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BUILDING TYPES STUDY: RECORD APARTMENTS 1981

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ARCHITECTURAL RECORD

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THE RECORD REPORTS

Contracting for new construction declined 6 per cent in April. According to George A. Christie, vice president and chief economist for the F.W. Dodge Division of McGraw-Hill Information Systems Company, "April's dip in construction starts was hardly a surprise in the light of recent credit-market developments. The decline, which affected all categories of construction, was an extension of the double-dip recession for construction markets which

Contracting for new construction declined 6 per cent in April. According to George A. Christie, vice president and chief economist for the F.W. Dodge Division of McGraw-Hill Information Systems Company, "April's dip in construction starts was hardly a surprise in the light of recent credit-market developments. The decline, which affected all categories of construction, was an extension of the double-dip recession for construction markets which began almost immediately after last winter's resumption of monetary restraint." April's $5.3 billion of nonresidential building contracts showed a decline of 6 per cent from the March rate of contracting. Residential building contracts, valued at $6.6 billion in April, showed a 4 per cent seasonally adjusted decline from the March rate. At the end of four months, the cumulative value of all construction started in 1981 was $48.9 billion, a gain of 14 per cent over the same period in 1980.

The 25th R.S. Reynolds Memorial Award was presented to Hugh Stubbins and Associates, Inc., of Cambridge, Massachusetts, for Citicorp Center (RECORD, June, 1978) in New York City. The 914-foot-high office tower includes low-rise shops and offices surrounding an atrium, and an urban church. The Reynolds Award confers a $25,000 honorarium and an original aluminum sculpture by Eileen Aubi. This year's jury included Charles E. Schwing, Shozo Uchii, and William C. Muchow. Of Citicorp Center, they noted: "The project complements the urban scene in that it respects both the skyline, and the neigborhood and people at street level, while achieving an individuality."

This year's Arnold W. Brunner Memorial Prize in Architecture was presented May 20th to Gunnar Birkerts. The award is given annually by the American Academy and Institute of Arts and Letters and carries a $1,000 prize. Birkerts was born in Riga, Latvia, and graduated from the Technische Hochschule in Stuttgart, Germany. His most recently completed U.S. projects include: IBM Southfield Center (RECORD, October 1979), Duluth Public Library (RECORD, November 1980), and Corning Museum of Glass (RECORD, February 1981).

The 1981 Louis Sullivan Award for Architecture will be presented in October to the Henry Klein Partnership of Mount Vernon, Washington. The biennial award is sponsored by the International Union of Bricklayers and Allied Craftsmen, and carries a $5,000 cash prize. The award was established in 1970 "to demonstrate the concern of masonry craftsmen for architectural and environmental quality." This year's jury, chaired by Edward Larrabee Barnes, released the following statement: "The work chosen this year wears none of today's fashionable clothing. It is direct, earthy. The architect has solved problems of program, climate and site without studying the trend machine."

An exhibition entitled "Architecture and Ornament in Late 19th-Century America" will be at the Octagon in Washington, D.C., until August 30. The exhibit features original architectural drawings and artifacts by 19th-century American architects, including, among others, Richard Morris Hunt, Louis Sullivan, Frank Furness, and Burnham & Root. An illustrated catalog accompanies the exhibition, and is available for $7.50 by writing The Octagon, 1799 New York Avenue N.W., Washington, D.C.

Paolo Soleri's Cosanti Foundation will celebrate the 10th anniversary of the ongoing Arcosanti new-town project, and the 100th anniversary of the birth of philosopher/scientist/priest Pierre Teilhard deChardin, with a three-day conference/celebration September 19, 20, and 21. "Teilhard and Metamorphosis" will include panel discussions on "science, esthetics, history, theology, philosophy, politics, economics, and person," and music and performing arts events. The conference is being held in Scottsdale, Arizona, on the site of Arcosanti. For additional information and reservations contact: Arcosanti Events, 6433 Doubletree Road, Scottsdale, Arizona 85253 (602/948-6145).

The Society of American Registered Architects (SARA) invites submissions to its Artistic Awards Program. The competition is open to SARA members, and awards will be presented in the following categories: photography, graphic arts, murals and graphics, sculptures, and miscellaneous ("furniture, wall hangings, macrame, arrangements, etc."). Notice of intent to submit must be made by August 30, 1981. For further information contact: William E. Baldwin, ARA, 1981 Convention Chairman, SARA, 1100 Jorie Blvd., Oak Brook, Illinois 60521 (312/323-9710).

"Housing Design in Islamic Cultures" is a five-day (August 17-21) seminar for architects, environmental designers, and physical planners currently working or intending to work in Islamic countries. Lectures, group discussions, and workshops will explore "design approaches sensitive to local traditions, cultural factors, economic constraints, and development objectives, focusing on housing." For registration information contact: Office of Special Programs, Harvard Graduate School of Design, Gund Hall, Cambridge, Massachusetts 02138 (617/495-2578).

The official State Mint of France—The Paris Mint—has issued a commemorative medal honoring architecture. Sculptor Boris Bernstein designed the medal, which depicts "modern buildings and expressways" on one side, and "antique architecture and a small traditional village" on the other. The 2½-inch medal is being distributed in this country by International Government Trading Corporation, 575 Madison Avenue, New York, New York 10022.

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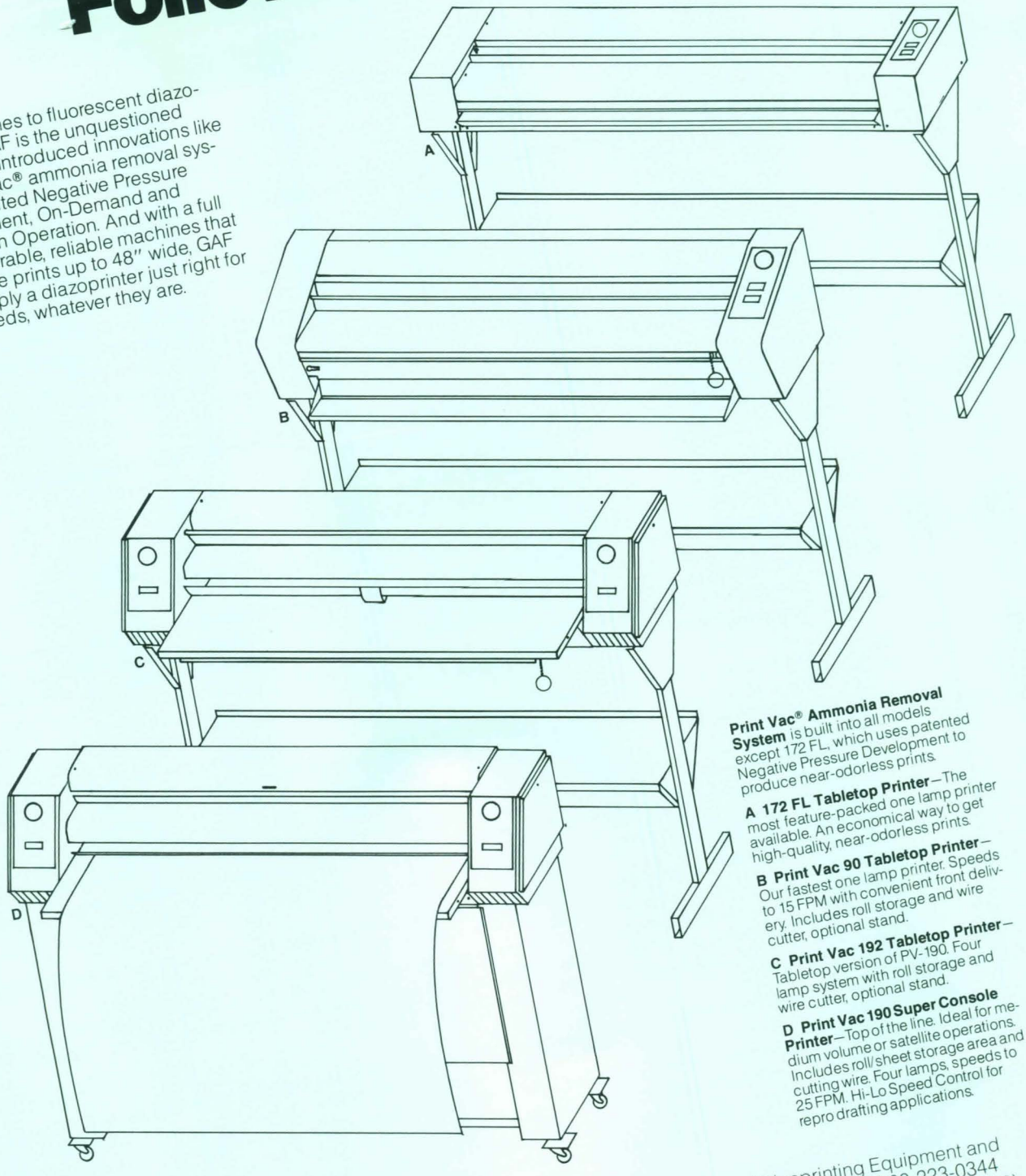

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AIA Convention: Some serious involvement in energy conservation

This year's convention was all about energy—and obviously the convention planners hit a responsive chord. The seminars on energy-conscious design were jammed, and the lecturers got good marks from most of the participants. The business sessions were, in comparison with past years, quite calm and peaceful—only a proposal to consider balloting by mail for AIA officers (instead of voting at the convention) stirred up much heated debate. There was no talk about the new voluntary statement of ethical principles—last year's hot potato.

This year's convention was billed as "A Line on Design and Energy." To an extraordinary degree, the program was related to design/energy concerns; and to an extraordinary degree the architects in attendance worked hard and long at their own education about energy-efficient design.

In addition to four theme sessions, all of which were well attended, the AIA inaugurated its new professional development program, "Energy in Architecture," with a series of 15 seminars on energy in design: techniques, management of the energy-conscious design process, solar heating and cooling, energy audits and retrofit, preservation and energy, lighting and daylighting, earth-sheltered design, energy-conservation-awards case studies, "Glass, windows, and energy," marketing energy services, energy economics, emerging technologies, computers in practice, and financial management. These seminars were repeated over the four days of the convention so that an artful planner could attend at least most. And they were jammed—with most seminars even on the final Thursday overflowing with over 100 participants each. Many of the architects who came to the convention clearly came to learn; and worked hard at it.

AIA has made a major commitment to this program; the first post-convention presentation of the workshop has already taken place in Fort Collins, Colorado; and the program—which adds up to 14 hours of instruction, supplemented by a 300-page handbook, case studies, and recommended reading—will be presented over the next few years in many locations.

The resolutions generated little controversy. Mail balloting for officers stirred some debate

The California Council, arguing that many members are unable or cannot afford to attend the national convention, and that AIA leadership should have "broad support of the membership," proposed "that the national Board of Directors study the advantages and disadvantages of voting for national officers by mail and . . . report to the delegates at the 1982 convention." At present, of course, nominees for national office are voted on by delegates at the convention. Members of the sponsoring California Council argued that the present system is "elitist," that videotaped position speeches by the candidates would be at least as good a way to "know the candidate" as the present seconding speeches and brief caucuses. The resolution was defeated firmly by voice vote, though the California group seemed determined to raise the issue again.

Last year, the Convention passed a resolution "That the Board . . . give first priority to the question of the future principles and purposes of the AIA, and the appropriate roles of the local chapters, regional components, and the national organization . . . [and] prepare and distribute . . . a plan and schedule maximizing local and regional as well as national involvement in the re-evaluation." The strong vote on that 1980 resolution made clear that the local, state, and regional chapters were calling for a stronger voice in establishing the national AIA's programs and priorities. There has been fairly active follow-up on this important resolution since last year's Convention: the Board established a five-person task force to implement the resolution, and it supervised discussions with component leaders across the country on their specific goals and their ideas about division of responsibilities and initiatives among local, state, regional components and national. That work proceeds.

At this convention, a follow-up resolution by the Dallas Chapter and the Texas Society supported the resolution of last year but proposed quite specifically that the Board "coordinate a comprehensive *goals* program which, through the use of recognized goal-setting techniques, would establish fundamental goals for the program undertaken by the Texas Society last year (see editorial, June 1980). The debate centered on whether specific *goals* should be set, or whether the more general formalization of the proper *role* of the AIA was not sufficient. The argument that goals need to be continuously re-established appeared to be the main force in a negative vote.

In other action on resolutions, the delegates:

- Voted down a resolution that would have admitted to associate membership "any graduate of an accredited college of architecture . . . regardless of the nature of his or her employment." The argument was that many young graduates cannot get work in architects' offices because of "the cyclical economics of the construction industry."
- Passed a resolution directing the Board to refer to the AIA Practice Commission a Roofing Design Minimum Standards prepared by the Central New York Chapter, "for review and possible inclusion into future editions of the National Roofing Contractors Association Manual." There was some argument that this resolution would put AIA into the standards-setting business—and "where would it stop?" But the argument that the document is only a design aid in an area subject to heavy litigation carried the day, and the vote.
- Passed a resolution stating that "The AIA opposes the recently adopted NCARB resolution which would require an individual to have a professional degree from an accredited school of architecture as a mandatory requirement in order to be eligible for NCARB certification. [Registration would still be possible without a degree requirement.] Further, the AIA respectfully requests that NCARB modify said resolution to allow for experience and examination equivalents." This action is consistent with many recent AIA actions to "accommodate those individuals who have established their qualifications through equivalent means. . . ."

Code of ethics and design-build were little discussed

Last year there was extensive debate on the matter of bowing to Justice Department pressure to abandon the Institute's mandatory Code of Ethics and Professional Conduct and replace it with a voluntary Statement of Ethical Principles. After considerable debate, this fundamental change was made last year by a vote of 1280 to 801. The Board was empowered to write and issue the new voluntary Statement without further membership vote. Surprisingly, there was no discussion of the voluntary Statement

continued on page 37

AIA President Randy Vosbeck (right) presents the 1981 Architectural Firm Award to Hugh Hardy, Malcolm Holzman, and Norman Pfeiffer of Hardy Holzman Pfeiffer Associates.

Gold Medalists Buckminster Fuller (1970), Josep Lluis Sert (1981) and Ieoh Ming Pei (1979) philosophizing about design excellence with AIA President Vosbeck.

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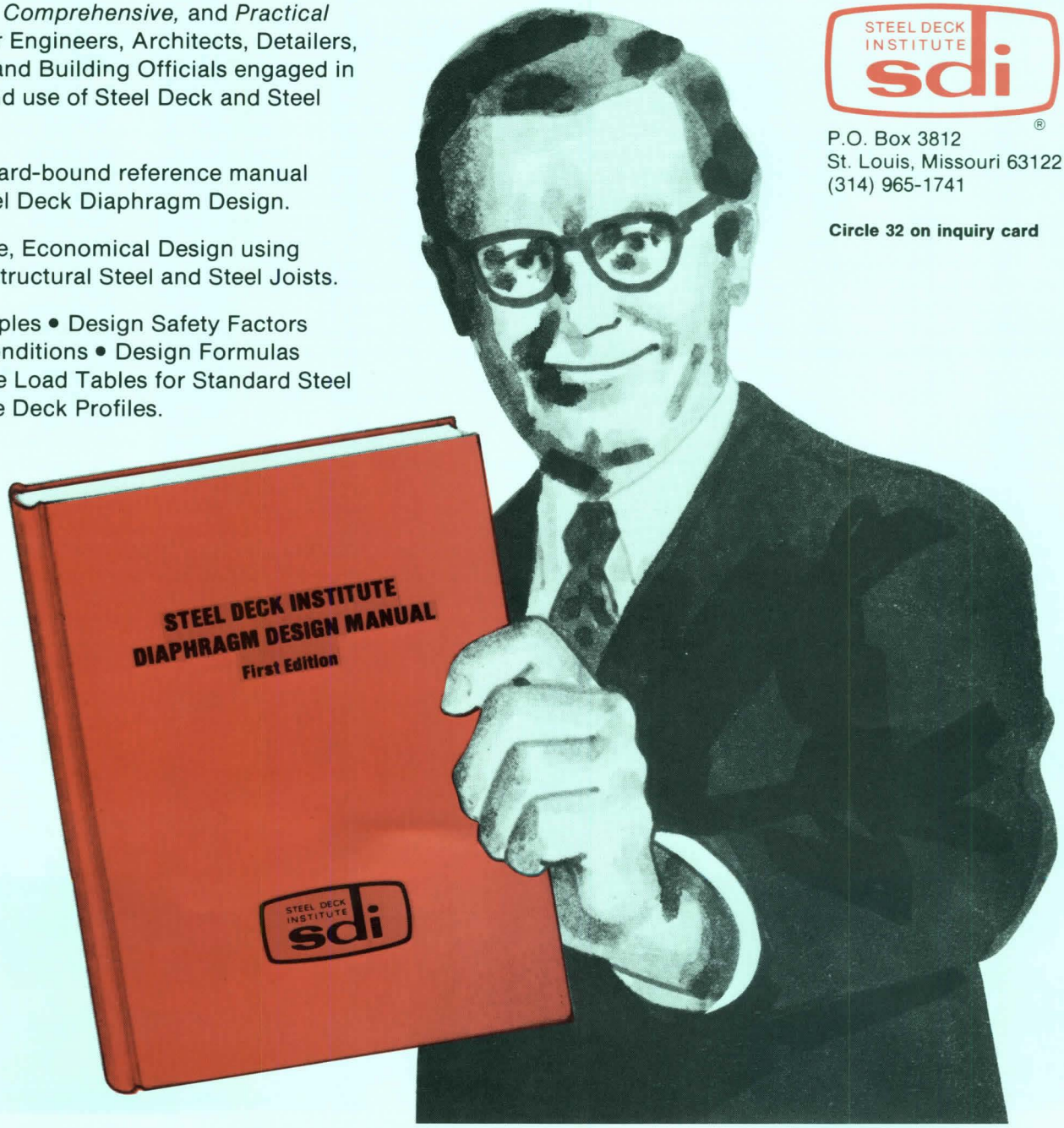

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at the Convention. Few copies were available, and the matter was not brought up under the Convention program or by questioning of any of the delegates. For comment on the new Ethical Statement, see editorial, page 13.

Another subject that highlighted earlier meetings but slid by this year was the final report of the Design/Build/Construction Contracting Monitoring Task Force. In an action related to the Code of Ethics issue, in 1978 the Convention voted to permit AIA-member participation in "profit or loss situations related to labor and materials in construction contracting"—in short, voted to permit members to design-build. This 1981 report was to be the final report of a three-year study monitoring the change (presumably, the action to permit design-build might have been reversed if widespread conflict-of-interest situations arose). As the final report points out: "The vote in favor of a voluntary Code . . . made the Task Force assignment academic." Nonetheless some questions remain, and are also discussed in the editorial this month.

Robert Broshar was elected first vice president/president elect

He will become president in December 1982, succeeding Robert M. Lawrence of Oklahoma City, the current first vice president, who becomes president later this year. Mr. Broshar is completing his second term as a national vice president, earlier chaired the AIA Education and Professional Development Commission, and served on AIA task forces dealing with registration, ethics, professional liability, and professional development. He has also served as a director of the AIA Foundation, and served as liaison with both the NAAB and NCARB. He is a principal of the 15-person firm of Thorson-Brom-Broshar-Snyder, Architects in Waterloo.

Also elected at the Convention were three national vice presidents—Ellis Bullock of Pennsylvania, James Nelson of Wilmington, and William Rose of White Plains, New York. Henry Schirmer of Topeka was selected as treasurer; Harry Harmon of Long Beach, California, continues as Institute secretary.

Robert Broshar, FAIA, of Waterloo, Iowa was elected first vice president/president-elect of the AIA. He will assume office in December 1981 and become president in December 1982.

New bill would speed up "slow pay" by Federal agencies

Late payments, one of the greatest frustrations for architects and engineers working for Federal fees, would be eased if legislation slowly winding its way through the Congress is finally approved. The legislation specifies that all Federal agencies must pay their bills promptly—within 30 days—or pay interest on the outstanding balance.

Congressional committees have gathered statistics showing that one-third of all Federal payments are delayed longer than 30 days. The General Services Administration is considered the prime offender—its payments are reportedly late 73 per cent of the time.

Sponsors of the bill, The Delinquent Payment Act of 1981, are Senators John C. Danforth (R-Mo.) and Lowell P. Weicker (R-Conn.). Their bill calls for the Treasury Department to establish the amount of interest penalty based on commercial rates.—*William Hickman, World News, Washington.*

AIA study of long-span-building failures reports no single common problem

A long-awaited study from the American Institute of Architects on the causes of long-span building collapses concludes that more theoretical and practical research is needed and that owners should adopt the practice of post-occupancy inspection of critical parts.

After probing five recent collapses of structures with large column-free interior spaces—such as auditoriums and sports arenas—the panel of experts reported that they were unable to identify a single cause for the failures. The panel, which began its work in October 1979, studied five structures which suffered collapses: C.W. Post Center Auditorium, Brookville, New York; Hartford (Connecticut) Civic Center Coliseum; Kemper Memorial Arena, Kansas City, Missouri; Rosemont Horizon Arena, Rosemont, Illinois; and the Berlin Congress Hall in Germany.

Chairman of the panel was former AIA President William Marshall Jr. Other participants were: architects Jerome M. Cooper, Leo A. Daly, and Ezra D. Ehrenkrantz; engineers Albert J. Gowens and Leslie E. Robertson, and Rolland M. Wilkening, engineer and president of Barton-Malow Company, a Detroit-based contractor.

The report of the group, entitled "Toward Safer Long-Span Buildings," called for the development of a special series of guideline documents and practice aids "to assist design practitioners in fulfilling the special requirements of long-span design and construction."

Designers also need to be aware, the report says, of the impact of secondary factors—snow loads and water pooling, for instance—and guidelines should be developed to review the architect's and engineer's structural design and calculations.

Finally, the report urges that the owners of long-span building should accept responsibility for periodic inspection and to "review inspection techniques to better control the post-occupancy process." The report is available free from Publications Distribution, AIA, 1735 New York Avenue N.W., Washington, D.C. 20006.

Tax legislation favoring rehabilitation advances in Congress

Tax legislation now under consideration by the Congress will, if approved, greatly encourage the rehabilitation of older buildings.

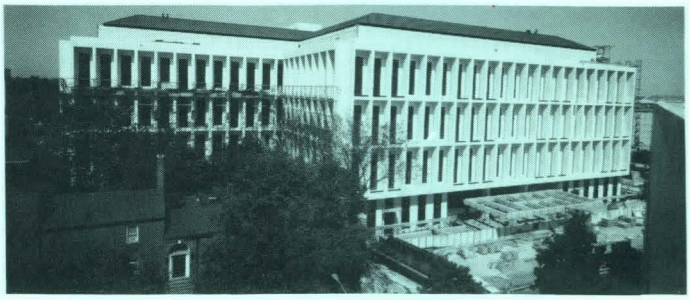
The proposal, which now has the endorsement of the Reagan Administration, is for a sliding-scale tax credit for rehab work in older buildings, ranging from 15 per cent for structures more than 30 years old to 25 per cent for certified historic structures.

Conference studies measurement of construction productivity

Construction industry productivity is declining—and government statistics suggest, surprisingly, that one reason is that the workforce is becoming younger. "Productivity goes up with age and experience," said Joseph R. Wright Jr., Deputy Secretary of Commerce, in a talk before a conference on research for building construction productivity, sponsored by the National Bureau of Standards and the National Chamber of Commerce.

Construction industry productivity is not accurately measured, Mr. Wright said; but at the conference a team of three Massachusetts Institute of Technology professors have proposed a new method of calculation that would refine data to specific types of buildings and contractors.

Gathering the data by construction project and type of construction contractor would "allow meaningful comparisons to be made between the various sectors of the differentiated and fragmented industry," said professors Henry C. Irwig, Robert D. Logcher and David T. Kresge.



97TH CONGRESS
1ST SESSION

S. RES. 140

Concerning the condition of the Philip A. Hart Senate Office Building.

IN THE SENATE OF THE UNITED STATES

MAY 19 (legislative day, APRIL 27), 1981

Mr. MOYNIHAN submitted the following resolution; which was referred to the Committee on Rules and Administration

RESOLUTION

Concerning the condition of the Philip A. Hart Senate Office Building.

Whereas in the fall of 1980 the frame of the new Senate Office Building was covered with plastic sheathing in order that construction might continue during the winter months; and

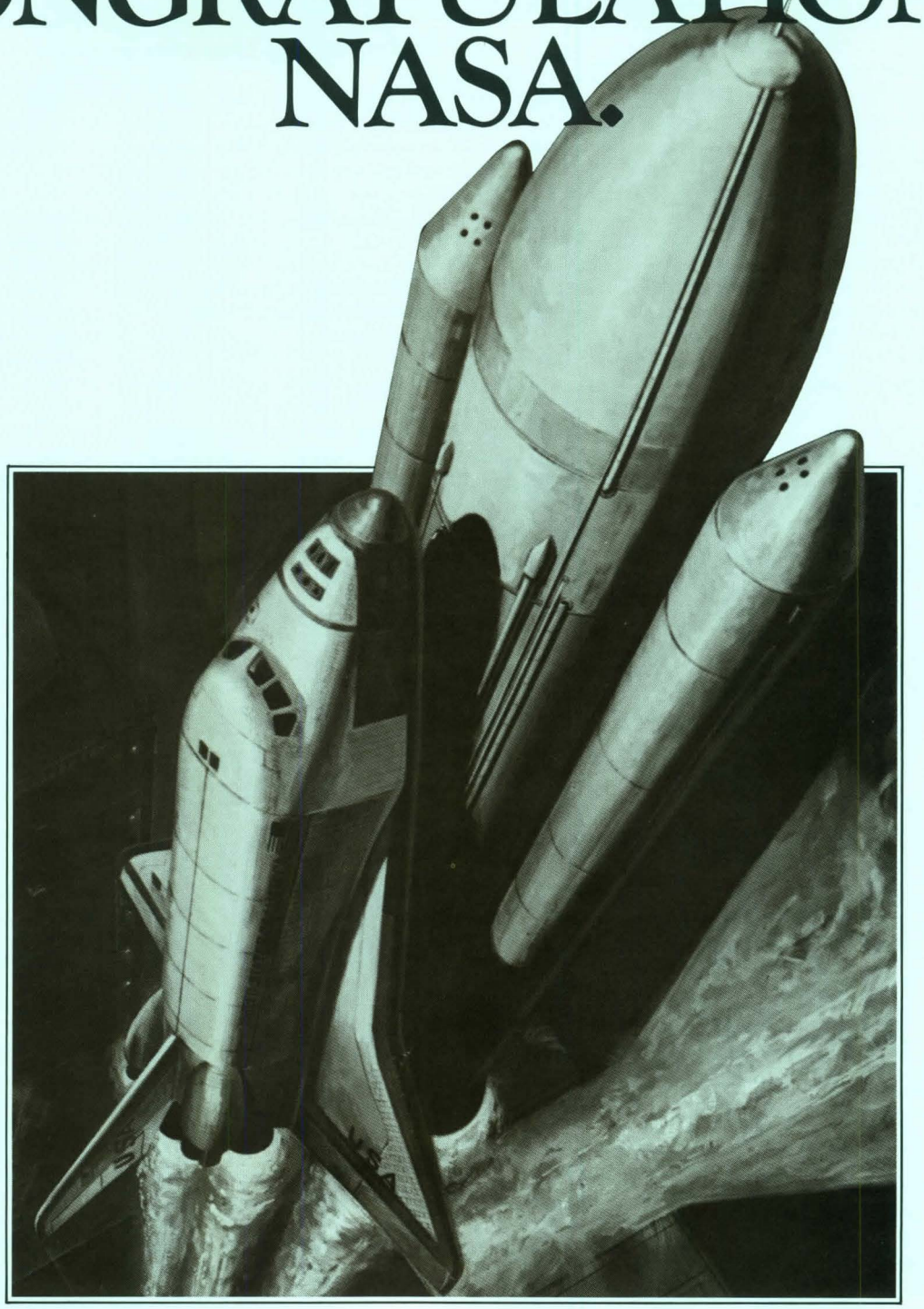
Whereas the plastic cover has now been removed revealing, as feared, a building whose banality is exceeded only by its expense; and

Whereas even in a democracy there are things it is as well the people do not know about their government: Now, therefore, be it

Resolved, That it is the sense of the Senate that the plastic cover be put back.

○

CONGRATULATIONS, NASA.



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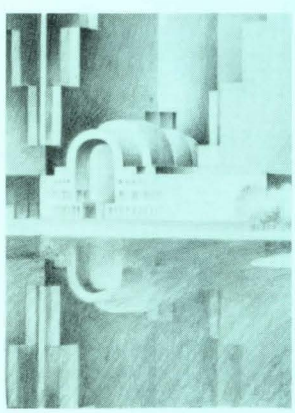
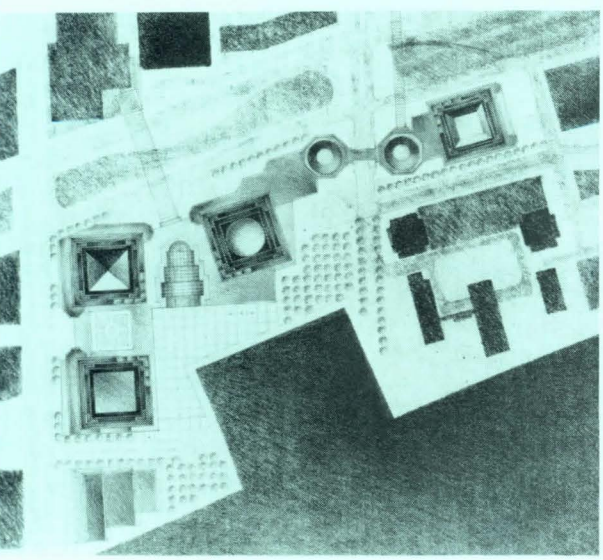
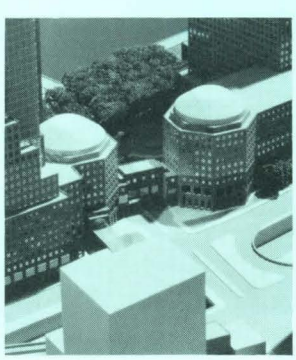
Last November, New York's Battery Park City Authority selected the Canadian-based Olympia & York Equity Corporation as developer of the "commercial core" of Battery Park City—a 92-acre landfill created between 1968 and 1976 at the southwest tip of Manhattan and slotted for commercial and residential development (RECORD, May 1981, page 37). Olympia & York, in turn, conducted a competition that included Davis Brody, Mitchell/Giurgola, Zimmer Gunsul Frasca, Kohn Pedersen Fox, and Cesar Pelli; in May, Cesar Pelli & Associates was named architect for the $1-billion commercial core development. Construction is scheduled to begin this December on the 14-acre site, adjacent to the World Trade Center and fronting the Hudson River, and, if all goes according to plan, 1987 will bring the completion of 6,000,000 square feet of office space, 100,000 square feet of retail space, and 150,000 square feet of recreation and exposition space. Four granite and reflective glass towers, ranging from 33 to 50 stories, will frame a 3.5-acre public plaza along the river; a glass-vaulted "winter garden" (photo below) will open onto the plaza. Two nine-story octagonal buildings with conical domes (photo below center) are intended as a "gateway" from the city to the commercial core. In a prepared design statement, Pelli contributes the following: "The towers have been designed to signal the return of the strength and power of one of America's inventions, the skyscraper. The form of the buildings derives from a synthesis of the prismatic form of the postwar high-rise building with the New York skyscraper of the '20s and '30s. The buildings are square in plan, and pure and prismatic in their innermost volume. Enclosing this inner volume, are stepped forms which cause the buildings to ascend visually."

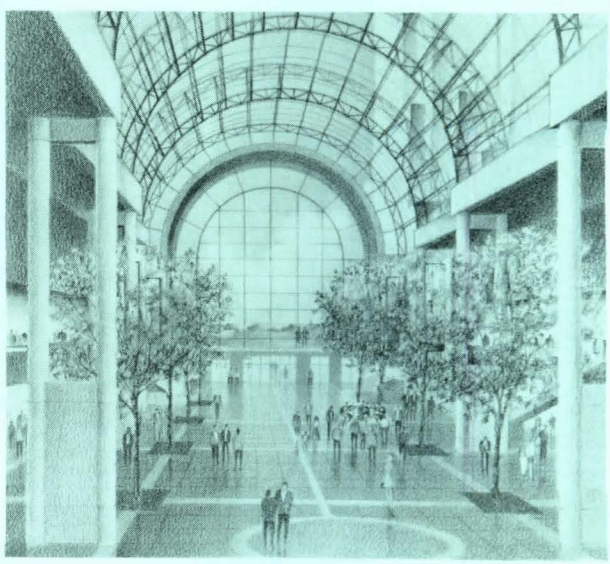
more buildings in the news on page 42

Cesar Pelli's winning design for "commercial core" of Battery Park City



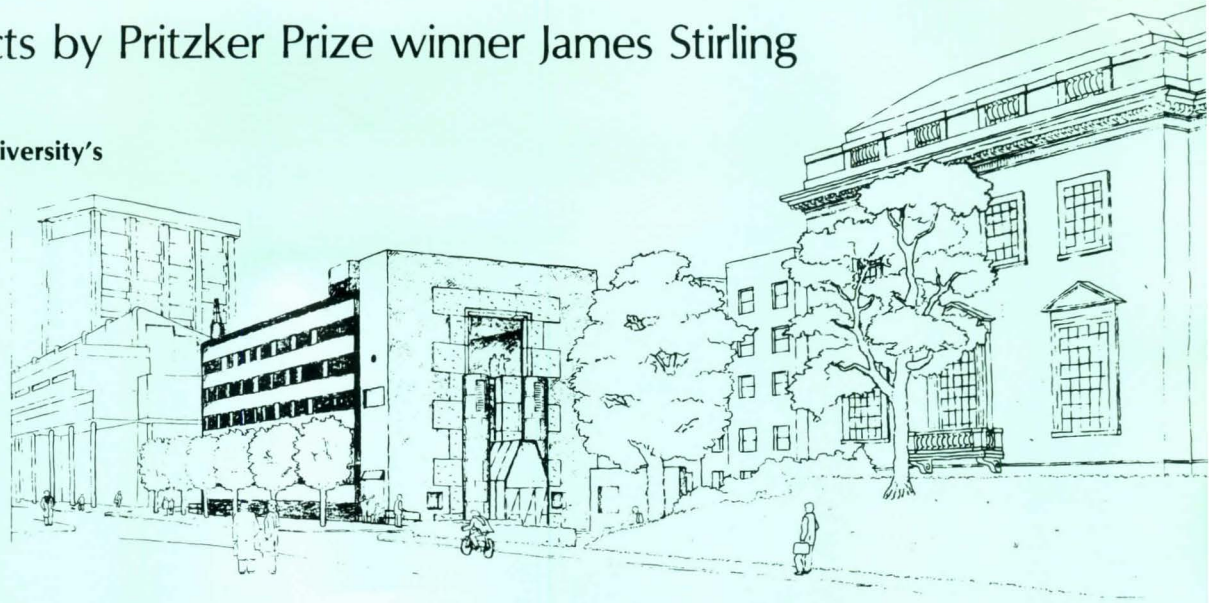




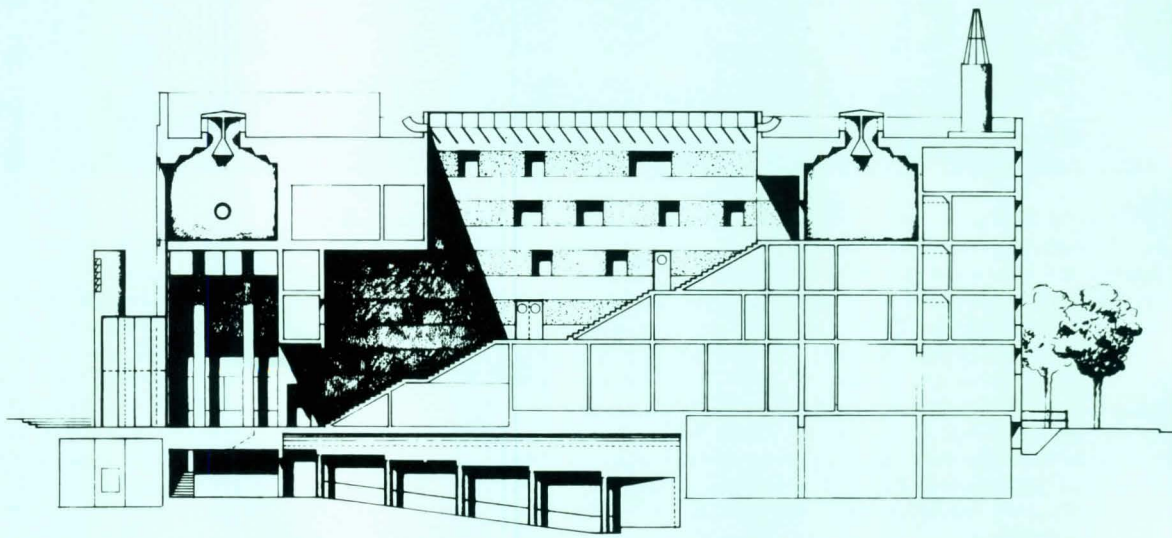


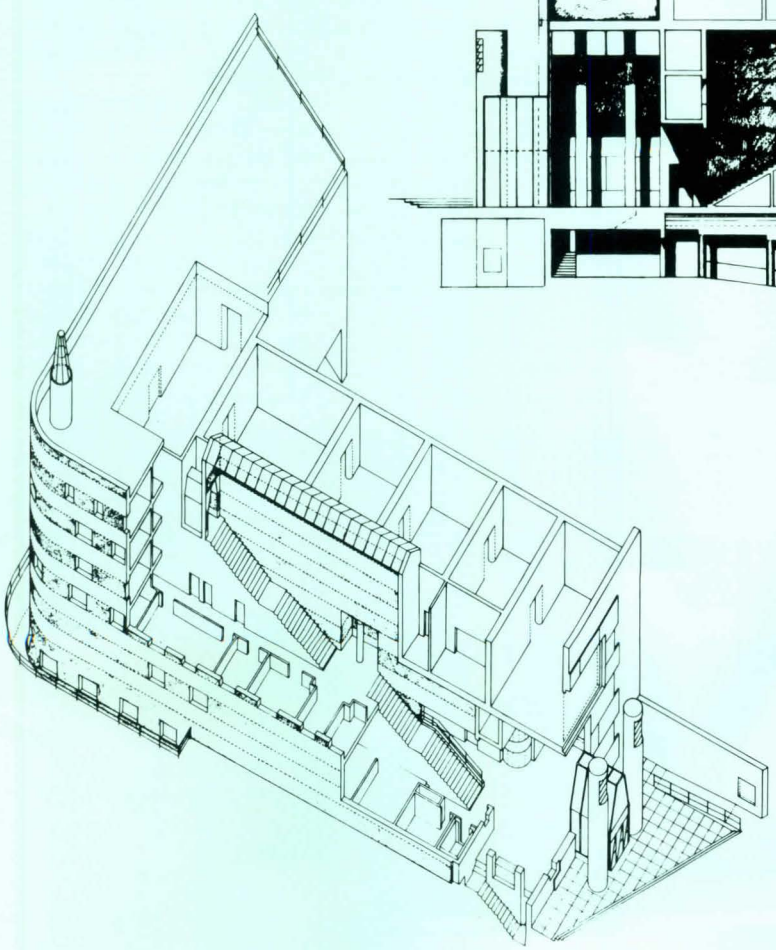
Two U.S. projects by Pritzker Prize winner James Stirling

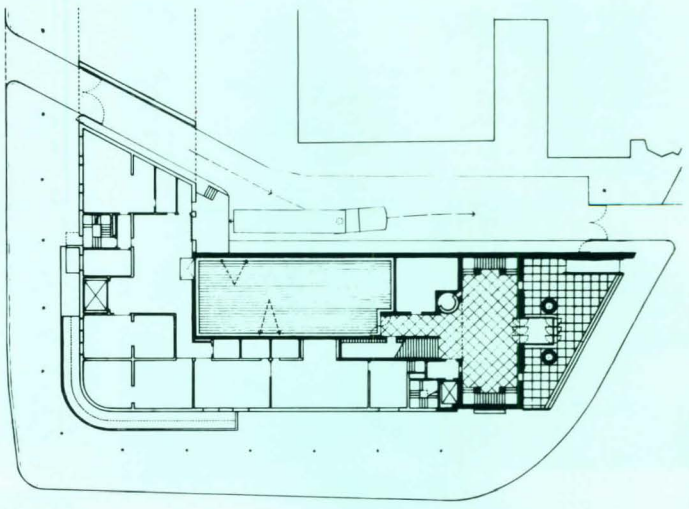
An addition to Harvard University's Fogg Art Museum



"The building has the feeling of a sort of car battery. It's incredibly dense—sometimes while working on it, I've had the feeling it's going to sink into the ground," declared British architect James Stirling in the April 15th *Harvard Crimson*. But rather than sink, Stirling's 38,000-net-square-foot addition to the Fogg will begin to rise this summer on an L-shaped site—a block and a half from Le Corbusier's Carpenter Center—between the existing Fogg and the Graduate School of Design. The new $5.9-million facility will add more than 75 per cent, or 11,000 square feet, to the museum's exhibition space, and house collections of Oriental, ancient, and Islamic art; additionally, space will be provided for special exhibitions, offices, curatorial and service departments, storage, classrooms, and library collections. The principal facade of the addition will face the north wing of the present Fogg, and contain the main entrance, marked by a glass entrance lobby and two "monumental functional" columns set into a paved forecourt. A continuous brick polychromed facade (Stirling has suggested pink and green) will run 160 feet along Quincy Street before turning on to Cambridge Street, where it will continue another 128 feet. The service drive and loading dock will be at the back of the building. The Fogg addition will be one of the largest facilities at Harvard open to the public on a regular basis. Visitors will enter into a "formal entrance hall" rising 34 feet from a stone floor; stairs at either side will lead to a 300-seat lecture hall on the lower level. A skylit staircase has been cut through the center of the building for access to all gallery levels; to the left of the stair will be five office levels, and to the right, the three public gallery levels. Opening off the entrance hall on the ground floor will be galleries for special exhibitions. The Fogg addition is scheduled for completion in 1983. Credit belongs to James Stirling, Michael Wilford and Associates in association with Perry, Dean, Stahl & Rogers of Boston, Massachusetts.

