

BUILDING TYPES STUDY 442

**THE YOUNG ARCHITECTS:**  
A PROFILE, AND A PORTFOLIO OF WORK

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# ARCHITECTURAL RECORD

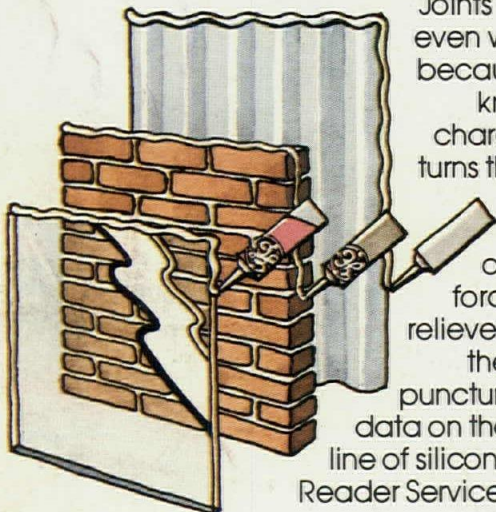
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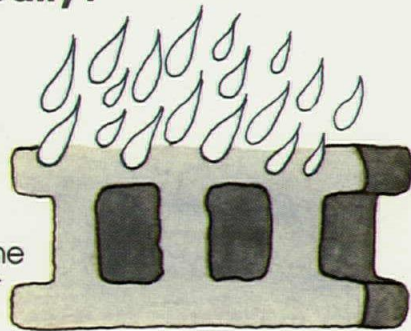
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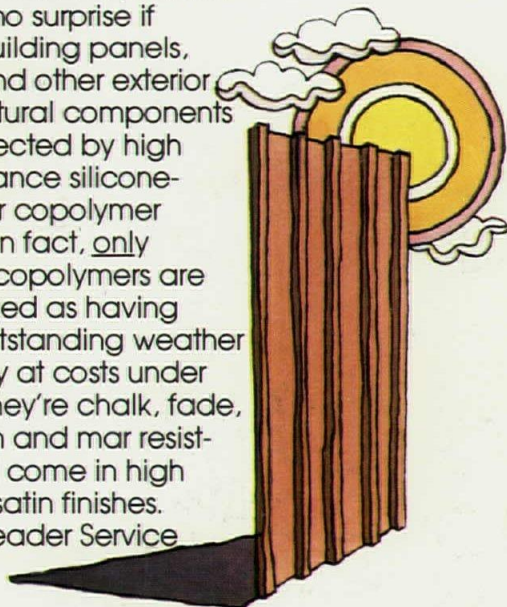
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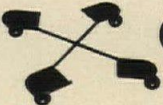
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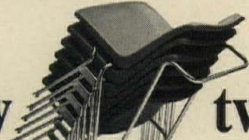
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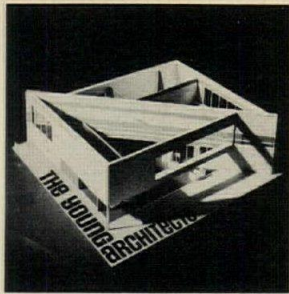
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### 81 THE YOUNG ARCHITECTS: A PROFILE

Surveys were made to find out what young graduates are doing and what practicing architects under 35 think about the future of the profession, the value of their preparation to practice, the services architectural firms should provide, and their own preferences as to firm size and personal occupation. No real profile can be made by tabulation of such concerns, but the sense of massive essay response is reported with sustained respect and unflagging optimism for this total mix of individualists.

### 86 YOUNG ARCHITECTS ON THEIR OWN

Once registered, architects still want to start their own firms, and they are doing it in the traditional way: going into partnership with other designers their own age, or with older professionals; practicing individually or in conjunction with their teaching activities. The 27 projects shown in this section have been designed by architects working in all of those ways, located in every section of the country. A surprising number of the submissions were completed buildings from houses to major civic centers, and the submissions in general reflected the diversity of forms and ideas popular in the profession as a whole, rather than any new, more specific stylistic direction.

### 104 NEW ROLES FOR YOUNG ARCHITECTS

Today young architects are enthusiastically pursuing careers in fields that formerly architects entered reluctantly—if at all—and they are finding their architectural education valuable in areas that did not exist a few years ago. Public service, especially in organizations like the Peace Corps, Vista and CDCs has attracted many of the best students. Urban design, which is architecture with a strong orientation to the governmental decision-making process, is also a popular choice of recent graduates. Building programming, whether or not it involves computers is a field that has developed tremendously while these young people have been preparing themselves and is therefore a natural alternative. Computer technique is being explored brilliantly by young architects. And the matter of the architect's involvement in real estate development and building, controversial to an older generation, is a clear new option to those under thirty-five. These possibilities, plus some that refuse to be categorized, are included in the essay.



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**A PROFILE, AND A PORTFOLIO OF WORK**

**112 INTERIORS:  
A GROWING INVOLVEMENT**

Interior design is a segment of architectural practice that has been of growing importance to architects. It is often at a scale which—like houses—forms a starting point of practice for young architects. On the six pages that follow are examples of varied work at varied scales from the smallest to the largest—by architects on their own and architects who are key designers in large firms.



Hedrich-Blessing

**118 A RADICAL ALTERNATIVE**

Michael Sorkin, a recent MIT graduate and co-organizer of last April's Radical Environmental Designers Conference in Cambridge, describes the historical background of most architectural philosophy today. Then he explains why young radical architects find practice based on those precepts unacceptable. He closes with a series of alternatives which, if not as concise and clear as traditional practice, are nonetheless constructive.

**122 YOUNG ARCHITECTS IN FIRMS**

Many young architects of talent and energy continue to work in firms where their names are not on the letterhead. Invaluable as their contributions may be—and often are, few receive recognition outside their respective firms. In this section recognition comes to the work of fifteen such architects, most of whom, we are pleased to find, are new to these pages.



**134 EDUCATION: A LOOK AHEAD**

A powerful change has taken place in the schools: students today realize that they need, and are demanding that they get, the means for developing the skills that will let them make the physical world a better—a more beautiful—place.

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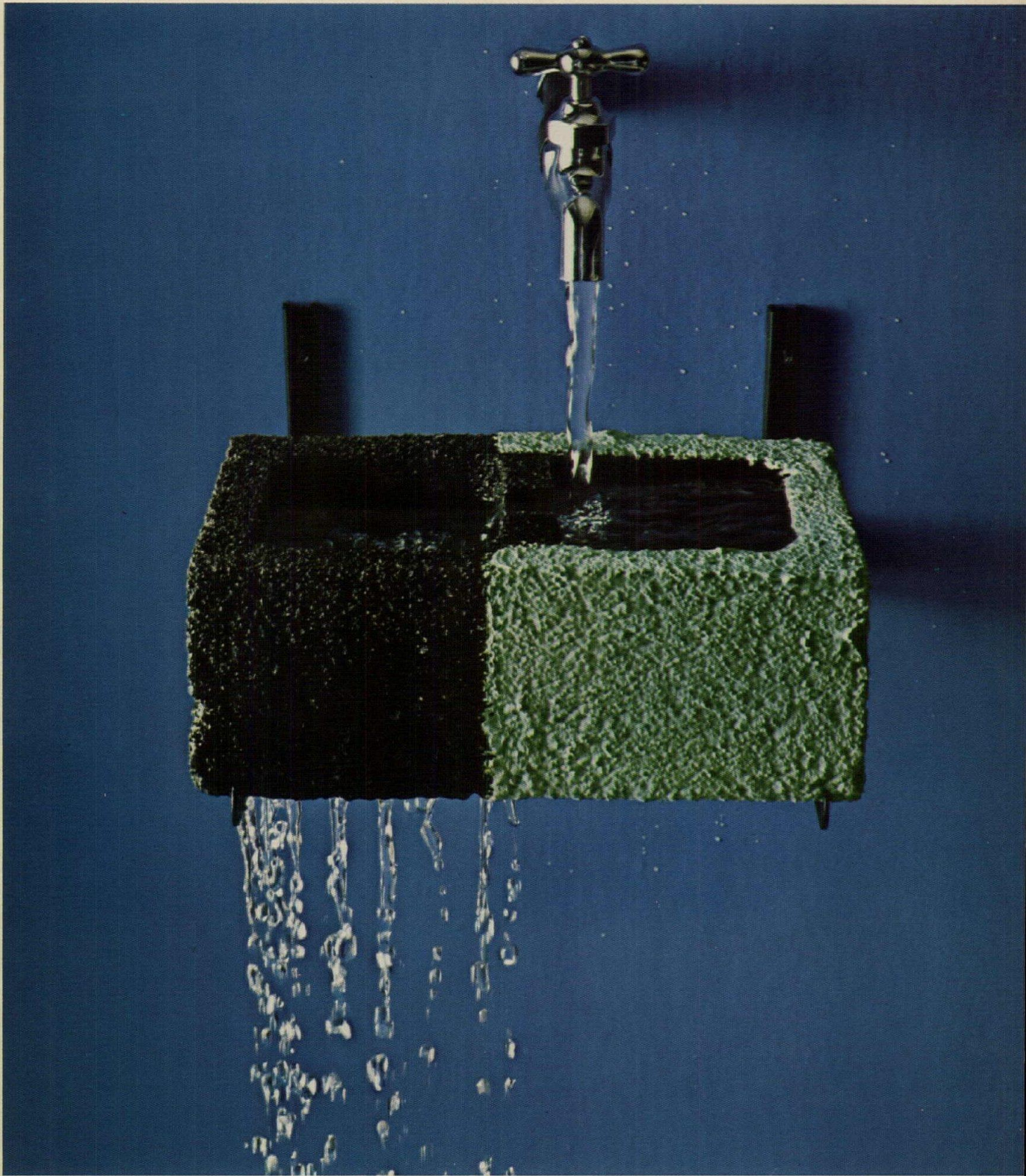
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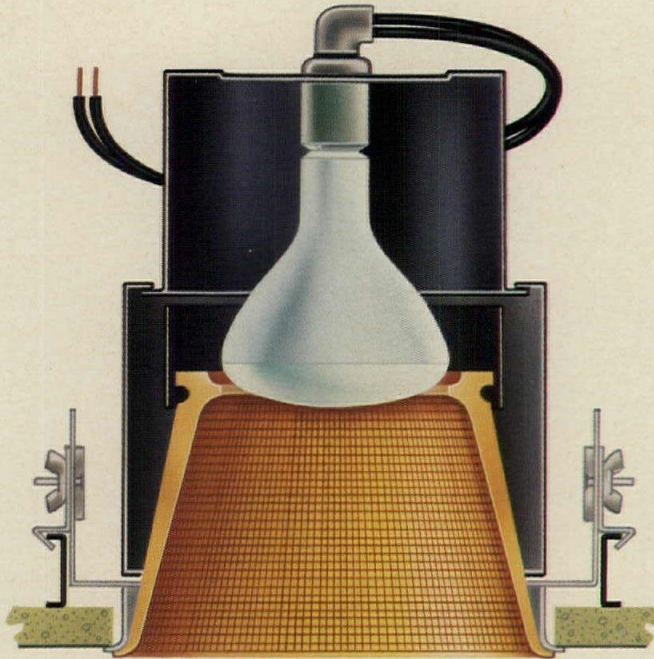
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## About the young architects —and this issue about them

Last month, I was the chairman of the Awards Jury for the Society of American Registered Architects, which was holding its convention in New Orleans. We had the normal judging of the professional work—about which more in the news pages next month—but we also had a judging of student work. The program was for the preliminary design of a children's zoo, and some of the student designs were (as always) very, very good and some (as always) were horrid. But almost all were most interesting from one point of view—they all attempted to show animals in the most natural possible habitat, and all spoke with great conviction of the need to "protect the animals" and to "give the animals free run." One design, indeed, had a long continuous "tube" of fencing through which the children and parents walked while seeing the animals running essentially free. There was, it seemed to me, as we studied the 30-odd student submissions, a point: The students were striving—in an imaginary and somewhat fanciful program framework—to relate first to the needs of their clients; and that they had seen as their clients the animals. That's a funny thing to see as a humanistic point of view, but I think that's just what it was—and you will see that point of view expressed directly or indirectly throughout the issue.

All of which seems not far from a point that AIA president Max Urbahn made in a recent speech to the Louisiana Architects Association: "The future of architecture is already with us, in the sense that the motivations in architecture are no longer focused on stylistic or technological matters but on social needs. We are in a new age of architecture in which architects dream not of building great monuments but of helping solve human problems. The

most creative impulses in architecture today reflect this trend, and our best architects are concerned with making the creative act of architecture the channel for serving, not some personal vision, but the needs of ordinary people.

And that is an attitude that I think you will find expressed directly or indirectly throughout this issue.

In response to two full-page ads in RECORD inviting submissions to this issue, and a brief mention on this page back in July, well over 400 young architects submitted considerably more than a thousand projects for consideration in this issue (we counted 1418, but it was all on our fingers so we should give or take a few). It was, frankly, a mind-boggling situation and what we had to do was spread them out on the floor of an unused office space (photo overleaf) and start reading and looking and pre-selecting and arguing among ourselves and—finally—selecting the work you see in this issue.

Even with this bountiful supply of excellent work (and much of it was excellent work, and more of it will be published in other contexts next year), we felt we needed to devote some of the pages of this issue to other-than-design content and comment.

First, beginning on page 81—you'll find a fascinating profile of what a statistical cross-section of young architects are doing and what they're thinking about. It's based partly on research initiated a year ago by RECORD's research department, and partly on the results of a second survey of many of those who submitted work. This second effort invited more subjective essay-type comment. The results of those two surveys—detailed in the article on page 81—surely does, as the intro-

duction suggests, "give assurance that changing times cannot dismay or obscure the essential architect" and that in fact "he drives and designs change."

There are other essentially text pieces—each critical we thought to an understanding by young and not-so-young-anymore architects alike of what the young are up to. There's an article on non-traditional practice—about young men interesting themselves primarily in public service, or in computer applications, or in development work, or in—for that matter—all other manner of occupation from professional dancer to practicing politician, where the insights and concerns of architecture still seem relevant (see pages 104-111).

There's an article on the point of view of the young radicals of architecture—and it is, if radical, also rational and worthy of study and thought by the most conservative of us.

