhance system flexibility, and give owners and architects more control in selecting systems that are appropriate to and cost-effective for specific needs.

As these new standards become more widespread throughout the



Floor-mounted diffuser, manufactured by TITUS (below), supplies ventilation from underfloor ducts. Cables located beneath raised floor tiles are connected to workstations through openings in grommets (bottom).

building-controls industry, and as the price of the equipment used in peer-to-peer systems decreases, new kinds of devices for monitoring and controlling building functions will proliferate. This prospect might cause some architects to cringe because of the difficulty of positioning multiple devices made by different manufacturers in an esthetically pleasing and coherent way. But the news isn't all bad. The smaller size and simplified networking requirements of such devices will make it easier for designers to install the devices wherever they want or conceal them in furniture.

Architect-engineer alliances

Intensive collaboration between architects and engineers takes on critical importance in complex projects such as retrofitting older buildings not wired for high-tech equipment. As Architectural Alliance's Tom Hysell points out, "We need the engineers' expertise to determine where access floors are necessary, and where we can integrate the engineering systems with the building—for instance, by making an exposed cable tray an architectural element."

The advent of increasingly sophisticated technologies makes it more important for architects and engineers to maintain good rapport and smooth communication. For architects involved in office design, understanding what each of the advances in systems integration permits—and doesn't permit—is crucial. Because architects so often take the lead role in design projects, this basic understanding helps ensure that clients receive cost-effective systems that best suit their long-term needs.

Principal James L. Standish and Senior Associate Kenneth Silver work for Flack + Kurtz Consulting Engineers in New York City.

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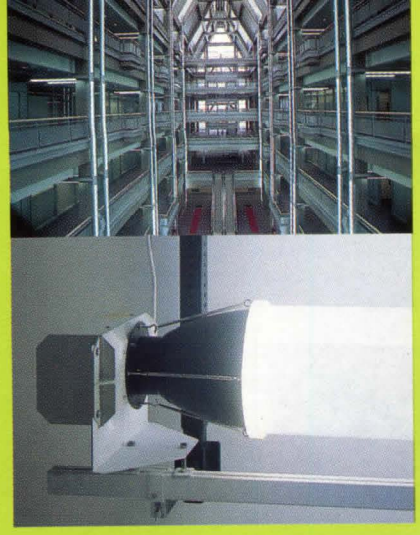


1

1 Light Pipe
3M's light pipe is a hollow acrylic or polycarbonate tube that encases a layer of optical lighting film. When attached to a light source, the pipe distributes illumination along its length through prisms on its surface. 3M claims that this efficient light distribution is more cost- effective than traditional bulbs, as fewer fixtures are required. The light pipe can be used with a variety of High Intensity Discharge light sources. *Circle 292 on information card.*

2 Recessed Luminaire
This spring, Lightolier unveiled a new recessed fluorescent ceiling fixture, called Alter, for commercial and office applications. When installed in ceiling cavities, the luminaire purportedly limits shadows by providing balanced brightness with a combination of direct and indirect lighting. Alter requires bitube or linear T5 fluorescent lamps. *Circle 293 on information card.*