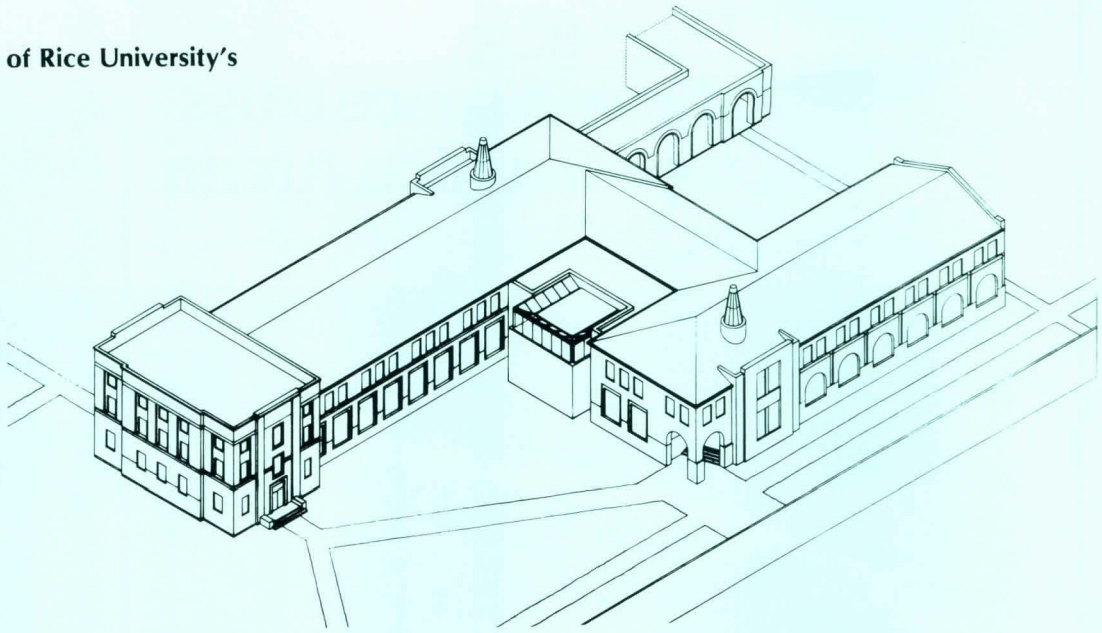


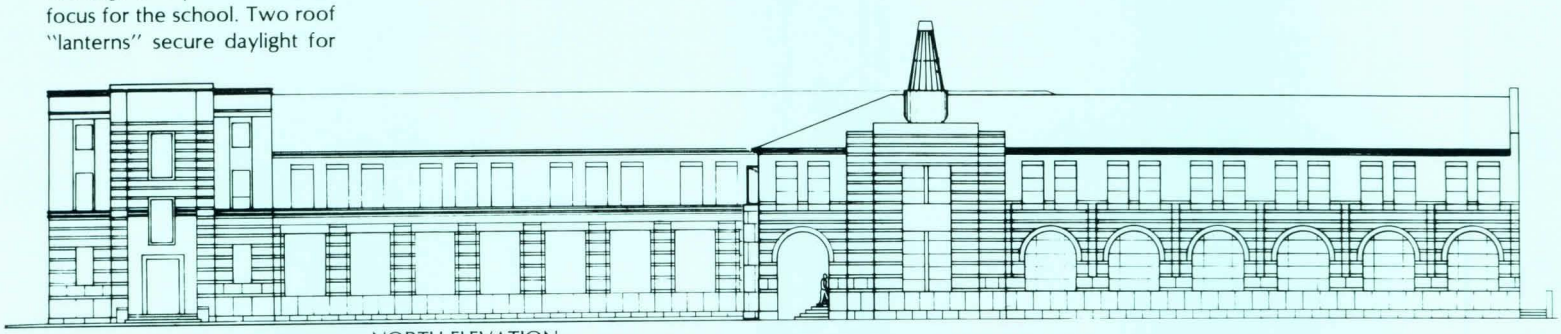




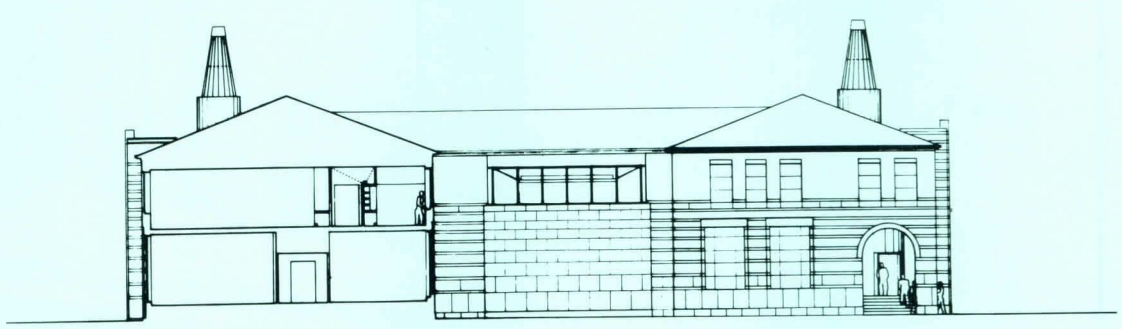
A renovation and expansion of Rice University's School of Architecture

The soon-to-be-completed addition to Rice University's School of Architecture signals not only Stirling's architectural entry into the United States, but also his first built entry into the swelling ranks of post-modernism. The new L-shaped building interlocks with Anderson Hall to form a three-sided courtyard with a garden facing west; the courtyard is bordered by a path leading from Fondren Library to a nearby lecture hall. Inside, a two-story circulation gallery and central exhibition/jury space integrate the new wing with the existing building, and provide a main focus for the school. Two roof "lanterns" secure daylight for the second-floor gallery and also register the termination of the gallery, on the exterior. A new main entrance—mirroring the existing entrance from the Fondren Library colonnade—is at the northeast corner of the addition, and opens directly into the gallery. Stirling provides the following design statement: "The design of the new facades maintains sympathy for the existing campus style while making a contemporary architectural statement. The treatment of masonry and window openings makes reference back to the style of Cram, Goodhue and Ferguson's original buildings. The existing eave line, primary string and shiner courses are carried through the facades of the new building and it is intended to match as far as possible the facing brickwork, stone trim and clay pantiles. The first floor of the south facade is articulated with stone panels containing large arched windows reflecting the openings and materials of the colonnade between Anderson Hall and Fondren Library. The second-floor windows match the size and proportion of the upper windows in the existing building." Credit belongs to James Stirling, Michael Wilford and Associates in association with Ambrose and McEnany, Architects.



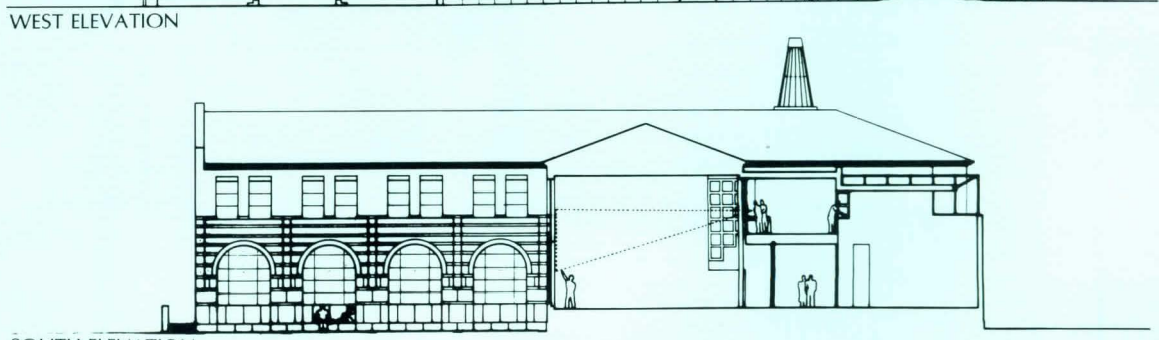


NORTH ELEVATION



EAST ELEVATION

WEST ELEVATION



SOUTH ELEVATION

Four-acre skewed space truss tops Reunion Arena in Dallas.

Credits:

Owner: City of Dallas, Texas

Construction Manager: Henry C. Beck Co., Dallas, Texas

Architect/Engineer: Harwood K. Smith & Partners, Inc., Dallas, Texas

Consulting Engineer (Space Truss): Dr. Paul Gugliotta, New York, N.Y.

Steel Fabricator: Mosher Steel Co., Dallas, Texas

Steel Erector: John F. Beasley Construction Co., Dallas, Texas

Project Facts: Reunion Arena, Dallas, Texas

Cost: $24 million
Roof Dimensions: 420 ft x 420 ft
Steel Truss Weight: Approximately 2,600 tons
Unit Weight: 27 lb/sq ft
Steel Grades: ASTM A572 Grade 60 and A36
Steel Supplier: Bethlehem furnished more than 2,000 tons of structural shapes

The Arena's 176,400-sq-ft space truss is supported on eight 6-ft-diam columns. The roof has a 412-ft clear span and overhangs the substructure by 4 ft on each side. The frame's corners cantilever 70 ft from the column line.

Back-lit at night, the space truss appears to float above the seating substructure. Nearly 1,900 steel members were erected individually to complete the roof structure.

Steel box sections embedded in 5-ft-high column caps are bolted to the space truss with 3-in.-diam anchor bolts. Four-foot-square elastomeric pads accommodate rotation at each connection.

Reunion Arena, a 17,200-seat sports and show place in Dallas, Texas, is housed under the largest space truss in the world. Located at Reunion Place, a theme area reflecting the city's mixture of old and new, the new arena joins the 50-story Reunion Tower and mirrored glass-clad Hyatt Regency Hotel.

Skewed space truss covers 176,400 sq ft

According to the space truss consulting engineer, Dr. Paul Gugliotta, "The skewed space truss is more efficient than a two-way truss system for spanning long distances. With the space truss, the loads are spread more evenly over many members rather than just a few. The two-way truss system tends to concentrate loads in the nearest trusses.

"Skewing the space truss grid 45 degrees in plan stiffens the corners and reverses the stresses across them, effectively reducing the midspan moments and deflections. This action is similar to that in continuous beams with cantilever end spans that reduce the midspan moments. Member forces are correspondingly reduced."

A hybrid structure

The space truss, having a unit weight of 27 lb/sq ft, is based on a 36-ft 5-in. module and an 18-ft 10-in. centerline depth. Top and bottom chords are parallel and staggered from each other in plan one-half module in each direction. The nodes (shop-welded joints of wide-flange members) allow the chords and diagonals to be field bolted in place without any reduction in section area or strength.

The top and bottom chord members are fabricated of A572 Grade 60 wide-flange sections ranging from W14x34 to W14x233. Truss diagonals, fabricated mostly of A36 steel, vary from W10x33 to W12x79 sections. All field connections are shop bolted with 1¼-in. A490 high-strength bolts. Connection plates are fabricated of both A572 Grade 50 and Grade 60 steels.

Floating effect

The entire perimeter of the space truss is enclosed in glass. Back-lit at night, the frame appears to float above the arena floor and seating substructure.

The Reunion Arena seats 17,200. Its action area includes a 200 x 85-ft playing floor which is designed to accommodate a wide variety of activities including boxing, rodeos, ice shows and musical concerts.

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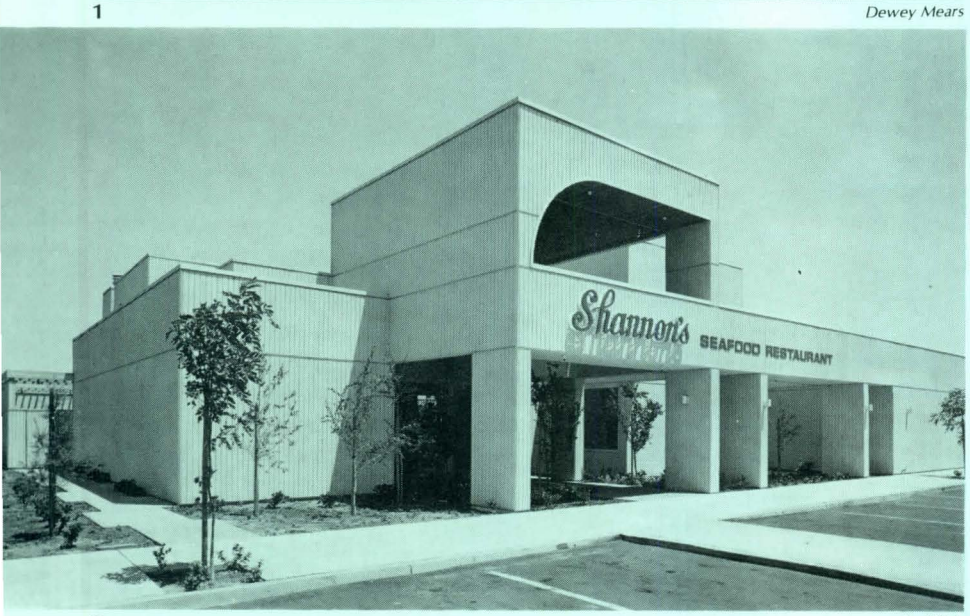
DESIGN AWARDS/COMPETITIONS

The tenth annual Plywood Design Awards program, co-sponsored by the American Plywood Association and *Professional Builder & Apartment Business* magazine, has cited 13 projects for outstanding esthetic and structural applications of softwood plywood. Submissions were received in six categories: residential/single-family, 1,600 square feet or less; residential/single-family, 1,600-2,200 square feet; residential/single-family, over 2,200 square feet; residential/multi-family; commercial/institutional; and remodeling/recycling. The awards panel remarked that "the variety of entries in this year's competition illustrates the adaptability of plywood to many different scales, regions and structural types." A round-up of winning entries in the Washington Metropolitan Chapter of AIA 1981 Design Awards program follows on pages 48 and 49.

1 *Dewey Mears*

2 *Karl Riek*



3 *Karl Riek*

4

PLYWOOD DESIGN AWARDS

Three $1,000 First Award winners and 10 Citation of Merit recipients were selected by jurors John D. Bloodgood, AIA, of John D. Bloodgood Architects, P.C., Des Moines, Iowa; J. Donald Bowman, AIA, of The Mithun Associates, Bellevue, Washington; and Edward A. Schmitt, AIA, of Bob Schmitt Homes, Strongsville, Ohio.

1. Clause Residence, Lago Vista, Texas; Charles Herbert and Associates, Inc., architects (First Award). A broad southern facade absorbs solar energy. The jury observed that "The house gains a great deal of exciting space through the use of volume and a large amount of glazing."

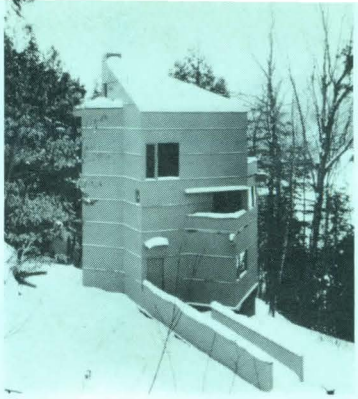
2. St. Mary's Gardens, Oakland, California; Peters, Clayberg and Caulfield, architects (First Award; see RECORD June 1981, page 45). "Accessibility for the elderly tenants . . . was very successfully solved," the panel concluded.

3. Shannon's Seafood Restaurant, Stockton, California; Thompson Architectural Group, Inc., architects (First Award). The client asked for "a variety of different spaces to achieve a sense of experiencing the restaurant anew each time." The juxtaposition of intimate arched spaces and tall open areas won special praise.

4. Hertzberg Vacation House, Grand Portage, Minnesota; Alfred French and Associates, Inc., architects (Citation of Merit). Lakeside views, inexpensive construction, and solar efficiency were top priorities in this compact dwelling.

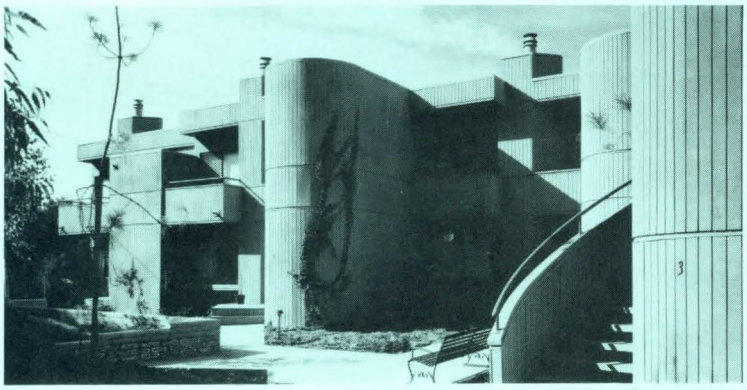
5. Growth Works Building Renovation, Plymouth, Michigan; Tivadar Balogh, AIA, architect (Citation of Merit). A new facade was applied over an existing wall and interiors were reorganized for a community assistance group. "The architect

5 Balthazar Korab

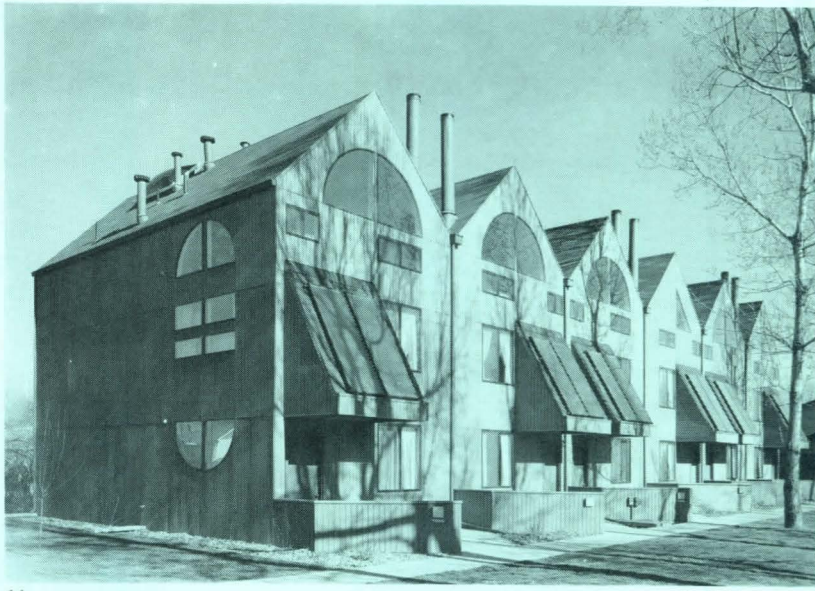


6 Karen Bussolini

7 Bill Hopkins

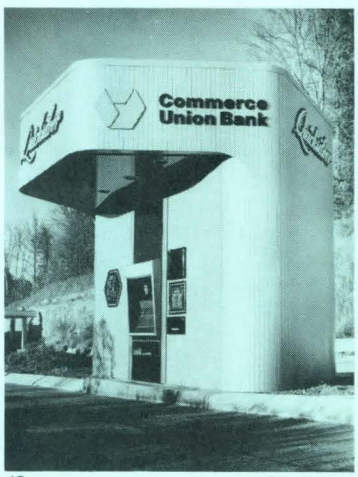


8 Sandra Williams Associates



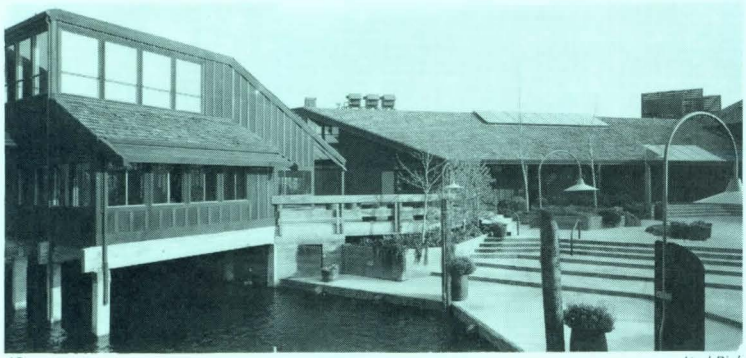
11 Karl Riek

9 Karl Riek



12 ©Don Putnam

13 Karl Riek



10 Karl Riek

overcame . . . a very small budget and developed an appealing addition to the neighborhood."

6. Private Residence, Vermont; Caples-Jefferson, architects (Citation of Merit). Perched on the edge of a 20-foot gorge, this 1,700-square-foot vacation retreat was composed with a vertical layout, designed to minimize erosion.

7. Shiffler Residence, Des Moines, Iowa; Charles Herbert and Associates, Inc., architects (Citation of Merit). Besides forming bold exterior geometry, balconies and wing walls give privacy without blocking views.

8. Morley Field Townhomes, San Diego, California: Buss Silvers Hughes & Associates (Citation of Merit). These seven multi-level units display "great forethought . . . particularly in the solidarity of forms, including the treatment of returns at window and deck overhangs."

9. Barron Square, Palo Alto, California; Goodwin B. Steinberg Associates, architects (Citation of Merit). "The outstanding characteristic of this property is the siting of the units, giving a single-family-like atmosphere to a multifamily project," noted the panel. "The roof design minimizes the massiveness and density."

10. Harbor Bay Landing, Alameda, California; Hansen/Murakami/Eshima, Inc., Architects & Planners (Citation of Merit). Two shopping plazas overlook a lagoon. "Changes of scale among the buildings give a pleasant transition, and the use of translucent panels with covered walkways offers variety. . . ."

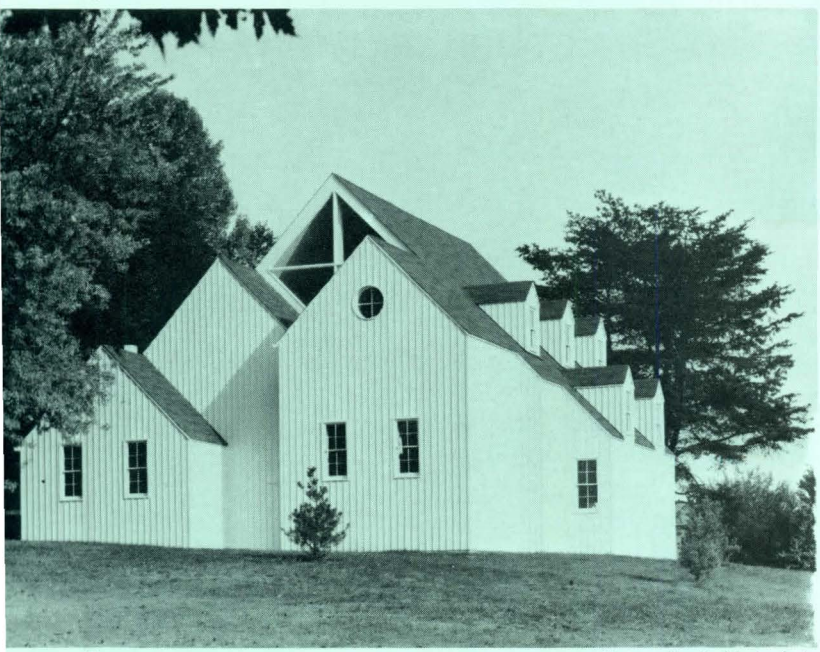
11. Lakewood Townhouses, Lakewood Colorado; Atkinson/Karius/Architects, P.C. (Citation of Merit). Allusions to traditional domestic building forms relate a six-unit apartment complex near Denver to neighboring suburban houses.

12. "Quicksilver" Banking Module, Nashville, Tennessee; Robinson Neil Bass & Associates (Citation of Merit). This drive-in unit was designed for economy and transportability. The jury observed that plywood siding "gives a more natural look to the all-paved setting."

13. Colebourn Residence Addition, Walnut Creek, California; James Malott & Associates, architects (Citation of Merit). Built-up plywood arch beams and plywood shells create light scoops over the living areas of a renovated 1950s house.

1 Roger K. Lewis

2 Robert Lautman



3 Hartman-Cox Architects photo

4 Gary P. Fleming

WASHINGTON METROPOLITAN CHAPTER AIA DESIGN AWARDS

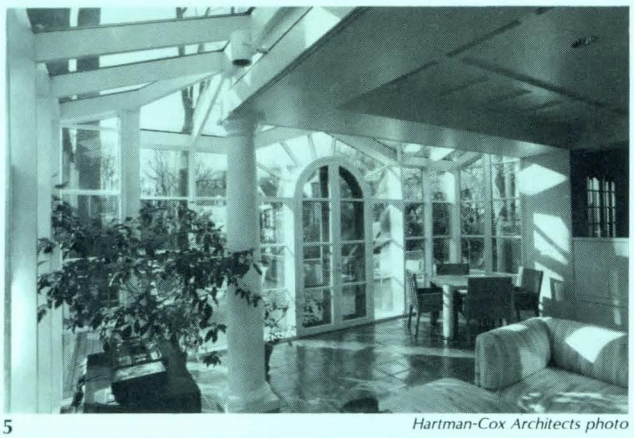
Architects in the Washington, D.C. area submitted 31 projects for assessment by Archibald Rogers, FAIA, chairman emeritus of RTKL Associates in Baltimore; John Hartray, AIA, of Nagle, Hartray and Associates in Chicago; and Terry Morton, publisher of the *Preservation Press*. The awards jury was pleased by the large number of designs that demonstrated "sensitive attention to physical and social context without sacrificing strong design concepts."

1. Baer Residence, Silver Spring, Maryland; Chesapeake Design Group/Roger K. Lewis, architects. The 3,400-square-foot house was built into a wooded hillside. An "inside-out" composite wall (fiberglass-reinforced stucco over styrofoam insulation glued to concrete block) provides massive heat storage and thermal inertia immediately adjacent to south-facing spaces.

2. Steuart Building, St. Alban's School, Washington, D.C.; Keyes, Condon, Florance, architects. This multipurpose student center/classroom building fits into an existing Collegiate Gothic complex. Adroit siting of the 20,400 square-foot structure linked previously separated academic and athletic facilities.

3. Immanuel Presbyterian Church, McLean, Virginia; Hartman-Cox Architects. "One of the few good churches of the last decade," one juror commented. An arcade connects a new sanctuary and fellowship hall to an extant house. Gabled frame forms, with a plywood-and-batten finish, reflect the character of the surrounding neighborhood.

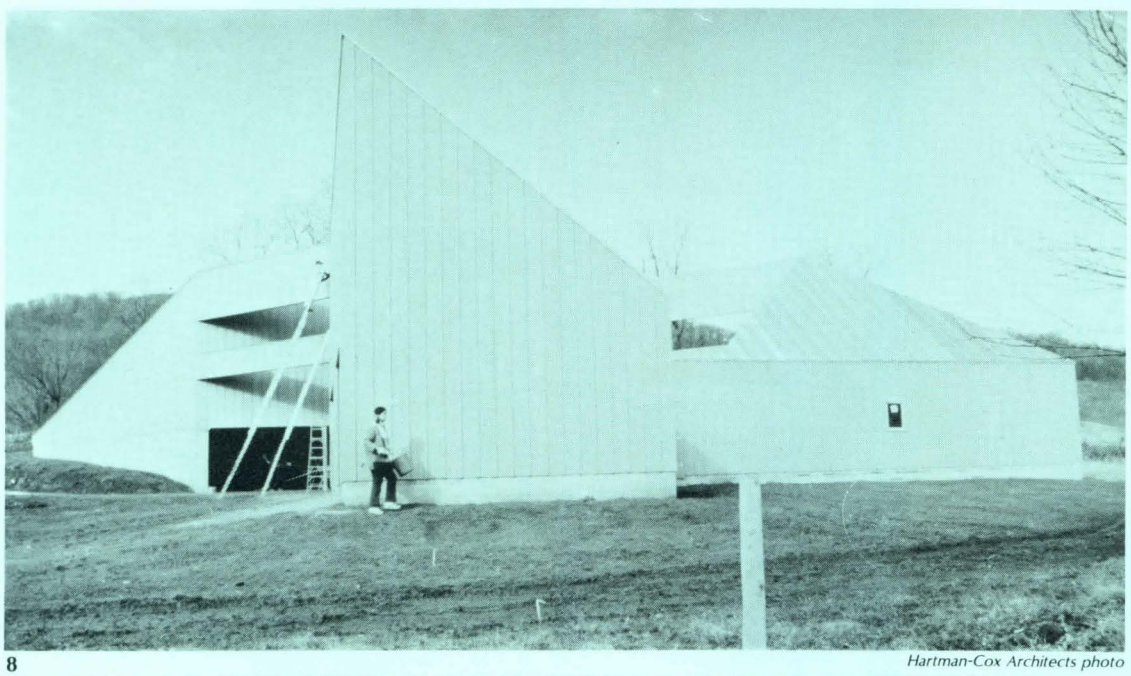
4. Wilson H. Elkins Building, University of Maryland, College Park, Maryland; Keyes, Condon, Florance, architects. The jury was impressed by the effective interplay of interior day-



5 *Hartman-Cox Architects photo*

6 *William Mills*

7 *Max Hershfeld*



8 *Hartman-Cox Architects photo*

lighting and circulation routes. Panelists also cited the "exciting" arrangement of spaces within a dignified, restrained exterior: "Certainly a country mile ahead of most other college architecture."

5. Addition and Remodeling, Residence in Washington, D.C.; Hartman-Cox Architects (see RECORD, June 1981, page 45). A bedroom and deck, family room, kitchen, and outdoor living areas were attached to a half-timbered Tudor house. The project was commended for its marriage of traditional motifs and innovative spatial planning.

6. Remodeling of Frances and Armand Hammer Auditorium, Corcoran Gallery of Art, Washington, D.C.; Francis D. Lethbridge and Associates, architects. Originally designed by Ernest Flagg as a sculpture studio, and subsequently modified several times, this 1897 Beaux-Arts amphitheater has been adapted for use as a lecture and performance hall. New lighting and color schemes were devised to enhance Neoclassical details and the intimate spirit of the interior.

7. Private Residence, Washington, D.C.; Arthur Cotton Moore/Associates architects (see RECORD, mid-May 1980, pages 98-101). The suave, curvilinear pavilions of a new residence were inserted within the rugged shell of a 1930s carpet cleaning factory and warehouse: "A good example of the sort of house where the architect steps back and lets the occupants have a life of their own."

8. Stable, Garage, and Workshop for a Farm in Virginia; Hartman-Cox Architects. Dramatically angled polygons are clad with plywood-and-batten siding. "This is a marvelously sophisticated piece of sculpture—using a construction method as old as the hills."

Calendar

Prestressed Concrete Institute Awards. Any structure in the United States or Canada using prestressed concrete or architectural precast concrete may be submitted. Entries will be reviewed by R. Randall Vosbeck, FAIA, president of AIA; T.Z. Chastain, P.E., F.ACI; David H. Hambleton, FRAIC; George S. Hammond, AIA; and Dr. James R. Sims, president-elect, American Society of Civil Engineers. Submissions must be received no later than August 1. For more information, contact the Prestressed Concrete Institute, 201 North Wells Street, Chicago, Illinois 60606.

Owens-Corning Fiberglas Energy Conservation Awards. Entry forms are due August 28. Information is available from Mary G. Reinbolt, Owens-Corning Fiberglas Corp., Fiberglas Tower, Toledo, Ohio 43659 (419/248-8053).

Reliance Development Company Award for Distinguished Architecture. A total of $60,000 will be awarded to the architects of outstanding investor and/or institutional office buildings. Entries must have been built in the continental United States, comprising a minimum of 25 stories or 400,000 square feet. Submissions will be judged by Edward C. Bassett, FAIA; Harry Weese, FAIA; Mildred F. Schmertz, FAIA, executive editor of RECORD; Walter McQuade, an editor of *Fortune* magazine; Tim Vreeland, FAIA; A. Eugene Kohn, AIA; and Henry A. Lambert, of the Reliance Development Company. The entry deadline is September 1. Entry forms and instructions are available from Ingo Photenhauer, Reliance Development Company, Inc., 919 Third Avenue, New York, NY 10022.

Plywood Design Awards. Jurors for the eleventh annual awards program will be John D. Bloodgood, FAIA; Hugh Newell Jacobsen, FAIA; and George S. Writer, Jr. Projects completed after December 1, 1979 are eligible for cash awards of $1,000 and citations of merit. December 1 is the entry deadline. Address all requests for entry materials to Plywood Design Awards, American Plywood Association, P.O. Box 11700, Tacoma, Washington 98411.

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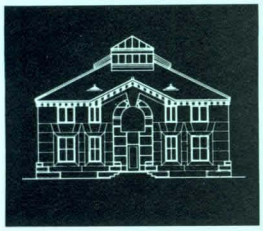
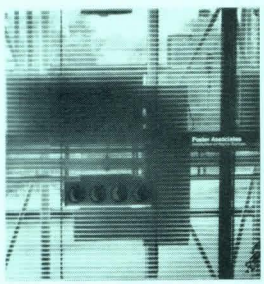
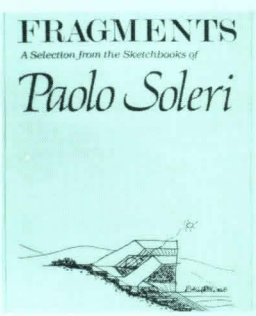


SPEAKING A NEW CLASSICISM: AMERICAN ARCHITECTURE NOW, *essays by Helen Searing and Henry Hope Reed; Smith College Museum of Art, $10.*
This spring at the Smith College Museum of Art in Amherst, Massachusetts, Professor Helen Searing curated an exhibition "focused on the renewed interest by architects in classical forms"—read post-modernism. Twenty-six architects were invited to display their work along with a brief written explanation of how and why they employ classicism. Robert A.M. Stern recommended the architects, so the list is familiar from last year's Venice Biennale—where Stern fulfilled a similar advisory role (see RECORD, March 1981). This slender volume, *Speaking a New Classicism: American Architecture Now,* serves as a catalog to the Smith exhibition, and as yet another glimpse—like Charles Jencks's *Post-Modern Classicism: The New Synthesis*—at the drawing board of, among others, Thomas Beeby, Michael Graves, Allan Greenberg, Philip Johnson, Robert Kliment and Frances Halsband, Rodolfo Machado and Jorge Silvetti, Charles Moore, Robert A.M. Stern, Stanley Tigerman, and Robert Venturi, John Rauch and Denise Scott Brown. Essays by Professor Searing and Henry Hope Reed preface the drawings, photographs, brief biographies, and statements supplied by the 26 architects.



FOSTER ASSOCIATES, *introduction by Reyner Banham; RIBA Publications Ltd., £3.75.*
British architects Foster Associates are the subject of this 72-page monograph that includes selected projects (built and unbuilt) from 1963 to 1979. Essays by Loren Butt ("Energy—Issues and Attitudes") and Norman Foster ("Links") preface the work. In his introduction, Reyner Banham provides a rousing defense of the "Modern Movement"—"... for everyday, ubiquitous, nine-to-five proof that Modern Architecture Lives—and thrives—the work of Foster Associates is at hand, at work and at our service. . . ." Banham also offers a vehement denunciation of the "Post-Modern Movement"—"The brave new post-modern world of stylistic pluralism, popular participation, architecture for its own sake, and all the rest of it, coincided with an economic recession that left the new *avant/arrière-garde* impotent to build. Even so, the most galling aspect of their unrealized millenium must be that 'that old modern architecture' survived as the dominant element in the new pluralism, [and] is still producing the best buildings that are actually being built. . . ." Architectural politics aside, the monograph offers a thorough, if brief, overview of Foster Associates' work.



FRAGMENTS: A SELECTION FROM THE SKETCHBOOKS OF PAOLO SOLERI, *by Paolo Soleri; Harper & Row, $12.95.*
Visionary, utopian city planner, and philosopher Paolo Soleri is well known as the generative force behind the now-ten-years-under-construction Arcosanti community in Arizona. *Fragments* presents his sketches and essays: "I am not peddling the truth, I am presenting an hypothesis."

continued on page 55

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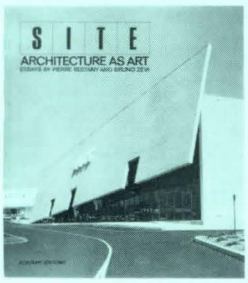
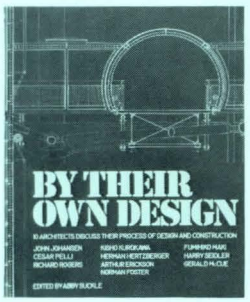


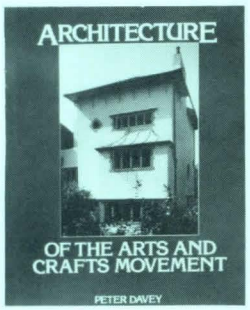
SITE: ARCHITECTURE AS ART, *essays by Pierre Restany and Bruno Zevi; Academy Editions/London, $19.95.*

The latest in a series of monographs from Academy Editions features the work of New York-based architects/artists SITE. Alongside their well-known showrooms for Best Products (Tilt, Notch, Peeling, Forest, etc.), more recent projects—including Ghost Parking Lot and Terrarium Showroom—seem right at home. Essays by Pierre Restany ("SITE: Artists of Our Time") and Bruno Zevi ("The Poetics of the Unfinished") preface the text contributed by the firm described as "the SOM of the avant-garde."



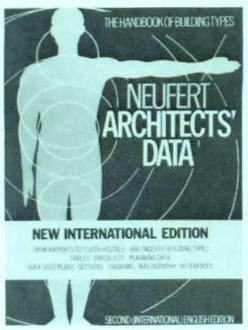
BY THEIR OWN DESIGN, *edited by Abby Suckle; Whitney Library of Design, $19.95.*

Like Barbaralee Diamonstein's *American Architecture Now* (Rizzoli New York), *By Their Own Design* opens its pages to architects who have availed themselves of the opportunity to explain in print their work and their design philosophy. The ten architects included in this illustrated volume are: Arthur Erickson, Cesar Pelli, Kisho Kurokawa, Herman Hertzberger, John Johansen, Fumihiko Maki, Gerald McCue, Richard Rogers, Harry Seidler, and Norman Foster.



ARCHITECTURE OF THE ARTS AND CRAFTS MOVEMENT, *by Peter Davey; Rizzoli New York, $30.*

"This book gives an account of the lives, theories, and work of the architects of the [Arts & Crafts] movement which began in England and quickly influenced Europe and America. It highlights the contradictions they tried to resolve in accommodating or rejecting the developments of the new machine age, and in meeting the cost of materials and craftsmanship which forced them to work mainly for a wealthy elite class. It shows how the ideas of the movement influenced the California and Prairie Schools and *Art Nouveau* and how it led to the development of neo-Georgianism and the growth of the machine worshipping Modern Movement after the Great War." Includes the work of William Morris, Norman Shaw, W.R. Lethaby, C.F.A. Voysey, C.R. Ashbee, H.M. Baillie Scott, Gustav Stickley, Greene and Greene. . . .



ARCHITECTS' DATA: THE HANDBOOK OF BUILDING TYPES, SECOND (INTERNATIONAL) ENGLISH EDITION, *by Ernst Neufert; Halsted Press/John Wiley & Sons, Inc., $69.95.*

Since it first appeared nearly 45 years ago, Ernst Neufert's *Rules for Building Design* has been translated into nine languages, with 30 editions in the original German. This second English edition has been updated and modernized "to be of practical day-to-day value," and provides basic data on user requirements (including those of the elderly and disabled), general planning criteria, site selection, basic dimensions, and flow charting. Each section includes illustrations of plans, sections, and site layouts, chosen to illustrate key aspects of each building type's design.

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Caveat architectus: facade inspections and the design professional

Newspaper headlines across the country have recently highlighted the importance of building inspections as a means to ensure compliance with building codes and regulations. Inspections made during the construction phase represent only one aspect of the design professional's responsibility. Recent laws passed in several major cities threaten to make architects and engineers the unwitting guarantors of building facades they did not design. These laws require that buildings taller than a specified height be inspected periodically to protect the public from facade failures. As important elements in the compliance process, the architect and engineer are likely to play a central role in new regulations that may be issued.

by Barry B. LePatner, Esq.

This article presents a detailed review of New York City's Local Law 10 and a similar Chicago statute, and of their impact upon the design professions. It should be noted at the outset that, while the public policy behind these laws is fully justifiable, little attention has been addressed to the effect such statutes will have on architects and engineers—the people charged with ensuring compliance with those very laws.

New York's Local Law 10: deceptively simple guidelines

Local Law 10 became effective on February 21, 1980. It requires periodic inspections by an architect or engineer of all exteriors on structures exceeding six stories in height. Following such inspections, detailed reports must be filed with the New York City Department of Buildings.

The law was established following the death of a pedestrian who was struck by a lintel stone that fell from a building owned by Columbia University. On its face, the law requires building owners to provide assurance that injuries to the public or damage to adjacent property will not become commonplace. Appropriate remedial work must be undertaken when problems associated with deterioration or normal maintenance are discovered upon inspection.