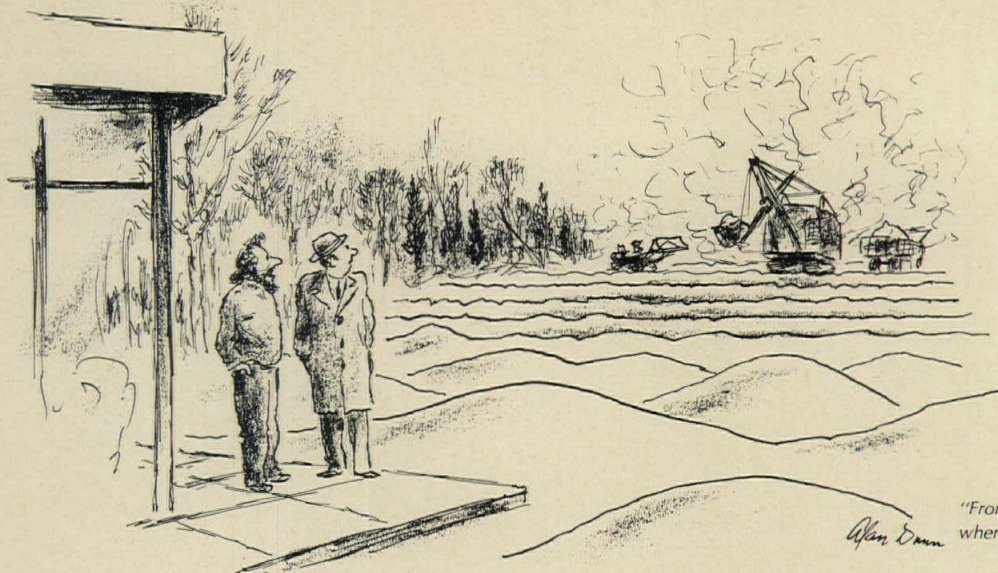
There's an exploration of the current state of architectural education, the new directions it is taking, and the effect that the new licensing and registration procedures are, should, and must have on education.

It is, in short, what we all hope is a broad and balanced picture of the young architect, how and where he is working, and why. It examines work, and it examines motivations.

It is, I hope, not an issue for young architects, but about young architects. I hope all architects—young or otherwise—will find in it food for thought, some reasons for concern and some strong hope for the future.

For on these pages, you will find little that the most conservative would find revolutionary. What you will find, I think, is evolution; careful thought; some good design; and some (appropriately) fresh ideas.

—Walter F. Wagner, Jr.



"From earth sculpture it was just a step into strip-mining, where I really hit the jackpot!"

### Postscripts to the editorial: No. 1: Those 1418 submissions

In the magazine business as, I guess, in all businesses, big numbers get tossed around. As I mentioned on the previous page, the number of submissions for this issue astounded (and of course pleased) us, but handling (not to mention studying) them was a unique experi-



ence. However, as this photo of Bob Jensen and Barclay Gordon shows, we took it all sitting down. And what is visible in the photo is, I'd guess, only a quarter of it.

### No. 2: Our favorite favorite submission

Most of the material we saw was the sort that we are accustomed to seeing—and of the sort that you will see on the pages of the issue.

Inevitably, we received a number of unusual submissions. One young architect chose to include—as an object d'art in photographs of his house—himself, nude, reclining. It didn't do much for Jim Morgan, Barclay Gordon, Bob Jensen, or Walter Wagner; but some of the secretaries were heard to make invidious comparisons between architects and Burt Reynolds. Another firm—which appeared through our jewelers loupe to include an equal

number of male and female registered architects—elected to send a group nude shot posed in a waterfall. We have had 30 copies made and propose to send them to the members of the firm as mementoes on the occasion, say, of their election to the College of Fellows of the American Institute of Architects.

Then there was this submission, from Michael J. O'Sullivan, Architect, 1216 Huntley Drive, Los Angeles 90026:

"I was reviewing my accomplishments since Parker Hannifan Aerospace facility (RECORD, May 1972) when I noticed your age limit of 35 years. As I gracefully passed into the 35-plus time zone two years ago, I thought I would submit the best thing I helped to influence in my 35th year. His name is Gavin Michael O'Sullivan; a joint venture with Nadine O'Sullivan. He is shown here with his friend Frazier."



Gavin Michael O'Sullivan, you were by far our favorite of 1,418 submissions for the December 1972 issue of ARCHITECTURAL RECORD. If you ever get to New York, come

have lunch with us. There's this guy on the corner that has really neat Kosher hot dogs and you can have 10 candy bars for dessert.

### No. 3: Some words on change

In the production of any issue of any publication, words get written that get cut out of manuscripts to make them fit pages, and the like. Bill Foxhall, senior editor who wrote the introductory piece for this issue, lost a few that I'd like here to save, because I think they talk very sensibly about change:

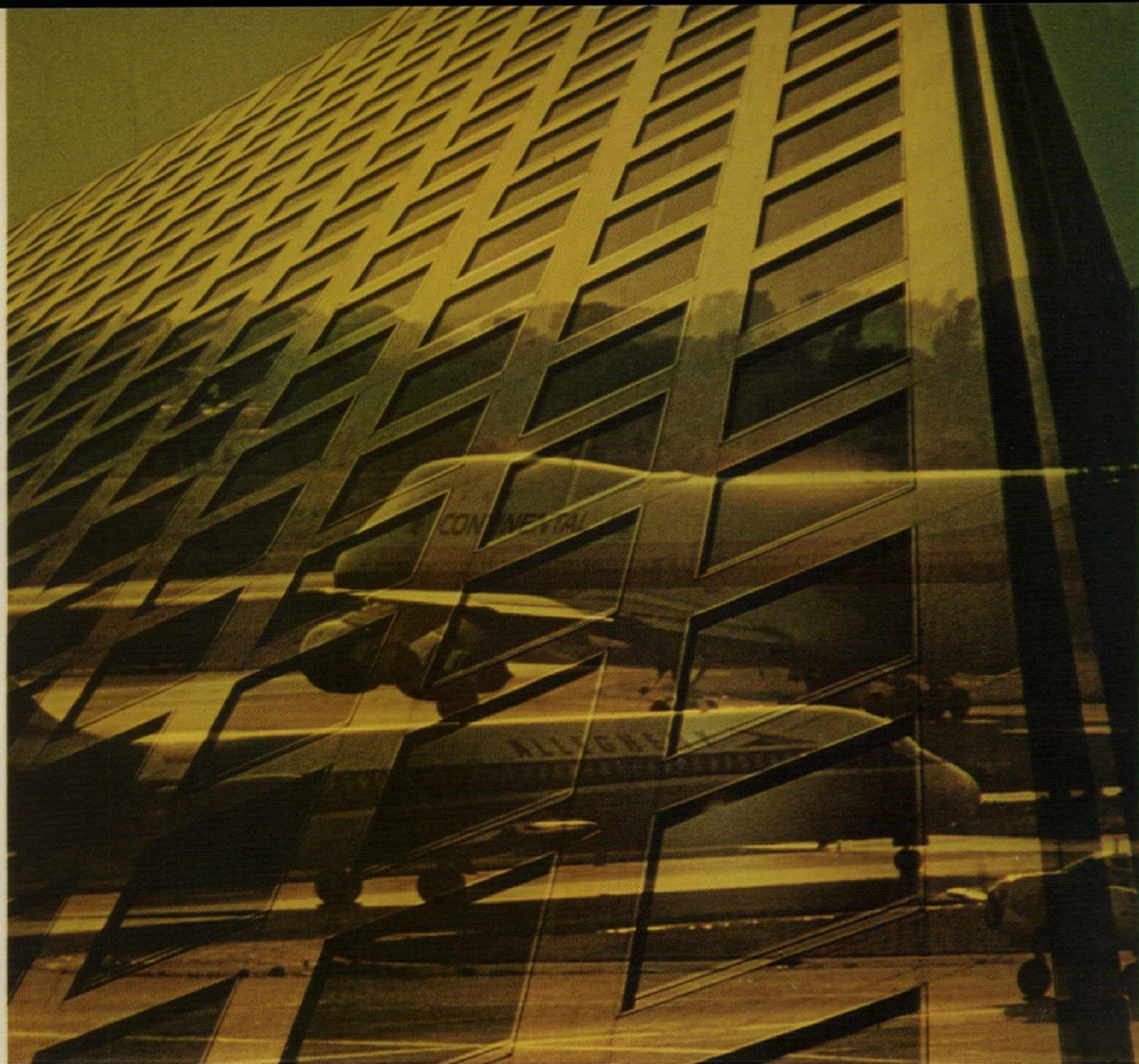
"The observation of change in this society has become so common that it approaches the cliché. We are not considering in this context the overt and visible changes affecting styles. These are matters of fashion, art and evolution that are always with us. Rather, we are pointing once again to changes in the way architects must practice.

"The corporate, governmental and institutional client, for example, has been observed in these pages before as an immensely wealthy, hydra-headed, complex creation necessary to the large works of proliferating man. Architects who serve these latter-day clients must meet them on their own, multi-level planes—instead of the more personal artistic plane possible in the past.

"There is understandable nostalgia for some of the aspects of those days. But the fact now emerges that architects who confront the modern world on its own terms (and theirs) need not be thwarted in their architectural expressions. The evidence of meager architecture that is so unhappily visible around us is not so much the intrinsic degradation of this age as it is a simple multiplication, by population growth, of the shoddiness that has always been. There is equal opportunity today to view a similarly multiplied excellence, and our searches for directions among young architects have revived the quaking optimism in our aging hearts."

Well said, seems to me.

—W. W.



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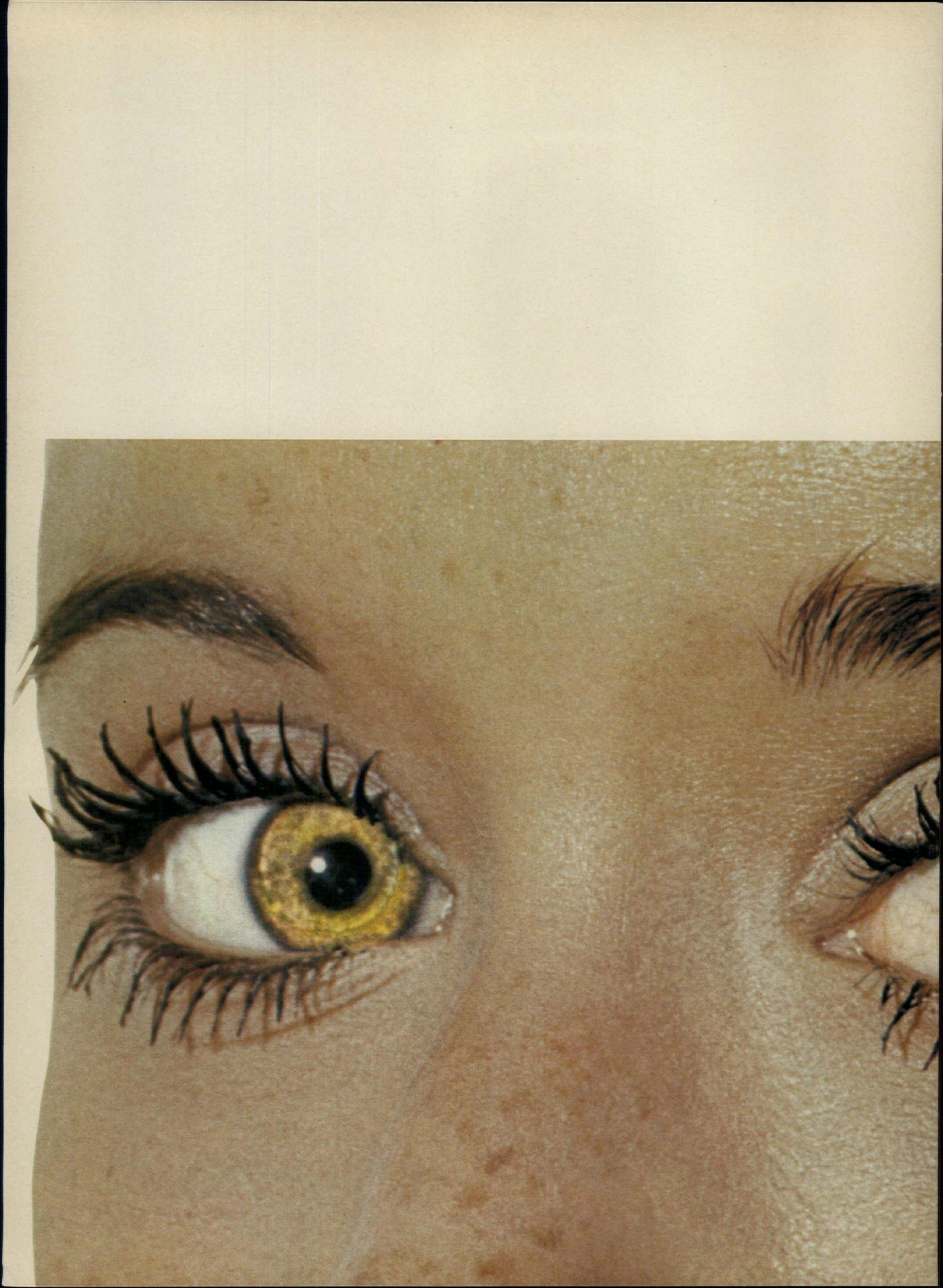
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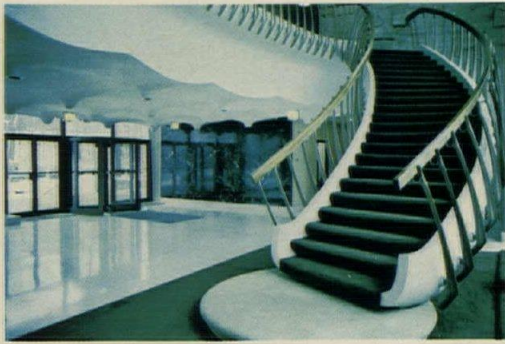
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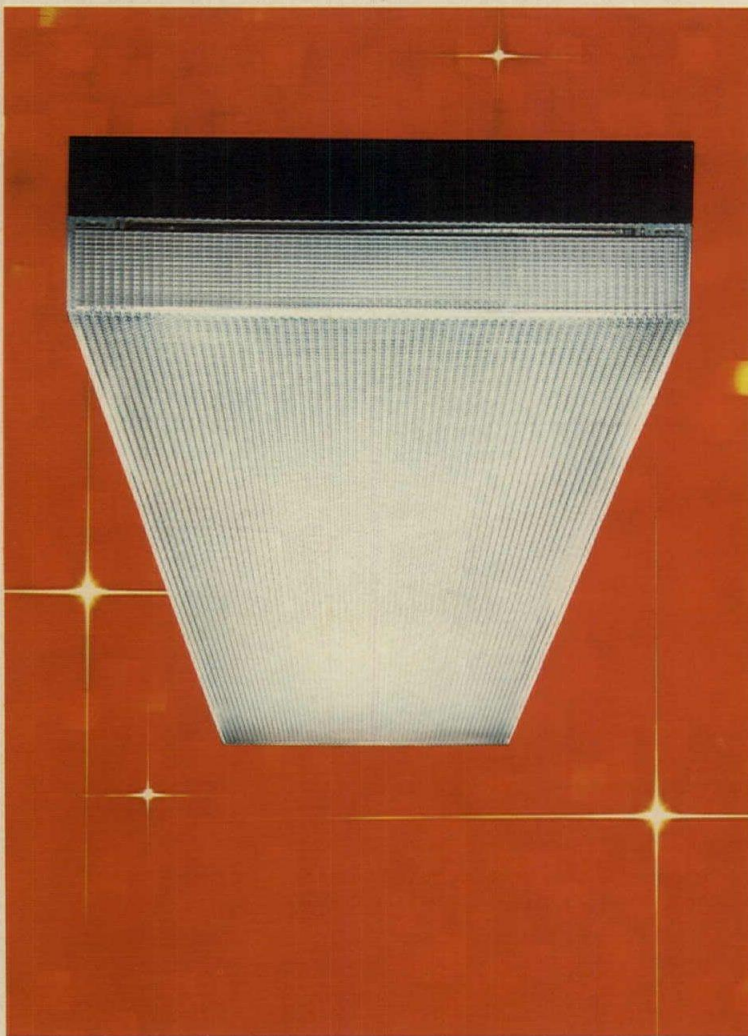
## *dream.*

Anything you can dream up on your drawing board, you can do in terrazzo. Anything. Intricate geometrics. Abstracts. All-over patterns. Colors. Textures. □ Floors, to be sure. Also walls, stairs, decorative structures or centerpieces. In marble, quartz, granite or a myriad of unusual aggregates. Even in textured mosaics. And new blends of marble chips. □ The ancient art of terrazzo has been changing. It's really a new technology with new versatility. New methods. New materials. Many of its applications today are truly innovative. If you've had the opportunity to talk with a terrazzo contractor recently, you have an idea of what we mean. □ You'll also get an idea from "A Walk on the Wild Side." That's the appropriate title of our colorful new brochure describing the infinite possibilities terrazzo offers. Circle the number for your copy. For technical assistance, or a copy of new Terrazzo Design Data, containing 125 true-color terrazzo reproductions, contact Derrick Hardy, Executive Secretary, Terrazzo, 716 Church Street, Alexandria, Virginia 22314. (703) 836-6765.