2

Illuminations

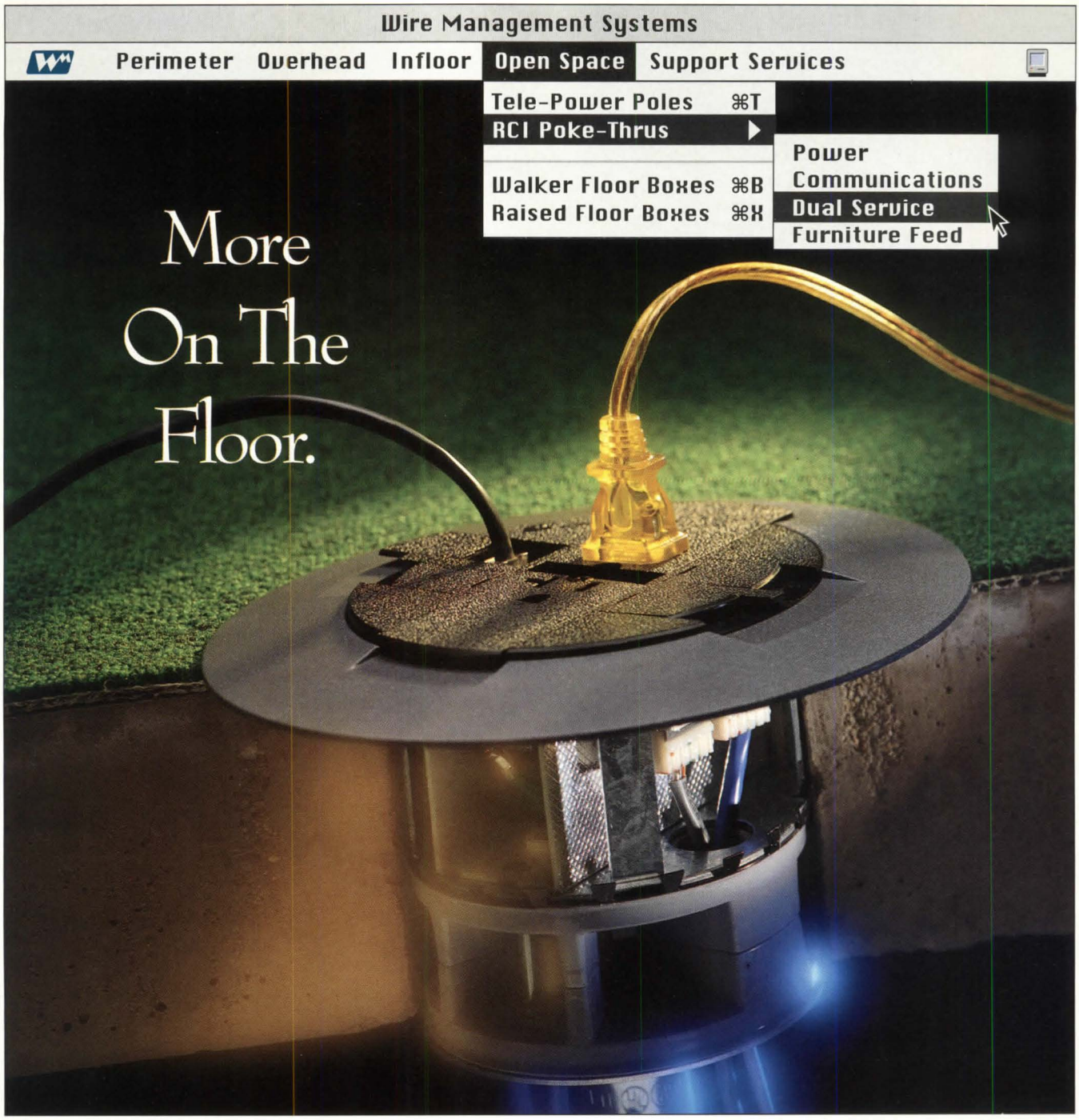
Lighting efficiency is maximized with improved fluorescents and fiber-optic fixtures.

3

3 Fiber-Optic Sources
Fiberstars recently introduced its Fiberescent FE-9000 series of six small-scale point-source fiber-optic light fixtures for commercial and residential lighting applications. The series comprises three models of miniature fiber-optic end treatments: semirecessed or domed heads, and heads featuring Swarovski crystal. Semirecessed and domed models are available with 1/2-, 1-, and 2-millimeter apertures; crystal models measure 15 or 30 millimeters in length. All models include standard or custom color wheels and are available with gold- or silver-plated trim.
Circle 294 on information card.

4 Color Filters
Edison Price's new line of color filters for recessed accent lights and track fixtures includes two new hues: Daylight Blue, created for Richard Meier's Getty Museum, blends with ambient daylight for crisp museum and gallery lighting; and Surprise Pink, a subtle rosy hue that purports to enliven skin tone. Standard red, amber, green, and blue filters complete the series, which is designed for use with recessed accent lights and track fixtures and available in four standard diameters. The filters' surfaces are stippled for smooth and even light distribution and heat-treated for use with halogen PAR lamps of up to 250 watts.
Circle 295 on information card.

4



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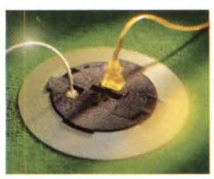

Individual slide covers keep out dirt and debris. Unique EMI/RFI shielding drains interference into the conduit system. And, encapsulated intumescent material maintains the fire rating of the floor.

The RC2001 is just one of many Wiremold wire management solutions: overhead, perimeter, and infloor products that blend performance, installation efficiency, and elegance — while providing flexibility and accessibility well into the future.