The Department of Buildings has issued rules and regulations detailing how to comply with Local Law 10. The guidelines are deceptively simple. To the unwary, it appears that an architect or engineer conducting an inspection in accordance with the guidelines and preparing a suitable report should encounter no problems in meeting the spirit and essence of the law's strictures. However, a closer reading of the requirements for conducting the critical examination needed to comply with the guidelines should immediately give pause to design professionals. At the very least, analysis will raise substantial questions as to how they can comply fully with the law's intent.

Before discussing the specific provisions of Local Law 10 and the guidelines for compliance with it, it will be helpful to look at the events that led to passage of a similar law in Chicago in 1978. A comparison of the two laws will offer a clearer perspective on the ramifications and impact of each upon the design professional.

Chicago's Municipal Code: prescribing a uniform standard

In 1974, a piece of terra cotta fell from a tall building in downtown Chicago and killed a pedestrian. As a result, the Chicago Department of Buildings undertook a visual inspection of 2,460 terra-cotta clad buildings in the city. This inspection revealed that over 45 per cent of the buildings contained defects on their exteriors which represented potential hazards to public safety.

In March 1976, then-Mayor Richard Daley ordered an advisory commission to assist in the development of an analysis of the problems and possible solutions of these facade failures. This commission referred the matter to a subcommittee composed of architects, engineers, and attorneys from both the public and private sectors. The subcommittee assisted in the preparation and enactment of the first ordinance in the United States covering facade failures. This was followed by the establishment of guidelines which became a part of the ordinance. The law was enacted on September 13, 1978.* The guidelines issued shortly thereafter were designed to establish a uniform standard for the critical examinations and reports required by the new law.

By comparison with New York City's Local Law 10, the Chicago enactment appears to have more sensitively balanced the societal purpose underpinning the law with the practical and technological problems confronting the design professional in completing the required inspection. The Chicago guidelines were issued as a means of prescribing a uniform standard for the critical examination and report required of the design professional. In effect, the guidelines called upon the architect or engineer to recognize appropriate and applicable advancements in technology without creating a basis for strict liability of the professional in the event of future failure.

Comparison of the two laws

- Design professional's status. While the Chicago law places responsibility for compliance upon the "owner, agent or persons in charge, possession or control" of a building, New York's Local Law 10 contains no such provision. Local Law 10 states that the critical examination required by the statute must be performed by an architect or engineer "on behalf of" a building owner. As such, under the New York law, the design professional acts as the agent for the owner.
- Applicability. The Chicago statute calls for an examination of all buildings over five stories in height. The inspection and reports had to be completed and filed within two years of passage—by September 13, 1980. Inspection of new construction must be completed within the fifth year after completion of the building. Periodic inspections are required at least once every ten years for buildings less than 35 years old, and once every five years for buildings 35 years or older.

The New York statute requires inspections and reports to be filed for all buildings higher than six stories. Reports must be filed within two years of passage—by February

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Barry B. LePatner has law offices in New York, where he specializes in the representation of architectural and engineering firms. He is co-author with Sidney M. Johnson of the forthcoming book, *Structural and Foundation Failures: a Casebook for Architects, Engineers, and Lawyers*, to be published by McGraw-Hill in February, 1982.

*A recent modification of the Chicago Building Code inadvertently repealed the ordinance. According to Frank M. Covey, a partner in the Chicago Law firm of McDermott, Will & Emery, and an original member of the advisory commission, the Mayor's Committee on Building Code Amendments is currently considering re-enactment of the ordinance.

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continued from page 57

21, 1982. Inspections and reports must be filed within the fifth year after newly constructed buildings have been completed. After the initial report is filed, all buildings, regardless of age, must be inspected and reports must be filed on them at least once every five years.

▪ Extent of inspection. The Chicago statute requires that the complete exterior wall and enclosure must be examined critically. The examination must include a careful review "of at least" the most recent report on the condition of the building exterior. And it is not sufficient for the architect or engineer to rely only upon the most recently prepared report. The professional is charged with the responsibility of reviewing all prior reports so as to determine the existence of other problems or modes of possible failure.

Under the New York statute, the design professional's critical examination must include a building's exterior walls and appurtenances. Such appurtenances are defined in the guidelines as including fire-escapes, balconies (including drains), marquees, light fixtures, flagpoles, signs, parapets, copings, guardrails, window frames (including hardware and lights), window guards, potted plants, their method of attachment, and all similar fixtures. Prior to undertaking the examination, the architect or engineer is instructed to undertake a review "of the most recently prepared report" as filed with the Commissioner of Buildings. Accordingly, the New York architect or engineer need only review the most recent report, notwithstanding the fact that prior reports may have warned of additional deterioration or potential hazards neither detected nor considered relevant to the latest report.

▪ Scope of report. The Chicago statute calls for a critical examination to be undertaken followed by a written report prepared under the direct supervision of a registered architect or structural engineer. The report must "clearly document" existing conditions of all walls and enclosures and include a record of all significant observable deterioration and movement as well as a statement concerning the watertightness of the structure. The guidelines mandate that the written report be sufficiently detailed so that a comparison with prior reports will show the rate of any deterioration in the condition of the exterior.

The New York enactment requires a similar critical examination to be undertaken and a written report signed and sealed by a licensed architect or professional engineer under whose direct supervision the examination was conducted. The New York law, in a critical section, provides that following such examination, "[the] architect or engineer shall submit a written report *certifying* the results of such examination to the [buildings] commissioner, clearly documenting the condition of the exterior walls and appurtenances thereto." (Emphasis added.)

The requirement that the written report of the architect or engineer be certified was clearly unnerving to many architects and engineers. As a result, the guidelines issued by the Department of Buildings deleted this requirement and substituted a provision calling for an examination to be undertaken "to the best of his knowledge and belief." As a matter of law, the design professional who certifies a report creates a greater liability for his work product than when he merely issues a report.

Although the guidelines represent a retreat from such a requirement, it must be noted that the language of the law continues to require a certification. As a result, the architect or engineer who prepares a report "to the best of his knowledge and belief" and fails to provide such a certification may remain liable for a failure to comply with the requisites of the statute. On the other hand, the design professional who furnishes a certified report increases the substantial likelihood of liability greater than that incurred by the architect or engineer issuing the report "to the best of his knowledge and belief."

▪ Use of report. Under the Chicago statute, the report of the architect or engineer goes to the owner and the Commissioner of Buildings. The Commissioner will stamp the report and return it to the owner if it is approved. If the report is found to be unsatisfactory, the owner will be required to have the architect or engineer make corrections and resubmit it. Any unsafe conditions discovered in the building will result in notification by the Buildings Department to the owner requiring that immediate repairs be undertaken to ensure code compliance.

Following the critical examination under New York's law, the report, in microfile form, is filed with the Borough Office of the Department of Buildings. Any repairs or other work noted in the report must be commenced immediately by the owner to ensure conformity with the code.

▪ Exceptions to the laws. The Chicago statute contains no exceptions, and all buildings in excess of five stories in height must meet the requirements of the law. The New York law contains four exceptions to the requirement that all buildings in excess of six stories in height be inspected:

1. Exterior walls set back more than 25 feet from the street line (i.e. building line) and/or any paved walkways, plazas or play areas routinely used by the public;
2. Walls above the sixth story which are set back more than 25 feet from the wall below;
3. Exterior walls more than 25 feet on either side of a paved walkway at right angles to a building's walls which are used either for occupant or service portion egress;
4. Buildings having an *on-going maintenance program* acceptable to the Buildings Department for preventive maintenance of the exterior walls and appurtenances thereof. (Emphasis in original.)

▪ Enforcement provisions. The Chicago statute contains no specific provisions for enforcement in the event that the requisites of the statute are not met. By comparison, the New York law contains both criminal and civil sanctions. In the event of violations by anyone who refuses or neglects to comply with the statute, a criminal conviction will be punishable by a fine of not more than $1,000 or imprisonment of up to six months or both.

Additionally, an offender may face a civil action brought by the Commissioner of Buildings and be subject to a penalty of $250 for each month of noncompliance with the statute. No case law exists to determine whether these provisions could be enforced against the design professional who prepared a report.

▪ Guidelines. The Chicago law calls for a critical examination to be performed "close-up" so as to ensure a "complete inspection." Such an inspection is defined as one requiring the architect or engineer to review the exterior "from a platform or device while traveling 100 per cent of the surface of the exterior walls and enclosures."

The inspection must also include a review of the known history of the building and the nature of the materials used in the facade. Special efforts to detect splitting and fracturing of terra cotta and the condition of metal anchors and supports are required, and photographs must be taken to document any significant deterioration. A detailed description of the examination undertaken by the design professional must also be included.

The critical examination called for under New York Local Law 10 includes "a complete inspection leaving the method selected for such inspection up to the architect or engineer." While the use of a scaffold or platform is "preferred," the architect or engineer has the right to decide how best to conduct his or her inspection.

Under the New York statute, the critical examination may include photographic magnification techniques or the use of remote observation equipment. However, no such requirement is made. While the use of photographs under the Chicago statute is mandatory, New York has not seen fit to include such a requirement in its statute.

Similar to the Chicago provision, the New York law requires that the review include the "known history of the building," although the nature of the material used in the facade and observable conditions ought to dictate how extensive the examination should be. By way of example, the guidelines advise that any fracture or split of terra cotta, or cracking of masonry and brickwork, should lead to further investigation as to whether metal anchors and supports have loosened or whether further evidence of deterioration exists.

The impact of the laws upon the architect/engineer

As these inspections are completed, reports will be filed for all buildings within the scope of the law. In the event of a facade failure, investigations will undoubtedly be made by building officials and owners. If a pedestrian is injured and a lawsuit is commenced, a review of the Buildings Department file will disclose

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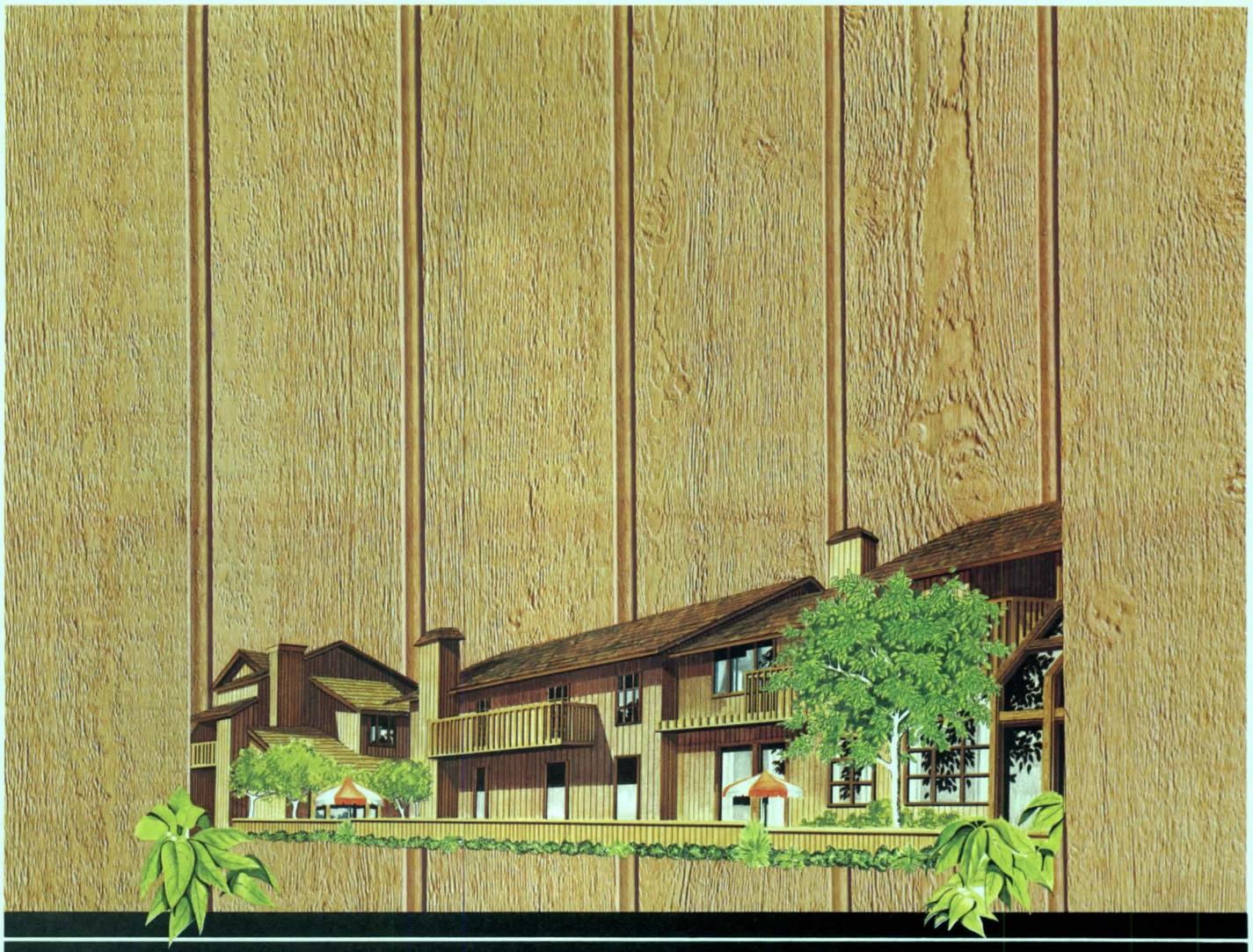

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the existence of the inspection within the last few years. Undoubtedly, allegations of negligence will be lodged against the owner as well as the inspecting architect(s) or engineer(s). Where the original designer can be identified, he, too, may be named as a party to the action.

Inspecting architects or engineers will be charged with either having had knowledge of the deteriorated condition, or being in a position where they should have learned of the defect at the time they undertook the inspection. If, in any way, it can be shown that they failed to comply with the provisions of the law or its guidelines, they may be found primarily responsible for any damage proven at trial.

With a fundamental understanding of the risk involved, it would be wise for design professionals considering such inspections to review once again the obligations required of them by the new law. Architects should ask themselves: What procedures must I carry out to ensure that I have undertaken a full review of the structure? Will I need scaffolding or window-washing carriers? Can I reach all areas requiring visual inspection? Is a visual inspection, in and of itself, sufficient? What additional tests would I recommend if the initial inspection discloses evidence of deterioration or water penetration? These and other questions will be raised as each inspection takes place.

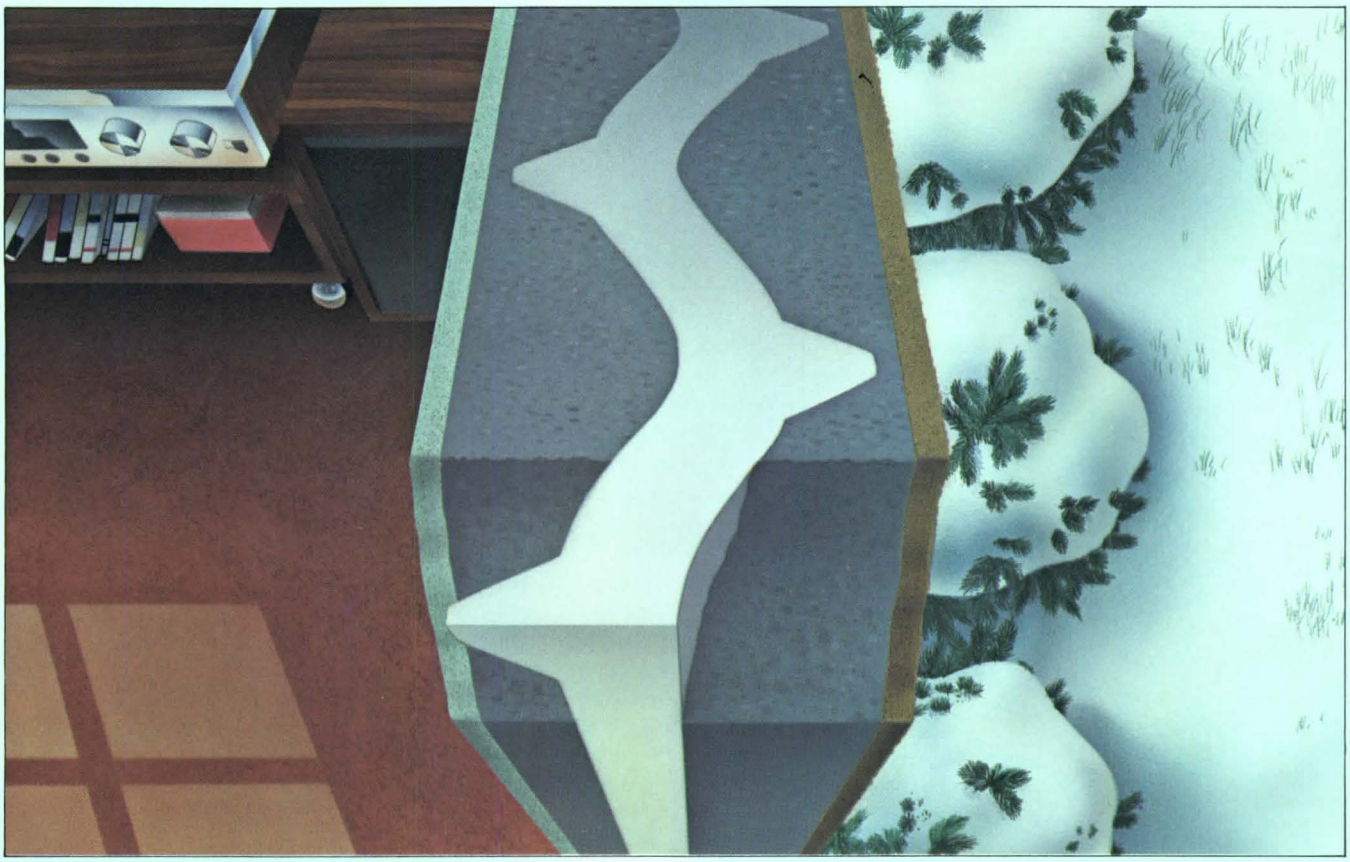
The technical aspects of compliance must be addressed and resolved, and the laws' legal ramifications must also be recognized. As these laws are designed to benefit owners and the public, architects and engineers should not bear the risk arising from years of owner neglect. The design professional should insist upon a contract for services which includes a carefully drawn indemnification clause. Such clauses (their enforceability varies from state to state) require the owner to assume the liability and legal costs of the architect or engineer in the event of a lawsuit.

Before undertaking an inspection, a careful review should be made to determine the fee that will be charged. The time to be expended and the risks involved should be discussed fully with the owner as a function of setting the fee. As these laws are new and untested, the architect or engineer should make certain that the owner is educated concerning what is required of him after a critical examination is completed.

Within the next few years, it is likely that many other cities will enact legislation similar to the Chicago and New York laws. Many architects and engineers will be called upon to perform these facade inspections. It is to be hoped that the net result will be a benefit to the public through increased safety. And with luck and care, the net result to the design profession will not be an onslaught of increased litigation.

This article first appeared in April, 1981 as a special supplement to *Legal Briefs for Architects, Engineers and Contractors*, a twice-monthly report published by McGraw-Hill (subscription: $97 for one year).

If walls could talk.



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Construction faces a difficult second-half financial environment

Interest rates have moved to a peak and retreated three times since October 1979—drastically compressing the usual construction cycle. The most recent unwinding of rates began this spring, in late May-early June. Behind this easing was the Federal Reserve's apparent success in reducing money growth, the moderating growth of the economy, and some improvement in inflation statistics. Even so, the financial community remains jumpy, worried about how long the latest rate decrease can last.

For a decade and a half, long-term investors have seen ever-rising inflation steadily erode the value of their bond and mortgage portfolios. The wild gyrations in interest rates during the past 20 months only intensified their fear of inflation, making these investors extremely reluctant to commit funds long-term. During the same months, many long-term borrowers—businesses, state/local governments, and prospective home buyers—were either blocked from the credit markets or forced to borrow short-term at steep rates. Now, as interest rates soften, these borrowers will come back to the financial markets, where their substantial credit demands will collide with investor hesitancy to invest for the long term, creating continued interest-rate uncertainty, and keeping interest rates higher than in past recoveries. Inflationary expectations are clearly causing turmoil in the financial markets. It is to break these "negative expectations" that President Reagan has proposed his ambitious four-point program. But important pieces of that program are several months from implementation and many more months from working their curative powers throughout the economy.

This spring, Congress took an important step to rein in Federal expenditures and deficits by passing the 1982 fiscal budget resolutions. But now both houses must follow up with the politically difficult task of enacting item-by-item spending cutbacks. Assuming no major changes in the budget between now and October 1, Federal deficits will still be big. Indeed, after modest second-quarter borrowing because of tax receipts, financing of the Federal deficit is expected to rise through the remainder of this year and continue high well into 1982. Thus, sizable Federal borrowings will be an unwelcome presence in the financial markets for many months to come.

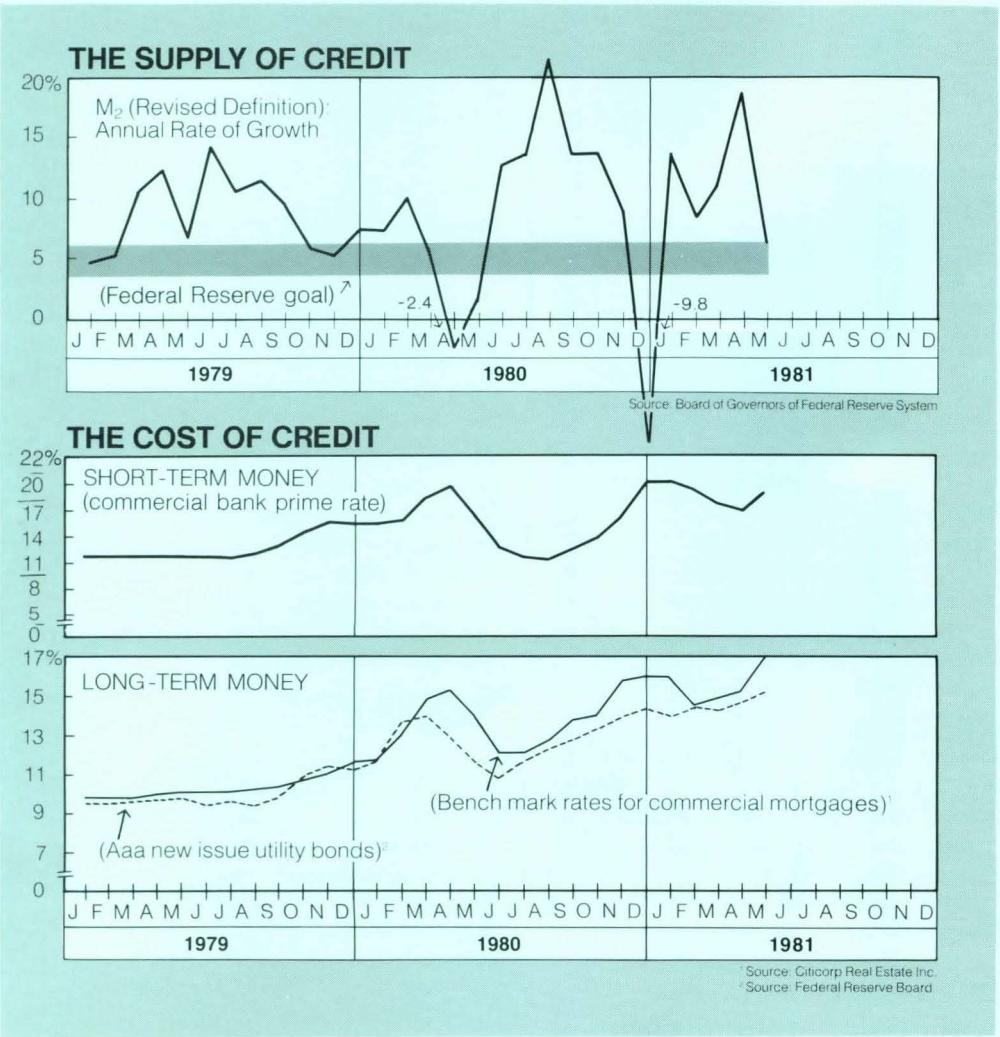
With regard to taxes, the current debate (early June) between the President and House Democrats over the size and timing of reductions for individuals, offers some relief for the financial markets. Deferring and/or reducing cuts in personal taxes will lower Federal revenue losses this year, moderating somewhat the size of the 1981 Federal deficit. Furthermore, postponing the passage of personal tax cuts is also likely to delay the passage of business depreciation reform (although this tax cut is expected to be made retroactive to the first of the year). Consequently, the odds that the economy will receive any significant fiscal stimulus before the fourth quarter are falling. This will give the financial markets more time to handle the pent-up credit demands of long-term borrowers before having to take on new credit demands generated by a rapidly expanding economy.

Meanwhile, the only operative part of the Reagan program is more of the same monetary restraint that we've had for the past 20 months. Although the financial community anxiously awaits effective actions to curb inflation, the likelihood that the Federal government will have to rely exclusively on a restrictive monetary policy for many more months only adds to investor jitters about the future direction of interest rates.

In early June, the Federal Reserve brought the money supply to heel. Still, in an economy awash with near double-digit inflation but showing amazing resilience to record high interest rates, money supply growth is likely to remain erratic, prompting continued Federal Reserve firmness.

In this financial climate, investors are expected to remain cautious in supplying long-term credit. Nevertheless, a less robust economy will permit some easing in rates during the third quarter. And once the fiscal stimulus of tax cuts begins pumping up the economy in the fourth quarter, renewed and vigorous money growth is likely. This will prompt an even tighter monetary policy, pushing interest rates upward toward year-end. Consequently, construction activity in the second half is likely to continue its fits-and-starts pattern of the past 20 months.

Phillip E. Kidd
Director of Economic Research
McGraw-Hill Information Systems Company



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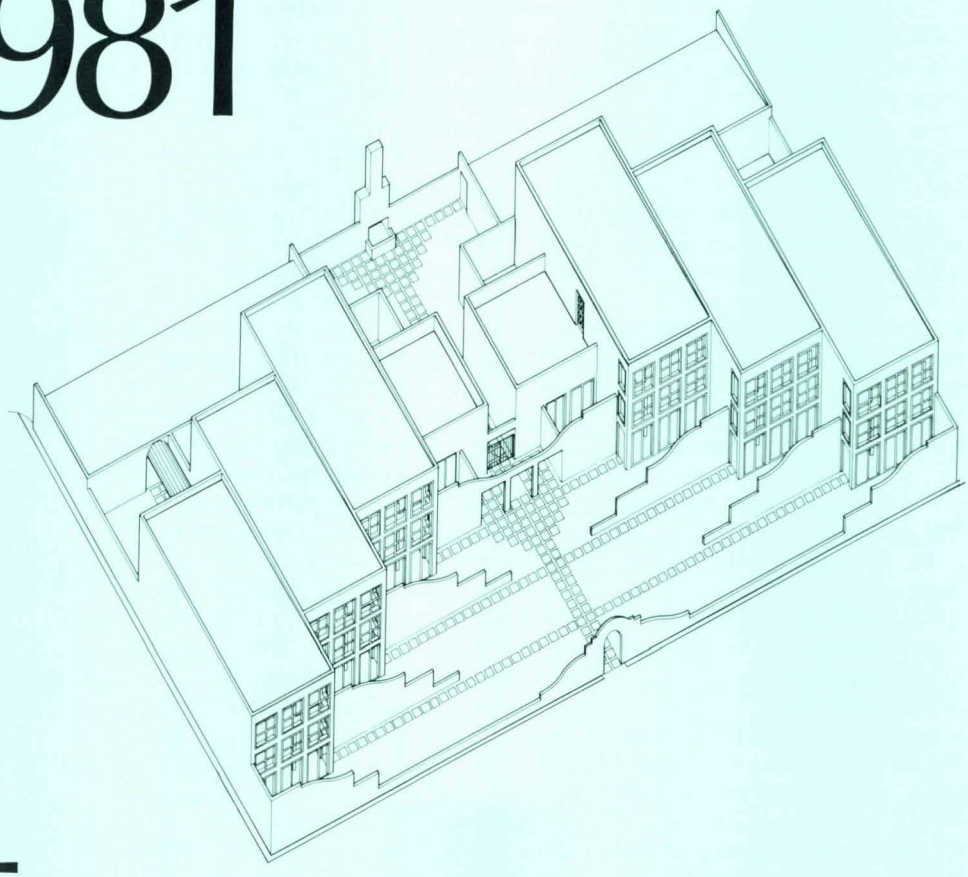

To "document and stimulate better design in this fast-growing area of housing," in 1970 we added Apartments of the Year to RECORD HOUSES. But editorial accommodations are not unlike living accommodations—needs and expectations evolve over a decade; thus this year we moved this annual feature on multi-family housing back out of RECORD HOUSES to give it these more spacious and appropriate lodgings here in the July issue. The separation of "housing" from "houses" is timely—as living patterns adjust to changing social mores, as the promises of suburbia show signs of strain, and as inflation boosts the costs of fuel, construction, and land. It is not just (as architects have been saying for years) that higher-density housing offers efficient use of land, opens to the market a range of purchase and rental options, is energy efficient and generally reduces operating and maintenance costs. It is also clear that for more and more families (regardless of economics) the American Dream *is* close-in (or urban) multi-family housing of the sort presented here. The following 20 pages feature six examples of housing that we believe worth consideration: from a six-unit walled compound intended to revitalize a deteriorating neighborhood, to a it-wasn't-much-to-begin-with mill economically transformed into rental apartments; from a $90 per month studio apartment for the elderly, to a $300,000 condominium/townhouse convenient to downtown. In each project, the architect has satisfied such disparate and unyielding concerns as developer's profits, commercial marketability, and appropriate land use—while addressing the widest possible spectrum of esthetic preferences within a specified market, and the requirements of an unidentified user.

GREENWAY GABLES MINNEAPOLIS, MINNESOTA FREDERICK BENTZ/MILO THOMPSON & ASSOCIATES

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Minneapolis's Loring Park is one of the Twin City's most pleasant and familiar natural resources: the impeccably maintained and immensely popular 36-acre park enjoyed national exposure as the picturesque setting for the opening scenes of the erstwhile "Mary Tyler Moore Show." What the camera failed to record, however, was an adjacent neighborhood comprised of aging walk-up apartment buildings and surface parking, that, owing to an above-average crime rate and a less than welcoming mien, effectively separated the park from the Nicollet Mall Extension—a pedestrian and public transportation spine weaving through downtown.

City officials viewed the deteriorating nine-square-block area as an urban liability that, because of its location, could be turned into a double asset: planners recognized the potential for upgrading the quality and increasing the density of inner-city housing, *and* the not-to-be-missed opportunity to link the park to downtown. With money from bond issues, the city acquired the property, razed most of the extant housing, and relocated the residents. New York City landscape architect M. Paul Friedberg provided a master plan that specified 2,500 units of housing—apportioned into 14 parcels—and a linear "greenway" that would provide both a pedestrian circulation route between Nicollet Mall and the park and a recreational infrastructure for the development.

The city was understandably anxious to begin development; the clock was ticking on their tax increment financing scheme (higher tax yields from escalated property values would be used to repay bonds). But an untimely downward turn in the economy deterred would-be developers from making the sizable investments necessary to satisfy the master plan's high-density mandate, and only two developers joined in. (The Salvation Army was the first, sponsoring the elderly housing high-rise at left in the aerial photo, far right.) The city was left "financially exposed," according to John Berg, head of urban design at the City Planning Commission, and the ambitious Loring Park Development effort was in jeopardy. When co-developers Fine Associates/B.W. & Leo Harris Company proposed the low-density (16½ units per acre) townhouse scheme shown here, and requested two parcels (2.6 acres) of land, the city acquiesced—eager to keep the momentum alive and feeling the pressure of imminent bond repayment schedules.

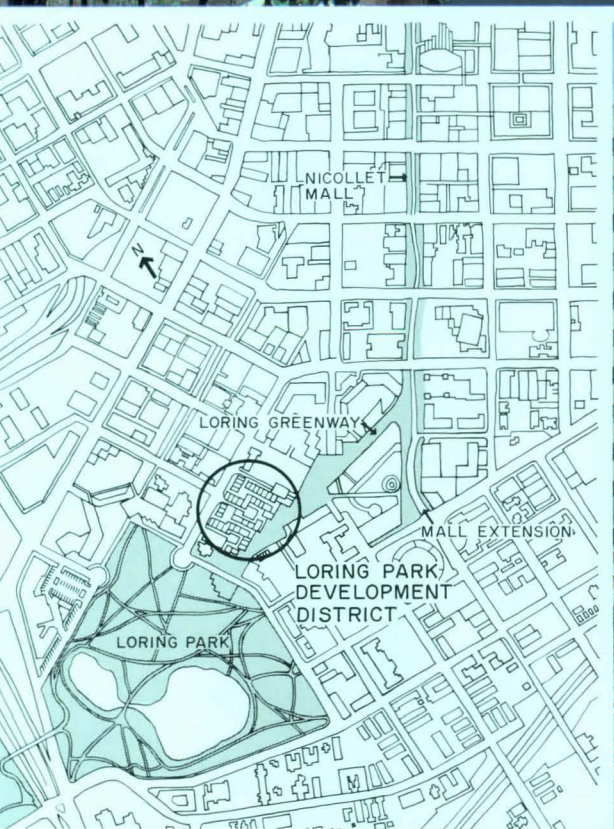
As an early entry in the Loring Park Development area, "Greenway Gables" was an instant commercial success: all 43 townhouses were sold before construction was completed in 1979. But from its inception, the project hinged on the city's willingness to compromise many of the precepts of the Friedberg master plan—not the least of which was the dramatic reduction in density (creating even higher density requirements for new construction). Additionally, though the master plan specified brick as the consistent and unifying finish material, the architects chose wood; the developers agreed because of costs, and the city agreed because of the faster construction schedule. And though the townhouses were originally intended for a middle- and upper-middle-income market, inflation boosted construction costs and the developers opted for "luxury" housing; again, the city agreed because the higher taxes from increased property values would help offset the diminished tax revenue from the low-density townhouse scheme.

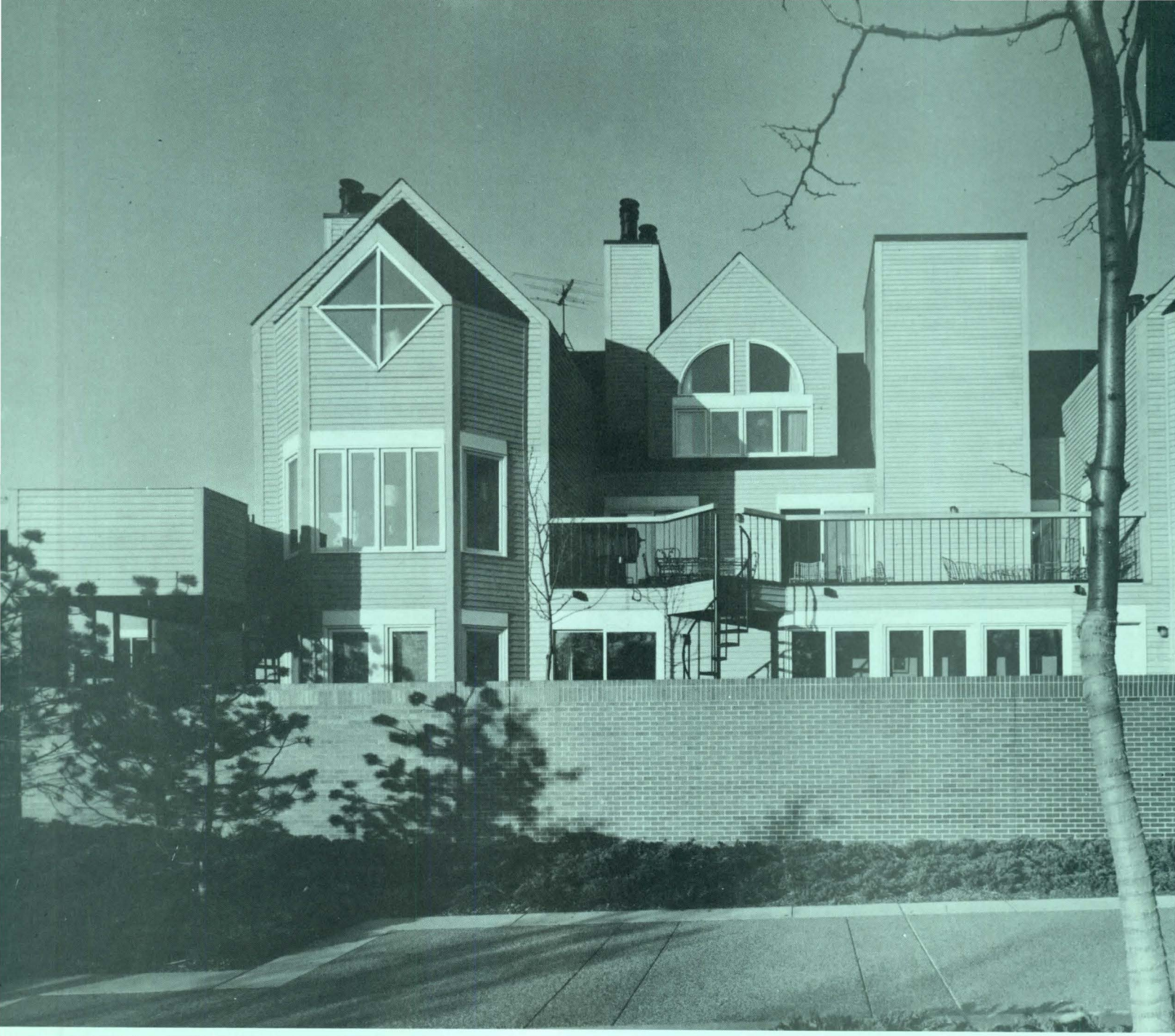
The obvious hurdle for both architect and developer was image: how to attract an upper-income market into an only partially developed area with an above-average crime history. To assuage the safety concerns of residents, a wall envelops the project: vehicular access is through three entry nodes along the public thoroughfare-facing perimeter (see site plan, overleaf), and pedestrian access is through keyed gates in the brick wall dividing the townhouses from the greenway.

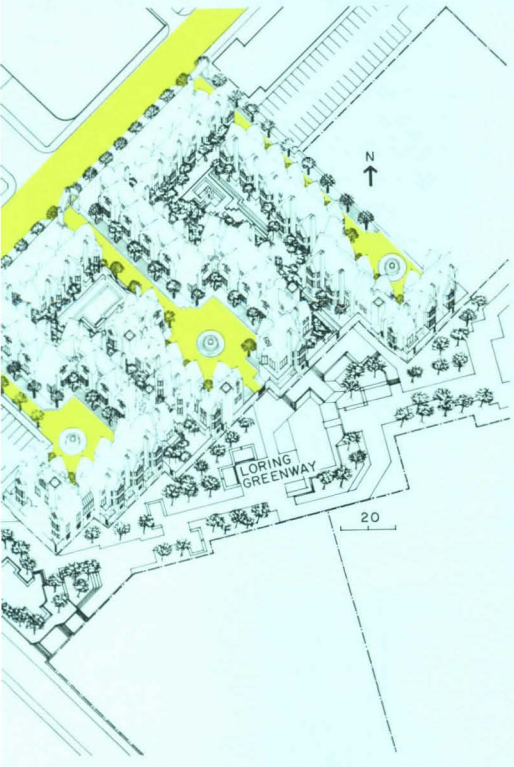
In deference to their upper-income market—and in anticipation of the esthetic and programmatic predilections of that market—the developers determined that the townhouses should be "traditional" and gabled, with a clear hierarchy of public to private spaces and distinct identification of individual units. In all three respects, Minneapolis architects Frederick Bentz/Milo Thompson & Associates have succeeded admirably. Three "semi-public" streets reach into the complex, giving residents access to the individual units' two-car garages and visitors access to the contiguous elevated entries (recessed between the massive gable elements, pulling out from the common mass to identify each townhouse). While the facades facing the interior streets provide the necessary unit identification and amenities, more private facades face the inner core of the complex—either landscaped walkways, terraced courtyards, or a swimming pool. Most of the townhouses have direct access to these communal garden areas by way of small private decks. Though the townhouses are highly repetitious in design, the architects' adroit handling of the fenestration—an eclectic mix of bay windows, split lunettes, and triangles—animates the facades and provides cadence for the tightly-woven complex.

Taken on its own terms—as an autonomous residential enclave—Greenway Gables is an unqualified success: the cohesiveness of the design, the over-all plan, and the considerable texture that the townhouses provide for the urban fabric, are each notable. But as a small link in the larger Loring Park Development area chain, the merits of the project are necessarily tempered by the developers' general disregard for the Friedberg master plan. However, at a time when other developers demurred, and construction was desperately needed, the 43 townhouses served the master plan and Minneapolis well. —*C.K.G.*

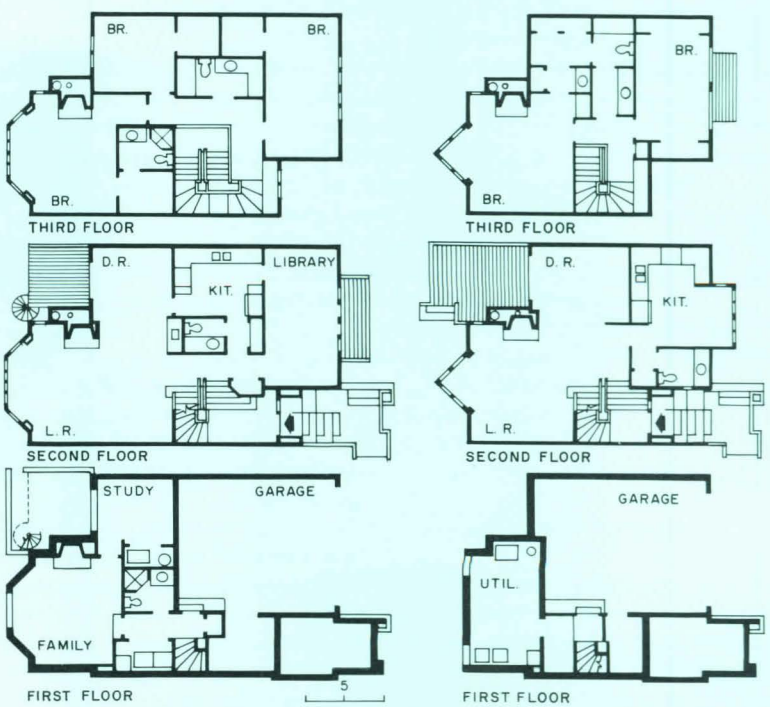
GREENWAY GABLES, Minneapolis, Minnesota. Developers: *Fine Associates, Inc./B.W. & Leo Harris Company*. Architects: *Frederick Bentz/Milo Thompson & Associates—project designer: Milo H. Thompson*. Engineers: *Fowler Hanley, Inc.* (structural). Landscape architect: *Marc Putman of Robert Engstrom*. General contractor: *Kraus Anderson Building Company*.