*For more data, circle 10 on inquiry card*

# Keene didn't become the interiors people just by making building products.

## We had to know how to fit them all together.



*Our Sechrist Lighting Operation's distinctive new Celebrity fixture has a one-piece acrylic lens that eliminates all lamp image, fixture shadow.*

*Keene movable partitions let you rearrange office space easily—without damaging floors or ceilings.*

If Keene was going to serve you as The Interiors People, we realized we'd have to offer you better building products.

We now have three separate lighting divisions that are constantly coming up with new interior fixture designs. Like a ceiling and wall fixture with advanced optical design that diffuses light uniformly, without bright spots or shadows.

We re-thought movable partitions, too. And designed five separate, versatile types, all







Over 8,000 combinations of Keene building products can be interdesigned into Keene modular interior systems—and installed rapidly under our single-source responsibility.

available in many materials and styles, all fitting the same sturdy, snap-fit framing system.

We applied our experience in acoustical control, and developed a unique easy-access ceiling system, and a line of distinctive acoustical ceiling tiles (featuring richly fissured Styltone).

But to be sure we were offering you the most useful interior products available, we decided we had to know how they all worked together. Result: the Keene interior systems concept, with all components—lighting, air handling, acoustical control—interdesigned in self-contained modules... and installed under our single-source responsibility for total job performance.

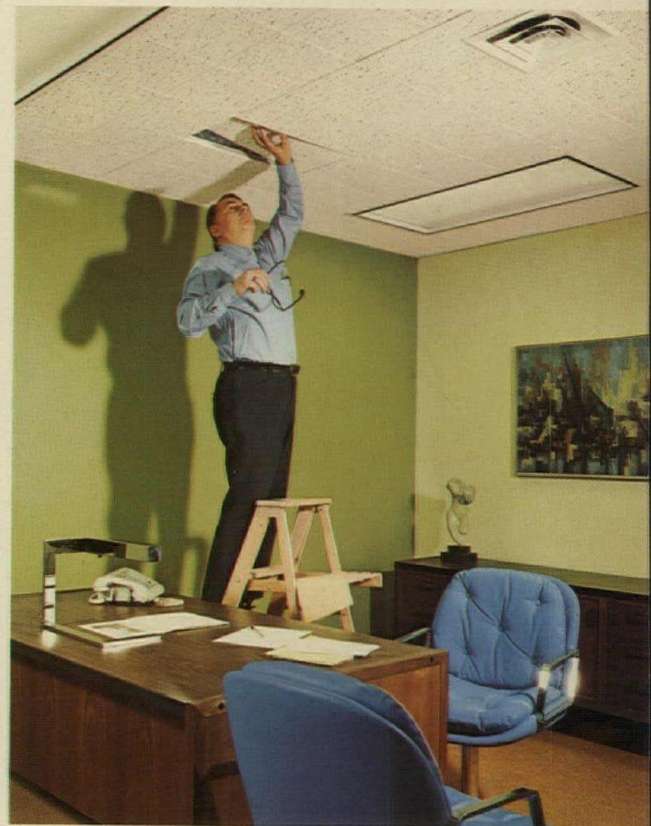
Since this end-product involvement keeps us aware of new trends in interior styling, our product divisions stay out ahead with new developments... developments we're eager to pass along to help make your interiors more successful. That's what being The Interiors People is all about.

## KEENE CORPORATION

345 Park Avenue, N.Y., N.Y. 10022

### We've just begun to grow.

For further information circle Reader Service numbers:  
 Partition Div.—201; Ceiling & Insulation Div.—202; Sechrist Lighting—203;  
 Smithcraft Lighting—204, L&P Lighting—205; Interior Systems Div.—206



Keene's instant-access Accesso™ ceiling system was chosen for 1,000,000 square feet of ceilings in the new Chemical Bank Building in New York.



# Lutheran General Hospital. How Andersen Perma-Shield® helps pay the bills.

No, we're not an insurance company.

Actually, our windows are a part of a remarkable new concept in hospital patient care and plant operation.

Every patient entering Lutheran General gets a private room with TV, shower and toilet and highly personalized, individual care.

Sound expensive? It isn't.

Patients pay about the same rates other hospitals charge for double rooms.

It's possible because the hospital is planned to operate around built-in efficiencies that drastically cut costs.

This is where we get into the picture.

Andersen Perma-Shield Casements help save the hospital thousands of dollars every year.

Perma-Shield's exterior vinyl sheath combined with the building's copper and brick facing completely eliminates exterior maintenance.

All the windows can be cleaned from the inside. And the vinyl won't react with the copper as metal would.

Welded insulating glass and the extra-weathertight quality of Andersen cut heat loss and gain considerably.

There's an inside story here too.

The natural beauty of wood helps put warmth and charm into what must necessarily be a somewhat sterile atmosphere.

And surroundings can mean quite a lot to a patient's well-being.

So you see, even though we're an old-line window company, we retain leadership with innovative ideas and concepts.

Take a good look at Perma-Shield Windows and Gliding Doors for your next job. Choose from 5 styles, hundreds of sizes and combinations.

Wherever you are, there's an Andersen dealer or distributor with all the windows you need.

And all the information you need too. Or check your Sweet's File.



Building: Lutheran General Hospital, Omaha, Nebraska  
Architect: Henningson, Durham & Richardson, Omaha, Nebraska



**Andersen Windowalls®**  
ANDERSEN CORPORATION BAYPORT, MINNESOTA 55003



For more data, circle 11 on inquiry card



# Du Pont invents carpet cushion for heavy traffic.

**Gas-filled cells won't flatten under load.**

Pneumacel is a first.

Structurally, it's a new form of matter—a carpet cushion of tough fibers, each made up of billions of tiny closed cells inflated with an inert gas and air.

Functionally, it's a pneumatic wonder. The cell walls are impermeable to the gas. Yet they breathe air. In and out.

This means that pneumacel never compresses completely. There is always a cushion of gas to give resiliency—even after years of heavy traffic.

**Gives carpet longest life, luxury feel.**

Pneumacel is the first cushion to combine underfoot luxury with carpet pile protection.

By spreading the load and never bottoming out, it eases the crush on the pile face and the strain on the backing material.

It extends carpet life more than waffle rubber, polyurethane foam, hair-jute or all-hair cushions.

In addition, pneumacel was engineered to give carpet the underfoot feel overwhelmingly preferred in consumer panel tests.

**Muffles noise. Retards flame. Won't stretch.**

Acoustical tests show that pneumacel transmits the least impact sound of any cushion.

It meets or exceeds recognized industry and government standards for fire retardancy, smoke and fume generation.

Completely stable, it lays flat and stays flat. Won't rot, swell or degrade.

Backed by eight years of testing, it has proved its exceptional performance in a variety of heavy-traffic installations.

Specify pneumacel. It combines everything you want in carpet cushioning.



## Pneumacel Carpet Cushion

For more data, circle 12 on inquiry card



Owner: State of New Jersey  
Architects: Mahony & Zvosec, Princeton, N. J.,  
Kenneth De May of Sasaki, Dawson, De May & Assoes. Inc., Watertown, Mass.  
Gen. Contractor: Glenwall Construction Co., Hawthorne, N. J.  
Curtain Wall by Cupples Products, St. Louis, Mo.; glazing by American Paterson  
Glass Co., Paterson, N. J.

## LOF helps Ramapo College change

As the wooded countryside around Ramapo College changes colors, so does Ramapo College. With Vari-Tran® reflective glass, the building shown here presents an ever-changing mural that depicts the varied hues of the four seasons. The mural changes each day, often each hour.

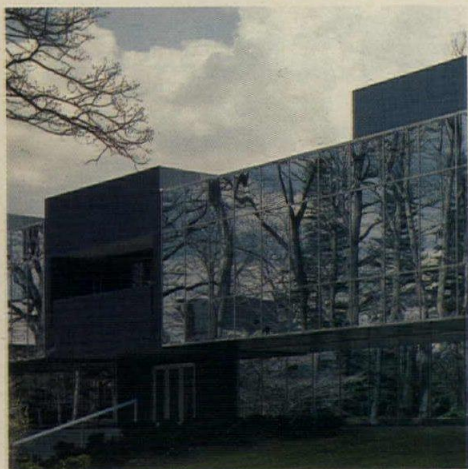
Ramapo College is located on a spacious, wooded tract in Mahwah, New Jersey, and it was the intention of the school officials and their architects to

preserve and even complement this environment as much as possible. To accomplish this end, Vari-Tran was selected.

By using Vari-Tran coated glass fabricated into Thermopane® insulating units, they achieved other ends. Since Vari-Tran reflects the sun's light and heat, less air conditioning equipment is needed to cool the building. And less energy is needed to run the air conditioning. In winter, Thermopane reduces heating bills because of its insulating properties.



## school colors every semester.



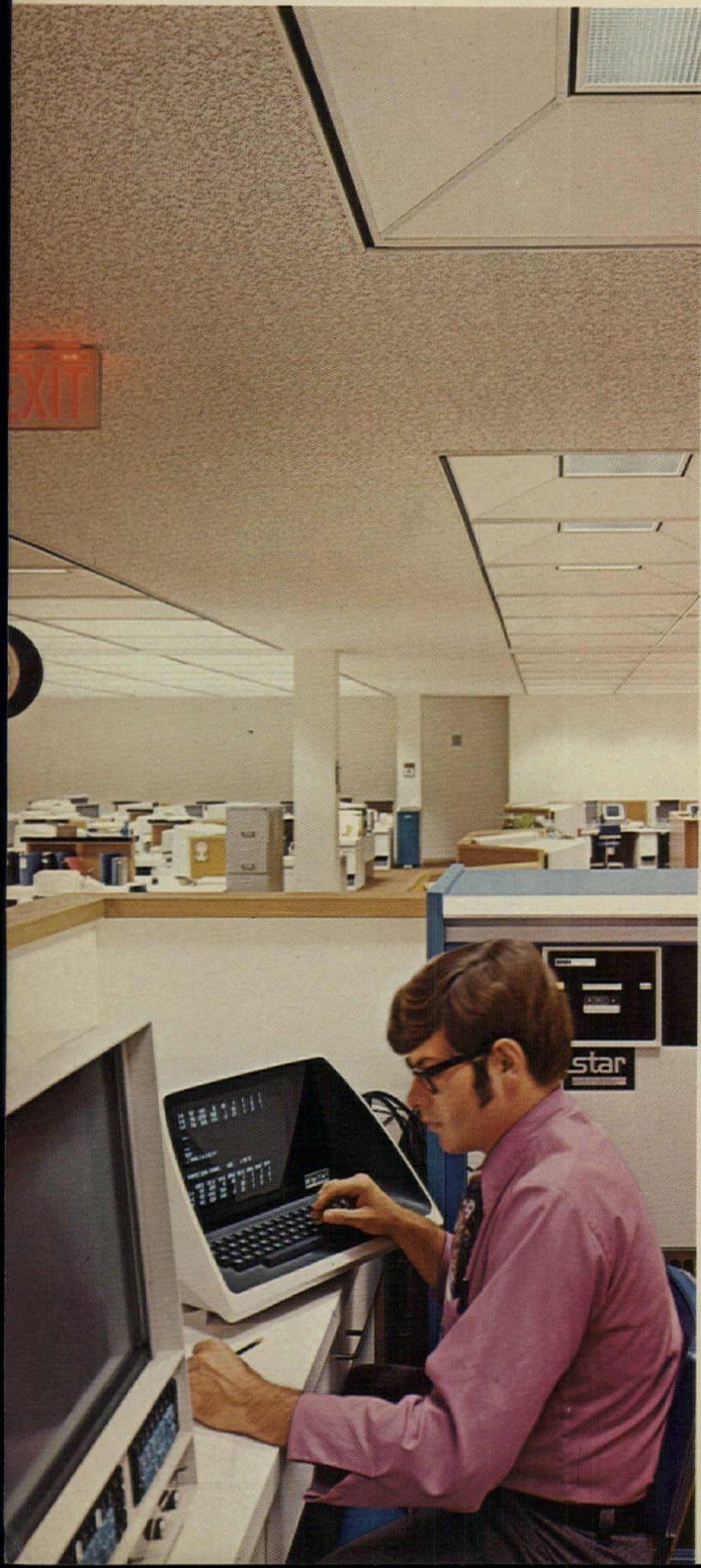
Now that Vari-Tran is available in 52 varieties of glass for buildings, it's even easier for architects to select a shade that can best reflect the environment they're designing for. Vari-Tran comes in gold, silver, grey, blue and bronze tones—plus new degrees of reflectivity, and shading coefficients. For the whole story, send for our new brochure, "Reach for a Rainbow." Libbey-Owens-Ford Company, Dept. R-1272, Toledo, Ohio 43695.

Making progress  
in architecture



For more data, circle 13 on inquiry card

**What makes  
this ceiling  
right for this job?**





# High-level lighting with low glare, high styling at low cost.

Reservations agents reading cathode-ray tubes and rear-projection viewers at United Air Lines' new Dearborn, Michigan, reservations center must have uniform, low-glare light to prevent eyestrain. Overhead glare can make this sophisticated equipment almost illegible.

To provide the pleasant, efficient environment required, the architects selected a coffered Armstrong C-60/60 Luminaire Ceiling System incorporating 2' x 2' lighting fixtures with low-brightness lenses. In addition to meeting illumination requirements, this ceiling provided for uniform air diffusion through Supply-Air Linear Diffusers (SALD) integrated into the grid system.