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Circle 95 on information card

1

1 Air Filters
Farr Company's new box air filter contains no wire or steel, making it easy to recycle. The manufacturer claims the fiberglass filter reduces pressure drop, increasing air flow for more efficient operation. The E-Series RIGA-FLO is available in three ASHRAE efficiencies: 65, 85, and 95 percent.
Circle 296 on information card.

2

2 Radiator Panel
Panel Radiator recently introduced a new line of four styles of heat-panel radiators that feature a flat tube design for wall, ceiling, or perimeter installations. Radiators can be specified to curve with an 8-foot minimum radius. The radiators are available in six colors with optional custom color matching. Panel Radiators utilize standard supply-and-return and piping connections.
Circle 297 on information card.

3

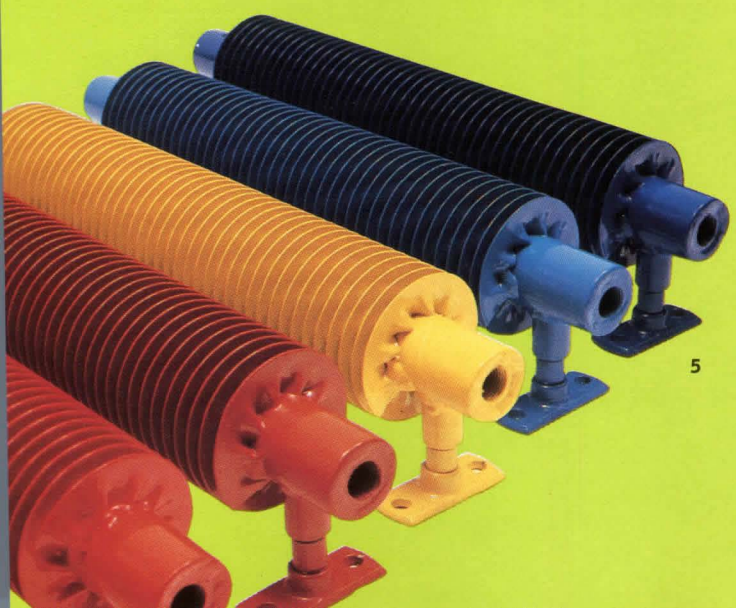
3 Radiator Cover
Sterling's Versa-Line is a mix-and-match commercial radiator cover system that comprises 12 styles of radiator enclosures that are available in varied lengths, depths, and heights. The manufacturer claims Versa-Line is effective in high heat loss areas; radiators were integrated into a multistory glass wall at the Sheraton Hotel in Cambridge, Massachusetts (pictured).
Circle 298 on information card.

Climate Control

New HVAC components upgrade air quality through filters and controls.

4 Temperature Control
Research Products Corporation's PerfectTemp zoned temperature control system comprises control panel, thermostat, and dampers. PerfectTemp control dampers allow a small amount of air to escape into unconditioned zones, releasing duct pressure and purportedly eliminating the need for a bypass damper system. Round or rectangular dampers are available.
Circle 299 on information card.

4



5

5 Circular Radiators
Floor-mounted Flowform radiators from British manufacturer Bisque feature stacked circular fins and can be placed along a wall, curved into an alcove, or installed as a freestanding screen. Previously available in semigloss white or matte black, Flowform radiators are now offered in chrome, nickel, and gold finishes, and additional colors can be custom-matched. Available lengths are 1/2, 1, 1 1/2, and 2 meters, with a height of 130 millimeters. Heat outputs range from 235, 470, 705, to 940 watts.
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Andrew Lautman, photography

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Custom Houses

When it comes to designing a house, the client is always right.

Architect George W. Christensen remembers when designing a house with a dishwasher was considered innovative. Today, the Phoenix-based practitioner, who has spent the last 45 years designing custom houses, has a full-time employee devoted to coordinating the myriad security, computer, television, stereo, and intercom system needs that clients now routinely demand in their custom houses.

Elaborate electronic networks are only a small part of the ever-increasing complexity of custom houses. Architects have always designed residences customized to the hobbies, passions, and pursuits of their clients. These days, however, high-end consumers may rightly claim that they are only constrained by their imaginations. Very few architects today can corral a client's idiosyncracies by claiming a product does not exist or that a particular fantasy is too elaborate.