NICOLLET MALL
LORING GREENWAY
MALL EXTENSION
LORING PARK DEVELOPMENT DISTRICT
LORING PARK





As a pioneer in the Loring Park Development area, the 43 townhouses of Greenway Gables fared extremely well in the marketplace: despite original selling prices ranging from $90,000 to $300,000, all units were sold before construction was completed. (Re-sale profits have ranged from 30 to 90 per cent.) Since owners were identified early, the developers allowed extensive customizing of the interiors—the plans, finishes, detailing, and amenities were open to modification. The living room shown above offers a telling glimpse of the spaces offered in the "luxury" townhouses: the tie rods are necessary tension members. The large photo above (left) shows the brick wall separating Greenway Gables from the recreational central spine running through the development area.



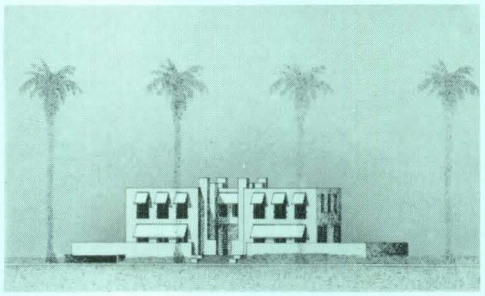
371-379 BELLEVUE PASADENA, CALIFORNIA BATEY & MACK

Only a street number identifies this five-unit residential enclave on Bellevue Drive in the Los Angeles suburb of Pasadena. The absence of some descriptive and memorable name for the complex—"Twin Palms" might have been the obvious choice—is a courtesy to the genteel neighborhood. Though recent zoning changes, permitting subdivision and condominium development, will no doubt diminish the elegance of streets lined with palms, expansive lawns, and venerable houses, residents would prefer the transition to be discreet. As the winner of this year's "Pasadena Beautiful Award," 371-379 Bellevue Drive is just that.

The owners of a classic pre-Greene & Greene house (far right in photo top right) decided that—owing to size, maintenance, and security problems—the craftsman style was no longer appropriate to their needs. Additionally, they wanted to take a 180-degree stylistic turn in architectural environs and exchange their hand-wrought detailing and rich textures for a simpler, "less cluttered" *modern* residence. But rather than abandon the familiarity of their neighborhood—and bolstered by the amenable zoning changes—they chose to develop 18,000 square feet of garden property contiguous with their house. To reduce the onus of maintenance and security, they opted for a plan that included a separate residence for their own use and four condominiums for sale: the burden of home ownership could be distributed among five families.

As the first, and still the largest, built project by architects Batey & Mack, the Bellevue residences bode well for the three-year-old San Francisco firm. In plan, massing, organization, and elevation, project designer Andrew Batey has satisfied the programmatic requirements and esthetic preferences of the clients, and the less explicit, more-difficult-to-quantify demands of the neighborhood. And though "contextual sensitivity" is currently in danger of becoming hackneyed as the favored barometer for evaluating architectural success, there *is* much to be admired in adroitly slipping a contemporary five-unit residential complex into a neighborhood as established as this. By using the simplest materials and the most elemental shapes, and by limiting the vocabulary to essentials, the architects have assured that the new neighbor on Bellevue is both appropriate and modest.

In deference to the existing conditions of the neighborhood, Batey established a list of high priorities: to hold the line of the street—



resulting in setback and lawn; to approximate the scale of the surrounding single-family houses—resulting in three structures rather than one; and to hide the cars from view—resulting in a 10-car underground garage (that includes a communal wine cellar and gymnasium, and stairs leading into each residence). But polite allegiance to the familiar precepts of suburbia has more to do with common sense than with architecture. What distinguishes this project architecturally is its elegance and its subtlety. Batey refers to the street facade as "deliberately toy domestic"—a reduction and simplification of familiar elements: a classical pair of pavilions fronting Bellevue Drive; the sheer white walls layering back to the simple cutouts of the facade; the central axis slicing between pavilions; the almost weightless ivory-colored awnings; and the perfect symmetry of the chimneys, providing focus for the entry and verticality for the twin pavilions. Despite the simplicity and familiarity of the means, the resultant imagery is evocative—perhaps recalling a Mediterranean villa half-hidden behind blank walls on a narrow street, or the walled garden apartments of California architect Irving Gill, or, as Mark Mack's pointillistic rendering at left might suggest, even a Foreign Legion outpost in the desert. Whatever the association, the spare, minimal, precise composition strikes a resonant chord.

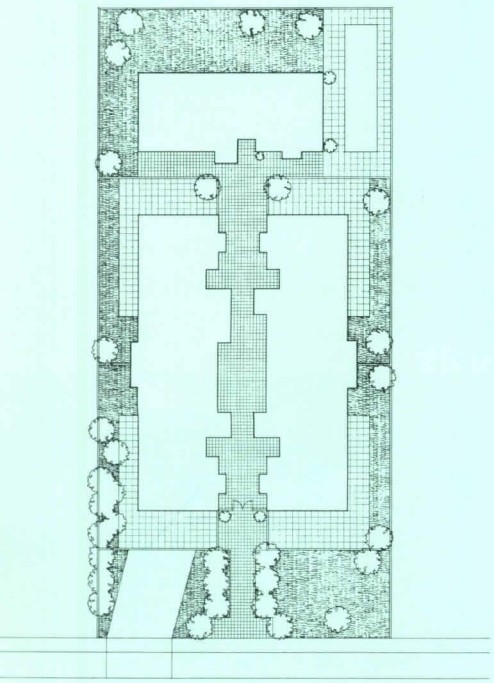
The wall that contains the four condominiums and the clients' detached residence, pushed to the rear (site plan overleaf), is an obvious response to the mandate for security, but it also serves to contain and tighten the three buildings. And within the complex, secondary walls apportion space for small private gardens (photos overleaf) and courtyards, tiled and inset with granite. A slender lap pool has been slid to the far corner of the site, in acknowledgment of the sybaritic California "lifestyle."

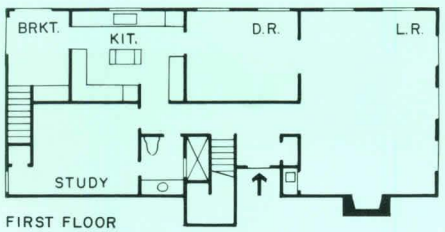
The walls, the courtyards, and the serene minimalism of the pristine white stucco recall the work of Luis Barragán; the debt is acknowledged by Batey, who spent two years in Barragán's Mexico City office. But where Barragán lavishes vibrant color, Batey confines his palette to white, or more precisely "orange blossom white"—a custom hue intended to provide a complementary foil for the citrus trees planted in overscaled terra-cotta pots. He adds, not incidentally, that the delicate color is especially striking against the yellow haze of the infamous Los Angeles smog.

At 35 and 33, Andrew Batey and Mark Mack can be safely categorized as "young architects." And like other small new firms, their work responds to the current architectural climate: "We have recognized a rich architectural tradition and have attempted a distillation of the L.A. style." But what is particularly satisfying, and promising, is that judging from this project they offer manners rather than mannerisms. —*C.K.G.*

371-379 BELLEVUE, Pasadena, California. Owners: *David and Joan Stewart.* Architects: *Batey & Mack—partner-in-charge: Andrew Batey.* Engineers: *H.H. Wang* (structural); *Wallach & Associates* (civil). General contractor: *William Van Iwaarden.*

Tim Street-Porter photos





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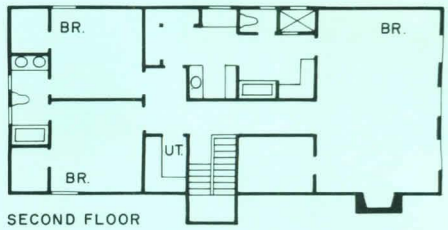

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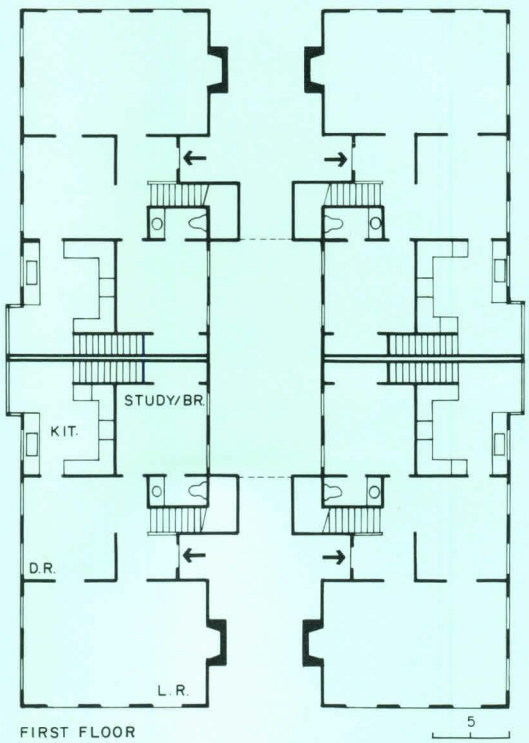

FIRST FLOOR

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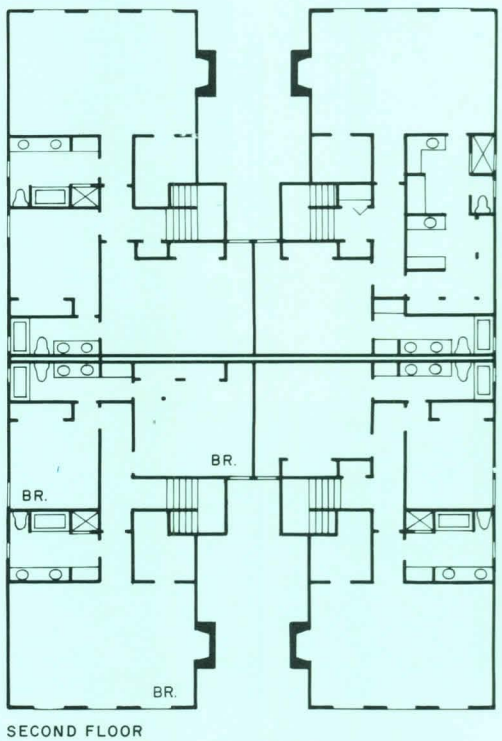

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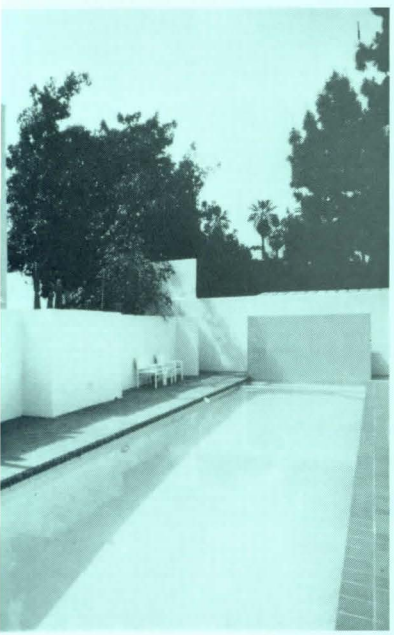


All four built-for-sale condominiums were sold in the early stages of construction, and many purchasers made substantial modifications to the *suggested* floor plans at left. The exteriors however, were to be regarded as sacrosanct.

In a complete break from their traditional house next door, the clients specified a thoroughly *modern* residence; the interiors—complete with Breuer chairs, Mies coffee table, and twin leather sofas—reflect their new preference.

FALLS MILL
NORWICH, CONNECTICUT
STEPHEN B. JACOBS & ASSOCIATES

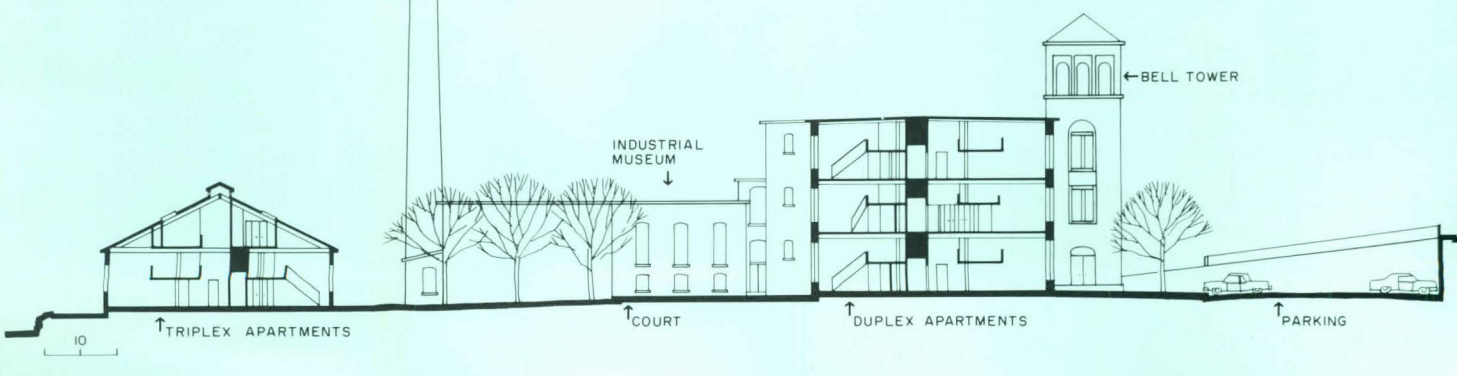
The Falls Mill complex in Norwich, Connecticut is a sturdy, blue-collar remnant of New England's industrial past, a building complex that had outlived its time as well as the technology that had given it shape and purpose. But the mill's generous floor-to-ceiling heights, its equally generous and regular window bays, and—most especially—its superb location at the base of a falls on the Yantic River all conspired to make it a fine candidate for adaptive reuse. Out of its 100,000 square feet of enclosed space, architects Stephen B. Jacobs and Associates have fashioned 121 apartments, most of them duplex and triplex units. These units are arranged around a double-loaded corridor that is offset and broken at intervals by transverse hallways that lead directly out to the site. The attenuated shape that results, a function of the original mill volume, yields six apartment types (see site plan and typical duplex plan, right). The apartment interiors (see photos opposite) take obvious delight in the exposed brick and heavy-timber construction that is characteristic of old New England mills.

Because tax laws favor rentals—accelerated five-year depreciation when the projects are located in historic districts—the Falls Mill apartments are rental units offered at rents ranging between $300 and $650 per month. This range is comparable to other (but mostly less interesting) garden apartments in the region.

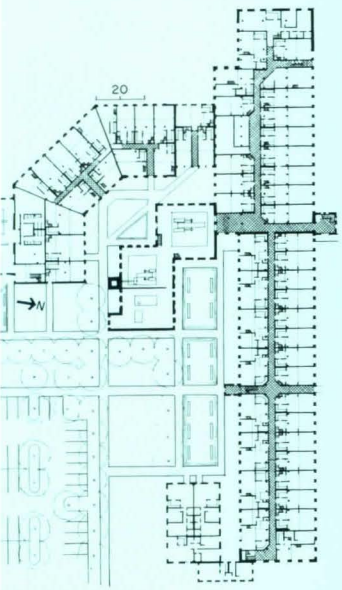
The mill's major buildings date from 1883. The original dyeworks, located at the river's edge, has been converted to a recreation and social center. The power house, the structure at the heart of the complex, has been transformed into a museum. The centerpiece of its exhibits is the original steam engine with a massive piston-operated fly wheel that once powered the looms that spun out the duck and awning cloth for which the mill was famous.

Jacob's sensitive renovation reclaims a structure that was fast becoming an empty carcass and a community eyesore. For his timely and appropriate intervention, Jacobs won a recent and well-deserved New York Chapter AIA award for Falls Mill. —*B.F.G.*

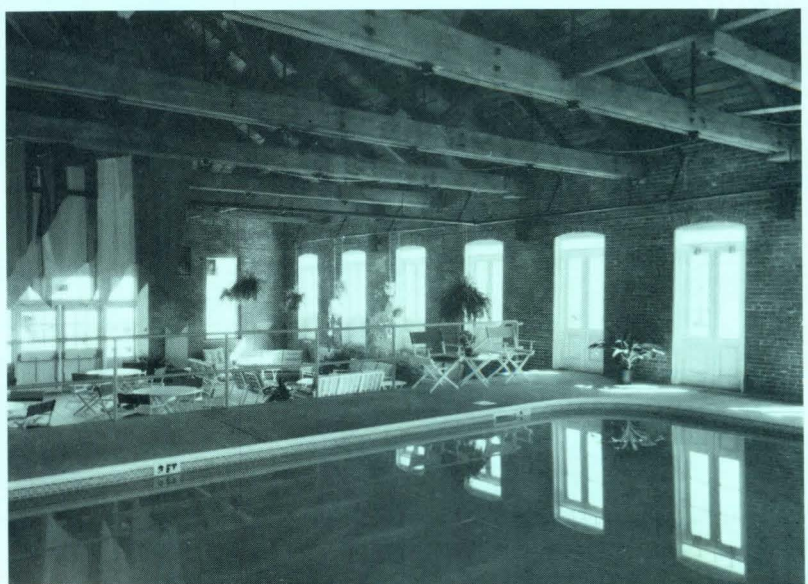
FALLS MILL, Norwich, Connecticut. Owner: *Falls Mill Associates Limited Partnership.* Architects: *Stephen B. Jacobs and Associates—project architect: Stephen B. Jacobs; partner-in-charge: Gerald J. Hallissy; project team: Edward Costello, Robert Hadley, Daniel Hammerman, Edgar Krois.* Engineers: *Blitman, Levine and Garner* (structural); *George Langer* (mechanical); *DiCesare-Bentley-Welling* (civil). Contractor: *N. Grondahl and Son Inc.*



Todd Henkels photos

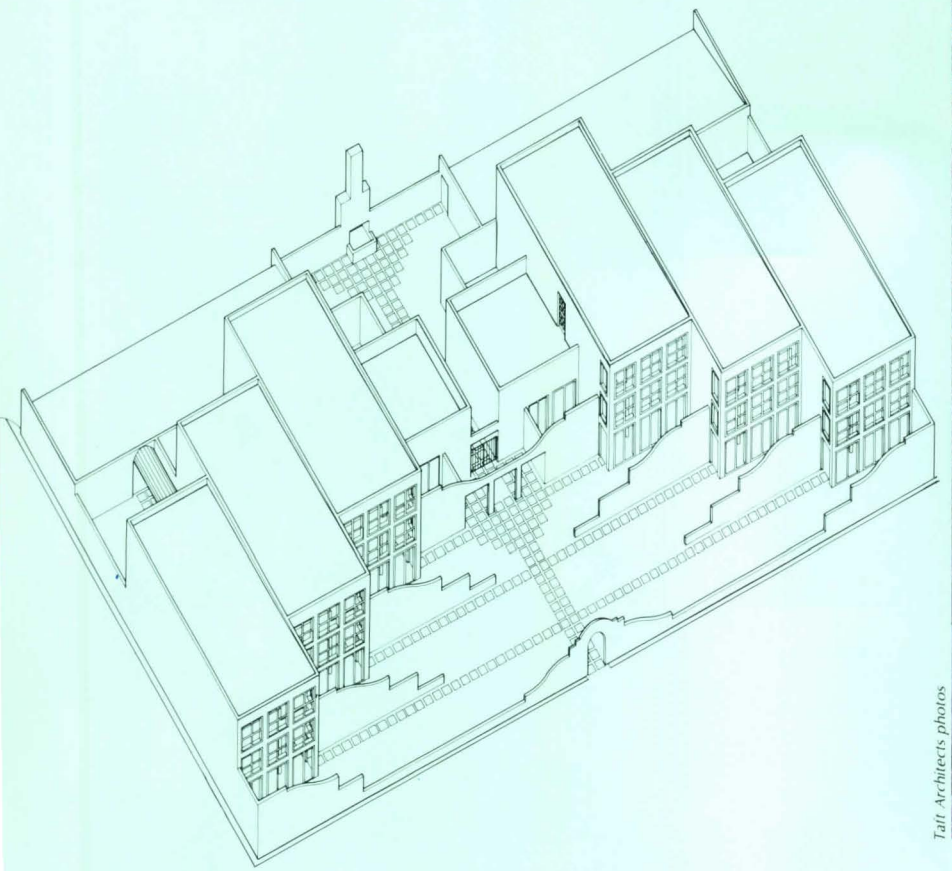


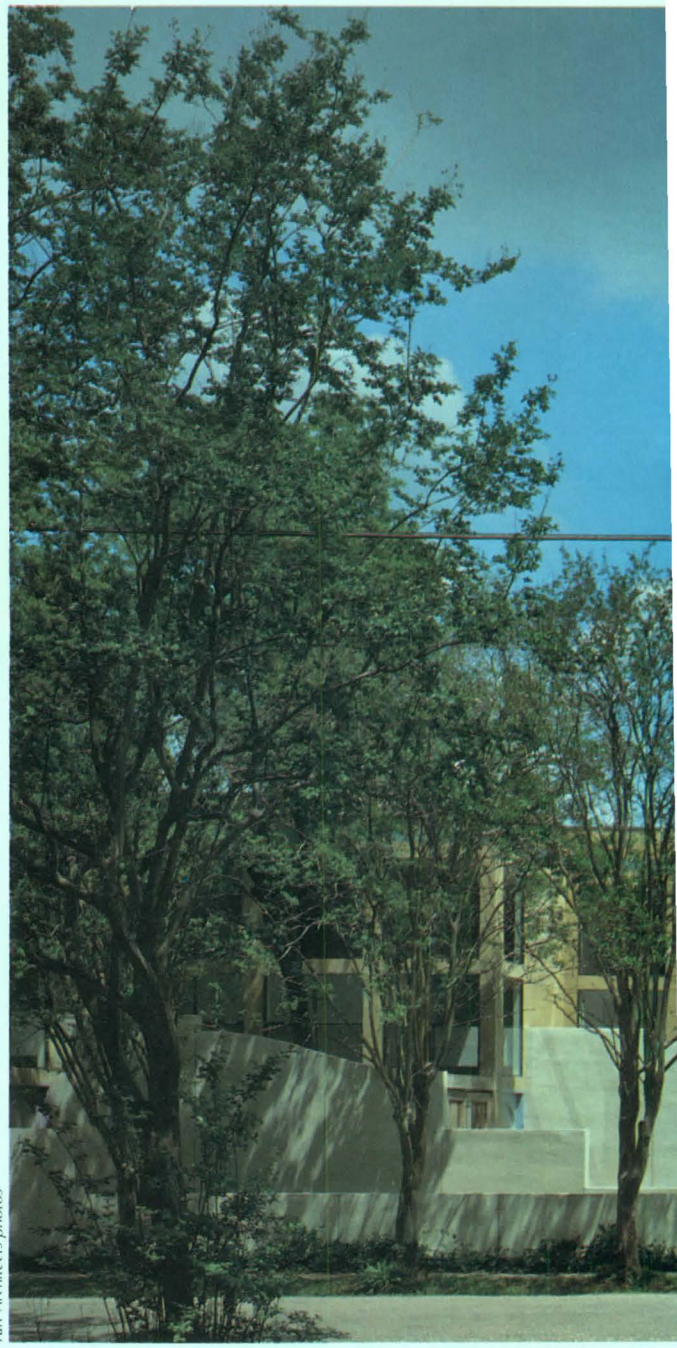
The typical apartment, shown in the photo right and plans below, has living, dining, and kitchen spaces downstairs, and bedroom and bath above on a mezzanine overlooking the living area. The spaces are compact but comfortable.



RECORD APARTMENTS 1981

GROVE COURT HOUSTON, TEXAS TAFT ARCHITECTS





Taft Architects photos

Taft Architects of Houston designed this attractive and evocative six-unit townhouse cluster for one of the city's reblossoming downtown neighborhoods. A low wall, opened at its center by an entry arch, playfully encircles the whole site, its steps and undulations catching something of the region's historic vernacular. But the work of Irving Gill, particularly his gracious, World War I vintage, southern California garden apartments, is remembered too in certain of the details and the sensitive handling of domestic outdoor spaces. Here at Grove Court, where the apartment units are treated as two opposite-hand groupings, each apartment has a private entry court divided from the public space by a low screen wall. These private spaces flow together to form a communal space at the front and it is joined to a shared space at the rear—this one with a Texas-size barbeque—by a narrow passage between the building volumes. These beautifully developed spaces, and the subtle gradients of privacy they establish, are sufficient to give Grove Court a design distinction far above that usually attained in built-for-sale housing, and far above that usually built for $32.65 per square foot.

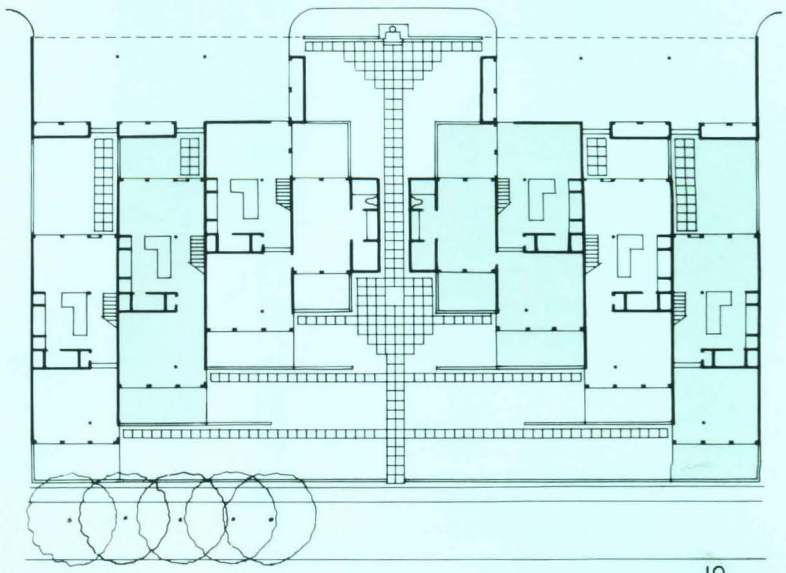
This distinction is carried through and even amplified in the design of the apartment units themselves. All are duplex designs, eighteen feet wide, and oriented north-south. Courtyards at each end extend the living space and operable windows permit thru-ventilation. The architects describe the interiors as loft space and point out that individual owners are free to adjust certain of the spaces to suit specific needs. The small space off the kitchen, for example, can be developed (see plan) as a powder room, a dark room, or a kitchen pantry. A similar sort of flexibility is provided upstairs in the study-guest bedroom.

The project's actual footprint was determined by a number of factors, not the least of which was the requirement to preserve the existing trees that throw a welcome canopy over the site's outdoor spaces. By stepping the apartment units back toward the center of the site in even increments, the resultant massing is simple but strong, and a huge pecan tree, located at the geometric center of the site, could be saved to serve as a pivot. The encircling wall, because of its scale and the playfulness of its forms, implies no inhospitality. It does not say "keep out." It simply gives definition to the project and serves as a contrast to the strict rectilinear geometry of the apartment blocks.

The Grove Court Townhouses are

framed in wood and finished in gypsum board under lath and stucco. These familiar, time-honored materials have been combined in a design of remarkable appeal, a design in which the sensitive and inventive use of space, an eye for lively detail, and a clear sense of its own identity all contribute to an obvious excellence. For a neighborhood on the way up after a prolonged period of decline, Grove Court is an important and timely intervention. —*B.F.G.*

GROVE COURT TOWNHOUSES, Houston, Texas. Developer: *Ted Callaway*. Architects: *Taft Architects—partners: John J. Casbarian, Danny Samuels, Robert H. Timme; project assistants: Scott Waugh, Marc Boucher; support team: Jeffrey Averill, Joyce Rosner, J.E. McManus, Kevin Kennon*. Engineers: *Cunningham Associates (structural)*. Contractor: *Frank Lawther Company*.



FIRST FLOOR

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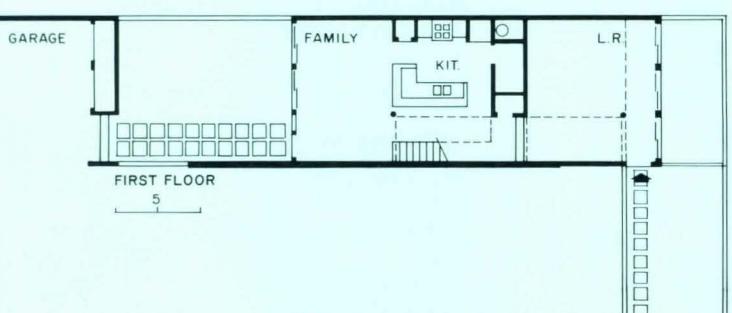
4324

Like the exteriors, the interiors at Grove Court Townhouses are designed to appeal to those young professionals—couples and singles—who work in and around Houston's downtown, and want to live in close proximity to their jobs. Gypsum board, pipe columns and rails, and floor tile all set the spirited tone for spaces that are designed to be free, unencumbered and flexible. The design has been a notable success in the marketplace; all but one of the units have been sold.

SECOND FLOOR



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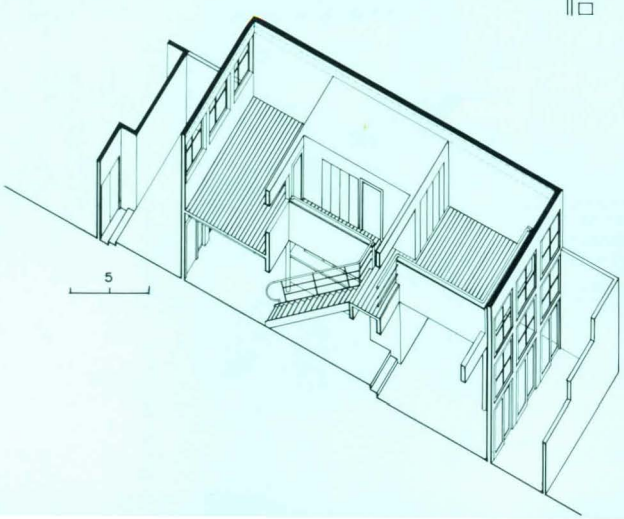
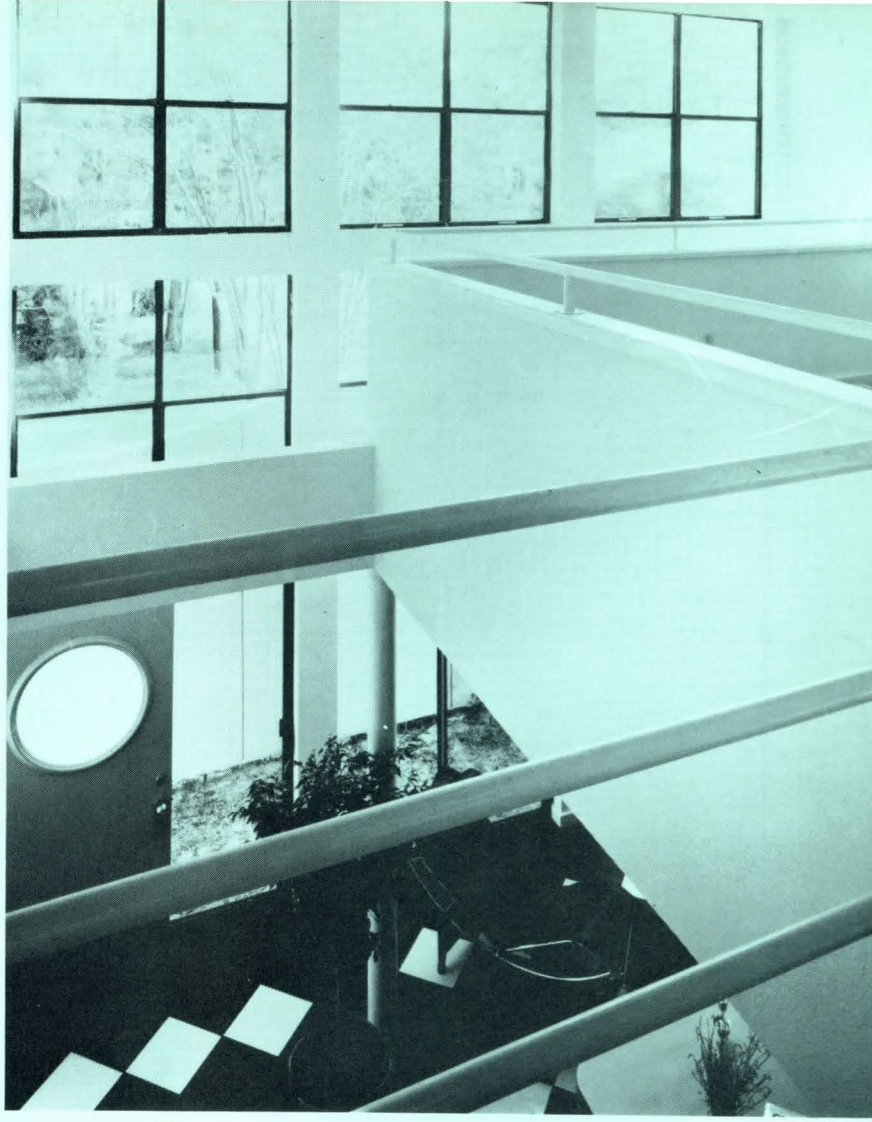




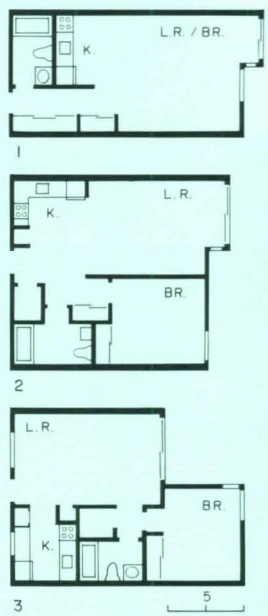
SAN RAFAEL COMMONS
SAN RAFAEL, CALIFORNIA
KAPLAN/McLAUGHLIN/DIAZ

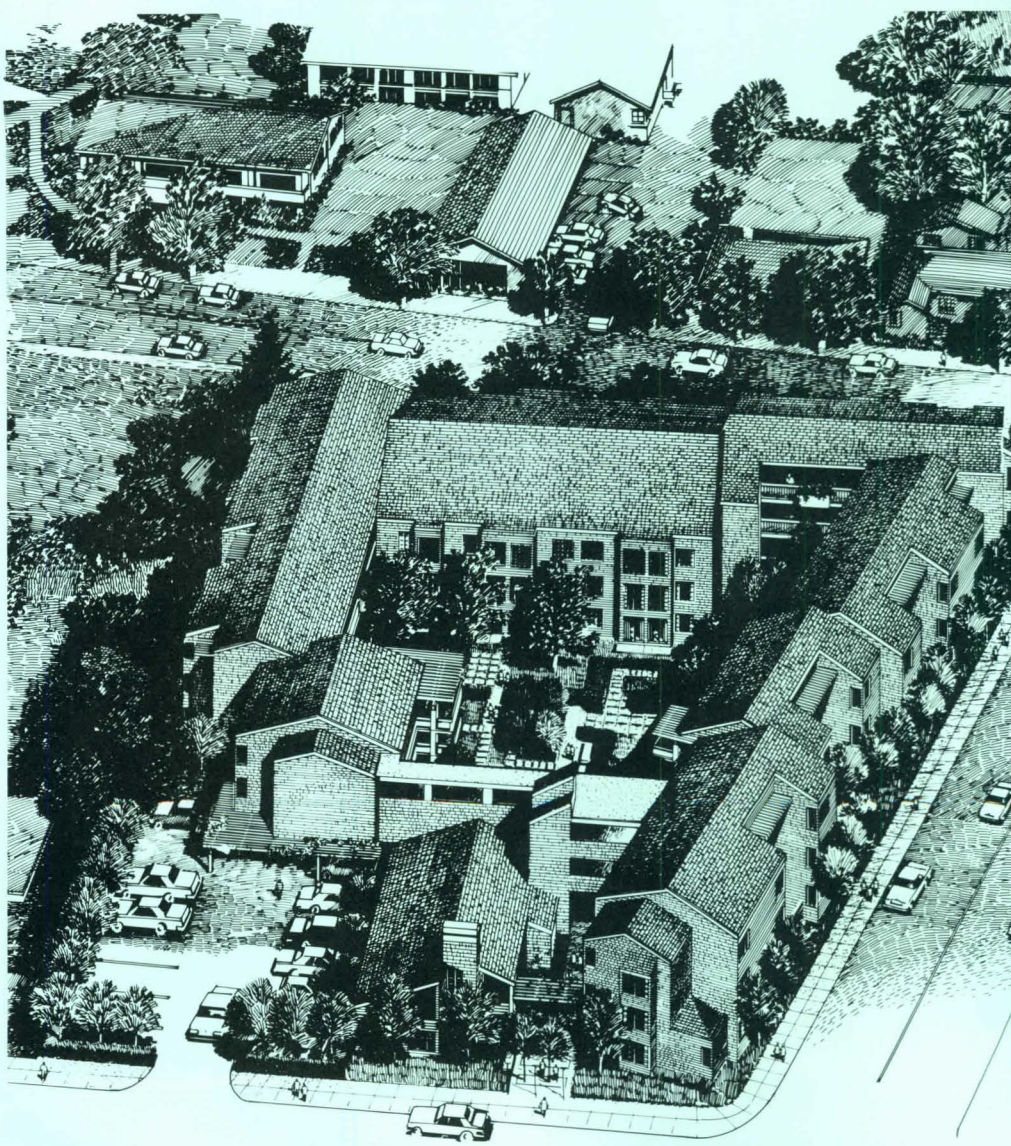
The 91 residents of San Rafael Commons represent only a miniscule fraction of the total elderly population living in Federally subsidized and/or HUD-financed housing. But the demographics of even this small and random group illustrate the particular plight of the aging—who confront today's housing market with dwindling economic resources and accelerating physical disabilities. Fortunately for *these* 66 women and 25 men the problem of housing was solved last September with the completion of the 83-unit residential complex shown here. Despite an average annual income below $8,200 and a median age of 68, the new tenants discovered that their needs had been accommodated and their problems anticipated—thanks to the careful preparatory efforts of San Francisco architects Kaplan/McLaughlin/Diaz and to HUD Section 202/8 funds.

The design of San Rafael Commons is a direct response to a comparative post-occupancy study—conducted by the architects—of three elderly housing projects: the information gathered in that study served as the design determinants for this project. The courtyard plan addresses two of the most chronic problems facing the elderly: the tendency toward social isolationism and the high incidence of crime aimed at the elderly. Three shingle buildings surround a central garden to create a protected but open communal area; access is by a single, monitored entry, adjacent to the resident manager's office (photo below right). Outdoor corridors overlook the courtyard to assure maximum visibility of circulation and to encourage *ad hoc* socializing. Most of the apartments include a view not unlike the image depicted in the large photo at right: the benches, walkways, and gardens are welcome incentives—drawing residents out of their rooms, inviting them outdoors.

Prior to moving here, residents paid a median rent of $225; now, with HUD subsidies, no one pays more than 25 per cent of their income. The median rent is currently $123 for a one-bedroom, and $90 for a studio.