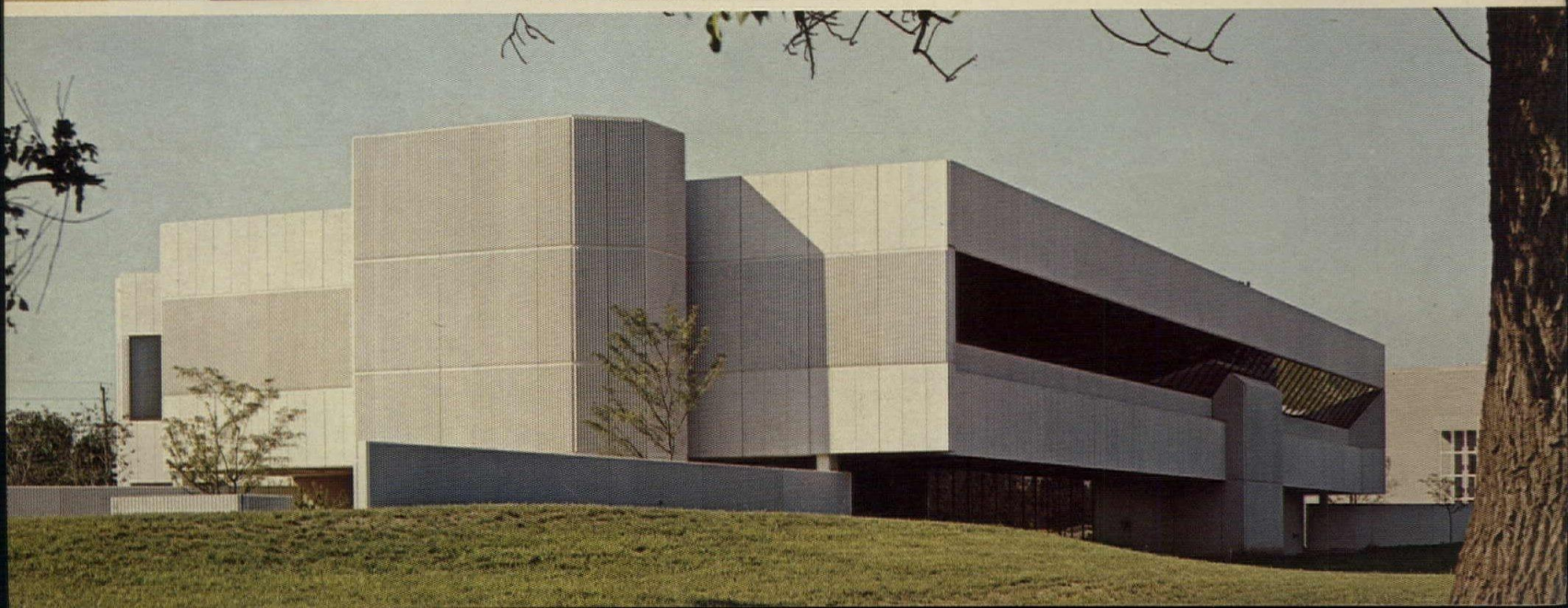
The lobby area and lower floor of the building have different requirements, so Armstrong's unique Accessible Tile System is used with attractive Sanserra Travertone™ tiles. Any ceiling tile can be easily removed for 100% accessibility to hidden wires, pipes, and ducts.

Both of these ceilings were designed to solve specific problems. Why not bring your ceiling problems to Armstrong, and let us put together a solution for you? Write Armstrong, 4212 Rock Street, Lancaster, Pa. 17604.

LEASEE: United Air Lines, Inc., Chicago, Illinois  
OWNER: Ford Motor Land Development Co., Dearborn, Michigan  
ARCHITECT: Rossetti/Associates, Inc., Detroit, Michigan  
GENERAL CONTRACTOR: H. F. Campbell Co., Detroit, Michigan  
MECHANICAL/ELECTRICAL/CIVIL ENGINEER: Hoyem Associates, Inc., Bloomfield Hills, Michigan  
STRUCTURAL ENGINEER: McClurg & Associates, Inc., Bloomfield Hills, Michigan  
CEILING SYSTEMS CONTRACTOR: R. E. Leggette Co., Dearborn, Michigan

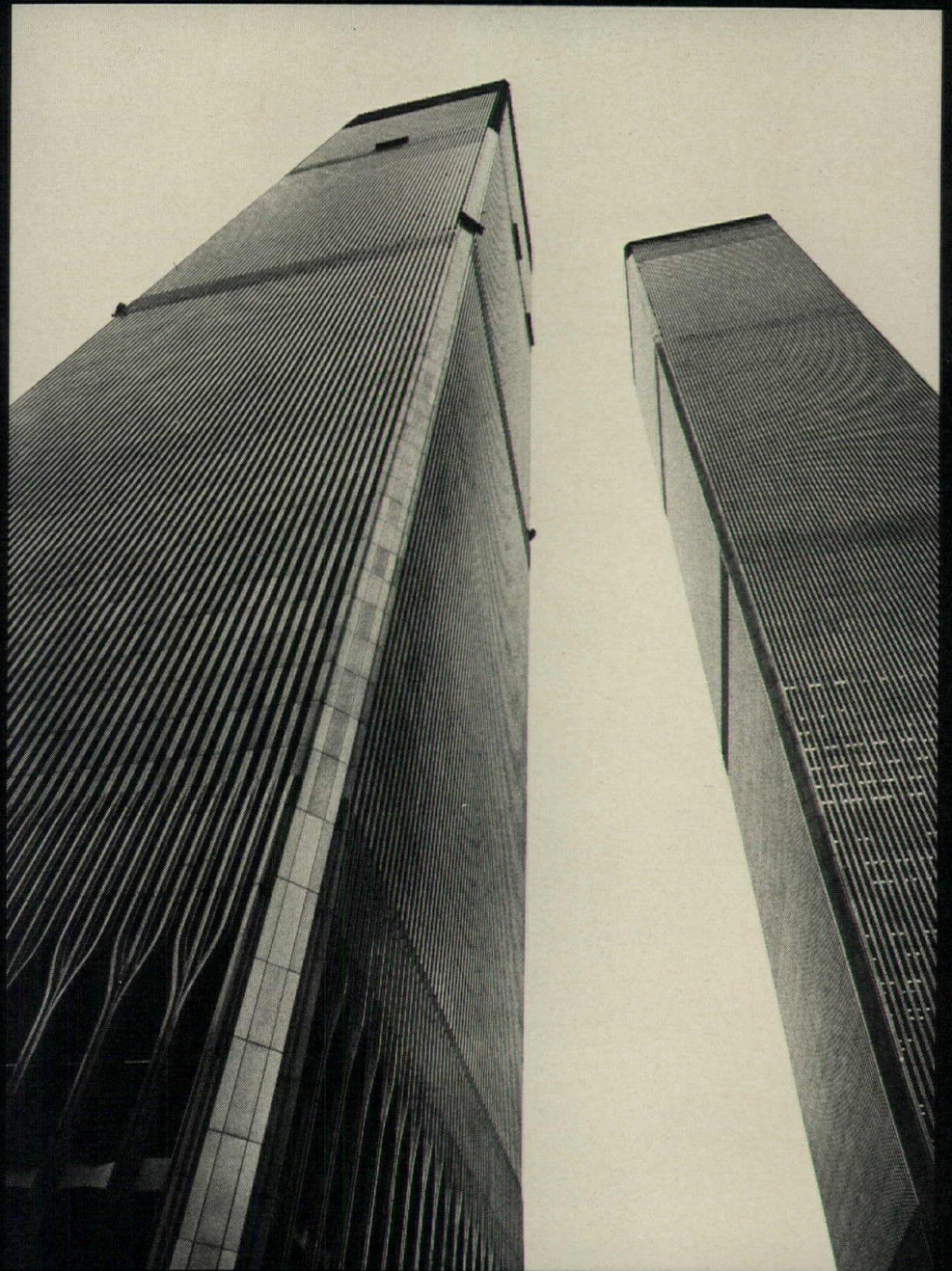
*For more data, circle 1 on inquiry card*

**Armstrong** / **CEILING SYSTEMS THAT WORK**



This is the World Trade Center in New York City. It is one of the biggest, most expensive building complexes in the world. It has 43,600 windows. And every single one of them is sealed with LP<sup>®</sup> polysulfide polymer.

We rest our case.



Suffice it to say that nobody in his right mind would skimp or accept anything less than the very best in a project costing upwards of \$700,000,000.

Which explains why more than a decade of in-depth study went into every conceivable aspect of this monumental complex which has been described as "a preview of 21st Century construction methods."

Selecting the proper sealant for the World Trade Center's twin 110-story towers was an arduous task. But after the data had been thoroughly interpreted, this decision was made—the sealant must be one based on Thiokol's two-part LP<sup>®</sup> polysulfide polymer.

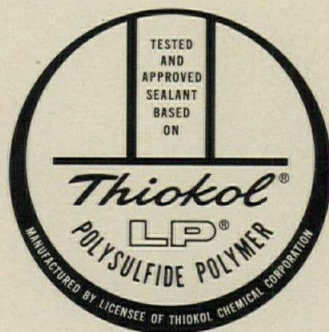
The choice was an excellent one for many reasons. First of all, no other kind of sealant had built up such a successful track record—more than 20 years of performance-proven dependability. Secondly, every sealant that bears Thiokol's exclusive Seal of Security has proven that it can withstand everything the

elements can dish out.

For instance, sealants based on Thiokol's LP<sup>®</sup> polysulfide polymer have demonstrated that they can adhere to glass and aluminum in spite of stretching and contracting joints. They have withstood simulated environmental changes varying from -15° to 158°F.

Needless to say we're proud that a sealant based on our formula measured up to World Trade Center expectations. And, quite frankly, we're confident that such a sealant will measure up to yours.

For more information, including detailed comparisons between sealants based on Thiokol's LP<sup>®</sup> polysulfide polymer and eight other kinds of sealants, write: Dan Petrino, Thiokol Chemical Corporation, P.O. Box 1296, Trenton, N.J. 08607.



*Thiokol*

For more data, circle 14 on inquiry card

# Another great idea in inner space with beautiful, versatile Westinghouse ASD Group



## **The communicating manager.**

The work this manager does requires that he maintain visual contact with his secretary. And vice versa. Could the designer work it out? It was as easy as ASD. A glazed panel gives the manager an unobstructed view of his Gal Friday. The panel is one of 180 beautiful things you can do with ASD Group components to accommodate individual style and work habits. Other personal touches shown here include the free-standing desk and an acoustical panel that adds color while

it helps absorb sound, and the built-in wardrobe that doubles as a chalkboard for conferences.

The beauty of Westinghouse ASD Group is its exceptional adaptability. That's why, today, you'll find the ASD Group concept working beautifully, functionally and efficiently in more than 1000 offices and office systems in all kinds of organizations across the continent.

Whether you're planning one office or an entire system—either new construction or a renovation—you really ought to see the beautiful things you can accomplish with imagination and

Westinghouse ASD Group. We would like to show some of them to you. Visit our showrooms in New York, 200 East 42nd Street, or Chicago, Merchandise Mart Plaza, Suite 1127.

For your brochure, write: Westinghouse Architectural Systems Department, 4300 36th Street, S.E., Grand Rapids, Michigan 49508. Or telephone: 616 959-1050. You can be sure . . . if it's Westinghouse. HPA-4-72

**Westinghouse ASD Group**



*For more data, circle 15 on inquiry card*

# USS Cor-Ten+fluid-filled



In California, two separate architectural firms decided on boldly exposed USS COR-TEN Steel exteriors for two neighboring rental complexes in Newport Beach.

In order to retain the visual honesty of bare steel, conventional fire protection techniques were rejected, and both firms arrived at a solution that is gaining increased application across the country. The solution was hollow, fluid-filled columns of bare USS COR-TEN steel. Briefly, here is how the system works.



**Michelson Plaza:** A bold exterior and column-free first floor were two of the prime objectives for this four-story office building. Both were achieved by the use of bare fluid-filled USS COR-TEN Steel box columns and roof girders, and by suspension of the upper three floors. The girders are also filled with fluid and represent the first use of the internal fire-protection technique in a horizontal plane.

**Owner:** Michelson Associates, Newport Beach, Calif. **Architect:** Riley & Bissel, Newport Beach. **Structural Engineer:** Robert Lawson, Newport Beach. **Contractor:** B. H. Miller Construction Co., Newport Beach.

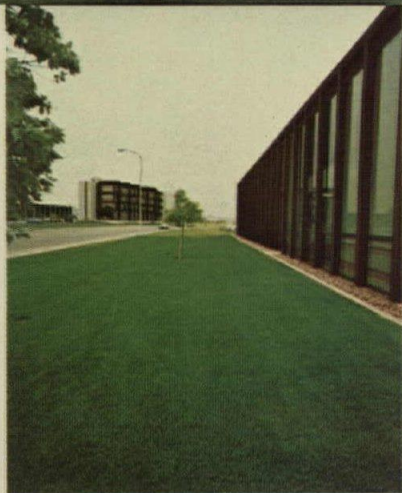
# columns=fire protection.



Should the columns be exposed to flame, the fluid inside the columns absorbs the heat, and convection currents circulate the water solution within the closed-loop system. Heated fluid rises and cooler solution replaces it, literally giving heat the run-around.


For information on fluid-filled columns or USS COR-TEN Steel, contact a USS Construction Representative through your nearest USS Sales Office or write United States Steel, Dept. 7566, Box 86, Pittsburgh, Pa. 15230.

USS and COR-TEN are registered trademarks



**Airport Business Center:** This handsome, four-building complex comprises two four-story office buildings and two one-story branch banks. All exterior steel is bare USS COR-TEN Steel, complemented by bronzed-tinted glazing. Perimeter columns of all four structures are 6-inch x 4-inch hollow structural tubes. Columns in the two larger buildings are fluid-filled.