For Charlottesville, Virginia, architect Peter Waldman, that meant designing a house for a Houston couple that wanted his-and-her offices and exercise quarters on opposite ends of the house with a space in between for the husband to sing opera to his wife while she swam in the pool. A love of opera also figured into the design of a home by Barry Berkus, principal of B3 Architects & Planners. A Pasadena, California, couple enjoyed entertaining guests with opera, so Berkus designed the living room with walls that would open to an outdoor amphitheater and transform the living room into a stage.

Architects are called upon not only to accommodate the lifestyles of their custom house clients, but to completely alter their surroundings. A woman living on a South Texas ranch wanted to create a lush, edible garden within her house to contrast with the arid range outside. Principal Ted Flato of Lake/Flato Architects employed a flood-irrigation system to connect the house's large courtyard to an environment capable of sustaining a variety of plants.

A design for a custom house may also come from a favorite place or a photograph, regardless of its relationship to context. Christensen recalls a couple who were so enamored of the thoroughly traditional Ralph Lauren boutique in Manhattan that they wanted their $2 million custom house in Arizona to be designed in a similar style— without a living room.

In some cases, the house may even be customized for someone other than the owner. Los Angeles architect Mark Mack designed the floors in every room of a California custom house in a different texture so that the owner's blind cat would recognize each room. So, a metal floor was installed in the kitchen, a leather floor in the living room, a wooden floor in the dining room, concrete in the hallways, and carpeting in the bedrooms. "It looked eclectic," says Mack. But perhaps it was too eclectic: "I think as soon as the house was finished, the cat died."

One New York couple was so devoted to their pot-bellied pig that they specified a separate room and courtyard for him in their new home, reports Principal Wayne Berg of Pasanella+Klein Stolzman+Berg. At the couple's behest, Berg asked an elevator manufacturer if a special button could be installed at snout level to give the pig access to the second floor.

Elevator access for a pet pig is a long way from the "innovative" dishwasher in the kitchen. Architects who design custom houses today practice in an age where almost anything is possible. Whether the design is sensible is a question that only the client can answer. *Michael Maynard*

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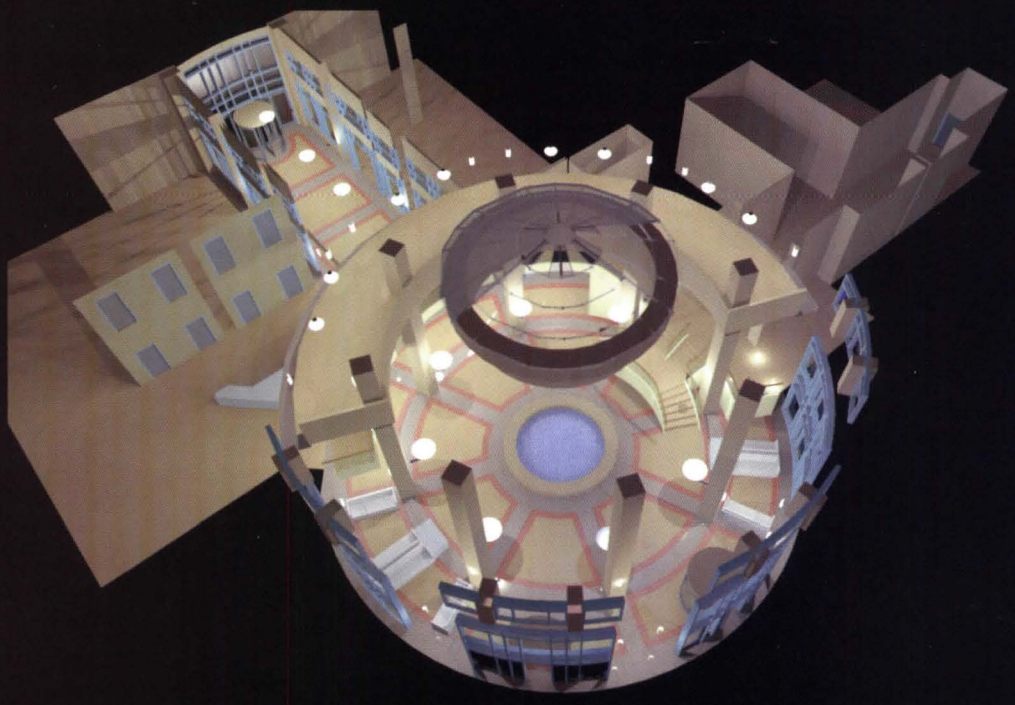
BEST ARCHITECTURAL CAD



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