For residents of San Rafael Commons, the quality of life has improved measurably: what more could be asked of architecture or government? Except more. —*C.K.G.*

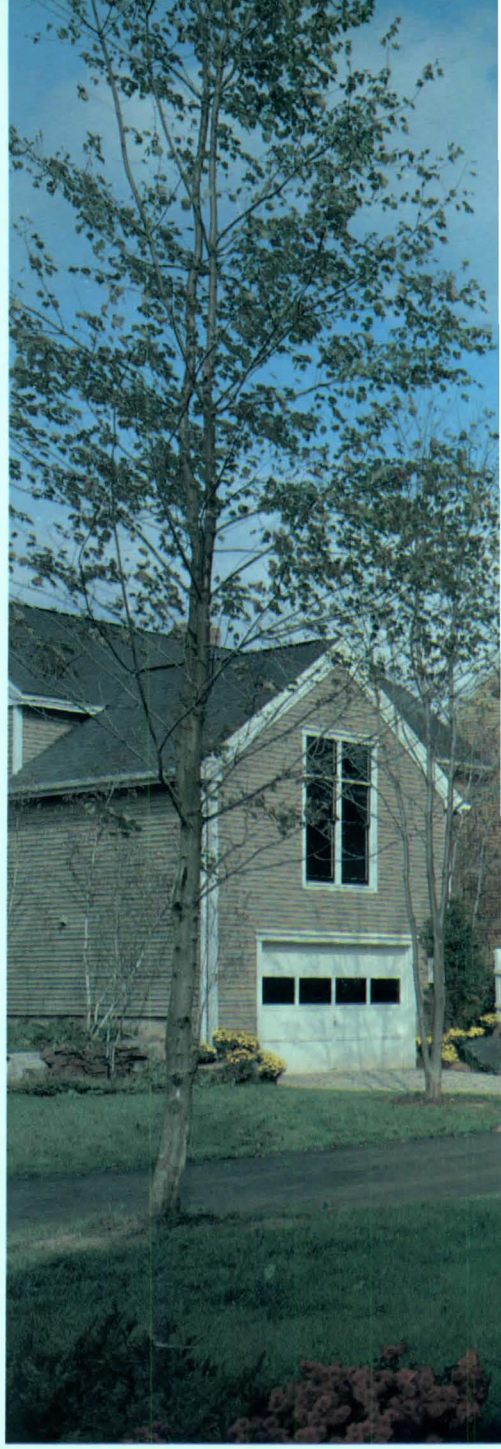




SAN RAFAEL COMMONS, San Rafael, California. Owners in joint venture: *Pacific Union Development Company/The Ecumenical Association for Housing*. Architects: *Kaplan/McLaughlin/Diaz—partner-in-charge: Herbert McLaughlin; project architect: Paul Barnhart; project designers: Herbert McLaughlin, Gordon Linden, Douglas Shoemaker*. Engineers: *Peter Culley Associates* (structural); *JYA Consulting Engineers* (mechanical). Landscape architect: *Fong & La Rocca Associates*. General contractor: *Hunter/Moffett Contractors, Inc.*

Jane Lidz and John McSutton photos

RED OAK
FARMINGTON, CONNECTICUT
CALLISTER PAYNE & BISCHOFF

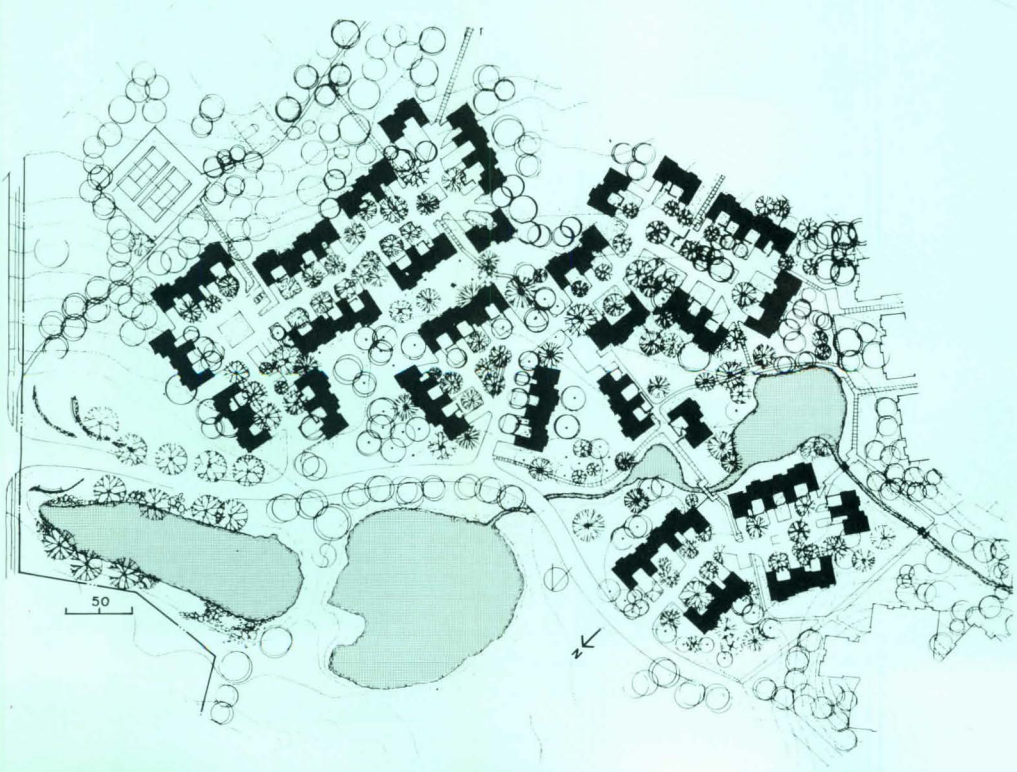


The image of a small New England village, of white picket fences and front yard neighborliness, is what architects Callister Payne & Bischoff sought and achieved in their design for Red Oak, a proposed 277-unit, leased-land development in Farmington, Connecticut. Thirty-five units are now in place and 17 more are currently under construction. They are grouped in two- to four-unit clusters and arranged around cul-de-sacs that meander through some of New England's most enchanting countryside. The streetscape is kept as intimate as possible by massing the buildings informally and providing each with a small fenced-in yard that serves as a gentle transition between street and front door. Three unit types (see plans overleaf) are offered, but they are clustered in different ways so that the sense of repetition, so often and quickly sensed in projects of this kind, is all but absent. The houses, squares, and streets seem to unfold at Red Oak in a pattern of ever-changing variety.

The site lies quite low so the ponds that thread their way around the margins of the 70-acre site double as recharge basins protecting residents against flooding, and the raised first floors in all houses offer added protection against wetness.

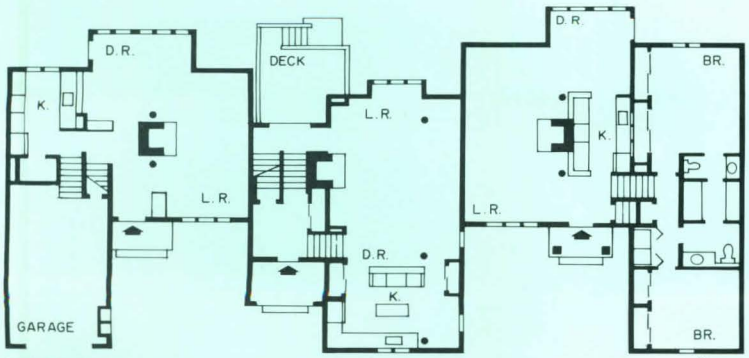
To help sales that have been stymied by high interest rates, developer Otto Paparazzo has offered more than the market-wise imagery so evident in the photos shown here and on the pages that follow. He, like innovative developers elsewhere, has been pioneering new ways of putting his houses within reach of home buyers who are now priced out of conventional markets. At Red Oak, Paparazzo is offering leased-land arrangements, whereby a purchaser buys a house but rents the land on which it is built through the instrument of a long-term lease. In this manner, he makes a substantially lower down payment as well as lower monthly payments. But in contrast to other leased-land arrangements—where purchasers are offered inducements to buy their lots after an interval of years—at Red Oak the site is not subdivided. "Owners" belong to an association to which they pay a monthly maintenance fee in addition to the fixed sum they pay the builder. When the lease has expired, ownership of the lots reverts to the association. On a typical $90,000 house at Red Oak, this unusual arrangement reduces the required down payment from $18,000 to $9,000 and brings monthly charges within reach of many of the region's potential buyers—buyers who respond to Red Oak's obvious architectural appeal but could only afford it under unconventional financing. —*B.F.G.*

RED OAK, Farmington, Connecticut. Developer: *Otto Paparazzo Associates.* Architects: *Callister Payne & Bischoff with David K. Gately—design group: James Bischoff, Parker Croft, Joseph O. Newberry.* Engineer: *Glen Mayo.* Interiors: *Virginia Anawalt Interiors.* Contractor: *Otto Paparazzo.*



Ezra Stoller ©ESTO photos

SECOND FLOOR



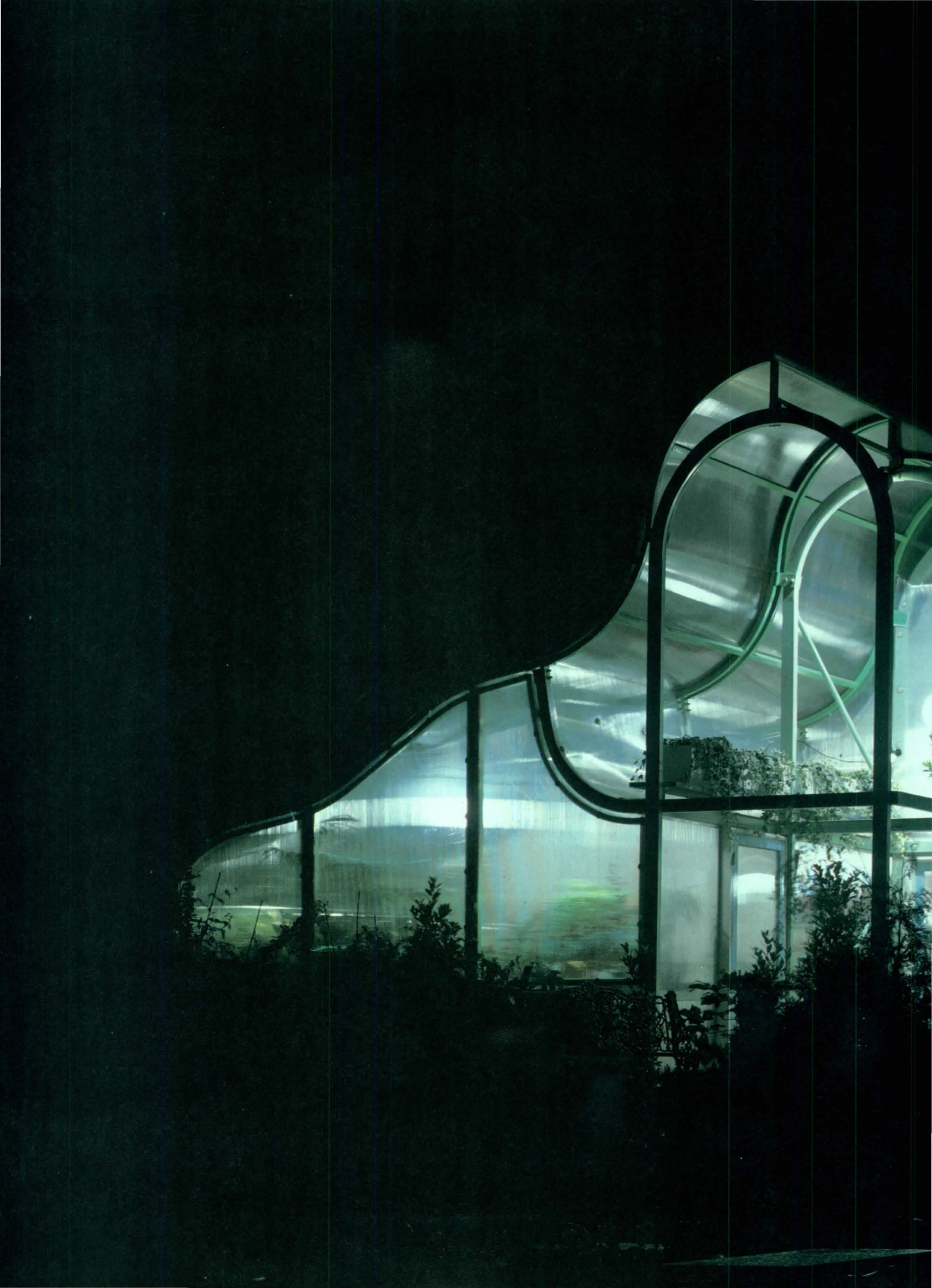
FIRST FLOOR

A B C

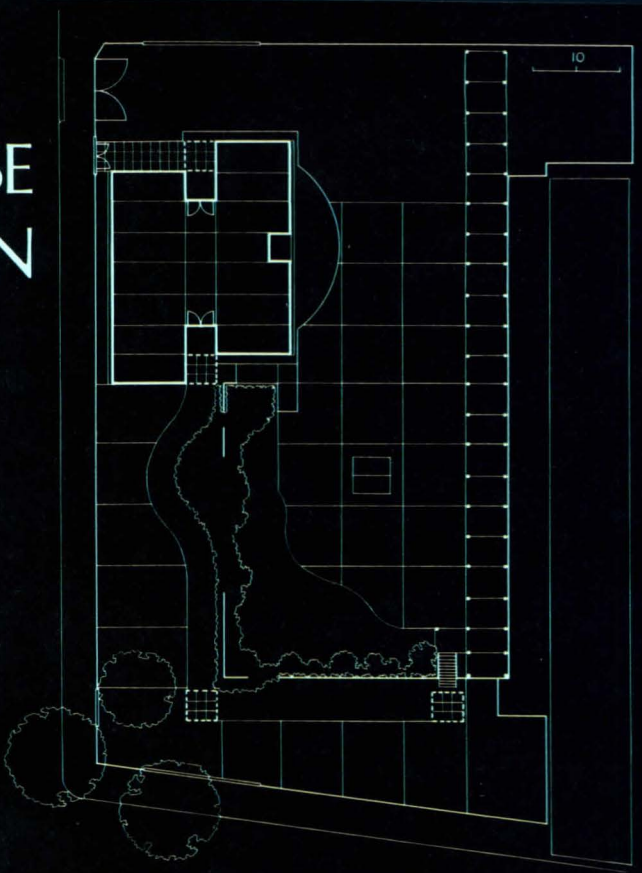
5

The typical cluster shown above reflects the adaptability of the typical unit plans shown here. The two- or three-level houses can be attached without compromising the identity of the individual unit: two-car garages, opening to the street, provide definition—as distinct gabled elements pulling out from the main mass. In some units the garage is slightly below grade—beneath either a kitchen or bedroom (units B and C).

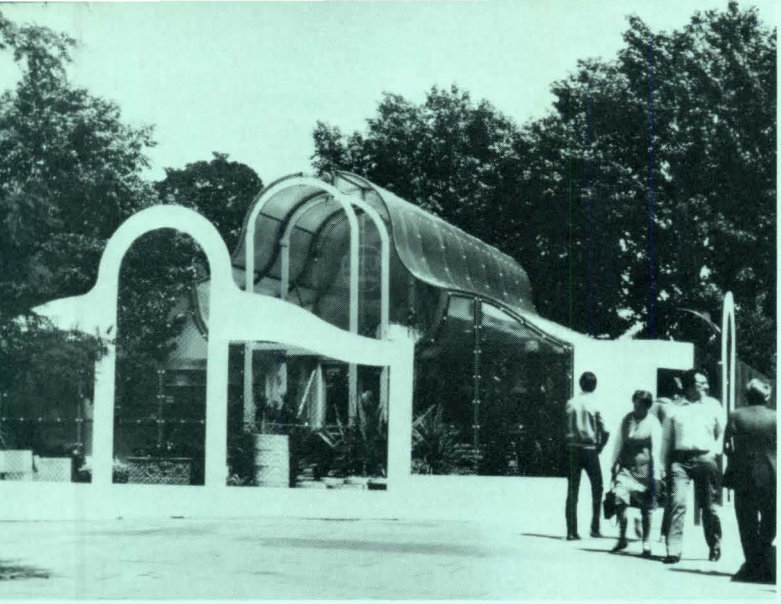
The interiors at Red Oak are developed in a lively spirit and with the same sense of animation as the exteriors, but with little concern for historic form. From first to last, the detailing is expressive.



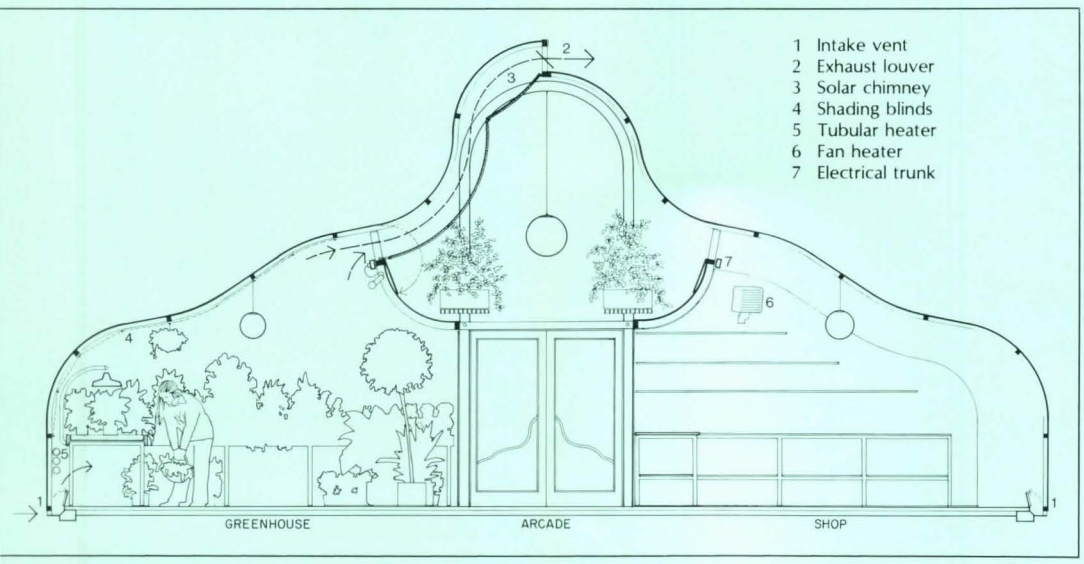
A GREENHOUSE IN LONDON



This strikingly handsome garden center is the prototype for a chain of garden supply shops to be erected on temporary sites. The explosive growth of franchise businesses has resulted in a pervasive and generally mediocre franchise architecture, ranging from the pioneering White Tower to the ubiquitous McDonald's. However, the Colonnades Garden Centre by the Terry Farrell Partnership, architects, for Clifton Nurseries in London, establishes a strong image that is simultaneously good architecture. The re-usable greenhouse represents a genuinely cooperative and creative effort between the architects and their engineers, and the client.



Jo Reid and John Peck photos



As shown in these photos and a section, the greenhouse by the Terry Farrell Partnership consists mainly of a steel frame supporting large sheets of polycarbonate plastic. Although the structure is conventional, the fastening details are not. Polyvinylchloride "buttons" and self-tapping screws evenly distribute stress and permit movement. (Polycarbonate has a high thermal coefficient of expansion.) Polyurethane gaskets with double stick tape seal the gaps between the individual sheets.

Farrell's design is distinguished by its undulating profile, of course. If the dome-shaped conservatories of the 19th century were a direct translation of Beaux Art masonry forms into Industrial Age materials, Colonnades is the child of plastics engineering. It exploits the properties of a twin-walled webbed sandwich polycarbonate plastic sheet, made in Europe, to enclose its space in a material that is tough, flexible, insulated, and supportive of plant life. Its airfoil shape tests the practical limits of draping whole extruded plastic sheets sized 6 ft. 11 in. by 34 ft. 5 in. across a receiving steel armature.

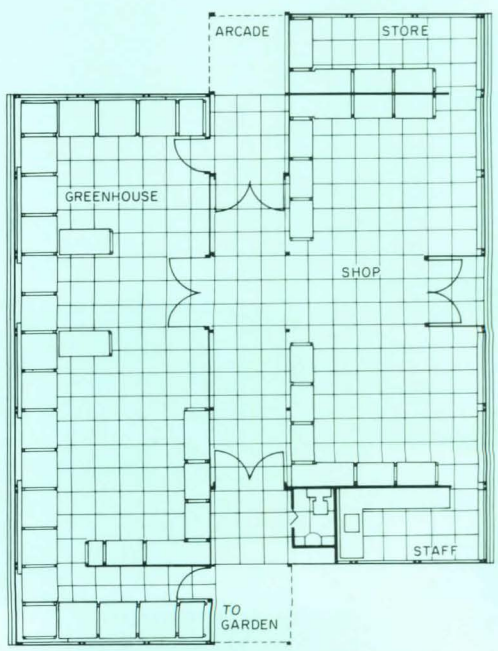
Basic support is provided by a steel cage or "arcade" from which cantilevered arms or "cradles" reach out to reduce the span of the building skin. The skin itself is an assemblage of individual sheets mounted in frames or "ladders" resting directly on the main frame. Its prominent concave and convex curves give strength to a material that tends to sag.

Greenhouse environments have, of course, always been troublesome, often due to heat loss and gain. Heat loss is reduced by the air cavities in the sheet, while additional heat is supplied by electric heaters. Heat gain is mitigated by a battery of devices: floor and ceiling louvers, vents, a solar chimney whose quilted blanket draws warm air up and out, and blinds for shade on critical days.

A plywood cut-out facade echoes the shape of the greenhouse along the sidewalk. It plays on the ambiguity of the end facades, both glazed and exposed, as it draws shoppers in. Inside, the strongly axial space, divided into a greenhouse and a garden supply shop, is weightless and playful. The only trace of the building that can be seen is its steel structure, framing and defining the sky.

—Roger Yee

COLONNADES GARDEN CENTRE, London, United Kingdom. Owner: *Clifton Nurseries.* Architects: *The Terry Farrell Partnership: Ken Allinson, Page Ayres, Terry Farrell.* Structural engineer: *Peter Brett.* Energy consultant: *Ralph Lebens.* Contractor: *Hodgson Brothers.*



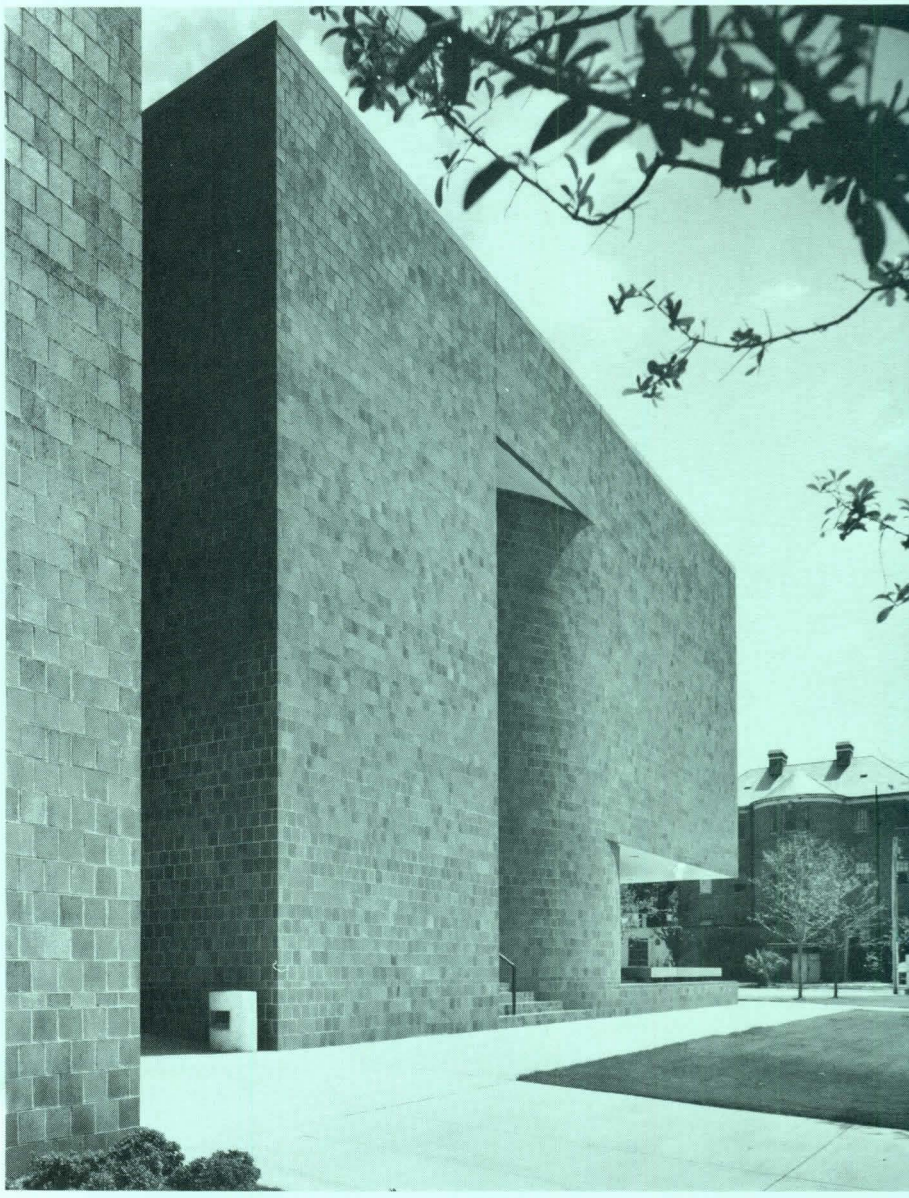
The Charleston Museum—a competition winner built

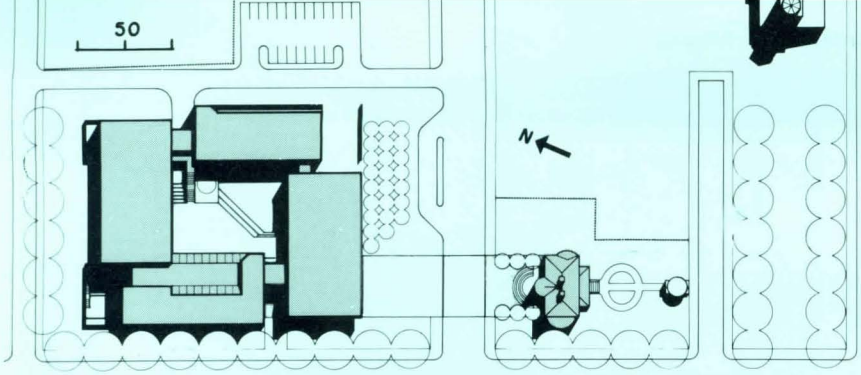
Charleston, South Carolina is a city which loves its old buildings. No true Charlestonian will sell his house or any of its furnishings unless the wolf is past the door and into the premises—so homes remain in families for many generations. Old churches, civic buildings, banks and warehouses are similarly cherished. As far back as 1931 the city established the first Old and Historic District in the United States, and created a Board of Architectural Review to approve all additions, alterations and demolitions in this district and changes to all structures over 100 years old within the city limits.

Charleston, obsessed with remembrance, has built almost no first-rate contemporary buildings. Even brand-new structures like the Mills House Hotel are "traditional" in design and neatly ornamented with fiberglass cornices and sills. In such a setting, the fine new Charleston Museum designed by Boston architects Crissman and Solomon is almost anachronistic. Unabashedly contemporary, but with no Post-Modernist touches, it looks like nothing else in the old city except perhaps the 18th- and 19th-century warehouses on the waterfront and at railroad sidings. Since the new museum is essentially a warehouse, this would seem to be appropriate. Post-Modernists, however, may see the building as lacking "contexture" because its architects passed up the chance to make direct reference to the classical forms of Charleston's 18th-century landmarks.

The new museum was originally designed back in 1975-76 before explicit quotation of historic forms was as commonplace as it is today. And architects Crissman and Solomon were not then in the grip of Post-Modernist ideas, nor are they now. What the young pair did try to do, six years ago, was to win the commission through a design competition open to any architectural firm licensed to practice in South Carolina. Since Jim Crissman had designed a house for his parents at Hilton Head, his firm qualified to compete. They won in a field of 92, because in the opinion of jury members Hugh Stubbins, Ambrose M. Richardson and Charleston attorney Robert N. Hollings, the Crissman and Solomon design *had* contexture, although none of them would have used such a word back then.

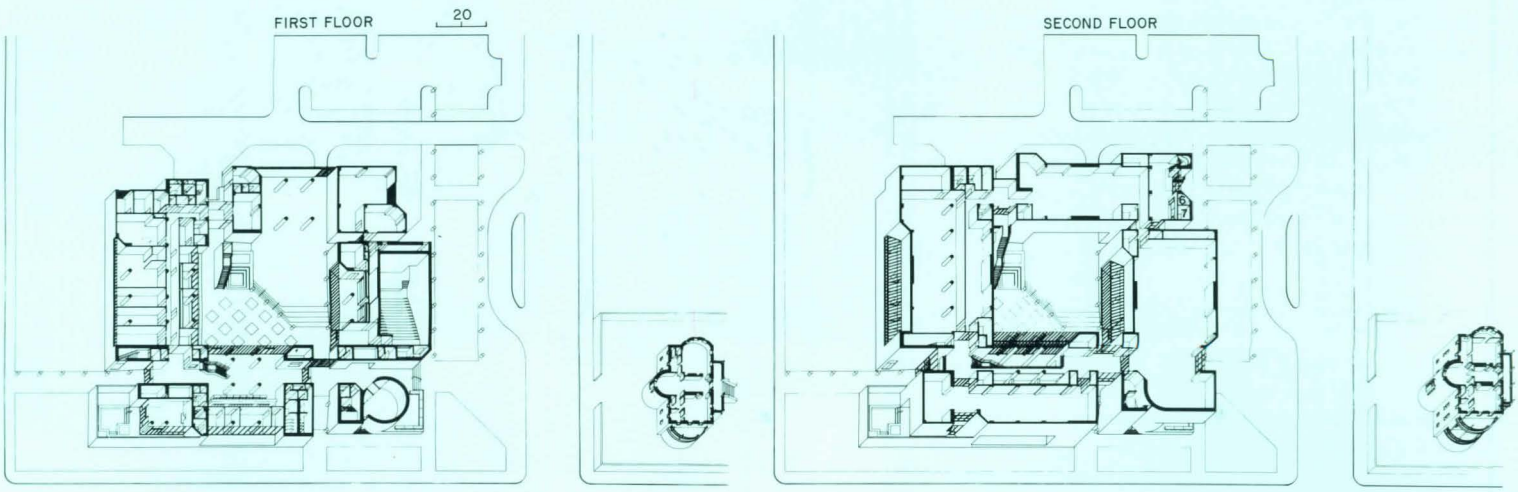
In the jury's view, the Crissman and Solomon design was the best response to a basic requirement stated in the program: "The Charleston Museum, as a major building in the historic city, will need to respect the scale, materials and mood of this area of the town, and in particular the Manigault House." As can be seen in the plans (opposite) and photo (right), the architects have created a spatial dialogue with this Adam-style mansion of 1803. They have made the museum's entrance enclosure as wide as the facade of the house (minus the semi-circular verandah to the southwest and corresponding rounded bay to the northeast). Further, they inserted a circular room (originally to be a planetarium) on the museum's entrance podium, which acknowledges all three semi-circular projections in the old house. The podium of the museum is at the same elevation as the mansion's own podium and the





The major criteria in selecting this winning design was the treatment of the visual relationship between the new museum and an adjacent landmark house. The solution is a quiet building surfaced in oversized chestnut brown brick to reduce its apparent scale. Other devices, such as carefully articulated openings and indentations, bring the large plain surfaced building into harmony with the delicate proportions of the house. Rooflines of the new structure line up with the cornice of the old. The scheme is a series of four, two-story rectangles linked by glass corridors which focus upon an interior courtyard. The entrances to both structures were to have been connected by a brick mall (original site plan at left) which has not been built.

©Steve Rosenthal photos



museum roof aligns with the cornice of the house.

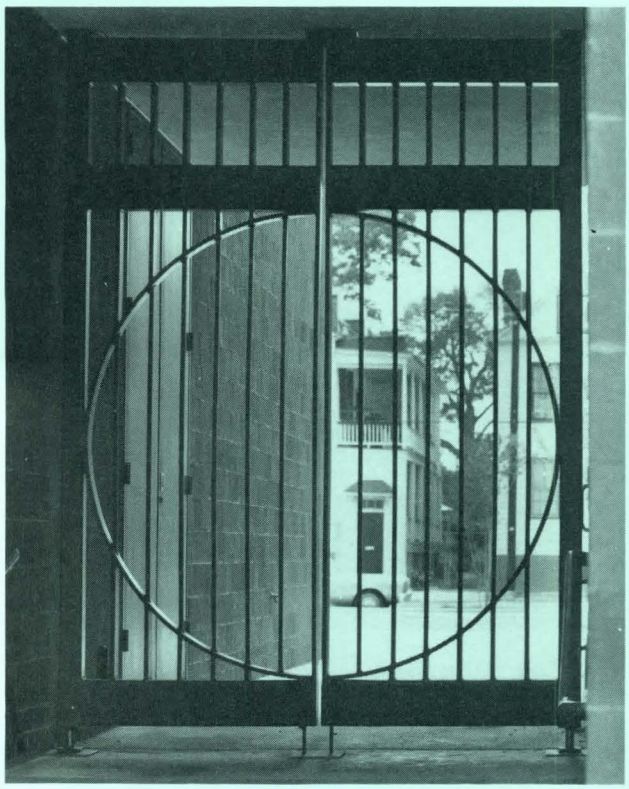
Because the Manigault House belongs to the Charleston Museum, it was important to make its connection with the new building explicit. In their prize-winning scheme (see site plan) the architects proposed to create a mall as wide as the Manigault facade, paved in brick and extending across the intervening street to connect the two buildings. They suggested further that the house be entered from the mall (at present the principal entrance is on the garden side). To enhance the new entrance, they designed a beautiful semi-circular verandah for the museum side of the house to orientate it toward the new building.

Unfortunately for this elegant solution, the brick mall was cut from the budget, concrete paving took its place and the verandah has not been built. Further, the Manigault House presents a cluttered presence to the museum because it has been disfigured by low buildings on the street side, which were to have been replaced by the mall and verandah. Because these nondescript buildings are over 100 years old, present opinion says they must remain. Thus, ironically, perhaps the most important of Crissman & Solomon's ideas and the one that probably clinched their prize, has not yet been allowed to emerge. With some additional funds all this can be fixed. The scheme as built still contains its other chief amenity—a central brick paved courtyard filled with crepe myrtle trees, which as they grow large and shady will recall the private enclosed gardens of old Charleston.

The exhibit areas are well proportioned, largely windowless spaces on the second floor. Work areas are on the first floor. The most pleasant of these face the courtyard and the rest are skylit. The museum's collections because of budgetary limitations are not yet properly displayed.

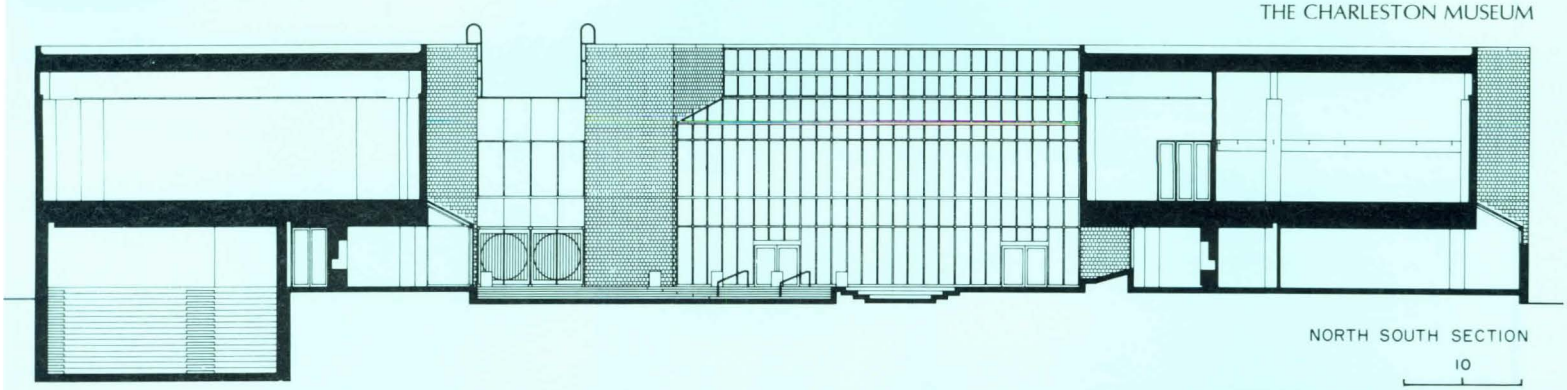
This doesn't seem to deter Charlestonians. Since the museum opened, it has been well attended even though it is located slightly north of the city's historic core, in a largely middle-class black community. Charleston's Mayor, Joseph P. Riley, Jr., points out that the blacks themselves are proud to have the museum in their neighborhood. He sees the museum as a catalyst for the development of the city beyond the historic core: "I think the location is terrific. We have made a UDAG grant application for a visitor center to be located across the street from the museum in a warehouse in the yards of the old Charleston Best Friend Railroad, the first ever built in this country. The area will re-interpret early railroad history and be another kind of museum. And the success of the Charleston Museum will help make it all happen."

—Mildred F. Schmertz



The inward looking closed scheme of the museum has both practical and esthetic purposes. The practical considerations included the need to control security and lighting, while the esthetic priorities mandated an intimate atmosphere—another world not revealed from the street and typical of Charleston. The museum was built substantially as designed except that the gross square footage called for in the program was significantly reduced because for budgetary reasons it became necessary to eliminate the basement. (Charleston's high water table made the cost of keeping a basement dry prohibitive so only the auditorium extends below grade.) The total cost of the structure including site work was $4.646 million.

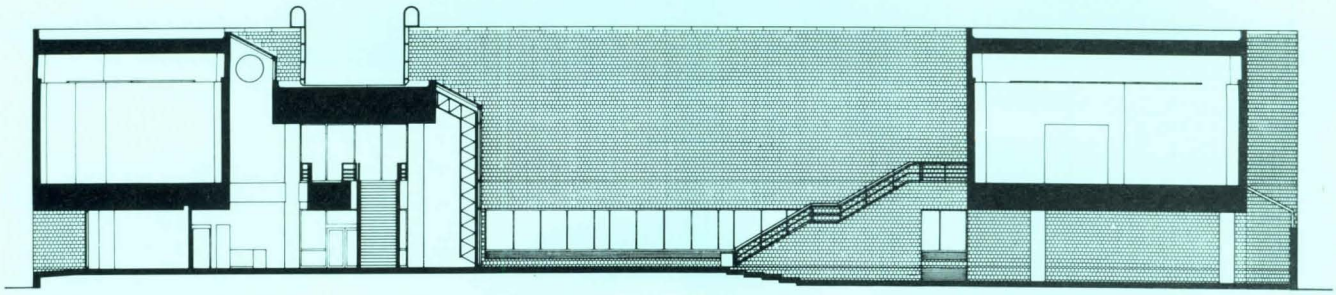
THE CHARLESTON MUSEUM, Charleston, South Carolina. Owner: *The City and County of Charleston.* Architects: *Crissman and Solomon Architects Inc.* Consultants: *Le Messurier Associates/SCI* (structural); *R.G. Vanderweil Engineers Inc.* (mechanical/electrical); *Robert E. Marvin & Associates* (landscape). General contractor: *Ruscon Construction Company.*



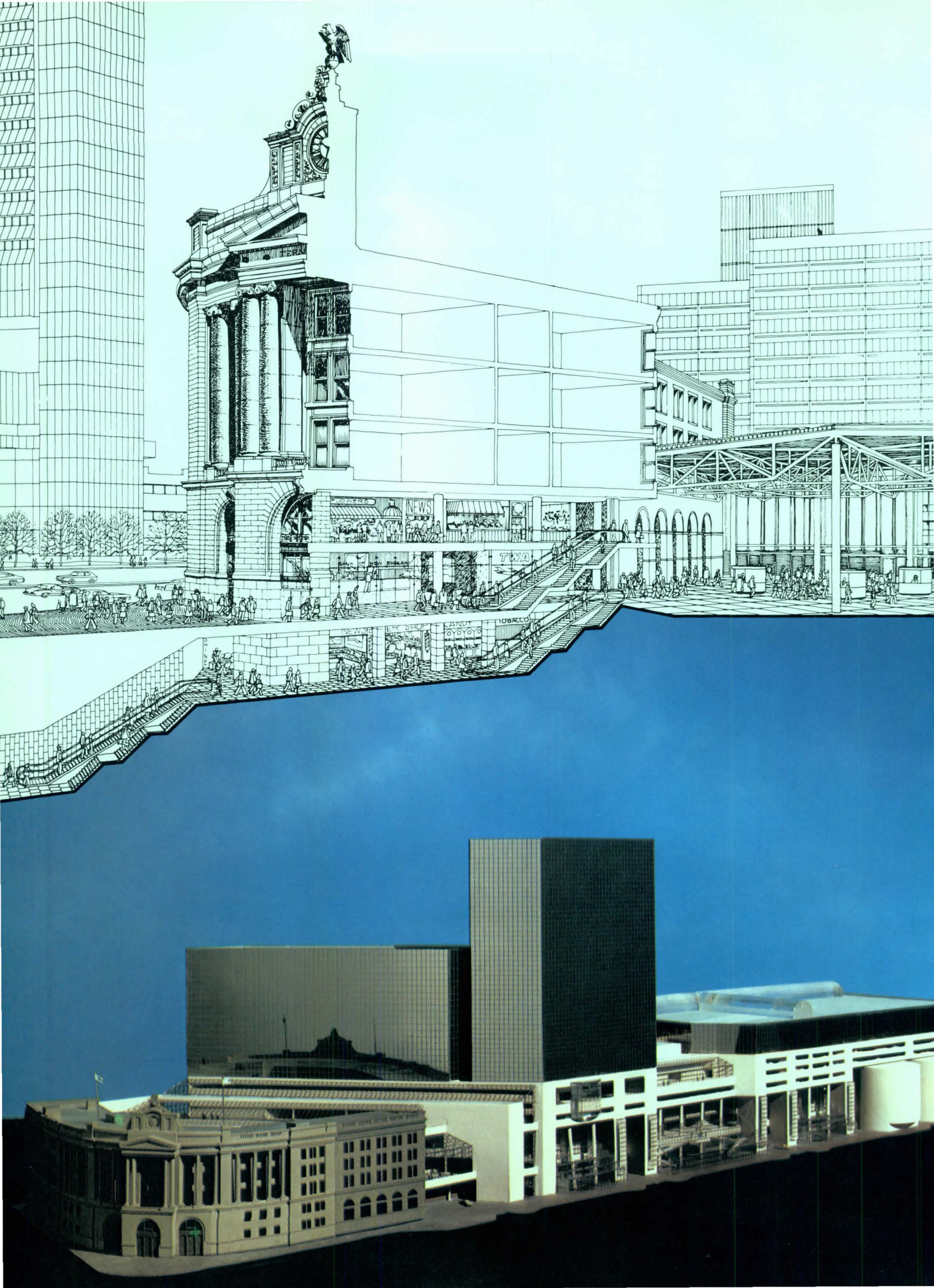
NORTH SOUTH SECTION

10

The section through the lobby (right) can be seen directly above the photo. It is a complex, yet handsome space, bisected by a stair and bridge which lead to and interconnect the second floor galleries. It is lit by a two-story glass wall and a skylight over the sales counter. The auditorium (below) is said to have the best acoustics and sight lines in Charleston. The members room (left) has a private entrance and garden.