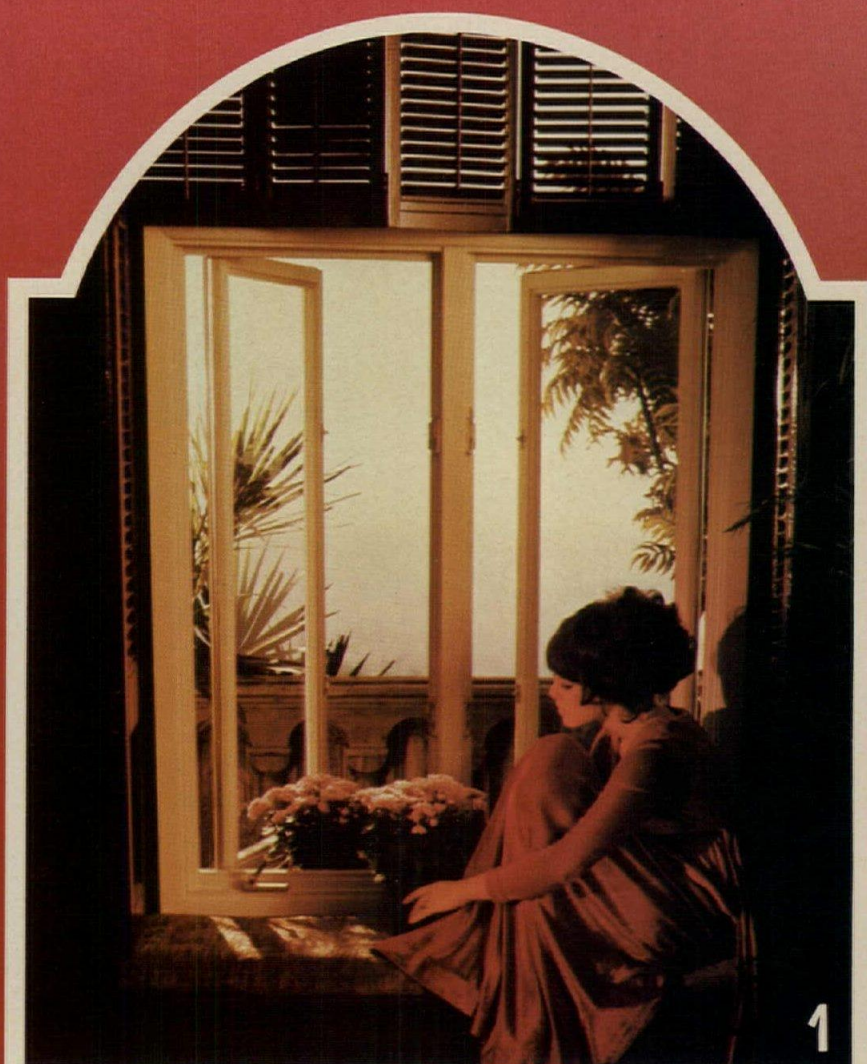
**Owner:** The Irvine Co., Irvine, Calif. **Architects:** Craig Ellwood Associates/James Tyler and Robert Bacon, Los Angeles. **Structural Engineer:** Norman-Epstein, Los Angeles. **Mechanical Engineer:** (Liquid-filled column system design) Paul S. Bennett, Los Angeles. **General Contractor:** J. B. Allen & Co., Anaheim. **Fabricator/Erector:** Lee & Daniel, Azusa.

 **Cor-Ten Steel**

*For more data, circle 16 on inquiry card*

**The  
luxury of  
wood  
windows  
is  
affordable  
when  
you go**

**Caradco**



See for yourself! Caradco quality is competitively priced. So you can well afford the added value of good looking, better insulating wood windows in your homes and apartments.

Caradco offers the most sensible combination of beauty, comfort and price in every style and size.

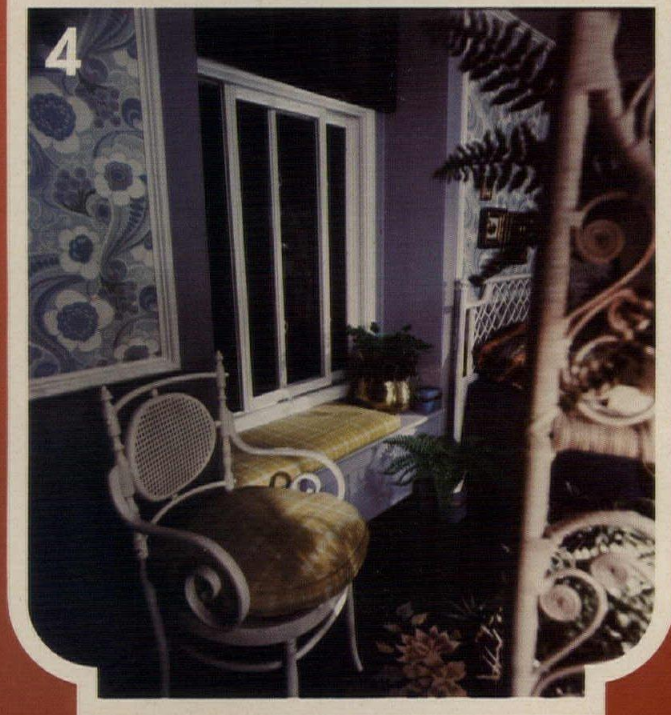
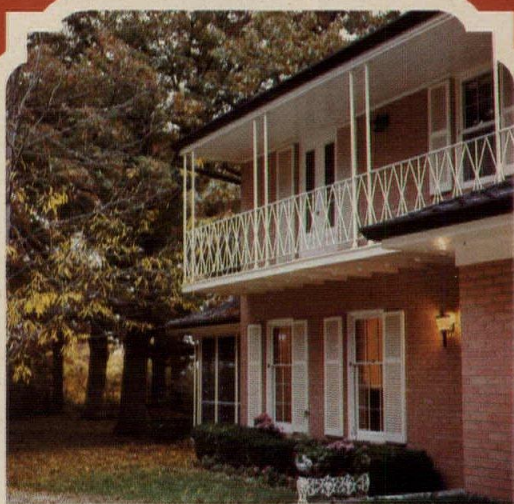
1. The **Caradco C-200' casement** complements any home or apartment in regular installations . . .

2. Or, in **graceful bow window style** with fixed and operating sash . . . 3. Our **C-100' double-hung**

economy window offers: stainless steel track/ weatherstrip that lets you lift out sash for easy cleaning, then snap back in weathertight; cost-saving factory priming, and complete package convenience with grilles, storm panels or optional insulating glass, screens. **Also available in a**

**PF-C100' version**, completely prefinished outside, wood-toned inside. 4. Especially suited for apartments and volume house production are our **HPL and VPL prefinished wood windows**, polybagged for protection, available complete with screens. Storms or optional insulating glass, vinyl grilles and locks.

For the added appeal of wood windows at competitive prices, put Caradco in your plans. Ask us . . . or your Caradco dealer for details.



Caradco Window and Door Division

**Scovill**

Dubuque, Iowa 52001/Hainesport Assembly Plant Hainesport, New Jersey 80836/Ohio Assembly Plant Columbus, Ohio 43204

For more data, circle 17 on inquiry card

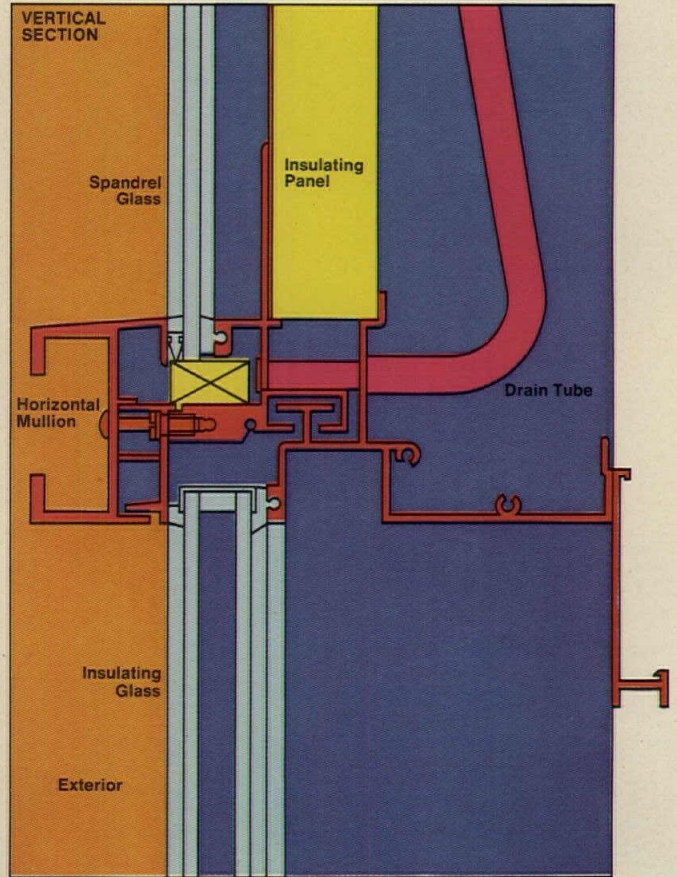
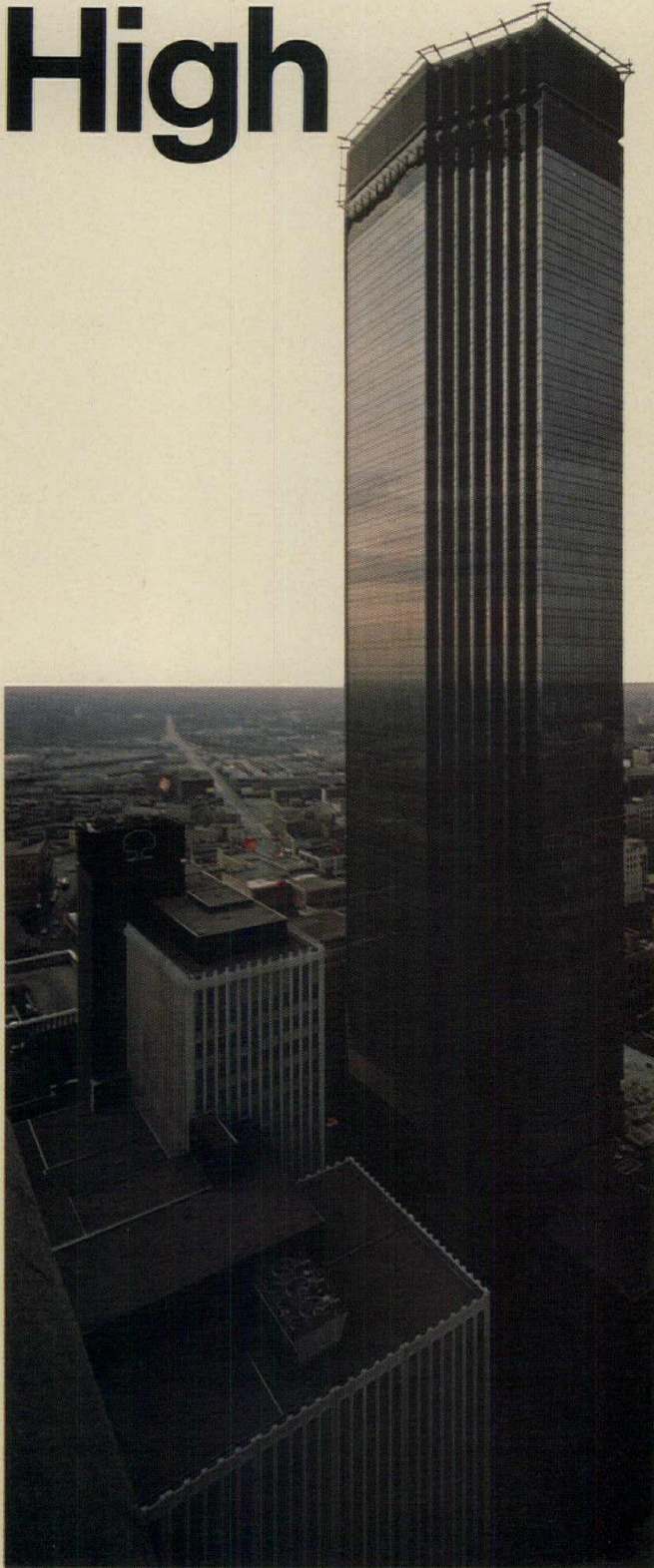
**High-rise or low-rise  
Alcoa understands  
curtain walls.  
Of all sizes.**

Take the new IDS Center in Minneapolis. In this 57-story city-within-a-city, control of the extremes of

Minneapolis weather is accomplished by vinyl thermal breaks inserted in the curtain-wall units which were fabricated from Alcoa® extrusions and sheet. These thermal breaks prevent interior surface condensation and act as insulating isolation. They combine with the climate-control characteristics of the gray-tinted, chrome-coated glass to maintain interior comfort. Any way you add it up, Alcoa's ex-

perience, working with Flour City's curtain-wall savvy, is good to have on your side. On a high-rise like the IDS Center, or a low-rise, like this elementary school in Stewartsville, Pa. Here the curtain wall is an Alply® wall system. Composed of a polyurethane core sandwiched between finished interior and exterior facings, each Alply panel\* is an integral, economical, prefabricated unit, containing insulation and a vapor barrier. The

# High



*Architect:* Philip Johnson & John Burgee  
New York, N.Y.  
Edward F. Baker Associates, Inc.  
Minneapolis, Minn.  
*Contractor:* Turner Construction Company  
Chicago, Ill.  
*Fabricator:* Flour City Architectural Metals  
Division of the Seagrave Corporation  
Minneapolis, Minn.

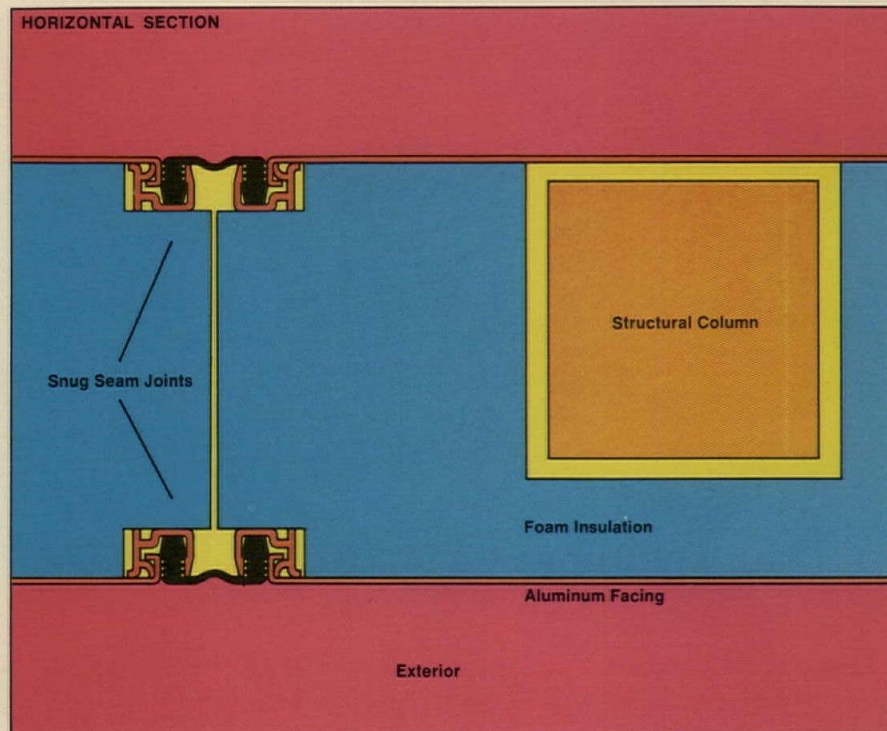


low installed cost of the Alply system, with its in-shop production and speed of erection at the jobsite, is a prime consideration on school buildings and other low-rise structures where budgetary limitations are strict. Alply panels are joined by the neoprene Snug Seam® joining system that gives this low-rise building its own thermal barrier. Different from the IDS thermal break, but effective in its own way.

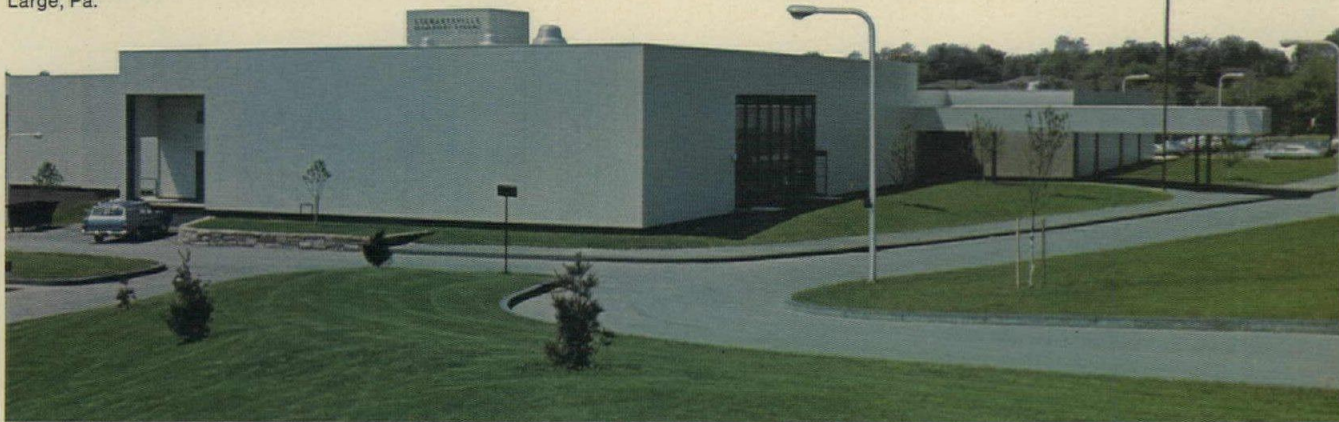
The network of Alcoa wall systems contractors is an additional advantage. These experienced curtain-wall fabricators and erectors are trained in the erection of Alcoa wall systems and assume full responsibility for the curtain-wall "package," from design through erection. They offer the design team the technological expertise of Alcoa, plus their own construction skill and experience. You can benefit from working with Alcoa

wall systems contractors. High- or low-rise, whatever your project, Alcoa's curtain-wall experience is available to you. Remember that Alcoa aluminum can make as significant a contribution to your hospital, school, office building or plant as it is now making to the majestic IDS Center in Minneapolis. \*For additional information about Alcoa wall systems, circle Reader Service Card.

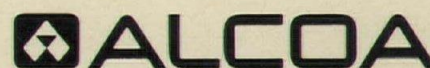
# Low



Architect: Celli-Flynn & Associates, McKeesport, Pa.  
 Curtain-wall fabricator and erector: Columbia Architectural Metals, Pittsburgh, Pa.  
 Contractor: Dick Corporation Large, Pa.



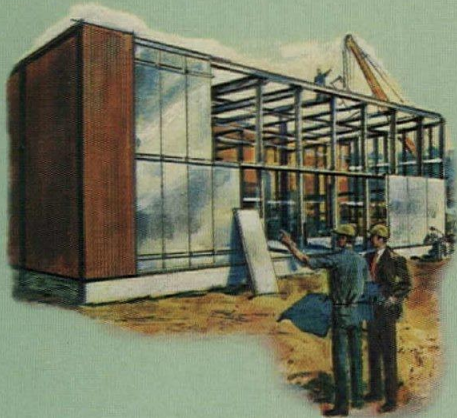
Change for the better with  
 Alcoa Aluminum



For more data, circle 18 on inquiry card

# Bally belongs.

When a project calls for  
a Refrigerated Building  
Bally has experience that  
will be most helpful.



Unusual and complex requirements specifically associated with refrigerated buildings are part of our everyday business. They may involve the design of a low temperature foundation slab . . . computing the refrigeration load requirements . . . determining the best use of power and manually operated doors . . . design and placement of conveyors or the need of vestibules and partitions. Whatever the question, our three decades of experience qualifies us to provide the answers. Bally Buildings are prefabricated modular systems that can be assembled in any length and width up to 36' high from standard urethane insulated panels, UL and Factory Mutual approved. Refrigeration systems are available for every storage or processing need and for temperatures as low as minus 40°F. Bally's architectural metal facade in a choice of six colors can be installed on

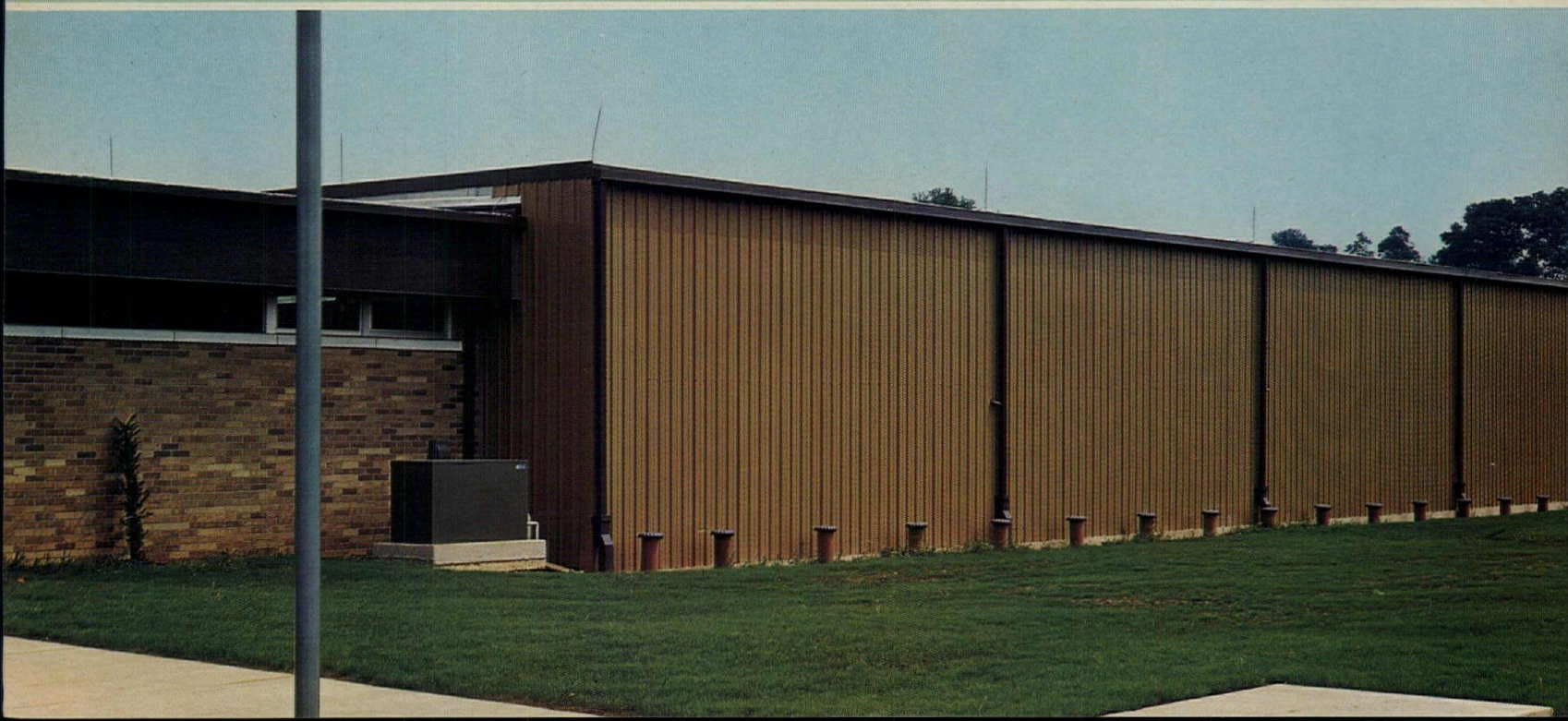
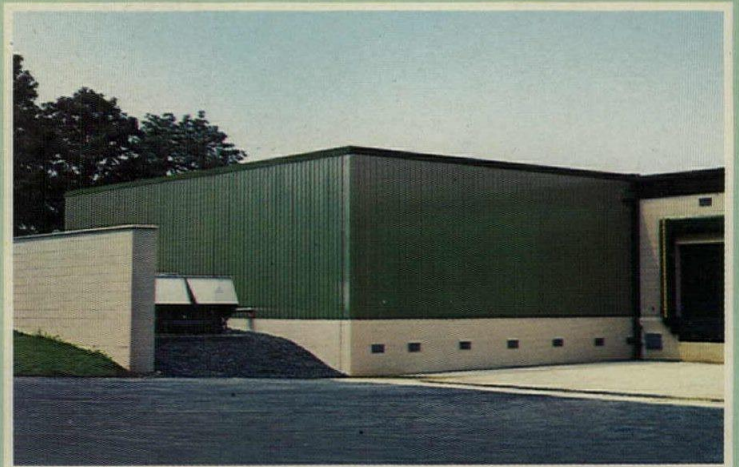
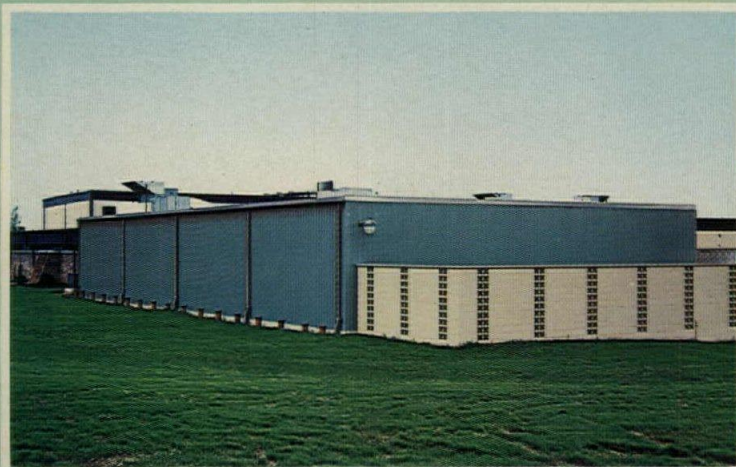


any portion of the exterior where colorfully styled appearance is important. Write for literature and wall sample. **Bally Case and Cooler, Inc., Bally, Pennsylvania 19503.**

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ADDRESS ALL CORRESPONDENCE TO DEPT. AR-12

For more data, circle 19 on inquiry card



## News in brief

**The National Sculpture Society is seeking nominations for the Henry Hering Medal** for collaboration between owner, architect and sculptor in the distinguished use of sculpture in an architectural project. The medal is given in several categories of architecture: religious, monumental or memorial, and institutional or commercial. Portfolios describing the project and including photos and the names of the architect, owner and sculptor must be submitted by March 2, 1973 to the Society, 250 East 51st Street, New York, N.Y. 10022.

**Poor and Swanke & Partners, New York City, have won a competition for the design of the Presidential reviewing stand** for the 1973 inaugural parade. The design was the unanimous choice of a jury including three architects, a representative of the National Fine Arts Commission and the District Government's representative. Sixty-one designs were submitted by architects from nine states and the District of Columbia. The competition was conducted by the Washington Metropolitan Chapter, AIA, on behalf of the 1973 Presidential Inaugural Committee.

**Lewis Mumford, architecture critic and social philosopher, has been named the 1972 recipient of the National Medal for Literature**, conferred annually by the National Book Committee. The award is given to a living American writer for excellence in terms of his total contribution to letters, and it carries a \$5,000 prize.

**New 1973 legislative approach to housing looks fuzzier.** Banking committee staff men are confirming reports that Congress may not pass major housing legislation next year. Wrangling this year over an omnibus bill approach has left a vacuum in which no new political consensus has developed. One staffer sees two years of protracted negotiations before lawmakers begin a fresh start on massive housing problems. Congress adjourned earlier this year without passing housing bills beyond simple extension of existing programs.

**A \$30,000 Ford Foundation grant has been made to the AIA Research Corporation**, for a conference to examine problems of implementing the Institute report on national growth policy. The report calls for major changes in city government, tax policies and neighborhood development.

**The AIA has conferred honorary membership on the Hon. Elliot F. Richardson**, former Secretary of Health, Education and Welfare and new Secretary of Defense, and two other HEW officials for their important contributions to good architecture in public buildings. Also receiving certificates of appreciation were Dr. Harald M. Graning, director, Health Facilities Planning and Construction Services, and Garrit Fremouw, director of HEW's Facilities Engineering and Construction Agency.

**The Civil Service Commission hopes for improved architecture within its realm**, with a recently created task force to probe the need for bringing outstanding architects and others in the design fields into Federal service. The CSC group will review and recommend recruiting procedures and applicant exams for design positions. Donald Holum, CSC, heads the task force.

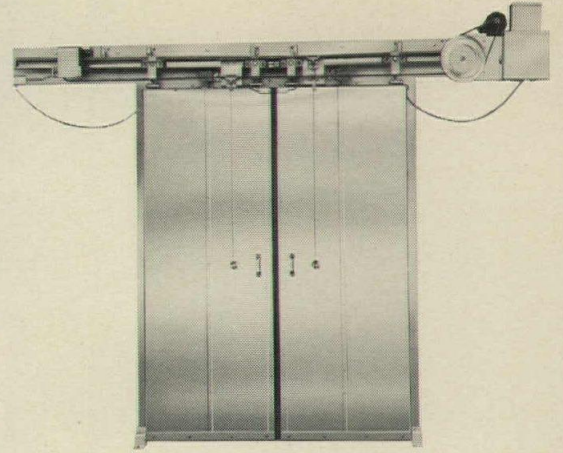
**Engineers endorse collective bargaining principle in part.** For the first time, National Society of Professional Engineers recognizes collective bargaining is necessary in some cases but should not be undertaken by the Society itself. New policy statement says bargaining is "not a desirable or appropriate mechanism to achieve the objectives of proper employment practices," but endorses where laws, ordinances or regulations mandate that engineers bargain for legitimate goals. NSPE names special task force to analyze collective bargaining effects on all fields of engineering practice.

**Commerce Department sees public building up substantially in 1973.** Largest year-to-year gain since mid-60's 10 per cent, forecast by Commerce Department for publicly owned construction next year over '72. Figures are \$34 billion compared with \$31 billion this year, part of total forecast of \$130 billion for all put in place work in next 12 months. For steel, Commerce sees highest production since 1969 by end of this year and record shipments in 1973.

**CISC expected to continue.** Despite fate of price-wage controls authority in next Congress, the Construction Industry Stabilization Committee is expected to continue in operation. This unit has been doing a good job of holding construction wage increases at or under 5.5 per cent guide, was in existence prior to President Nixon's New Economic Plan and most likely will continue if and when controls are lifted. CISC's Craft Boards also serve in mediating local disputes. Meanwhile, Industrial Relations Council continues to arbitrate many local agreement problems.

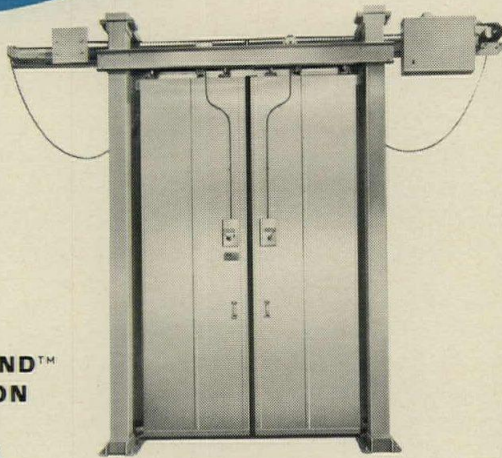
# NEW cold storage doors from Jamison

Now get traditional  
Jamison quality and  
service in every  
price range!