EAST WEST SECTION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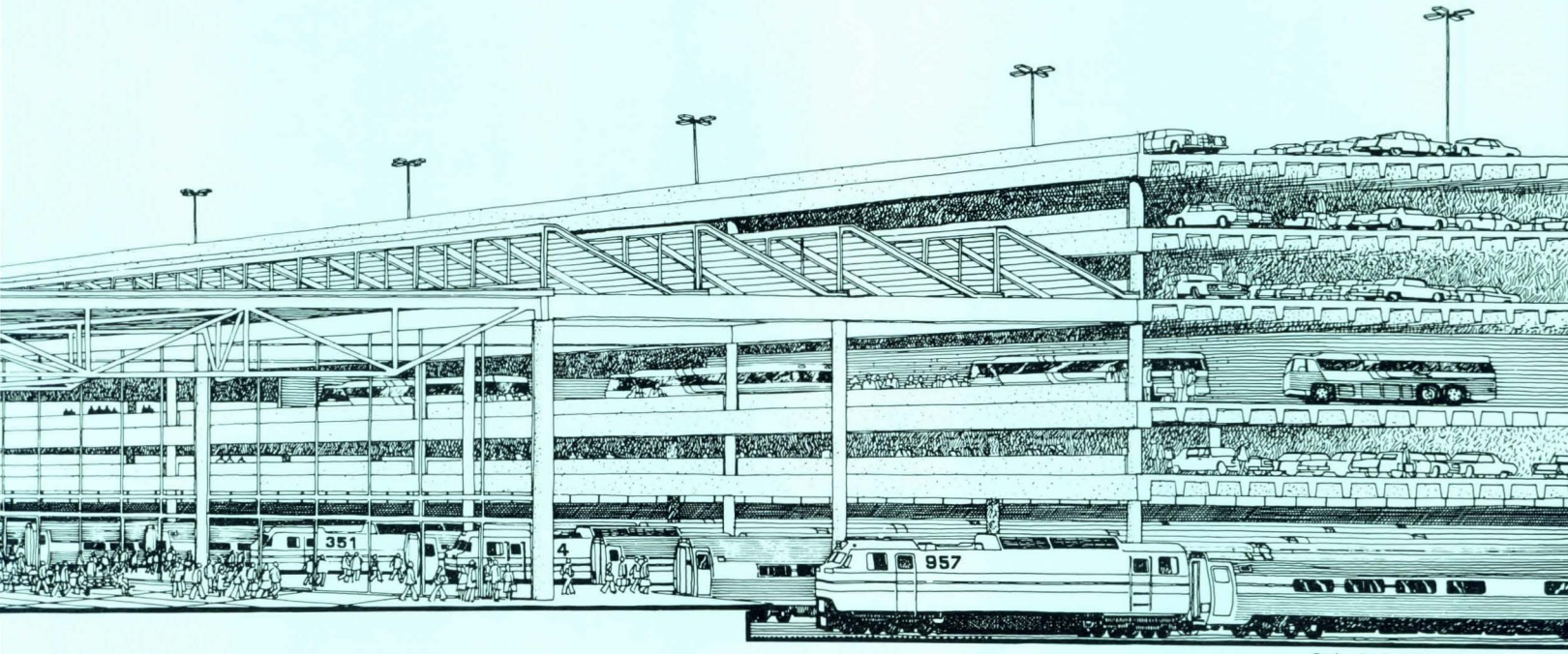


Carlos Diniz Associates

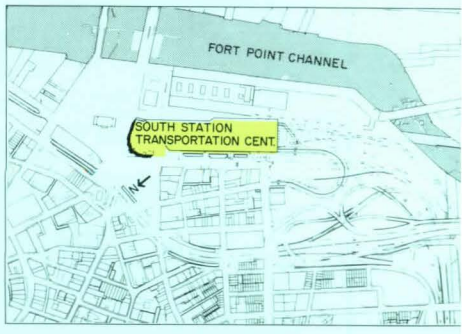
In the center of downtown Boston: A revitalized South Station as transportation hub

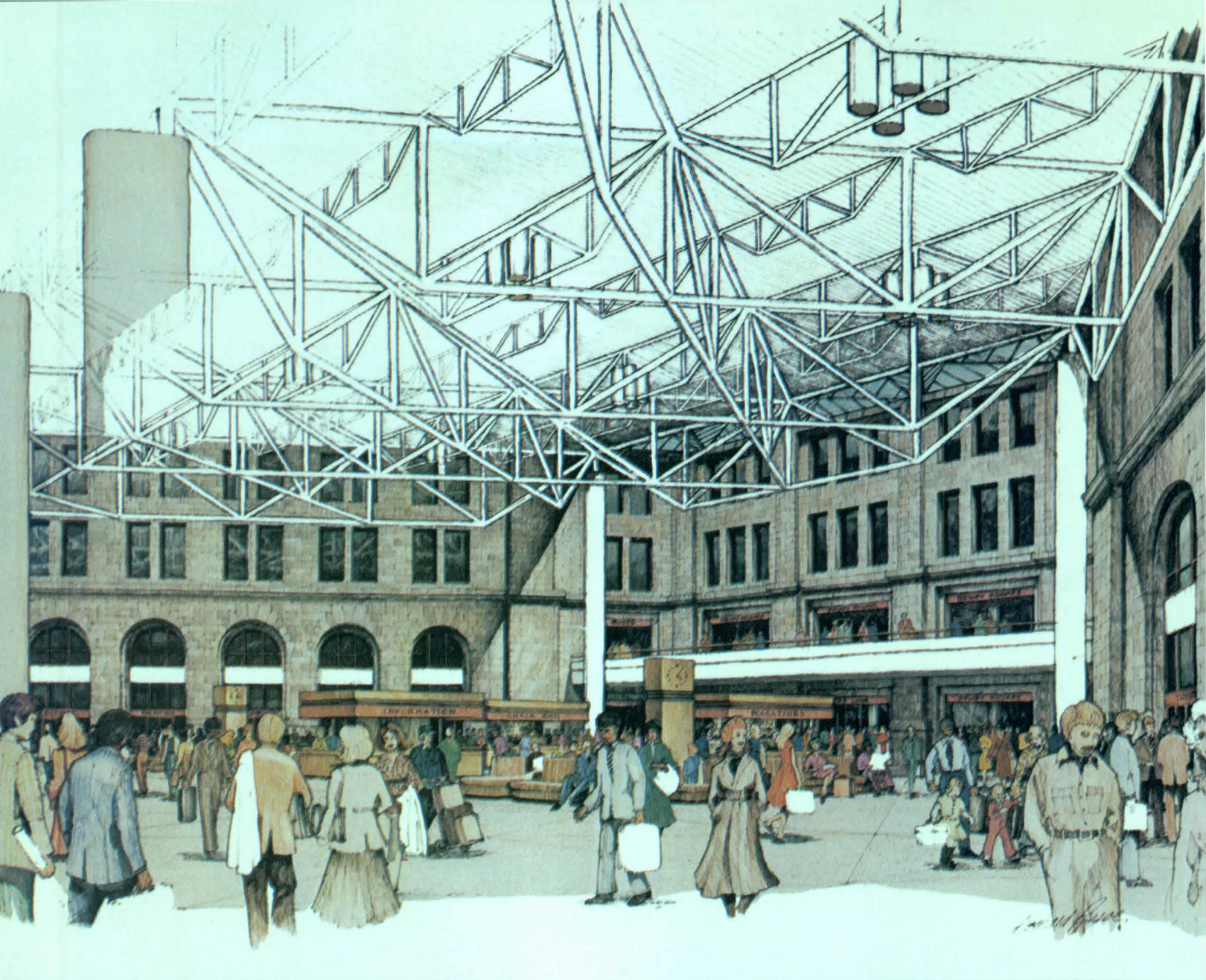
Once considered a white elephant and saved from complete demolishment only by being placed on the National Historic Register in 1975, Boston's once-grand South Station is to be the scene of an unparalleled mixed-use experiment based on "intermodal" transportation. It will be the first of its magnitude in the country.

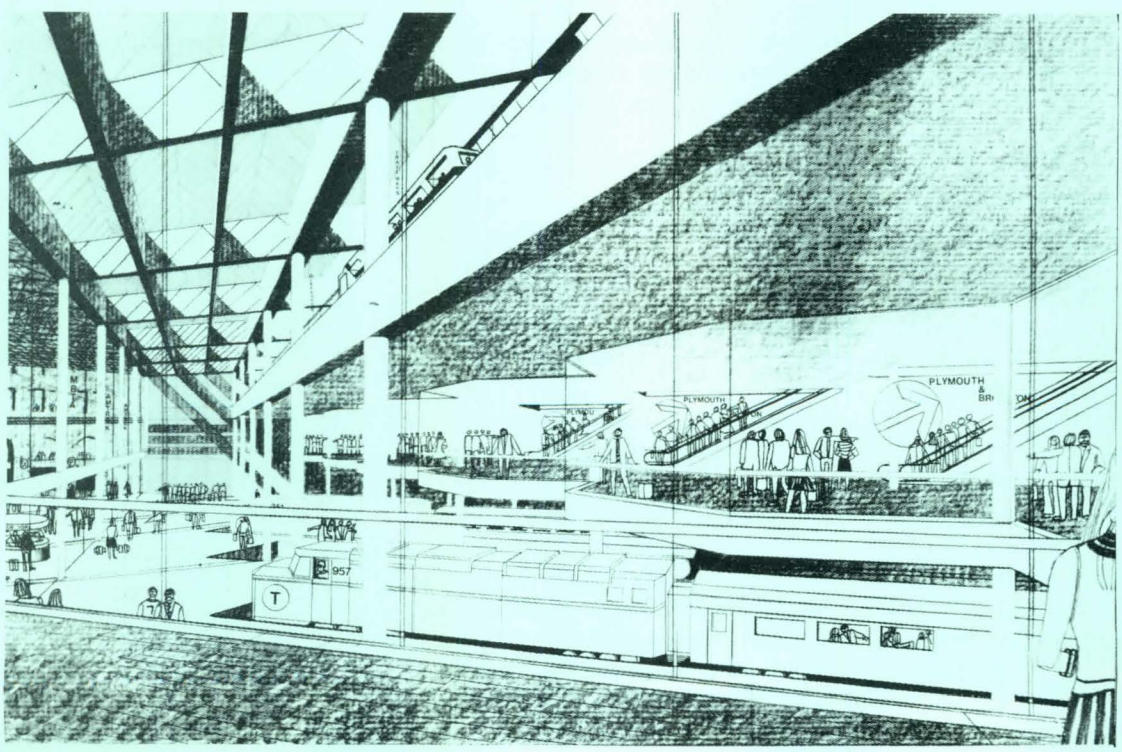
The existing headhouse (photo right) is only the cornerstone of a package—intricately laced together like a patchwork quilt—which includes restoration and rehabilitation of the headhouse, a new concourse and trainroom, construction of bus terminal and parking facilities, and the development of air-rights above the bus terminal into office hotel and exposition center.

As such, this Transportation Center will become *the* locus near downtown Boston for auto, commuter and inter-city rail and bus, and subway connections for an expected 20,000 daily commuters and for thousands more who will shop and work there. It is an amazing example of cooperation and compromise among Federal, state and local agencies, and among architects and engineers in joint ventures, including DeLeuw, Cather/Parsons; Skidmore, Owings & Merrill; Hugh Stubbins Associates and Castro Blanco; The Architects Collaborative and Howard Needles Tammen and Bergendoff; and WZMH/Habib, Inc.

Projects of this scope are never easy—and as part of the Northeast Corridor Improvement Project the station already has a design history of ten years, and a yet-to-be-started construction plan of another ten years scheduled to begin in 1982. While the primary concern of this work has been transportation improvement, the broader implications for urban planning, energy conservation and resource management are impressive. As other regions of the country struggle with such issues, the Northeast Corridor project, and particularly Boston South Station, should be considered an example of the kind of high quality design work that can be achieved through individual, professional dedication. —*Janet Nairn*



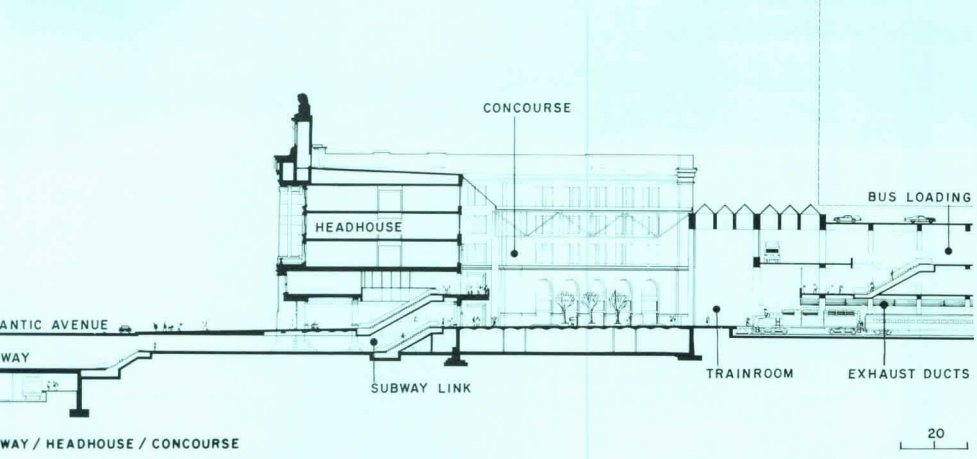


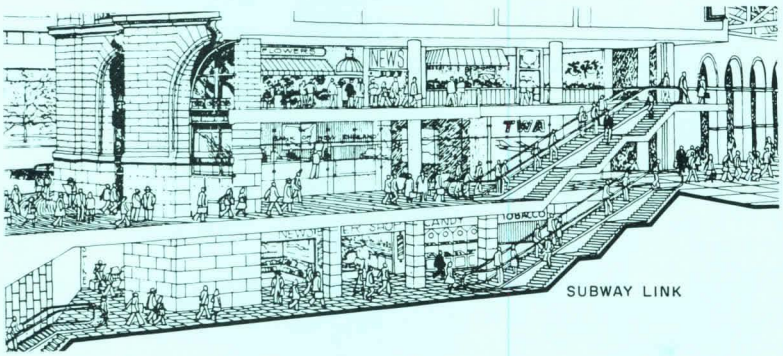


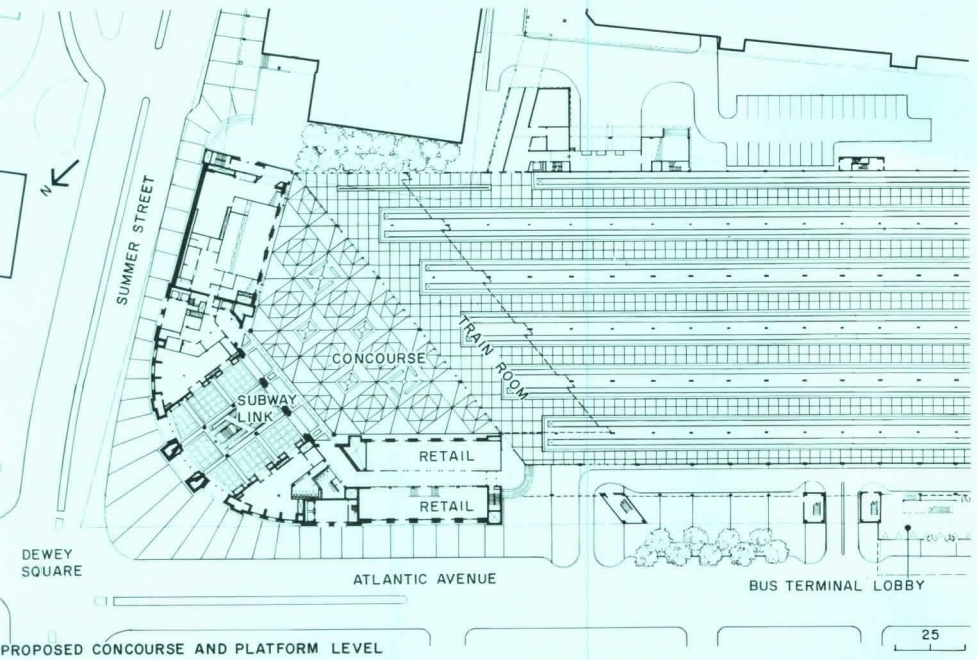
1

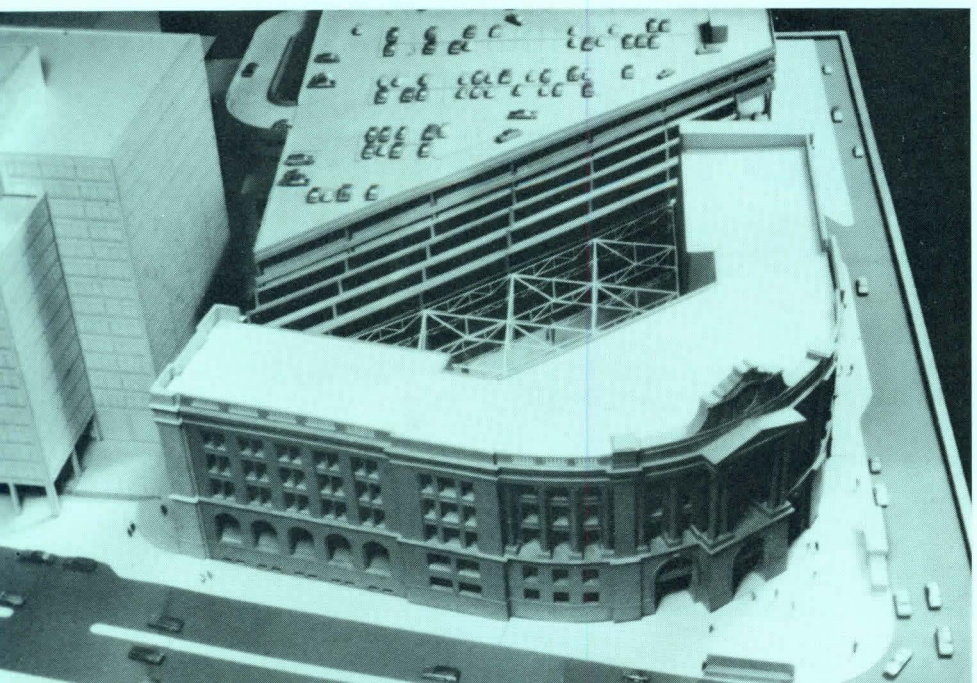
Tracks and headhouse are first order of business

There are plans to restore the exterior of the headhouse, as the only standing element of the original South Station, and to rebuild the west wing, which was demolished earlier. The area between the "back side" of the headhouse and the bus terminal (bottom right) will be enclosed for a grand and spacious concourse (rendering above) – the main thoroughfare for travelers and commuters to and from the train room (left); and the junction to the subway under Dewey Square and to the bus terminal along a second floor pedestrian bridge (see plans and sections right). Dispelling the dreary image of transit stations, the concourse will be bustling with activity, and filled with light through the truss-supported glass roof and glass end walls.









"Boston now possesses a railroad passenger station which is not only the largest, the finest, and the most completely equipped of any in the country, but which has very few, if any, equals in the world." These words, spoken at the dedication of South Station in 1898, might well be re-used several years hence to describe the South Station Transportation Center, which will be this nation's first major "intermodal" complex. To serve nearly all types of ground transportation, the complex will include local, commuter, and intercity rail and bus facilities; parking; a major subway station; and will eventually be topped off with a mixed-use air-rights development. Spurred by the Northeast Corridor Improvement Project (of which it is the northern terminus), this massive undertaking will use restoration, rehabilitation and new construction to create a transit-oriented urban space that will be exciting and vibrant.

Triumph No. 1: assembling the financing

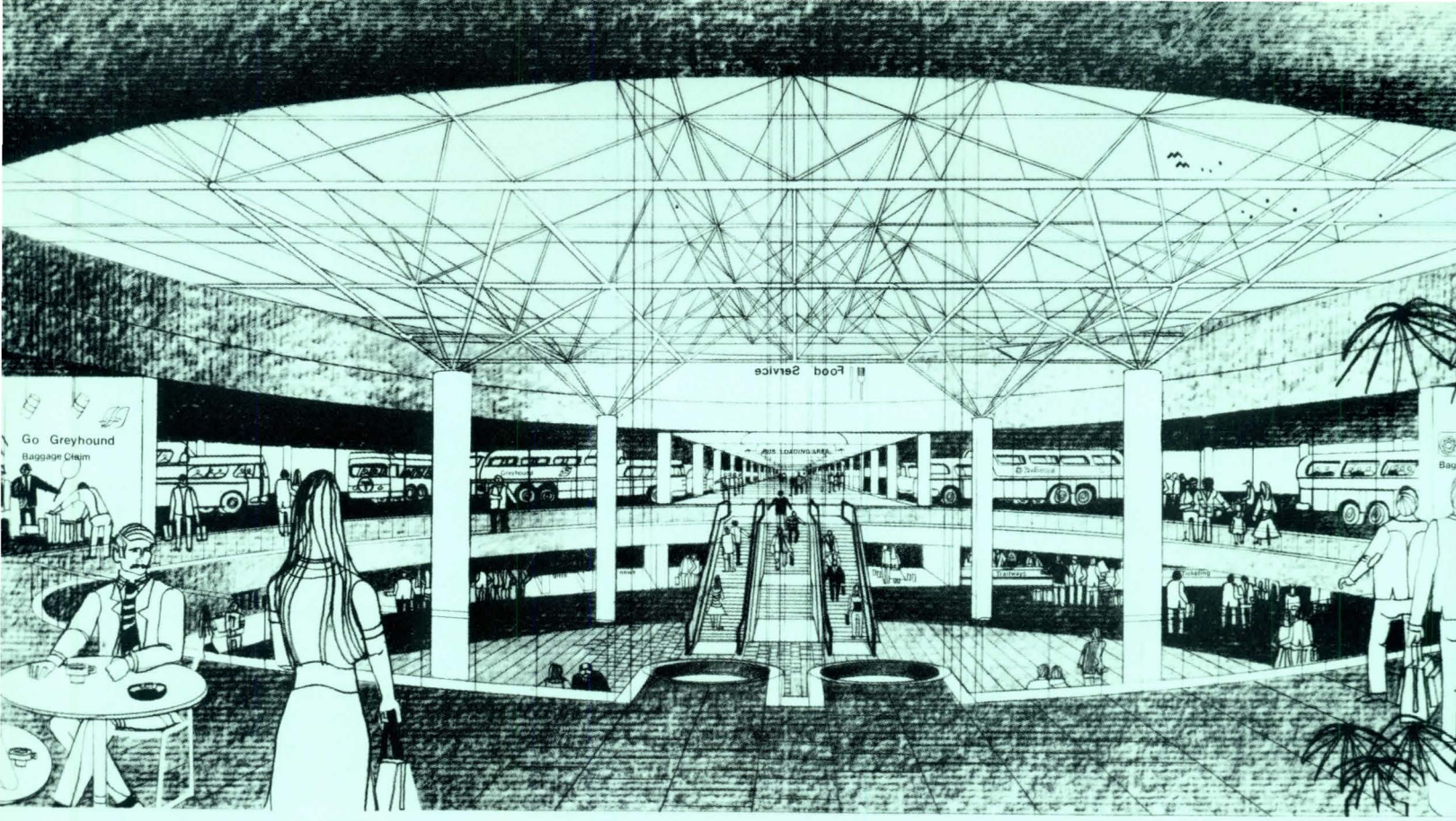
The modernization of South Station is a direct result of the Northeast Corridor Improvement Project (NECIP)—the most significant passenger-railroad revitalization project since the decline of the railroad industry in the 1940s. The NECIP (see RECORD July 1979) was established by the Railroad Revitalization and Regulatory Reform Act of 1976 (known as the 4R Act) to improve speed and dependability of inter-city rail service between Washington, D.C. and Boston. The 4R Act authorized $1.6 billion of Federal funds to achieve the program's primary goals, and $150 million for secondary goals. The primary goals, which are 100 per cent Federally funded, are for improvements directly related to safe and secure high-speed passenger service along the rails and in the stations (e.g., improvements to station infrastructure and operations, and high-level platforms). Secondary goals, in which there is a 50-50 per cent cost-shared arrangement between Federal and state or local agencies, includes work related to, but not specifically part of, rail service (e.g., parking, access to stations, and commuter transit facilities). In 1980, an additional $750 million was authorized, bringing the Federal commitment to $2.65 billion.

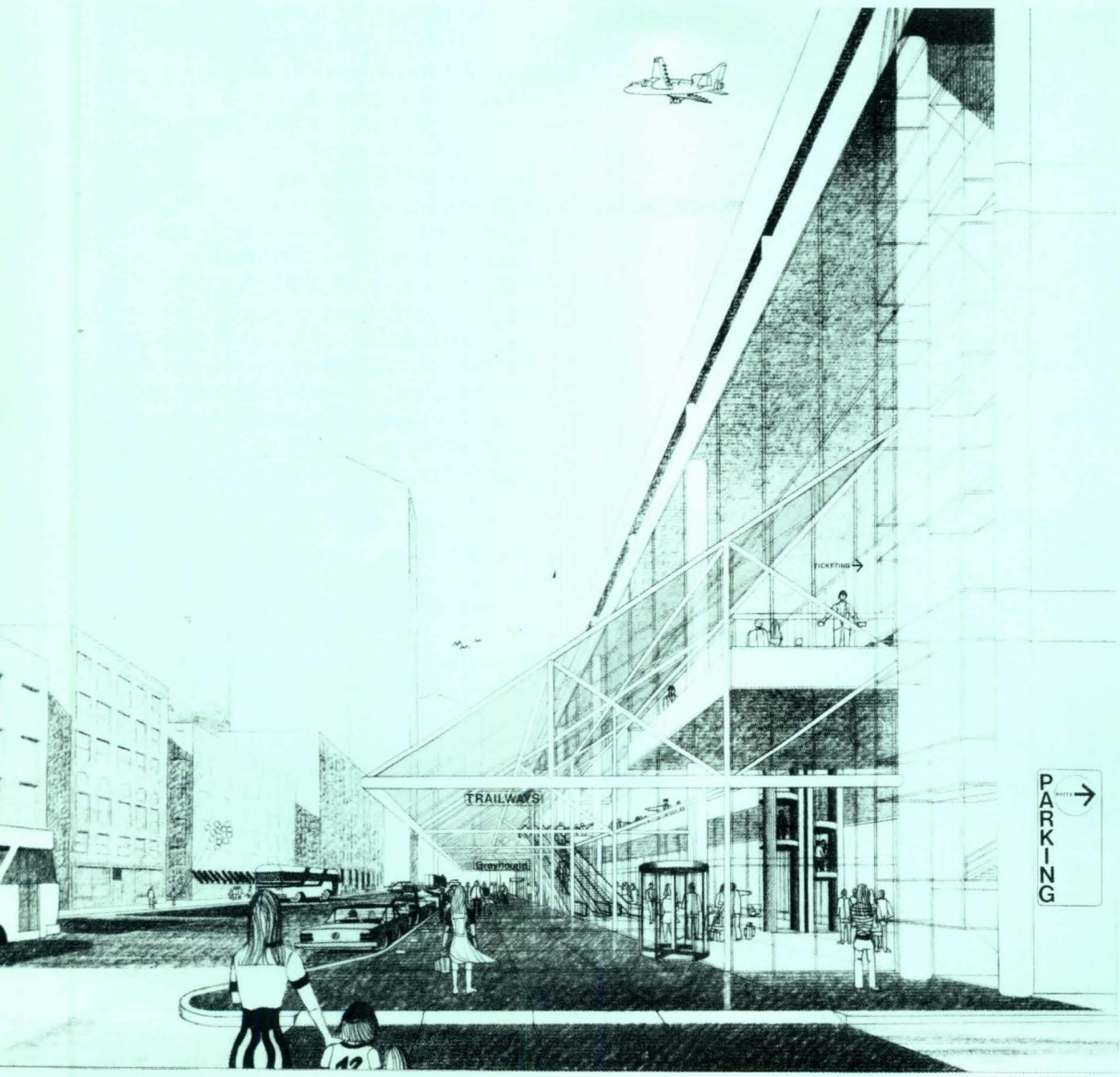
The South Station work is divided into three distinct elements with various Federal, state and local input in conjunction with architects and engineers.

The first phase: headhouse and tracks

The first of three elements in the transportation package is the realignment of tracks, and restoration of the pivotal headhouse. Architects Skidmore, Owings & Merrill (Washington, D.C. office) and engineers DeLeuw, Cather/Parsons have designed the tracks to be shifted to the west and lengthened to have a logical relationship to the concourse, which in turn will be re-oriented to open directly onto Dewey Square (see plan). Also designed is a new grand, open concourse, and mezzanine for tenant and retail space.

Their work also includes the exterior restoration of the headhouse, the only remaining part of the 1898 train station,

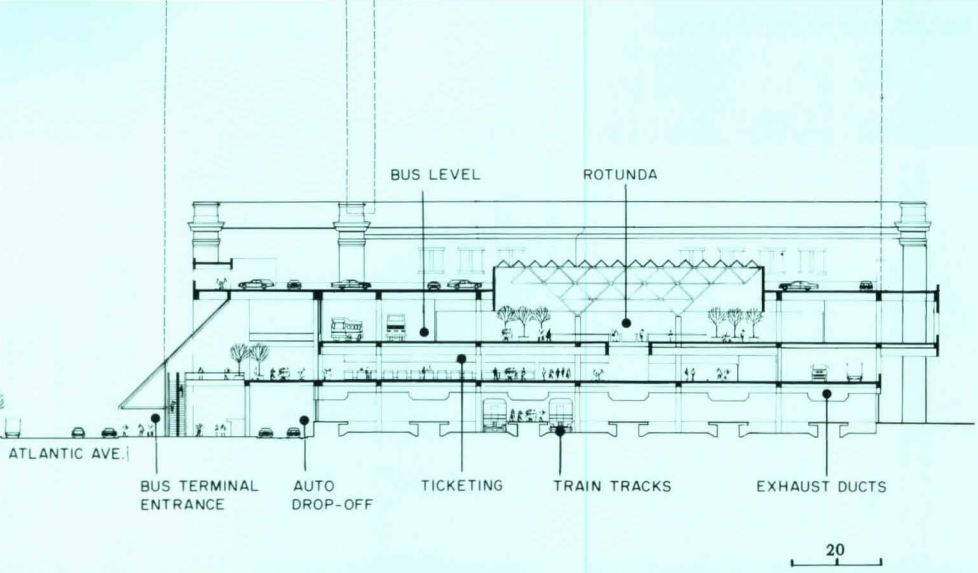


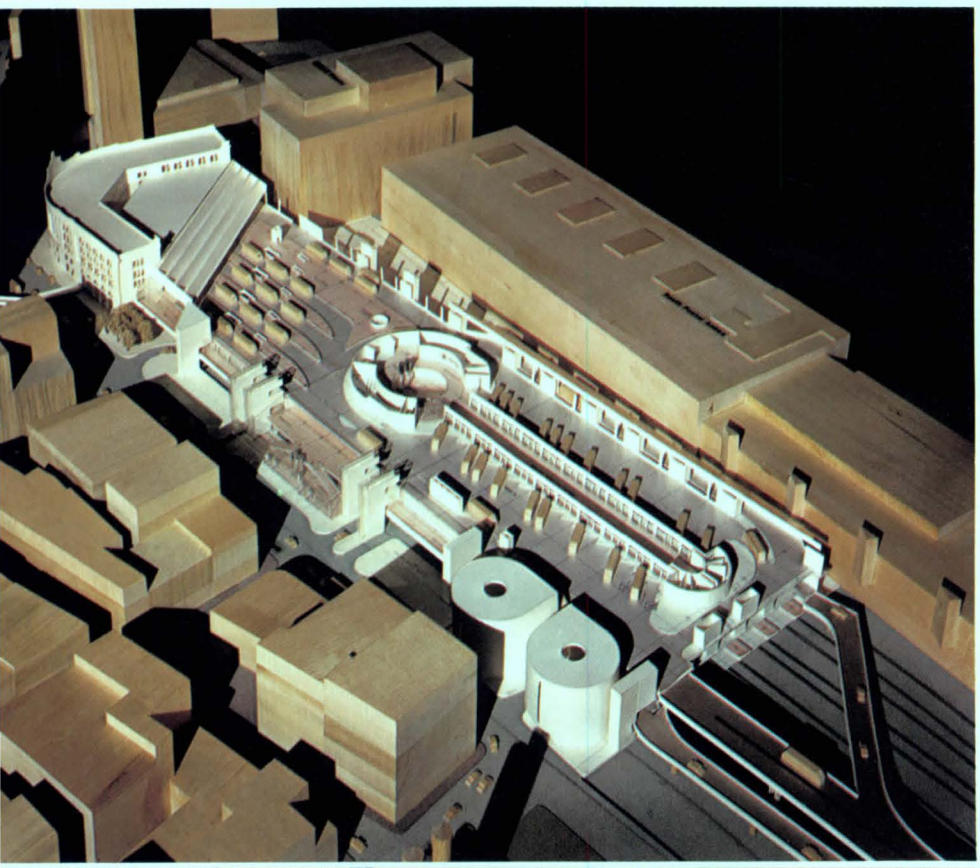


2

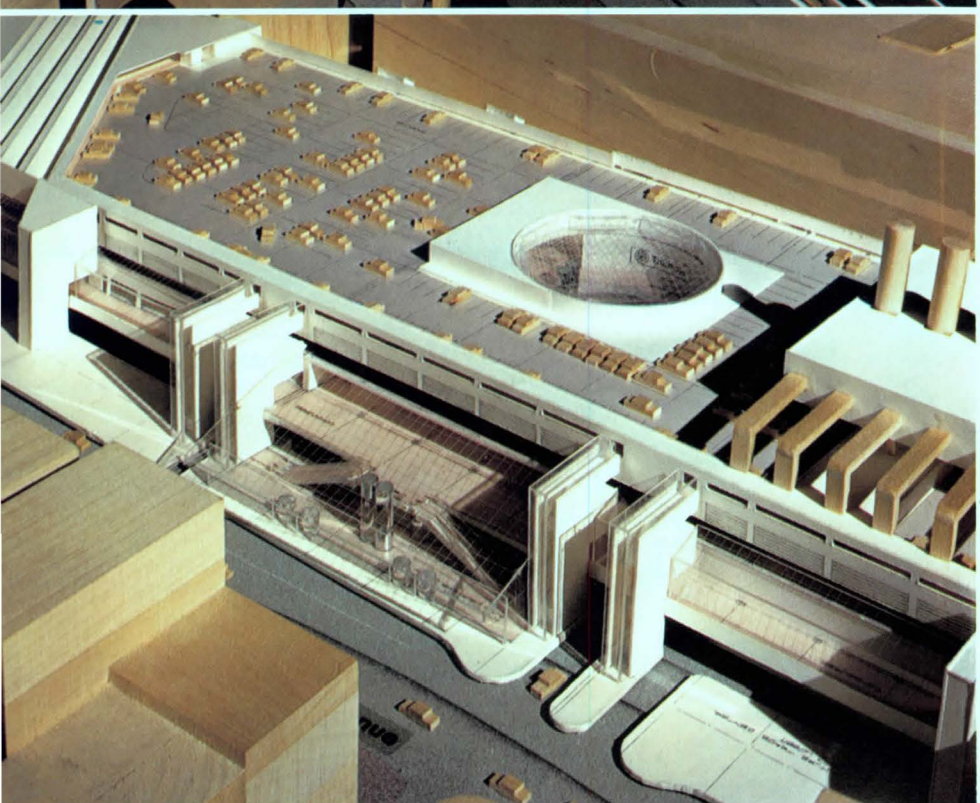
The bus terminal will service commuter and inter-city routes

This new bus terminal and parking building will fit behind, but be connected to, the headhouse (previous pages) and is next door to an existing postal station (see site plan, previous page). The terminal's major, and most publicly prominent, elevation is along Atlantic Avenue. Along this street, an articulated facade highlighted by glass canopies signals five separate entrances for the bus lobby (left) and lobbies for future air-rights development to be built over the bus terminal (overleaf). Since the terminal is above the ground level train tracks, pedestrain access is by ramps, stairs or elevators (bottom right), which lead to the rotunda circulation core (above). Topped by a skylight, the rotunda will be the interior focal point of the terminal. The third level (middle right) will be the bus staging area for commuter buses (positioned to the north of the rotunda) and intercity buses (to the south of the rotunda). They are traditionally designed with drive-through islands for commuter buses and diagonal parking lanes for inter-city buses. Because of the nature and size of the complex, it will require an extensive hvac system for proper air circulation. Exhaust from the trains on the ground level and from the buses on the third level will be sucked into huge ducts and expelled through roof-top exchangers.





Sam Sweezy



Sam Sweezy

which was designed by Shepley, Rutan and Coolidge (successors to the firm of H.H. Richardson) and George B. Francis, the Terminal Company's resident engineer. It was listed on the National Register of Historic Places in 1975 because of its significant role in the evolution of railroad station planning and for its Beaux-Arts style. Restoration will include its significant aspects: two-story granite base with three large arches at the entrance; upper three stories along the curve treated as a colonnade with 16 Ionic order columns and topped by triangular pediment, clock, and eagle. A five-story west wing will be rebuilt, the original having been torn down for commuter parking; this wing will be filled with stores and shops. Final contract documents will be done by architects Hugh Stubbins & Associates/Castro Blanco, a joint venture.

The second phase: the bus terminal

Second of three key elements of the package is the bus terminal—the hub of local commuter and inter-city bus service. The Architects Collaborative, Inc./Howard Needles Tammen and Bergendoff are responsible for designing a new structure that would provide bus-staging areas and necessary auxiliary facilities, yet link to the headhouse and provide five separate entrances along prominent Atlantic Avenue for bus lobby, and lobbies for future air-rights buildings (office tower, hotel and exposition center), and parking garage. This terminal relates to the headhouse in a functional manner but maintains its own visual identity. Because the enormous size of the terminal could easily overpower the headhouse and neighboring buildings, there was an attempt to break up its blockbuster appearance by segmenting the western elevation for the necessary five entrances.

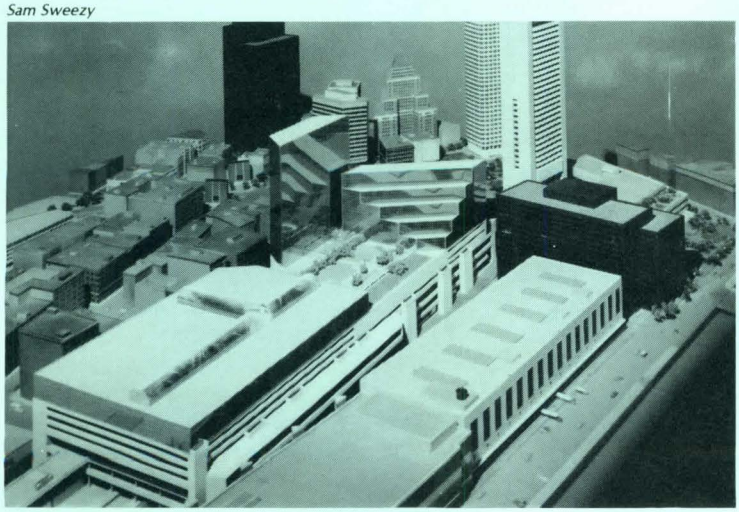
Control of vehicular circulation is critical to accommodate increased car and bus activity in the neighborhood, and a mix of traditional devices are used to rearrange traffic patterns. A dog-bone-shaped island along Atlantic Avenue permits indentations at each entrance and a secondary loop road for pedestrian pick-up/drop-off zones. Two helices lead to upper level parking, and an intricate ramp system separates auto traffic from a maze of bus lanes at the southern end.

The two bus operations levels are, of necessity, elevated above the train tracks. A sky-lighted interior rotunda acts as main circulation spine between the ticketing and baggage facilities and bus boarding areas. Commuter and inter-city parks are segregated, and traditionally designed with drive-through/islands for commuter buses, and diagonal parking lanes for inter-city buses.

The local initiative: future air-rights

The third element of the package is the future air-rights development. The most up-to-date feasibility plan presented here, designed by WZMH/Habib, Inc. for their client the Boston Redevelopment Authority, includes a 12-story, 400,000-square-foot office building; a 24-story, 600-room convention hotel; and a two-story, 250,000-square-foot exposition center. This plan is dependent upon certain program-

Sam Sweezy



3

Air-rights building will add the final dimension

An office building, convention hotel and exposition center will comprise the last part of the South Station package; even though it is not a transit system it will add significantly to the economic vitality of the entire complex. To be constructed on top of the bus terminal (previous pages), the highest of the three buildings will be the hotel (center building in photo right), with a medium-rise office building and two-story exposition center flanking it. While it is too early for final design of these buildings, all could be clad in reflective glass as a unifying visual element. The hotel presents a slim element on the skyline (as seen from Atlantic Avenue above), and has been designed to capitalize on views, with angled end walls directing "lines of sight" to different aspects of Boston's nearby financial district. Views from the office building to a roof garden are enhanced by its stepped elevation (left). This kind of development is a superb way to provide private investment opportunities, while augmenting a project that is publicly financed.

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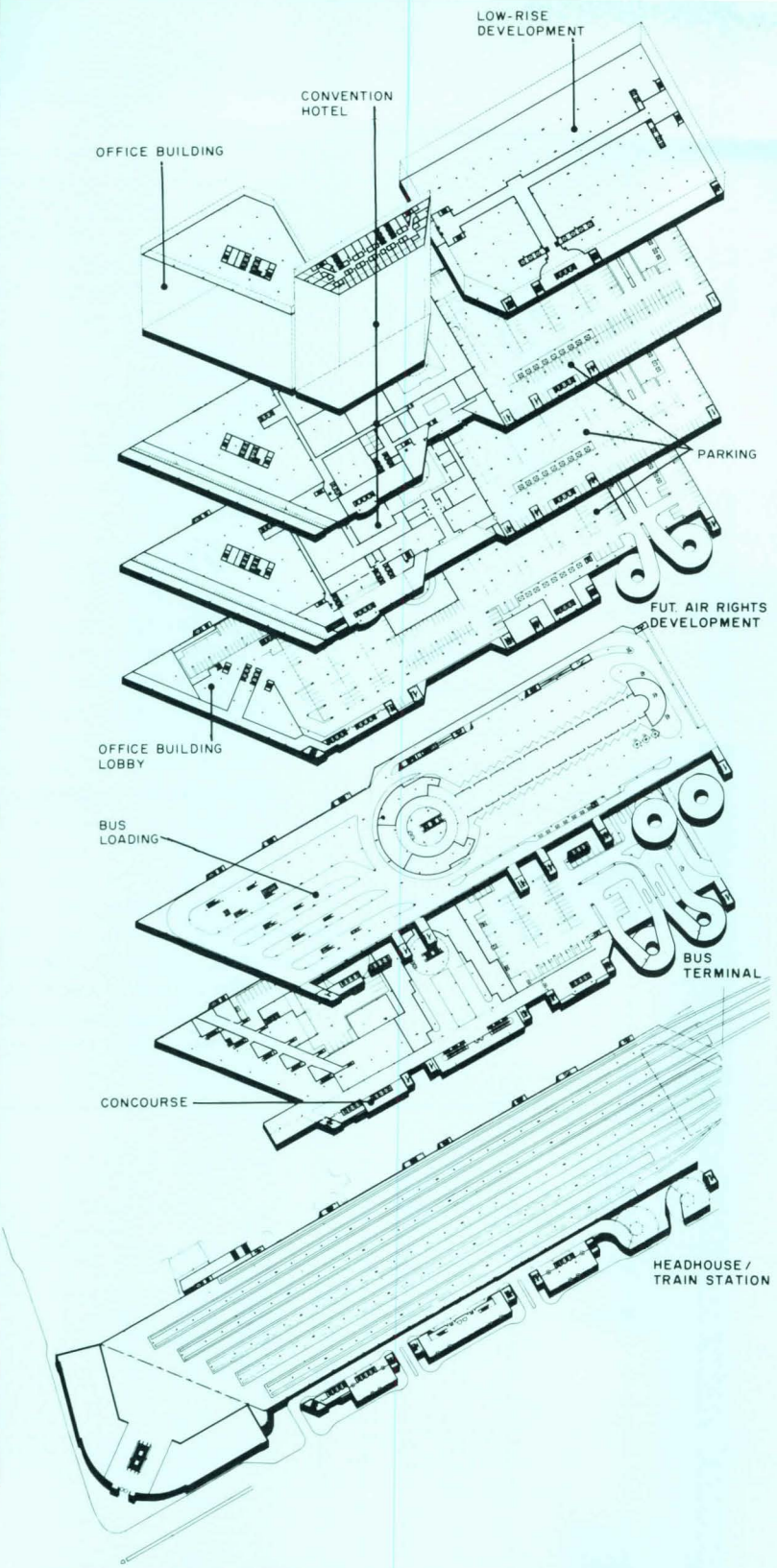
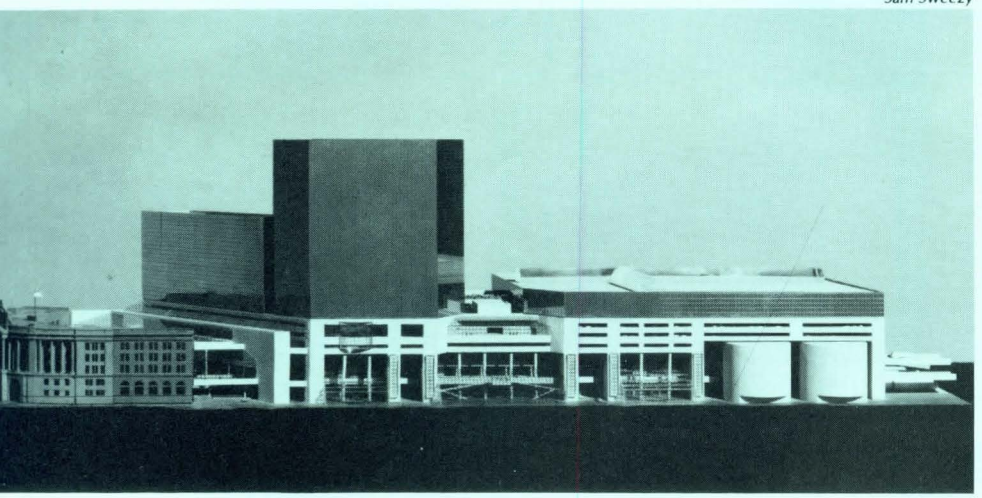


EXPLODED VIEW OF COMPLEX

Sam Sweezy



matic requirements at ground level. The most important of these is the structural load-bearing column size and the column placement on the train track level, thus pre-determining building height for the air-rights structures. The highest and most prominently sited tower is the hotel, trapezium-shaped. Its northern elevation aligns with that of the office building, which correlates to the diagonal slice of the train room at ground level. With another slanted elevation to the south, views are directed away from the tracks.

Auxiliary benefits: neighborhood impact

Perhaps the most influential aspect of the whole package will be its potential effect on the neighborhood. One project just completed is a bus terminal, designed by Skidmore, Owings & Merrill (Boston office) for Trailways Company to be vacated once the South Station bus terminal is completed. (It will then be used by other transit agencies). And an office building at Dewey Square owned by Rose Development Company is under construction. The Leather District (across the street from the bus terminal), once the center of the shoe industry and now quite dilapidated, is being considered for conversion into loft apartments and commercial/retail outlets. Another proposal is for the revitalization of Fort Point Channel, one of the last links in Boston's famed waterfront rediscovery program. A 50-page report called the "Boston Downtown Waterfront Project," from the Boston Educational Marine Exchange and written by Felicia Reed Clark as project director, delineates potential shore areas for commercial and recreational opportunities and specific proposals for action.

Upon completion, South Station Transportation Center will be a junction for diverse transit paths, yet a catalyst for neighborhood reawakening and will affect the day-to-day lives of thousands of commuters, travelers, shoppers and office workers.

SOUTH STATION TRANSPORTATION CENTER, Boston Massachusetts. Funding agencies: *Federal Railroad Administration—Hanan Kivett, chief architect; Massachusetts Bay Transportation Authority—William Buckley, project manager; Boston Redevelopment Authority—Matthew Coogan, project manager.* Engineers for NECIP: *DeLeuw, Cather/Parsons, a joint venture.* Architects: Skidmore, Owings & Merrill (Washington, D.C. office)—*David M. Childs, partner-in-charge of design; Richard Giegengack, associate partner for design; Marilyn Jordan Taylor, associate partner; R. Joseph Trammell, project manager; Wilfried Taubert and Patrick Collins, senior designers.* Hugh Stubbins & Associates/Castro Blanco, a joint venture—*Emmet Glynn, project manager HSA; Michael Hicks, assistant project manager CB.* The Architects Collaborative Inc./Howard Needles Tammen and Bergendoff, a joint venture—*Norman Fletcher, principal TAC; Frances X. Hall, principal HNTB; Royston Daley, project manager TAC; Lawrence Shumway, assistant project manager HNTB; Gary Moneyhun, project architect TAC; Peter Sizer, project engineer HNTB.* WZMH/Habib, Inc.—*Richard Manning, principal; Chung Lee, project manager; Waiman Chan, project architect.*

Preserving the landmarks of the Modern Movement

by Bradford Perkins

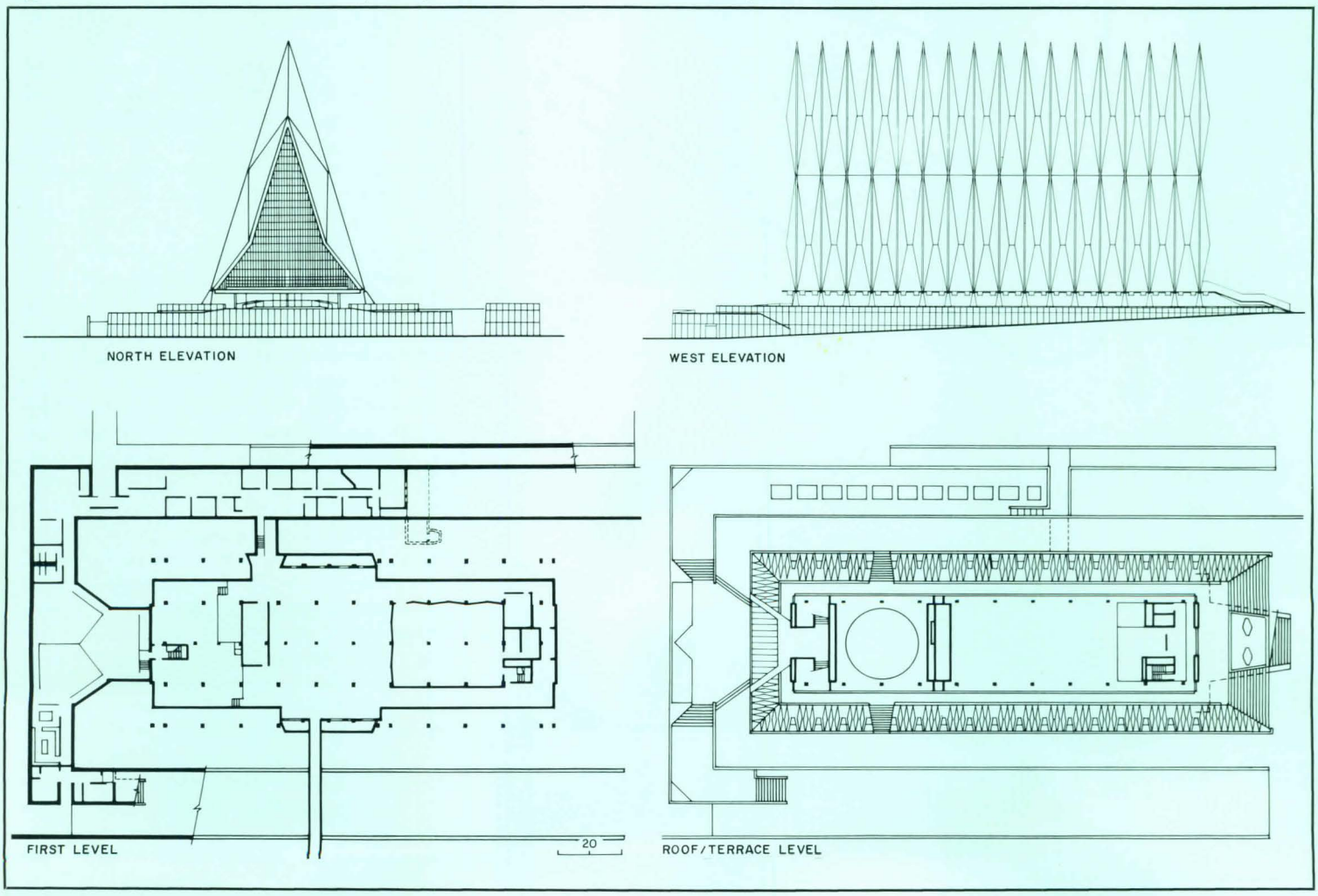
Major works of architecture which are not yet fifty years old are usually considered too young to be cherished as landmarks. Unprotected by the laws that conserve important buildings of the 1920s and before, milestones of the Modern Movement are often neglected, razed to the ground, or subjected to insensitively designed expansions and remodelings. SOM's Air Force Academy Chapel, for example, has temporarily escaped an insensitive addition, but the survival of Walter Netsch's great design is by no means certain. Eero Saarinen's Dulles and TWA airport terminals have been better treated, and so has the International Style facade of the Museum of Modern Art designed by Goodwin and Stone. Architect Bradford Perkins argues that these and other young landmarks matter as much as our old ones and suggests some ways we can begin to take better care of them. —*M.F.S.*

Twenty years ago I published my first article on an architectural subject. It was an interview for my high school newspaper with Walter Netsch, who had led the design effort for the then recently completed U. S. Air Force Academy in Colorado Springs. This complex—and, in particular, its chapel—is generally regarded to be one of the most important works of modern American architecture built during the 1950s. Today this complex has held up extremely well and remains one of the most important examples of this formative era of modern architecture.

My reason for writing about the U. S. Air Force Academy again is not merely a sentimental thank you to an important architect who was very nice to a high school senior—although it is that too. The Air Force is planning an expansion of Netsch's chapel, the centerpiece of this important complex. For whatever reason, the architect for the expansion is not Walter Netsch. Mr. Netsch is a consultant, but currently is very concerned that the proposed design of the addition threatens to "butcher" the original chapel.

Although this building is too new to qualify under the protective umbrella of historic landmark status, it will be a likely candidate once the 1950s are considered suitably historic by more than rock'n roll record manufacturers. Therefore, this addition raises at least three important questions similar to those asked several years ago about Hellmuth, Obata & Kassabaum's addition to Eero Saarinen's Terminal at Dulles International Air-

Figure 1: SOM's Air Force Academy Chapel showing Walter Netsch's expansion proposal.



port: First, what obligations do the owners—particularly public owners—have to maintain the integrity of important buildings and/or buildings by important architects prior to their designation as landmarks? Second, what steps should be taken by the profession and other interested groups to avoid a repetition of the neglect which has already cost us so much of our architectural heritage? Third, what design review process should be applied to additions affecting such projects?

In my opinion we should be acting now to let owners know the concern we have for preserving the best of our profession's recent work, as well as those buildings ennobled by time. Also in my opinion, the addition to the chapel should be subjected to the same public scrutiny applied to the Dulles addition. Whatever one thinks of the Air Force, or even the Academy, the chapel is an important architectural achievement by a major contributor to the development of modern architecture in the United States.

The proposed addition to the Air Force Academy Chapel is symbolic of a rapidly growing problem—the threat to major examples of modern architecture too young or too unpublicized to be protected by a public outcry for landmark designation. As is discussed later in this article, many important modern architectural projects are threatened by all of the same forces that have modified or destroyed many of their predecessors. But so far, the need for preservation has been equated with age, for it is assumed that more modern works are either less important or better able to accommodate change. These are dangerously false assumptions. This article reviews this threat and proposes some actions to meet it.

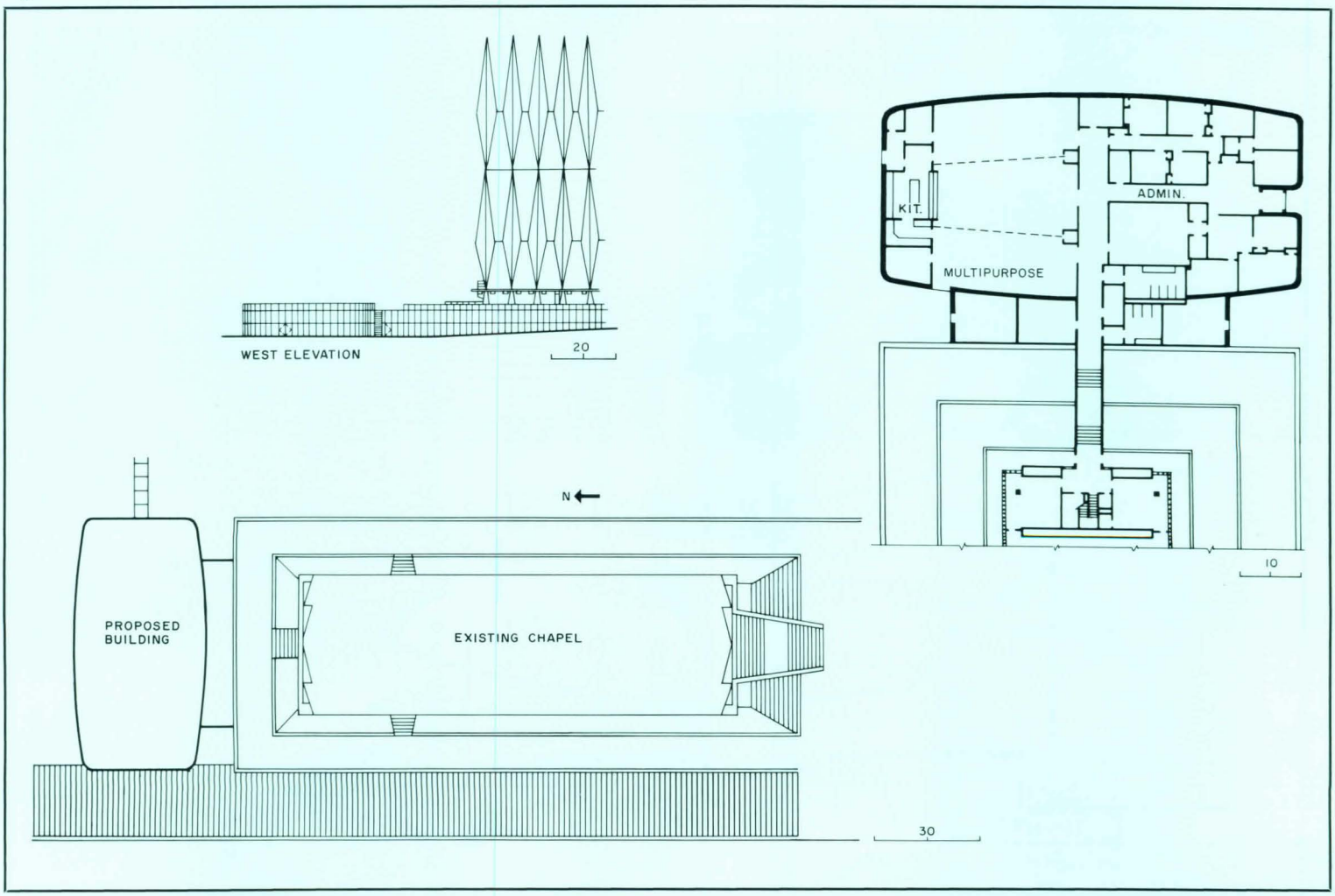
The chapel is an appropriate starting point for this article. Its problems are symptomatic of those of other threatened projects by prominent existing firms and living architects that so far have not normally attracted the attention of those concerned with architectural preservation. Several major histories of art and architecture have included the chapel—rather than Lever House, Connecticut General, or other SOM buildings—as the symbol of the 1950s in the development of the International Style in the U. S. It is also used by historians and critics as one of the primary examples of the nation's largest and most well known corporate architectural firm's best work.

An addition to the chapel is not necessarily sacrilegious. Most modern buildings are designed to accommodate some change. In this case, however, the proposed addition (figure 2) ignores the original design concept and provides a jarring note. The design of the entire Air Force Academy—and the chapel, in particular—is based on a very strong geometry. To break the chapel's podium to introduce another geometry at the very center of this complex is a case of architectural bad manners. A much more sensitive addition was that proposed by Netsch (figure 1). This addition does not make the mistake of the other design by trying to establish its own identity. Instead it is fully integrated into an extended podium leaving the building's original concept unscathed. Luckily, this project has received a reprieve since the Air Force has deferred the addition. This should give the profession time to focus on it and the growing number of other modern landmarks jeopardized by a lack of concern for this large, essential part of our architectural heritage.

Other modern landmarks have not been as lucky. All of the inevitable changes that can happen to any building—new owners, changing land values, new program requirements, growth, changing operating economics, and related issues are the root causes of the constant threat to all architecture both old and new. Unlike all other art forms, almost all buildings have a set of functional determinants which usually sow the seeds of their own destruction. First, they must continue to serve their owner's functional needs; second, they cannot be moved to a new site in spite of changes in the surrounding environment or urban economics; third, they cost a great deal to operate and maintain. Even new buildings have a hard time responding to the challenges posed by these realities. Moreover, accelerating changes in our society and economy are expanding the scope of the problem every year.

It is not fashionable today to be an advocate of the last 40 years of American architecture. Post-Modernism, professional competition, and a general questioning of the

Figure 2: Proposed addition by Carlisle B. Guy & Associates.



underlying social, esthetic, economic and functional assumptions behind these designs has dimmed even the design profession's interest in the projects of this era. It is hard to arouse even the profession to support the preservation of buildings by their current competitors or ones designed in accordance with the out-of-fashion modern esthetic. It is, in fact, far easier to arouse concern about secondary examples of earlier eras than the major milestones of more recent decades.

The more modern milestones do not even have the tenuous protection of the national landmarks legislation. Typical of the criteria for designation is the following: "The Landmarks Preservation Commission of the City of New York was established . . . with a mandate to designate, monitor and preserve landmarks and historic districts, *which are at least 30 years old* (italics mine) and, because of their special historic, architectural, cultural or esthetic qualities and value, should be protected for the benefit of the people of New York and the nation." [From *A Guide to New York City Landmarks.*] "Ordinarily . . . properties that have achieved significance within the past *50 years* shall not be considered eligible for the National Register." [From Joint Committee on Landmarks of the National Capital, "Staff Criteria of Evaluation."] The legislation in other states and localities often has similar age limits. Even where it does not have an age limit, the lack of interest in the potential problems of recent buildings has created a de facto cut off point—somewhere around 1940. But where is it written that art and history stopped having milestones after this date?

The landmark designation groups have been under increasing criticism for using their powers for neighborhood conservation rather than for a consistent effort to preserve projects of architectural or historic merit. In some cities this has become a mistaken emphasis that "old is good" or, at least, "old is better than new." Recently, I was asked to testify on behalf of an owner at a landmark hearing. In spite of the lack of architectural or historic significance, the building in question was heading for certain designation because it is a nice old building. What, however, about the nice, not-so-old structures?

Architecture, as is the case with all art, is a continuum. It does not develop in a straight line toward an ideal. Instead each successive group of ideas is based in part on those ideas which have preceded it. No period—old or new—should be excluded from this continuum. The extent, and potentially serious consequences of both the general apathy and the specific lack of formal protection for one part of this continuum can be illustrated with recent examples.

Problems of growth and change

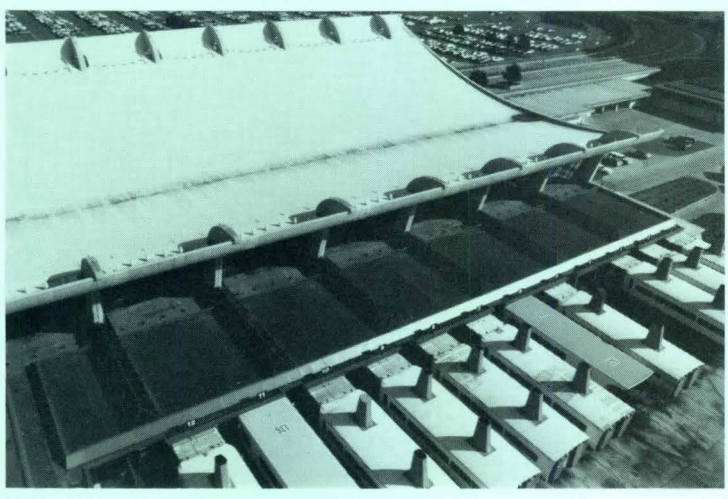
Architecture's obligation to serve functional, as well as esthetic ends usually carries with it the need to accommodate growth and change. Most new buildings are designed with at least some thought about the possibility of future change. In past decades, however, many buildings were conceived as the ultimate solution to a fixed program. As carefully composed and balanced designs they have often had trouble accommodating new program requirements. To some extent this is true of the Air Force Academy Chapel.

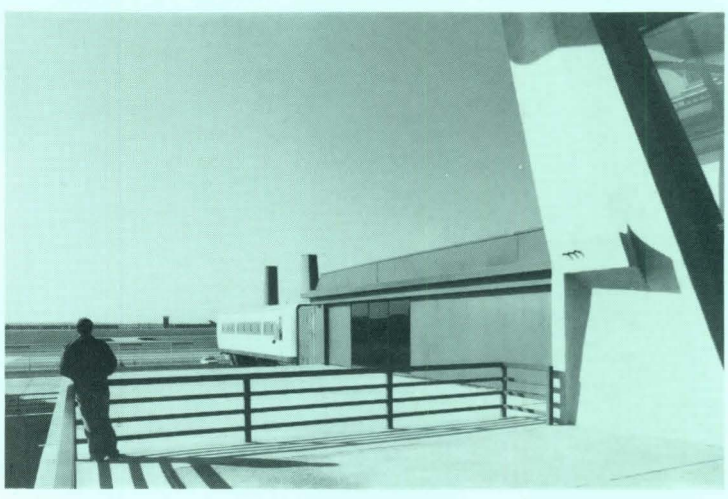
Three other examples have received more sensitive treatment, but the mere fact that they had to accommodate change should illustrate the threat. These three are: Dulles Airport, outside Washington (figure 3); the TWA Terminal at Kennedy by Eero Saarinen (figure 5) and our firm's most famous project (done in association with Eero's father Eliel) Crow Island School (figure 4).

The Dulles Airport has certainly been the most highly publicized threatened modern landmark. When the addition to the main terminal was proposed by the Federal Aviation Administration in 1971, there was little public or professional concern in spite of the building's widely acknowledged architectural importance. The addition was needed for several reasons: First, the jumbo jets had created a need for greatly expanded holding areas for enplaning passengers; second, the anti-hijack security now required made a secure holding area important. Saarinen had conceived that the terminal would be enjoyed as one big open space—a concept impeded by both security and crowds.

The design solution by HOK extended the terminal by the depth of the mobile lounges to create the needed room. In doing so, they

Figure 3: HOK's addition to Eero Saarinen's Dulles Airport terminal.





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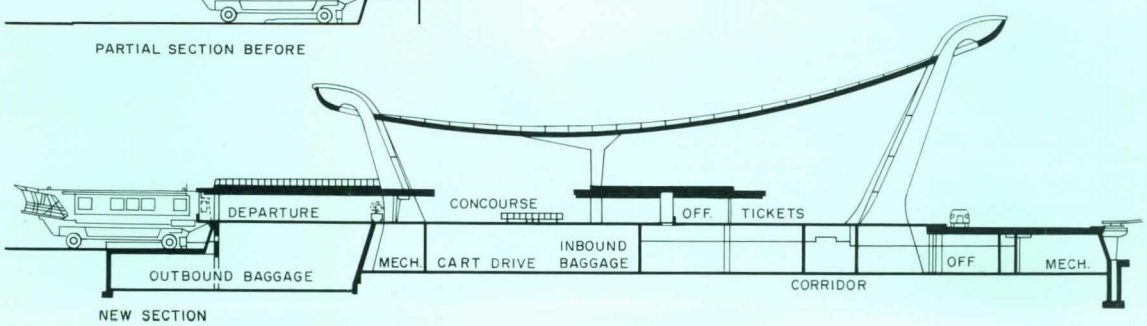


NEW SECTION

matched the joints, concrete color and texture, metal, and other details of Saarinen's building so that to most visitors this addition is invisible. In 1977, only after this change was underway, did the Federal Aviation Administration feel free to relax its opposition to landmark designation. As is the case with many owners of buildings, they believed that the limits imposed by landmark status would seriously impede needed responses to future changes.

Saarinen's other major airport sculpture was, of course, the TWA Terminal Building at New York's JFK airport. This building's latest addition is a much-needed passenger canopy in front of the building to accommodate increased traffic on the outer lanes. This canopy could have been a design disaster because it stands between the building and the major points of access to the entrance. Most travelers see the terminal only through and over this new structure. The design by Wittnoefft & Rudolph is a remarkably successful addition. The choice of material and form makes it almost appear that this new element was a part of the original design. When this canopy received a Bard Award from the City Club of New York in 1979, the jury commented: "Nevertheless, even though it is well done, the canopy does change the appearance of Saarinen's building from its main vantage point."

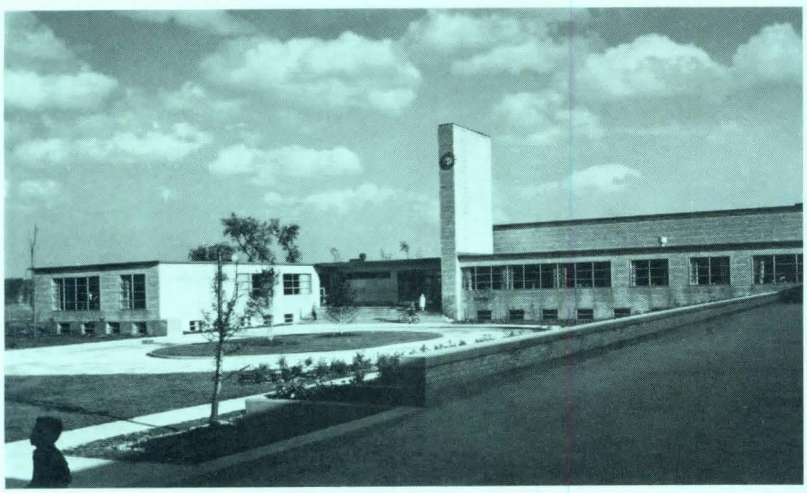
Before leaving the threatened Saarinen heritage, a final example is appropriate. This time it was our firm's first major project, Crow Island School, which was obtained when the then young firm—Perkins, Wheeler & Will—assured the school board that their work would be reviewed on a regular basis with Eliel Saarinen. In 1971 this building was the second recipient of the AIA's 25-Year Award. Recently, after almost 40 years of use—more or less consistent with the original program—the school board felt that at least one major new space should be added—a resource center. This might have meant an addition and an addition would have presented a design dilemma. No matter how well our firm had handled the esthetic vernacular of the forties it would have been hard to justify re-using it 40 years later for an addition. Materials, performance requirements, and programs all dictate change, but change can undermine the esthetic integrity of the original design. At Crow Island, a compromise solution was proposed. An underused part of the basement has been converted into the resource center. Most buildings, however, do not offer this option to accommodate program growth.

The problem of real estate economics

Rockefeller Center was Crow Island's predecessor as the first recipient of the AIA 25-Year Award back in 1969. It has also had a proposed addition, but this time economics rather than function served as the source of the potential problem. Two economic trends came together to pose a threat to Radio City Music Hall, one of the nation's greatest Art Deco interiors, and to one of the major masterpieces of urban design—Rockefeller Center.

Inflation and the changing trends in movies made Radio City Music Hall a financial drain on the rest of the center. Rockefeller Center threatened to demolish the Music Hall and even put the Rockettes out of work. New York State, through its Urban Development Corporation, responded to the public clamor by funding a feasibility study by Davis Brody Associates for a tower to be built over the Music Hall. The theory was that the profits from the new 900,000-square-foot office would subsidize the continued operations of the Music Hall. This proposal (RECORD January, 1980 and figure 6) was carried out with sensitivity, and the objectives were admirable. What was questionable was whether in saving the Music Hall a basic—and unfortunate—change was being made in the equally important urban design composition of the Center. Happily, the Music Hall has finally received landmark designation. By demonstrating that a tower over the Music Hall could generate income to offset the losses, the study had the desirable result of undermining the hardship case for demolition. In addition, more recently, the Music Hall's operations have been restructured to eliminate the deficits. On the other hand, the study unfortunately also demonstrated the feasibility of esthetically undesirable new towers in the Center—a potential that still exists because Rockefeller Center has resisted

Figure 4: Perkins Wheeler & Will's Crow Island School showing underground expansion.



Hedrich-Blessing

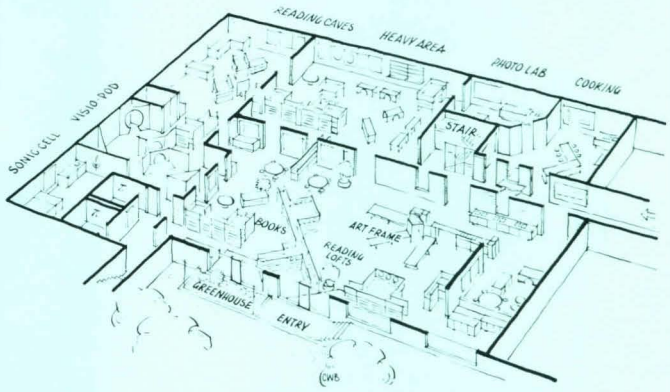
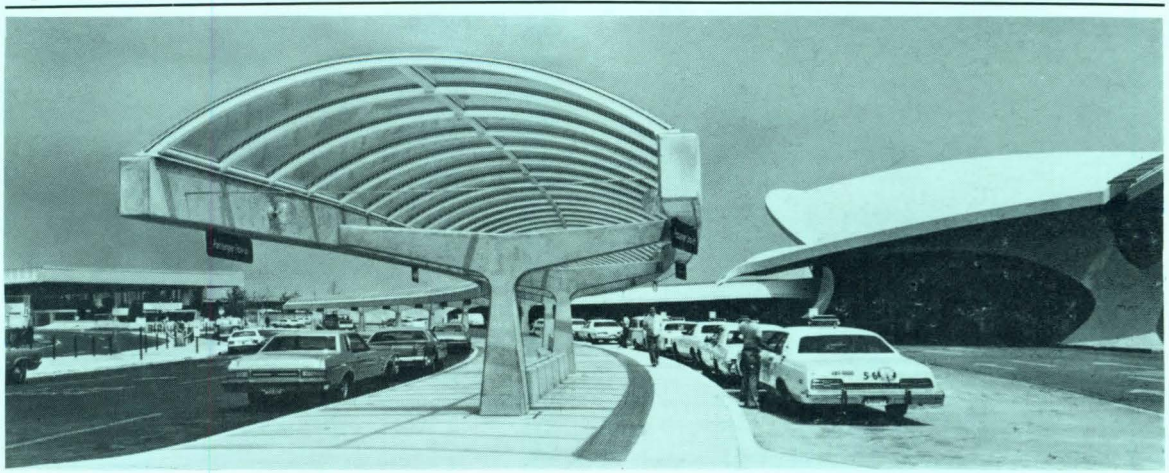


Figure 5: New canopy for Saarinen's TWA terminal at JFK by Wittnoefft & Rudolph.



landmark designation for the complex.

The reason this potential problem still exists is another economic fact. After the trauma of the 1973-75 recession, developers, financial institutions, and even tenants have sought to locate or develop the safest and therefore the most desirable addresses. This has particularly serious consequences in New York City. As the general market in New York turned around; good Park, Madison and Fifth Avenue locations, as well as other top addresses, began to command incredible rents and incomes. Many owners are asking and getting office rents in excess of $30-50 per square foot, hotel room rates in excess of $80-120 per night and condominiums and co-op sales prices in excess of $250 per square foot. Fueled by these rents, prices and room rates, a boom is on again, but it is constrained by the limited number of sites with desirable addresses. One result of the economic pressures has been efforts to build on every under-utilized parcel. This has led to a number of questionable proposals in addition to the one for Rockefeller Center.

Some of the proposals are ingenious. For example, many developers have reviewed air-rights additions over the former Pepsi Cola Co. World Headquarters and Olivetti offices designed by SOM at 59th Street and Park Avenue. The building did not use up its allowable F.A.R. on a prime site. The building is not only considered another prime example of urban corporate architecture circa 1950, but also it is one of the handful of major buildings designed by a team in which a woman, Natalie DeBlois, was a key member. There have been several proposals studied. So far none has become real, but the studies go on, including a recent one by Eli Attia & Associates (figure 7). This project and a subsequent proposal by James Stewart Polshek and Associates have been promoted because of a new threat to the Pepsico Building.

In an effort to reduce the scale of new midtown Manhattan buildings, a major revision of the city's zoning code has been proposed by the New York City Planning Commission. Among other changes is a new provision discouraging an owner of two adjacent lots, with buildings on them, from combining them to achieve a larger building. Should the new zoning be enacted, an argument could be made that it made more economic sense for the owner to tear down the Pepsico building (to achieve a larger combined lot F.A.R.) than to preserve it.

Other underutilized parcels including the site of the 1980 AIA 25-year award, Lever House, have also been studied. Lever House has also committed the cardinal real estate sin of failing to use all of its valuable F.A.R.

Even some of the major supporters of modern architecture have fallen under the spell of this economic potential. The Museum of Modern Art (MOMA) sold the air rights over its complex and helped to engineer a remarkable piece of legislation. The legislation, described by its author as a "one-eyed-man-with-a-limp" law, created so that it just covered this special case and a few others, allowed MOMA to receive the new tower's real estate taxes in addition to a payment for the air rights. The Museum received $17 million for the air rights from the current developers. This income is paying for an addition that the recent Picasso show has clearly demonstrated is needed.

The problem with the original design for this addition was that the early studies showed the International Style facade by Philip L. Goodwin and Edward Durell Stone removed for a continuation of the tower design down to the street. On the other side the changes intruded into the Philip Johnson sculpture garden. In the final design by Cesar Pelli (RECORD, March 1980 and figure 8) the facade has been saved, and the changes in the garden are less intrusive. But once again there is change in a building that Ada Louise Huxtable calls "a genuine landmark. It has become as symbolic an image of early modernism as the famous fur-lined teacup. To destroy it is to destroy an era and a milestone in the history of art."

Because of the MOMA financial success others have studied the same concept. For example, I did a feasibility study for such a project on behalf of another major New York cultural institution housed in a modern landmark. This idea has been shelved for the time being but developers—some with noted architects—have made proposals to implement the concept—some of which have been insensitive to the existing building.

Figure 6: Davis Brody Associates' plan for Radio City.

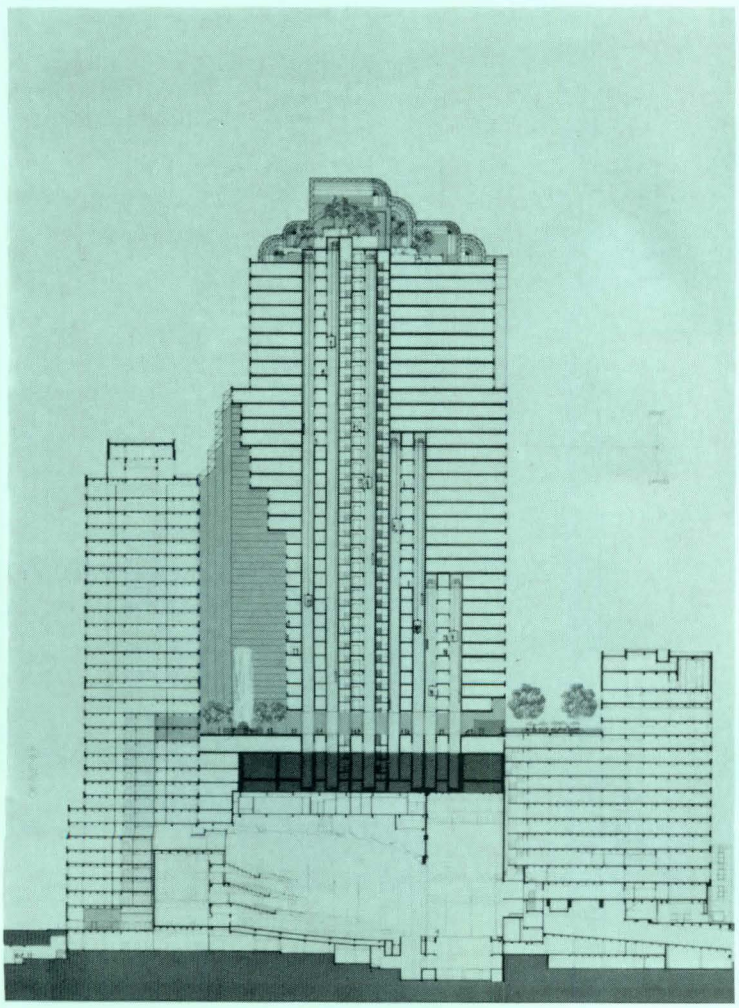


Figure 7: Eli Attia's proposal for the air rights over Pepsico.

Changes in operating economics

The original cause of the MOMA proposal was—as indicated earlier—a desire to make up for past operating deficits. Unfortunately, energy, security and many other basic changes in the economics of building operations are also becoming a threat to many modern landmarks.

For example, our firm's energy analysis group was asked to evaluate a group of potential energy conservation actions for a well-known office building. The options being considered by the owner included the application of one or another special shielding to the building's windows. The first changed the color and reflectivity of the glazing and the second gave the appearance of a metal screen. Both would have made radical changes in the appearance of the fenestration. To avoid this problem, we recommended a third system which involves the application of another inside pane to create a thermopane. This creates a modest change in transparency, but the over-all esthetic impact is sharply reduced. Other landmark owners, however, might not have accepted the argument that the esthetic integrity of the fenestration was a valid part of the decision.

As solar energy becomes more feasible, both active and passive retrofits will be an issue. Both involve substantial design changes. More and more architects are engaged in design modification to meet the demands of the Occupational Safety and Health Act, and other modernization requirements, including new standards of accessibility and the whole concept of defensible space. All have significant esthetic implications for landmark buildings—old and new.