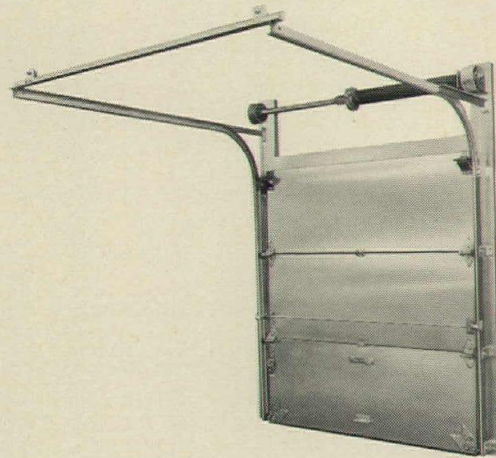
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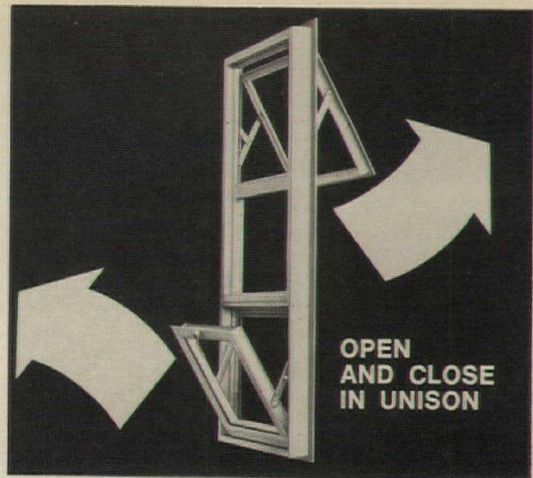


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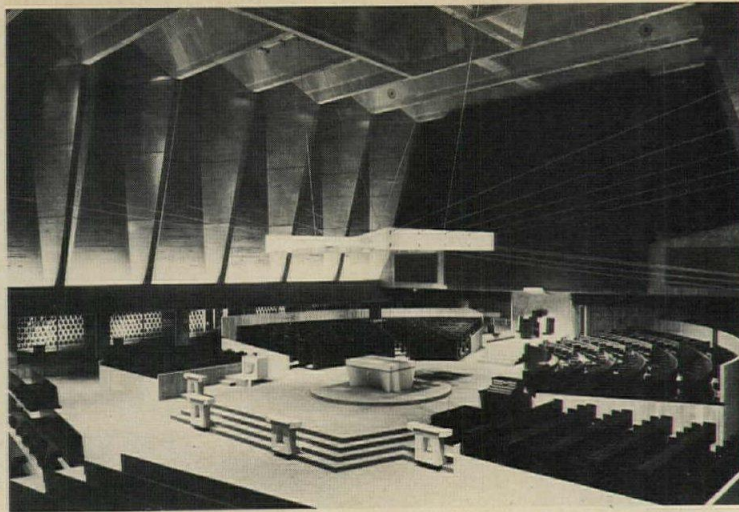
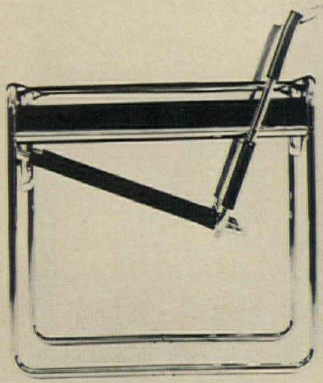
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**MARCEL BREUER EXHIBITION AT METROPOLITAN MUSEUM**

A major exhibition dealing with the career of Marcel Breuer has recently opened at the Metropolitan Museum of Art in New York and will run through January 14, 1973.

The exhibition presents highlights of Breuer's career, including large-scale models of some of his most exciting architectural solutions. Examples include one of the monumental columns from the IBM Research Center at La Gaude, Var, France (1960-69), and one of the famous tree columns from St. John's Abbey and University, Collegeville, Minnesota (1953-68).

The exhibition is largely composed of photo murals, models and large-scale mock-ups. In addition, it contains examples of Breuer's furniture and tapestries. A portion of the exhibition is devoted to such on-going projects as the resort town of Flaine in France.

Breuer's career began in 1921 and he is still active today after nearly 50 years as an architect.

**CALIFORNIA COURT REJECTS STRICT PROFESSIONAL LIABILITY**

The California Appeals Court has rejected attempts to impose the legal standard of strict liability, that is, liability without proof of negligence, against architects and engineers. Judge P. J. Taylor held that "where the primary objective of a transaction is to obtain services, the doctrines of implied warranty and strict liability do not apply."

The case involved the design of a boat pier for a waterfront hotel by John A. Blume & Associates, San Francisco. The owners charged that improper design made the pier unusable. The engineering firm argued that they had reported to the owners that the pier's use would be restricted by weather conditions. The legal issue appealed was the trial court's refusal to instruct the jury that the engineering firm had given an implied warranty.

Elsewhere, the Utah Supreme Court held an architect not responsible for the death of a workman killed in a scaffolding collapse at a sports

arena. The man's dependents brought a wrongful-death action against the architect and others.

The court held that the architect "neither designed it (scaffolding), constructed it nor designated any material for it, nor did he have anything to do with renting or maintaining it. It is not the duty of the architect to see that contractors furnish their employees with safe places to work."

**AGREEMENT MAKES COMPSEC AND MASTERSPEC COMPATIBLE**

Production Systems for Architects and Engineers, Inc., and Pacific International Computing Corporation (PIC) of San Francisco have announced an agreement by which PIC will be providing users of PSAE's Masterspec with greater flexibility and convenience for automating the system.

Under the license agreement, PIC will provide automation services for Masterspec using the computer program developed for Comspec, a specifications text manipulation system developed by the Construction Specifications Institute.

The PSAE-PIC agreement brings together two major developments, Masterspec and Comspec. PIC service centers are located in Los Angeles, San Francisco, Chicago, New York, Philadelphia and Baltimore/Washington.

**NATIONAL PARK TO BE CREATED IN SAN FRANCISCO**

The Golden Gate National Recreation Area has been signed into law, binding together 38 miles of shoreline and 34,000 acres, more than half now in private ownership. The new park takes in state and Federal lands as well, making one-agency management possible.

No land acquisition problems are anticipated and \$60.6 million has been set aside for that purpose. Another \$58 million is reserved for development. Acquisition will begin after a master plan is drawn.

**COMBINED MASTERS DEGREE IN ARCHITECTURE AND SOCIAL WORK**

Washington University in St. Louis is offering what is believed to be the first program in the country leading to simultaneous degrees in architecture and social work.

Initially, six students will be trained as architects with the necessary social work skills to make them uniquely qualified as community group planners and developers of social facilities.

The program is being funded by a grant of \$67,193 from the experimental and special training branch of the National Institute of Mental Health.

**ARCHITECTS, ENGINEERS SPONSOR TRAINING PROGRAM**

Twenty-two young men and one woman are being given a chance to break out of their poverty backgrounds by training as junior draftsmen. The training program is a venture called JUMP (Joint Urban Manpower Program, Inc.) which is sponsored by the professional engineering and architectural societies of New York and coordinated by Vocational Foundation, Inc., a nonprofit agency serving disadvantaged youth.

The present program will run for 11 months, the first six including a half day on the job and the other half in the classroom. Financial assistance for the program is obtained from the US Department of Labor.

**NEW POST-OFFICE FACILITIES PROMISE WORK FOR PRIVATE SECTOR**

The contracting flood gates for those sectors of post office construction jobs falling in the "preferential mail handling" category should open soon.

Latest word from the U.S. Postal Service is that its 180 projects planned for first-class processing are being turned over to the Army Corps of Engineers for assignment to its field offices for re-letting to private industry for design and construction. Only 20

of these already are in the construction stage and another 11 are in design. This leaves approximately 150 yet to be given to the Corps. USPS spokesmen said decisions should be made "soon" and that apportionment of the projects among the ACE field locations should be followed rather quickly by announcement of contract lettings.

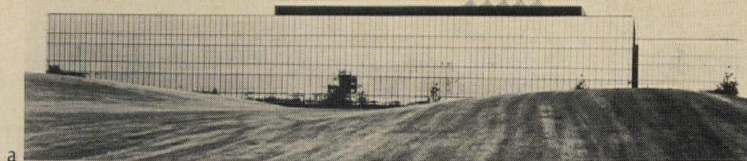
Meanwhile, the Postal Service is reporting substantial progress on the construction of its bulk mail handling facilities designed by Kaiser Engineers of Oakland, Cal., and Giffels Associates of Detroit. These buildings, reportedly, will for the most part employ electric heat since the load requirements are not heavy. This is because the large amount of machinery used in these processing plants will be of a heat-generating character in itself.

—Ernest Mickel

**US GRANTS FUNDS FOR RAPID TRANSIT IN BUFFALO AREA**

The Federal government has allotted \$1.2 million for preliminary engineering studies regarding Buffalo, N.Y.'s long-awaited \$257 million rapid transit system. The money, awarded by the government's Urban Mass Transportation Administration to the Niagara Frontier Transportation Authority, was matched by one-third by New York State. This is the first money earmarked for design on non-controversial sections of the 12.5-mile system that will eventually link downtown Buffalo with the new \$650 million North Campus of the State University of New York at Buffalo.

The Federal government has pledged \$171 million for the transit project and New York State is expected to produce \$36 million more.



### THREE BUILDINGS WIN ENERGY CONSERVATION COMPETITION

Three buildings incorporating energy conserving design and equipment have been named winners in the first Energy Awards Program sponsored by Owens-Corning Fiberglas Corporation.

Westinghouse Nuclear Center (a), Monroeville, Pa., designed by Deeter Ritchey Sippel Associates won in the commercial building category. Top honors for institutional buildings went to Mercy Hospital II (b), Coon Rapids, Minn., designed by S. C. Smiley Associates. The winning industrial building was Energy Center (c), Miami Beach, Fla., designed by The Smith Korach Hayet Haynie Partnership.

Honorable Mention was given to Childrens Hospital of Philadelphia, designed by Harbeson Hough Livingston and Larson; and Drain Properties, Phoenix, designed by Walser-Krause Architects.

The competition was open to all registered architects and engineers in the United States. Entries were judged on the scope and creativity of the energy-conserving concept and actual energy savings achieved or anticipated. The jury included MacDonald Becket of Welton Becket Associates; Leander Economides of Economides and Goldberg; Harold S. Lewis of Jaros, Baum and Bolles; Professor Charles E. Sepsy, Ohio State University; and Herbert H. Swinburne, FAIA, of the Nolan-Swinburne Partnership.

Jury member Lewis noted that Owens-Corning Fiberglas Corporation's effort in bringing to public attention the current thinking on energy conservation methods merits real support by the architectural and engineering community.

The jury was impressed with the enormous number of entries for a first-of-its-kind awards program and discussion of the relative merits of the entries was spirited. Some of the energy conserving methods that appeared in the entries were a concern for building orientation, shading, and sheathing to minimize solar and transmission heat gains and losses, thus reducing heating, cooling and illumination requirements.

Heat recovery processes were used for many of the mechanical and electrical systems.

One industrial process developed reduced pollution considerably with a useful recovery of processed by-products.

It should not be overlooked that the clients involved with all the entries and especially the winners expressed from the beginning a desire to explore energy conserving methods for their buildings. It should be further noted that initial cost was actually reduced in some cases and only slightly more than conventional methods in others. There was general agreement that operating cost over the life of the winning buildings will be reduced along with their energy consumption. The increasing attention given to energy conservation suggests a positive shift from concentration on low first cost of buildings to life-cycle costing.

### ROGERS ROUNDTABLE JOINED BY LABOR LAW GROUP

The Construction Users Anti-Inflation Roundtable (Roger's Roundtable), a recent active force in efforts to curb inflation in construction, is being joined by the Labor Law Study Committee in the formation of a new Business Roundtable for Responsible Management-Labor Relations.

The Roundtable will continue the efforts of the two groups to improve labor-management relations, while recommending needed structural changes aimed at the root of inflation in the construction industry. The Rogers Roundtable is credited by many industry leaders with significantly high-lighting the problems of inflation in construction, productivity needs and the importance of profits to continuing building activity.

The newly combined organization will have offices in New York and Washington.

### RECORD EDITOR GUEST OF SOVIET ARCHITECTS

Mildred F. Schmertz, senior editor with the RECORD, recently toured the Soviet Union along with three other official AIA representatives who were the guests of the Union of Soviet Architects. Other members of the American delegation—all chosen by AIA president Max O. Urbahn—were AIA president-elect S. Scott Ferebee, Frank L. Hope, Jr., FAIA, of San Diego, and John M. McGinty of Houston. The four Americans are shown with a group of Russian architects. Shown left to right: Elgen Grigoriev, architect and translator; Dmitri Bruns, chief architect of Tallinn; John McGinty; S. Scott Ferebee; unidentified Estonian translator; Mildred Schmertz; Rasmus Kangropool, director of restoration for Tallinn; Frank Hope.

Ms. Schmertz' account of the three-week trip will appear in the February issue of the RECORD. Moscow, Suzdal, Leningrad, Tallinn, Tbilisi, Tashkent and Samarkand were visited and the Americans were shown current housing projects, public buildings, government planning offices, pre-Czarist architectural masterpieces, and a special look inside recreational and vacation facilities reserved for the exclusive use of Soviet architects.

The tour was part of a cultural exchange that began in 1971 when the AIA sponsored a US tour for several Russian architects.

### PENNSYLVANIA AVENUE COMMISSION GETS NEW LIFE

President Nixon has signed a bill giving the Pennsylvania Avenue Commission authority to borrow \$50 million to clean up the famous stretch from the White House to the Capitol.

The Commission, with Nathaniel Owings, FAIA, as its head, was started in the Kennedy Administration, but the grand plan it produced was shelved for lack of carry-through funds. With an added \$1 million to continue its existence, the Commission is looking at the possible redevelopment of 23 acres immediately north of Pennsylvania Avenue.

As for Capitol Hill, a \$53.5 million plan calls for nearly doubling the New Senate Office Building and building an underground garage; the cost of the garage—\$15,750 per car—has caused the Senate to direct Capitol Architect George White to study alternative concepts and costs. Appropriations of \$50,000 have been approved by the Senate for this study which will formulate guidelines for a design competition for the new structure. More on this when details are available.

### GROPIUS RETROSPECTIVE ON VIEW IN CHICAGO

A major retrospective photographic exhibition of the work of Walter Gropius is on display this month through December 30 at Illinois Institute of Technology's School of Architecture and Planning.

Sponsored by the School and the Graham Foundation for Advanced Studies in the Fine Arts, the exhibit is open to the public free of charge from 10 a.m. to 5 p.m. The exhibit includes 212 photographs of Gropius' far-ranging work, color slides and a filmed interview with Gropius before his death in 1969.

### FAMOUS HOMES THREATENED BY LONG ISLAND BRIDGE

A tour of distinctive—and imperiled—homes was held last month in Rye, N.Y. to publicize the adverse effects of a proposed six-mile bridge linking Oyster Bay, Long Island with Rye, spanning Long Island Sound.

One of these side effects will be the razing of 16 homes in Rye, all worthy examples of American architecture, ranging from a 19th century Victorian house to an Ulrich Franzen design, recipient of an ARCHITECTURAL RECORD "Record Houses" award in 1956.