The examples outlined above should demonstrate the range of the problem. There are, however, at least six general actions that could begin to meet these issues.

First, members of the design professions should recognize that there is a problem. Second, we should provide the leadership for an educational effort to persuade the public, in general, and preservation groups, in particular, to focus part of their concern on the nation's modern architectural heritage. Included in this effort should be a push to eliminate the arbitrary age limits now commonly incorporated in the landmark designation legislation and procedures. Building owners such as Seagrams should not have to seek out designation. Third, the growth in research and information on how to deal with the forces of change on historically valuable buildings should be expanded to include the particular problems of buildings designed in the modern vernacular. Fourth, attention should be paid to the problems with the current landmark laws. Specifically, some are so restrictive that many building owners must resist designation because the economic and functional penalties are too severe to be accepted. Buildings must continue to be viable. Only unnecessary and insensitive changes should be automatically prohibited.

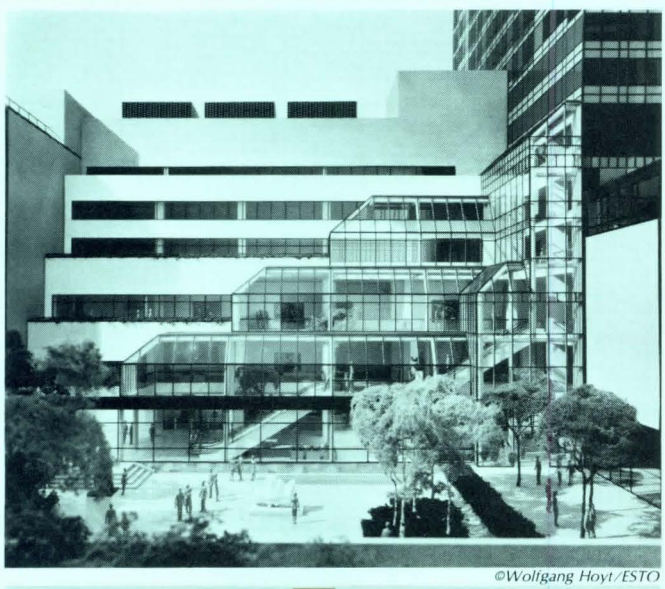
Fifth, the cataloguing of significant buildings should be extended to include even the most recent. As a starting point any building that has received a major design award should be considered for the list. Design awards should not be the only criteria, however, for some worthy buildings have been overlooked while others clearly no longer justify designation.

Finally, pressure should be brought upon the one owner group—public agencies—that should be most responsive to a public display of concern for this issue. The Air Force Academy issue should not have occured. Only a change in public agency regulations can keep such problems from recurring with increasing frequency in the many other important public buildings built in the post-World War II era.

The actions proposed above are, of course, only a start, but a start is long overdue. Many of the examples used here have had happy endings, but as the forces of change inevitably accelerate, the list of permanent losses in our modern heritage will grow. When buildings as important as the ones noted in this article are subject to permanent change, preservationists can no longer assume that our postwar heritage can look out for itself.

Bradford Perkins is a partner of Perkins & Will and general manager of its Eastern offices. He is a frequent contributor to RECORD and has acted as the architect or planning consultant on several historic preservation projects. His own firm, founded by his father Lawrence Perkins in 1935, has produced a number of landmarks of the Modern Movement, most notably the Crow Island Elementary School.

Figure 8: Cesar Pelli's addition to MOMA.



©Wolfgang Hoyt/ESTO

J. Severtson, K. Champlin

©Wolfgang Hoyt/ESTO

THE FAGUS FACTORY

CONTEMPORARY DESIGN SEVENTY YEARS LATER

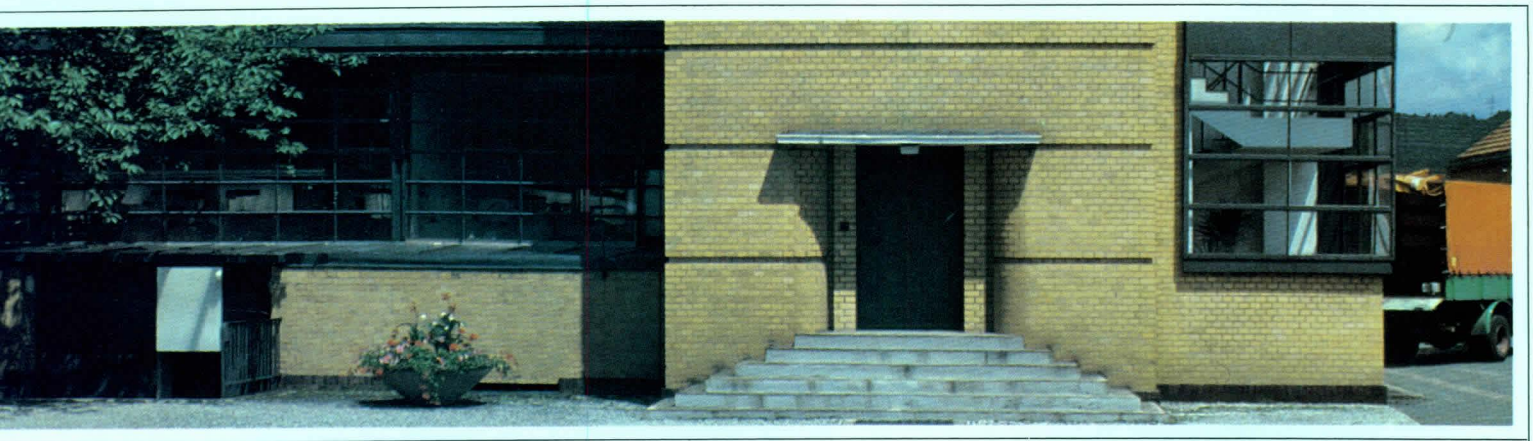
©Peter Aaron/ESTO

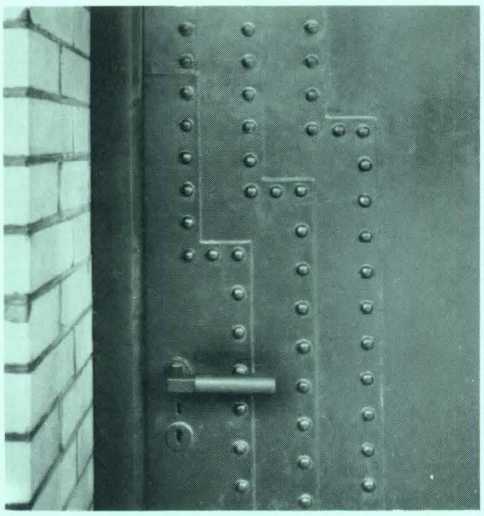
We recognize it from a dim and none too flattering photo or two in our Hitchcocks, our Giedions, our Pevsners. We know that when it was built in 1911, its modernist forms came as a stern rebuke to conventional architectural sensibilities. But to a little handful of avant-garde designers, men who wrote more than they built—and men whose design manifestoes were beginning to be fired off like so many small gun salutes all across Europe in the decade before the First World War—the Fagus Factory brought an hour of redemption. It promised freedom from the fetters of eclecticism that had stifled architectural innovation so long, and for Walter Gropius, the building's 28-year-old designer, it was a rare opportunity to give visible expression to his growing conviction that a fusion between architecture and the new industrial processes was a priority of the highest order.

If that was all there was to this design, we would still have pleasure in rediscovering it just as architectural photographer Peter Aaron did on a recent visit to Germany. But the Fagus Factory is no historical relic. It stands proudly today, as it has through two World Wars and seventy years of profound physical and social change, in the small city of Alfeld some thirty miles south of Hannover in Lower Saxony. Shoe lasts and machine parts are still manufactured there. And, as the photos here indicate, the building looks astonishingly fresh and beautifully maintained—and the building is very much a part of the contemporary life of the city.

The reason time has treated the Fagus Factory so well is simple. It has given extraordinary satisfaction. Only the iron sash of the curtain wall has required more than routine maintenance, and even this has been confined pretty much to periodic scraping, repriming and repainting. Several generations of the Benscheidt family—Karl Benscheidt was the original owner—have treated the building with continuing respect and exercised restraint in making those minor changes in the office block that were from time to time required.

The interiors of the office block (designed in collaboration with Adolf Meyer) reveal a narrow but expressive range of spaces and a host of details that gladden



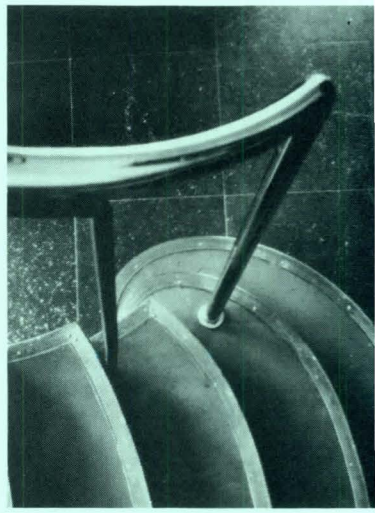


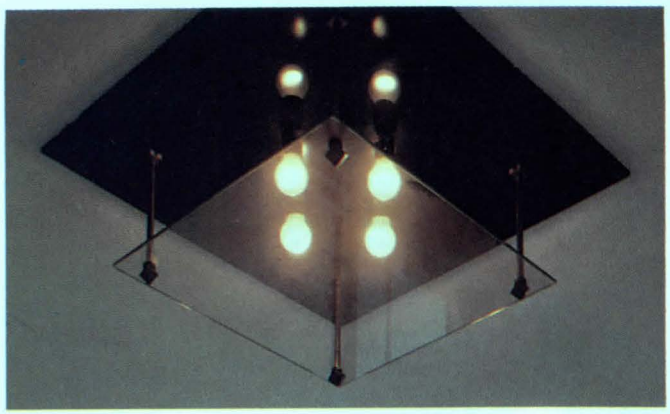
almost any eye. From stenciled wall patterns, to lever handles, to light fixtures, to stair rails, the early Gropius catalog of simple, machined forms still delights, still impresses.

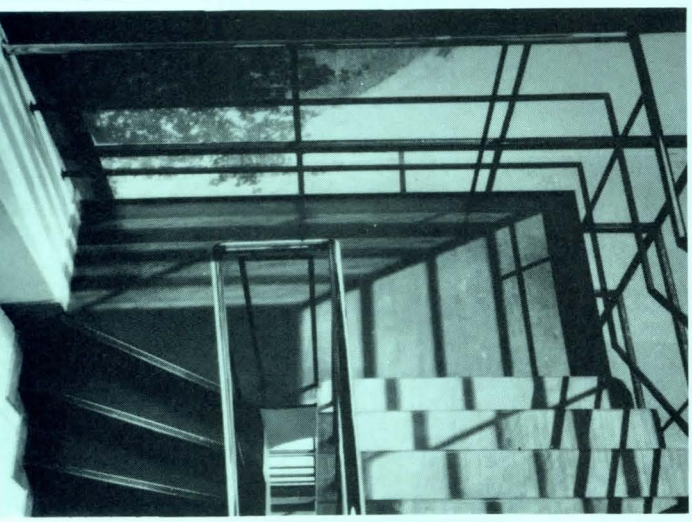
The fun of looking back at the Fagus Factory today is the fun of rediscovery. But it is more than that. The building reminds us with only the gentlest sense of reproof that good design will last a long, long time. The Fagus Factory is a design that quite literally belongs to both ends of this century.

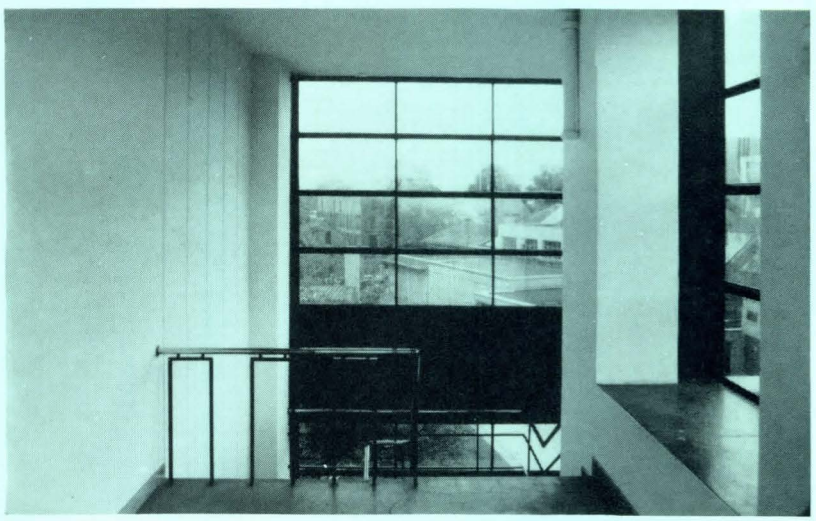
That an architect of 28, even one fresh from the office of Peter Behrens, could have come to such a fully developed and mature statement his first time out, so to speak, is surprising enough. But that he could have so accurately foreseen the issues around which 20th century architecture would take shape makes his accomplishment all the more remarkable. Here at Fagus, Gropius has sketched out almost all those themes and methods—those Bauhaus principles—with which his life would forever be associated and which an army of his students, on both sides of the Atlantic, would carry out into the world of practice. Some who came after him advanced these ideas even further; others debased and counterfeited them. But that, after all, is the normal fate of any style and any pioneer.

The world of 1911 was obviously rather different than our own and the struggle to develop a machine-age esthetic has been supplanted by more pressing, contemporary concerns. To those readers who have reached the arid conclusion that ours is an age that too often rewards the style of the moment—or that ours is an age whose essense is only accessible to those with radio telescopes and electron microscopes—the Fagus Factory may seem no more than an innocent survivor from an earlier, simpler time. But to those who continue to find pleasure in thoughtful architectural analysis, who still delight in shaping and enriching space and, most important, who understand that the present is rooted in the past, the Fagus Factory offers lessons that are abiding. To these readers, a second look at this 70-year-old structure will be welcome and will almost certainly bring a measure of joy and reassurance. —*Barclay F. Gordon*









OFFICE LITERATURE

For more information, circle item numbers on Reader Service Inquiry Card, pages 173-174

WASHROOM EQUIPMENT / The current Charles Parker catalog includes illustrations and technical data on stainless steel washroom equipment, mirrors, grab bars, cabinets and bathroom accessories. ▪ The Charles Parker Co., Meriden, Conn.

circle 400 on inquiry card

MEMBRANE ROOFING / Written for architects and engineers, a color brochure on *Rhenofol* pvc membrane roofing systems contains specification requirements, technical data and product usage for both *Rhenofol C* ballasted and *Rhenofol-CV* mechanically fastened roofs. Guaranteed watertight, *Braas* roof systems accommodate virtually any roof size and shape, and are said to be unaffected by thermal changes, structural movements, or deformation of insulation panels. ▪ Barra Corp. of America Inc., West Caldwell, N.J.

circle 401 on inquiry card

THERMOPLASTICS / A 20-page bulletin contains general information on *Geon* vinyl resins and compounds, *Geon* CPVC compounds, *Estane* thermoplastic polyurethanes, and *Carboset* acrylic resins. End uses for these materials include interior and exterior building products, pipe, wire and cable insulation, and flexible molded and extruded products. ▪ B.F. Goodrich Chemical Group, Cleveland.

circle 402 on inquiry card

WATERPROOF COATING / Sixteen architectural colors of *Hydrocide Super Colorcoat* are illustrated in a four-page color chart. Backed by a five-year guarantee, *Colorcoat* textured coating waterproofs most exterior above-grade masonry surfaces, and may also be used to provide a sand float effect to painted or unpainted concrete, stucco, block and brick surfaces. ▪ Sonneborn Building Products, Div. of Contech, Inc., Minneapolis.

circle 403 on inquiry card

QUARTZ LIGHTING / A four-page brochure describes the *Lite-Pak*, a "mini" quartz lighting fixture for both general and accent lighting of residential, commercial or ecclesiastical installations. Offered in several mounting configurations, the *Lite-Pak* projects a powerful grazing light in a 45-deg angle across a surface in an even, uniform arc. ▪ Rambusch, New York City.

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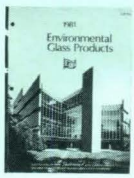
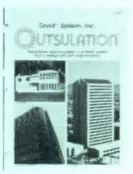


ARCHITECTURAL GLAZING / Reflective, insulating, heat strengthened, tempered, spandrel and all types of laminated glass products are illustrated and described in a 16-page catalog from Environmental Glass Products. Technical information regarding solar efficiency values is also included. ▪ Environmental Glass Products Div., Shatterproof Glass Corp., Detroit.

circle 405 on inquiry card



EXTERIOR WALL INSULATION / A color brochure outlines the energy-saving features of the Dryvit, system describing the four major components, new and retrofit construction modes, application methods, thermal shock reduction capabilities and the design and appearance possibilities of the expanded polystyrene exterior insulation product. ▪ Dryvit System, Inc., Warwick, R.I.

circle 406 on inquiry card

ELECTRO-COATING REFINISHING / A series of catalog sheets describes how National Electro-Coatings' on-site refinishing of metal and metal-wood items can produce a "like new" desk, locker, etc. overnight, at a fraction of the cost of replacement furniture. Laminate tops and epoxy coatings are available in a wide selection of colors and custom shades. ▪ National Electro-Coatings, Inc., Cleveland.

circle 407 on inquiry card

OLEFIN CARPET FIBER / A color brochure on *Herculon* fiber for commercial and institutional carpeting describes the olefin product's mold-, mildew-, soil- and stain-resistance, and explains available yarn systems and carpet types. Carpet testing and installation procedures are outlined. ▪ Hercules Inc., Norcross, Ga.

circle 408 on inquiry card

PLUMBING FITTINGS / Catalog sheets from Architectural Complements illustrate the *Vola* modular plumbing system, a coordinated range of mixing valves, outlets, plates and accessories, finished in bright epoxy colors. A price list is included. Fixtures are available in stock in the U. S. for immediate delivery. ▪ Architectural Complements, Lincoln, Mass.

circle 409 on inquiry card

WASTE TREATMENT / The *Cycle-Let* waste treatment and water recycling system is described in a series of data sheets and application reports. Consisting of the different treatment modules and a remote monitor, *Cycle-Let* systems are available to serve as many as 50 people, 24 hours a day. ▪ Thetford Corp., Ann Arbor, Mich.

circle 410 on inquiry card

BUILDING PANELS / A color brochure on *Thermal-Impac* panels provides basic information on the wire-reinforced, polystyrene core structural panels. Application photos illustrate how the panels can be used in home building, high-rise construction, fencing, etc. ▪ Covington Technologies, Irvine, Calif.

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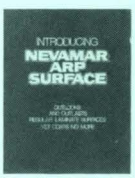

LAMINATE SURFACE / *Nevamar ARP* laminate has hard, invisible particles to provide extended wear- and abrasion-resistance at no increase in price over standard laminates. A product folder discusses the results of the Taber Abraser tests conducted on *Nevamar ARP* and competitive decorative laminates. ▪ Nevamar Corp., Odenton, Md.

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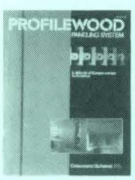


WOOD PANELING / A color brochure demonstrates how *Profilewood's* clip system of application protects this European-style clear wood paneling from injury as it goes up. End-use photos show the paneling in many applications; drawings illustrate installation methods for walls, ceilings, high moisture areas, etc. ▪ Ostermann & Scheiwe U.S.A., Spanaway, Wash.

circle 413 on inquiry card

DOCK RAMPS / Full control hydraulic dock ramps are featured in a 10-page catalog from Serco. Operating and safety features, components and installation details are explained and illustrated. ▪ Serco Engineering, Albany, N.Y.

circle 414 on inquiry card

LAB SURFACING / Chemical resistant *Chem-Surf* decorative laminate is illustrated in a product brochure, which also lists its test values under NEMA procedures. Fabrication techniques are suggested. ▪ Wilsonart, Temple, Texas.

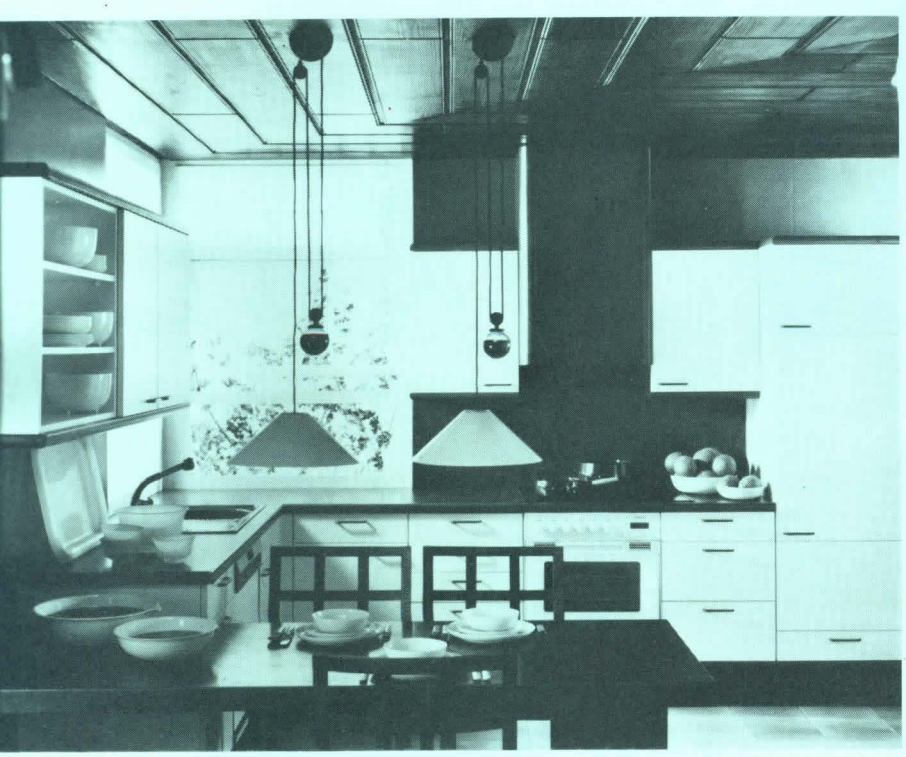
circle 415 on inquiry card

r more information, circle item numbers on
ader Service Inquiry Card, pages 173-174

Allmilmo offers complete interlocking kitchen units

One of the latest designs from Allmilmo is Zeilodesign Contura White Edelweiss kitchen cabinets (shown below), in bright white color with chrome trim. These cabinets feature laminated surfaces with undulating door fronts and smooth countertops. As an added benefit, a large, angled dining table adjoins the cabinets. A variety of unit sizes are also offered for shelf and storage space. ▪ Allmilmo Corporation, Fairfield, N.J.

circle 300 on inquiry card



Research on cabinet sales

The National Kitchen Cabinet Association has conducted a Market Research Study on expected sales of kitchen and bath cabinets, which shows that 1981 sales should zoom 15.4 per cent over 1980 figures, increasing $3.8 billion—certainly an encouraging report for fine cabinet manufacturers, such as the two shown here, who offer elegant European designs. The report also predicts that in 1981, 29.5 per cent of the cabinets will go into new residential units, and 79.5 per cent will go into modernization projects. This large modernization market includes an estimated $2.2 billion to be spent on 2.4 million jobs, each averaging $885 for kitchens. The bath modernization area is expected to reach $489 million in 4.6 million jobs, averaging $105.

Poggenpohl announces new color scheme

Poggenpohl Kitchen and Bath Studio has introduced Combi-Color—a new range of colors for its elegant line of kitchen cabinetry (left and above). Seven accent colors can be coordinated with the base colors of white or beige. The accent colors are: burgundy red, cobalt blue, gold-yellow, emerald green, olive green, chestnut brown and gray-blue and can be used on bow handles, worktops, recess panels, plinth panels and cornice to enliven the kitchen environment. ▪ Poggenpohl USA Corp., Teaneck, N.J.

circle 301 on inquiry card

more products on page 125

Cheers!

Introducing Quarry Naturals.

It's new from American Olean. And we've built a new ceramic tile plant to make it for you.

Quarry Naturals™ tile has great character. It's uniquely textured. It's a warm, earthy quarry tile. It picks up color generously. And subtly.

Quarry Naturals—made in America—has a great heritage and proud name. It's incredibly durable. And so easy to maintain.

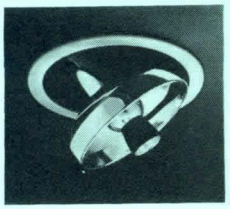
It's available now in three sizes (3⅞" x 8", 6" x 6", 8" x 8") and four rich, earth-tone blends, with more coming. Each carton is "pre-blended." Great care is given so the blending is consistent. And we have a line of trim pieces which complete the job.

See Quarry Naturals at any of our showrooms (check the Yellow Pages). For more information, contact your American Olean sales representative or write to: American Olean Tile Company, 2878 Cannon Avenue, Lansdale, PA 19446.

American Olean Tile
A National Gypsum Company

Circle 48 on inquiry card

RECESSED SWIVEL LIGHT / Designed to use either flood or spot reflectors, the *ParPower* fixture has a reflector that swivels out of the recessed housing to aim in virtually any direction. Its dual reflector system allows a choice of 60-, 75- or 100-W lamps for medium- to high-intensity illumination. *ParPower* fixtures come in polished aluminum or gold finish. ▪ Nutone/Sterling, Cincinnati.

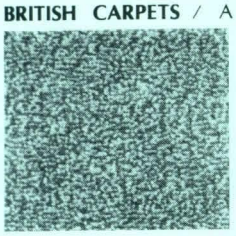


circle 303 on inquiry card

MOTORIZED BLINDS / A completely concealed, battery-operated motor can be used to activate *Flexalum Decor* blinds and verticals for light and privacy control in high, out-of-the-way, or especially large window treatment installations. A rocker switch adjusts the direction and degree of tilt; the standard remote control unit using two "C" batteries will operate the blinds up to a maximum of 30 ft from the window. ▪ Hunter Douglas Window Products Div., Totowa, N.J.

circle 304 on inquiry card

BRITISH CARPETS / A contract Axminster line especially developed for the U.S. market, Wilton Royal's "Design Plan" includes the larger-scale graph and square pattern shown here. Carpet pile is 80 per cent wool/20 per cent nylon, offered in four different qualities and 3- and 12-ft widths. ▪ Wilton Royal Inc., Everett, Mass.

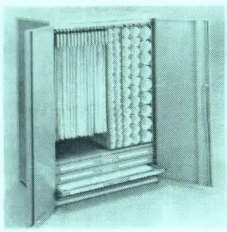


circle 305 on inquiry card

HEAVY-DUTY CARPET / Offered in eight different multi-hued colorways, "Plymouth" commercial carpeting of *Antron III* nylon has been designed to meet the wear requirements of high-traffic interiors. Carpeting is manufactured in 12-ft widths. ▪ Weave-Tuft Carpet Corp., New York City.

circle 306 on inquiry card

GRAPHICS STORAGE / A "total" system for storage of specialized graphics such as plans, charts and maps, the compact "SuperFile" combines all forms of filing—vertical, horizontal and roll—in one housing. Two types of cabinets (five sizes) are available, with the largest size designed for a maximum 42- by 60-in. sheet. Each model can use any combination of file types wanted. ▪ Plan Hold Corp., Irvine, Calif.



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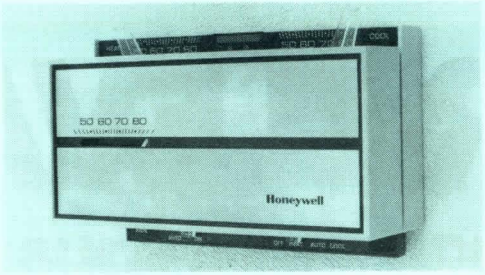

MULTI-STAGE THERMOSTAT. / Offered for use in residential and light commercial buildings with multi-stage hvac systems, the "T874" thermostat provides separate setpoint levers to regulate up to three stages each of heating and cooling. This unit can be used with systems that include heat pumps, two-stage gas, multi-zone hydronic, rooftop or other auxiliary heating and cooling sources. ▪ Honeywell Inc., Minnetonka, Minn.

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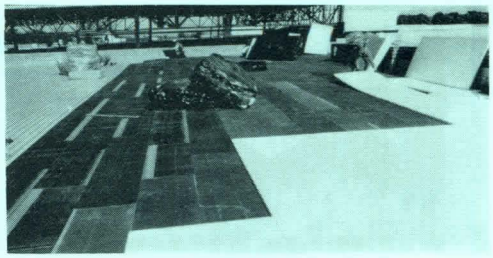


POLYSTYRENE INSULATION / A non-toxic, non-irritating material, expandable polystyrene boardstock does not leak freon into the atmosphere. Now available in a variety of thicknesses, from ¾- to 8-in., waterproof EPS panels are suggested for insulation of single-ply membrane and built-up roofs, masonry walls and floors, and as interior insulation, covered by gypsum board, in older homes. ▪ Westex Corp., Whippany, N.J.

circle 309 on inquiry card

more products on page 127

DOVER ELEVATORS

serve two triangles on a square in Nashville.

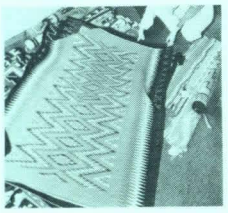
A broad pedestrian walkway slices diagonally through a square in downtown Nashville, leaving space for a pair of distinctive triangular-shaped buildings. One building is the 20-story corporate headquarters for Commerce Union Bank—Tennessee Valley Bancorp; the other, the 12-story, 350-room Radisson Plaza Hotel. The complex is well served by a total of 18 Dover Traction and Oildraulic® Elevators: 11 in the bank building, 7 in the hotel. For more information on Dover Elevators, write Dover Corporation, Elevator Division, Dept. A, P. O. Box 2177, Memphis, Tennessee 38101.

DOVER®

The elevator innovators.

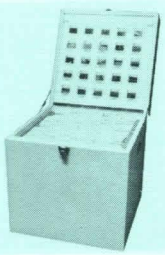
One Commerce Place and Radisson Plaza Hotel, Nashville, Tenn.
Developer: Carter & Associates, Atlanta
Architects: Thompson, Ventulett, Stainback & Associates, Inc., Atlanta
General Contractor, One Commerce Place: Ira H. Hardin Co., Atlanta
General Contractor, Radisson Plaza Hotel: Paces Construction Co., Inc., Nashville (A subsidiary of the Ira H. Hardin Co.)
Dover Elevators installed by Nashville Machine Co., Inc.

NAVAJO RUGS / The *Embers Gallery* offers designers a large stock of handwoven Navajo rugs. Prices range from $150 to $27,000, depending on size, dyes used and quality of weaving. A wide range of contemporary Native American artwork is also available. ▪ Embers Gallery, Denver.



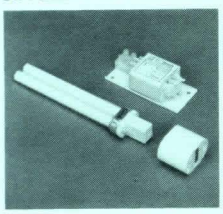
circle 310 on inquiry card

SLIDE STORAGE/DISPLAY / Weighing only 20 lb, Abodia's "Portafile" holds up to 150 transparent filing pockets with 25 slides per pocket. The opened lid forms a self-contained, fluorescent-lit viewing table. The German-made "Portafile" measures 16- by 19- by 16-ins., and is priced at $420. ▪ Elden Enterprises Inc., Charleston, W. Va.



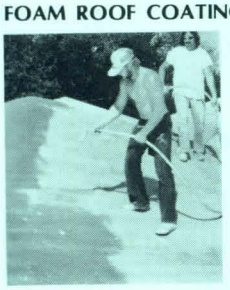
circle 311 on inquiry card

SINGLE-END FLUORESCENT / Low wattage, high output *PL* lamps provide lumens and color rendition equivalent to 40, 60 and 75W incandescent lamps. The compact, low-pressure mercury discharge lamp consists of two narrow fluorescent tubes welded together, with a two-pin electrical connection and a housing for the "instant on" starter and the capacitor. Available in 7W, 9W and 11W versions, the compact lamp has a useful life of 5000 hours. ▪ Philips, Eindhoven, The Netherlands.



circle 312 on inquiry card

FOAM ROOF COATING / Designed for application over sprayed-in-place urethane foam insulation, *Scotch-Clad* coating system meets UL 790 Class A requirements for fire resistance without the need of roofing granules. Consisting of sprayed-on, one-part base and top coats, the *Scotch-Clad* system is guaranteed to remain waterproof, and is especially adaptable to unique roof structures, such as the hyperbolic paraboloid shown here. ▪ 3M Co., Adhesives, Coatings and Sealers Div., St. Paul.



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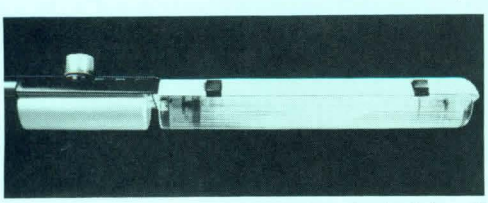

ROAD LIGHTING / A new design, the "Alpha 4" low-pressure sodium luminaire combines modern lines with compact dimensions in a road light of minimal weight and windage area. The lamp compartment is a separately sealed unit. The refractor has a series of prisms and lenses on its inner surface to control the light distribution, which can be either a semi-cut-off or cut-off pattern. ▪ Thorn Lighting Inc., Whippany, N.J.

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COMMERCIAL PARQUET / Protected by liquid acrylic and stain forced all the way through the solid oak parquet, *Hartco* commercial wood flooring is available in a new, lighter color, "Cambridge." Manufactured in tongue-and-groove 12-in. squares, *Hartco* acrylic impregnated parquet has an optional 1/16-in. foam back to provide cushioning, noise reduction and moisture resistance. ▪ Tibbals Flooring Co., Oneida, Tenn.

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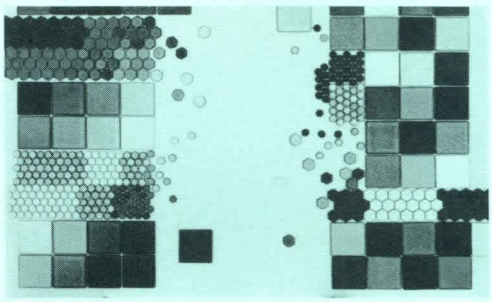

CERAMIC TILE / Round, six-sided and square tiles in Latco Products' new Valencia II series can be used to create a virtually infinite number of coordinated combinations. Available in 36 different shapes, textures and colors, ceramic tiles are highly resistant to acids, stains, frost and heat. ▪ Latco Products, Los Angeles.

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more products on page 129

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DUST CONTROL / *Soil-Sement* binding liquid is mixed with water and applied to construction areas, road berms, parking lots, etc. for control of dust. It penetrates, saturates, and cements together loose surface fines to create a firmly bound, hard, resilient surface. *Soil-Sement* is environmentally safe, and is said to be the best replacement for used oil and calcium. ▪ Midwest Industrial Supply, Inc., Canton, Ohio.

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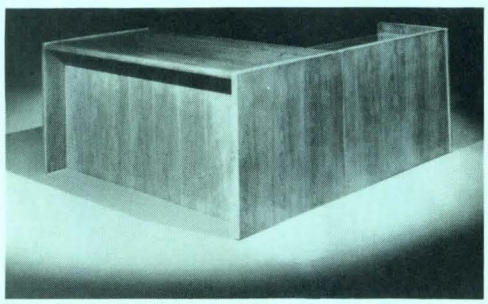
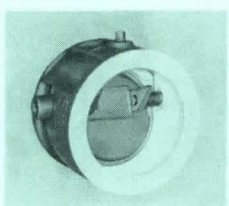


OFFICE FURNITURE / Offset top and radiused edges accent Hoosier's "1000 Series" office line. The desk and left-hand return shown here is available in Mission Oak, Natural Oak or walnut veneer. ▪ Hoosier Desk Co., Jasper, Ind.

circle 318 on inquiry card

SPRINKLER CHECK VALVE / This "Model F512" water check valve for sprinkler systems reflects a significant weight savings: 23 lb instead of 32 lb for the previous 6-in. size. The spring-loaded, clapper-type valve, designed for use in fire protection systems and related equipment, is listed by UL, ULI, and approved by FM as an anti-water hammer check valve. It is rated for 175 psi service, and can be installed in both vertical and horizontal positions. ▪ Grinnell Fire Protection Systems Co., Inc., Providence.



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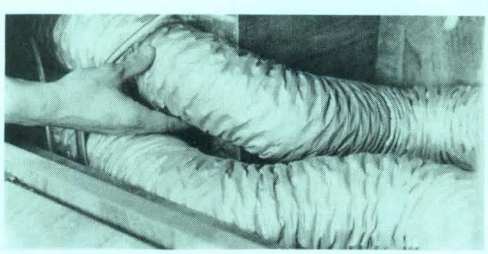

AIR DUCT / Constructed of vinyl impregnated/coated woven fiberglass over a coated steel wire helix, *Duct-flex* non-insulated air duct is suitable for low- to medium-pressure transfer of hot or cold air. It has a UL 181 Class I listing, and is available in interior dimensions from three- to 14-in. ▪ Dayco Corp., Dayton, Ohio.

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more products on page 159

This is *LifeSpan*™, the only spring hinge guaranteed for the life of the building.

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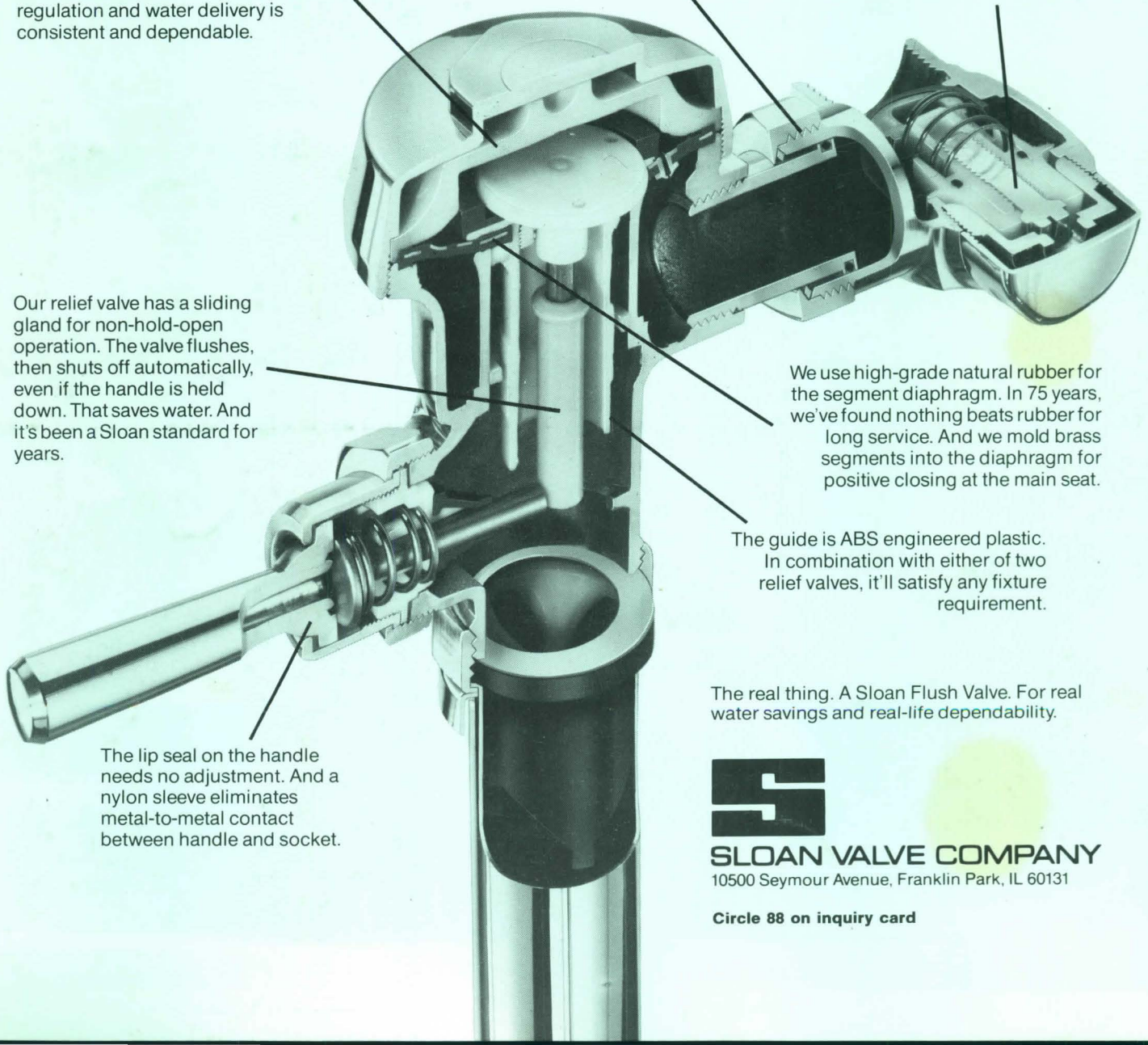
The tailpiece is adjustable to compensate for roughing-in error. Its leakproof connection can't be accidentally disengaged.

BAK-CHEK means pressure losses—even to negative pressures —have no effect. When pressure's restored, the valve's ready to go.



Our relief valve has a sliding gland for non-hold-open operation. The valve flushes, then shuts off automatically, even if the handle is held down. That saves water. And it's been a Sloan standard for years.

We use high-grade natural rubber for the segment diaphragm. In 75 years, we've found nothing beats rubber for long service. And we mold brass segments into the diaphragm for positive closing at the main seat.

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The lip seal on the handle needs no adjustment. And a nylon sleeve eliminates metal-to-metal contact between handle and socket.

The real thing. A Sloan Flush Valve. For real water savings and real-life dependability.

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