A non-profit citizens' committee is attempting to raise public pressure against the bridge idea, a proposal that was suppressed once before when it was raised. With Governor Rockefeller enthusiastic about the bridge, it will be up to the Legislature to prevent the project.

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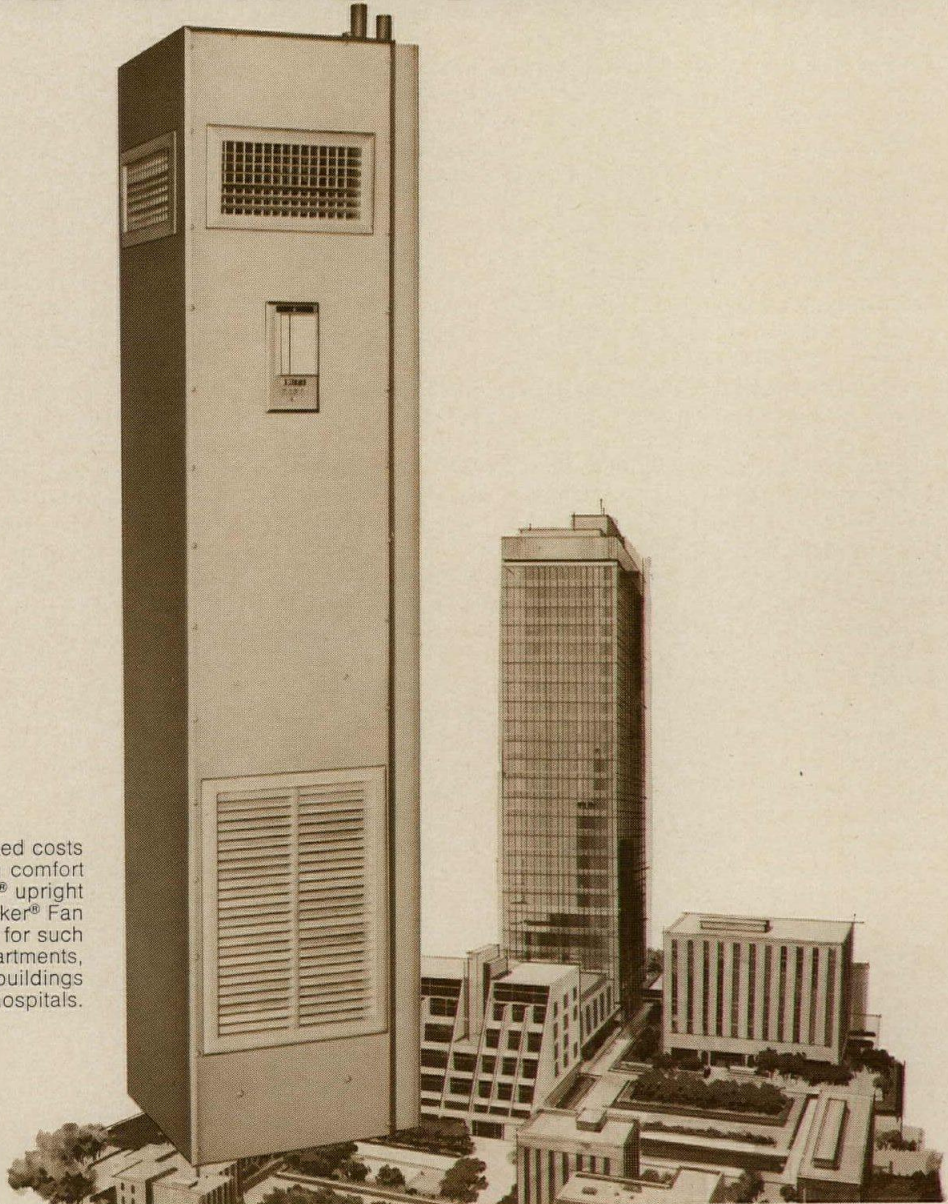


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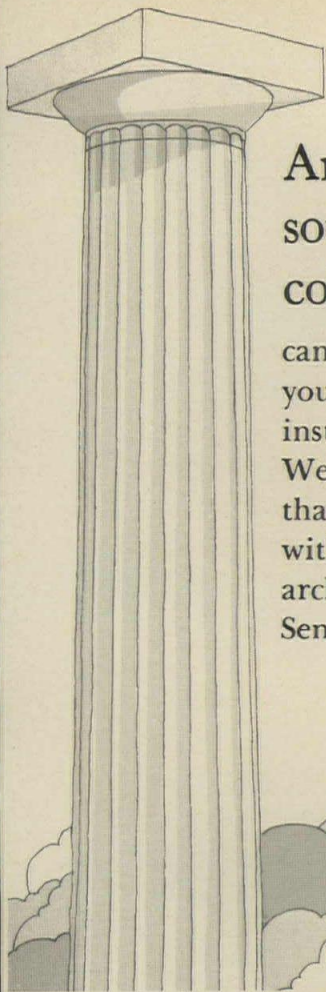
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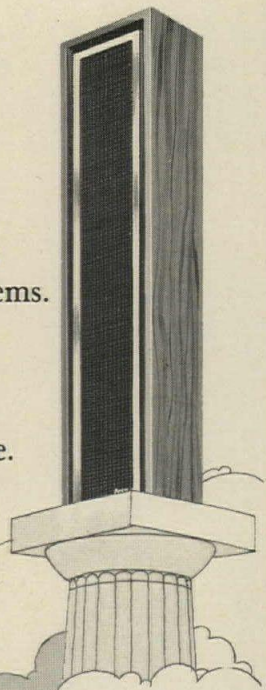
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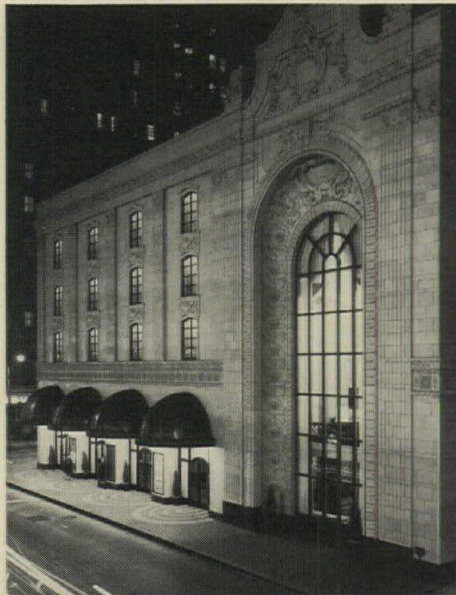
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# Dover Stage Lift helps recycle an old movie palace

In a Cinderella-like transformation, the old Penn vaudeville and movie theater in Pittsburgh has become a showcase for the arts.

Now known as Heinz Hall for the Performing Arts, this unique building is not only the new home of the Pittsburgh Symphony, Pittsburgh Opera, Civic Light Opera, Pittsburgh Ballet and the Pittsburgh Youth Symphony, but also offers complete theatrical and film facilities for international attractions.

Much of the neo-Baroque



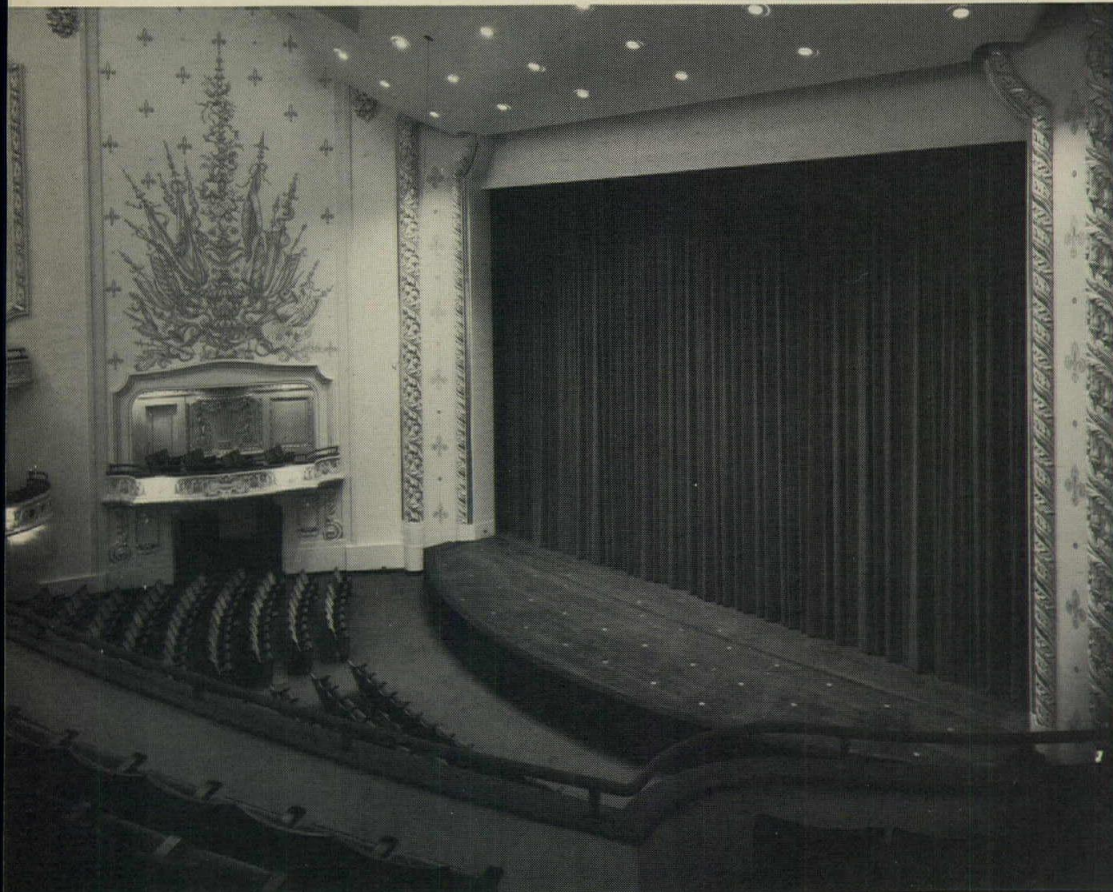
opulence was retained in the multi-million dollar renovation project. But extensive revamping was necessary for conversion of the old movie palace into a building that functions efficiently and beautifully for its diverse new tenants.

A major addition was a Dover Stage Lift, 14' x 54' in overall dimensions. Raised, it provides a needed extension of the stage area; lowered, it serves as an orchestra pit.

Dover Stage Lifts are used in theaters, concert halls, opera houses and drama centers throughout the country to provide more flexibility and imagination in staging musical and dramatic presentations. Call us in for design and engineering assistance, or check our catalog in Sweet's Files. Dover Corporation, Elevator Division, Dept. A-12, P. O. Box 2177, Memphis, Tenn. 38102. In Canada: Dover/Turnbull.

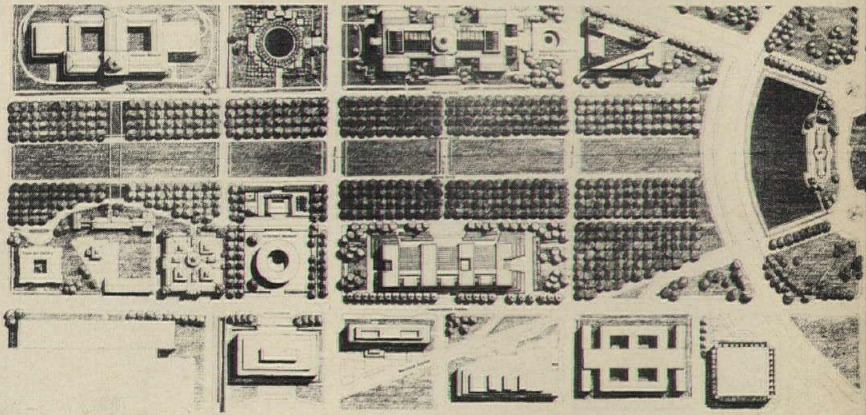
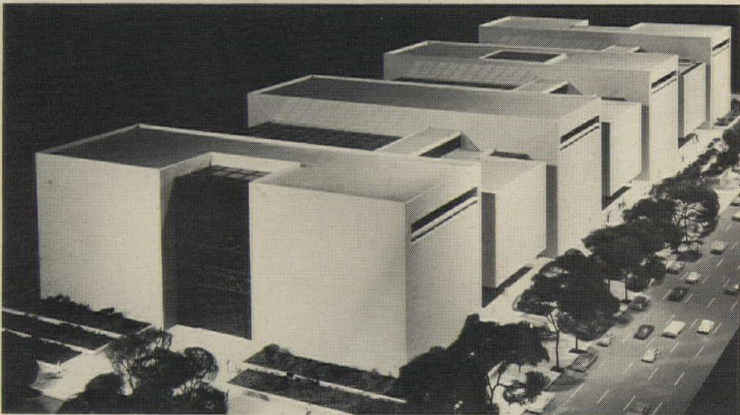
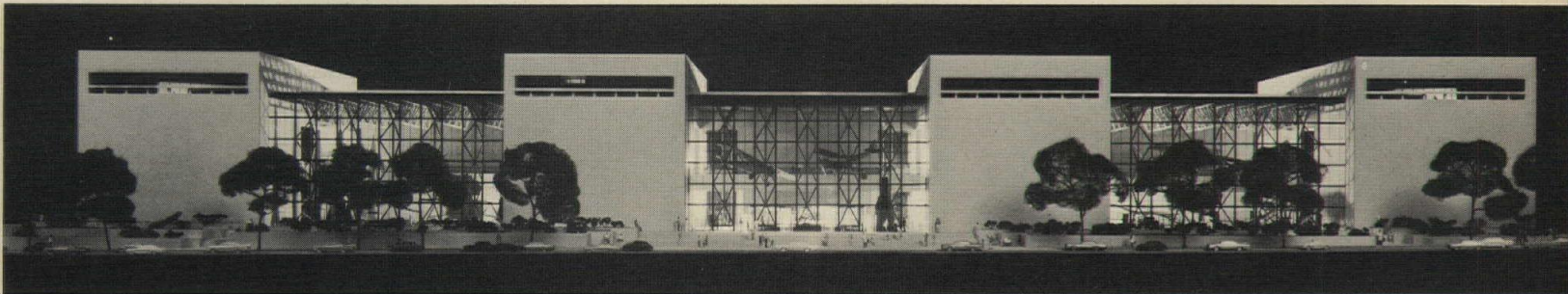
**DOVER**  
**Stage Lifts**

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HEINZ HALL FOR THE PERFORMING ARTS, Pittsburgh, Pa. Architects: Stotz, Hess, MacLachlan and Fosner, Pittsburgh. General contractor: Mellon-Stuart Co., Pittsburgh. Acoustical and stage lift consultant: Dr. Heinrich Keilholz. Engineers: George Levinson, Inc. (structural); Meucci Engineering Inc. (mechanical); Hornfeck Engineering, Inc. (electrical). Interior designer: Verner S. Purnell. Dover Stage Lift installed by Marshall Elevator Company, Pittsburgh.

Eugene H. Fleming III, photos



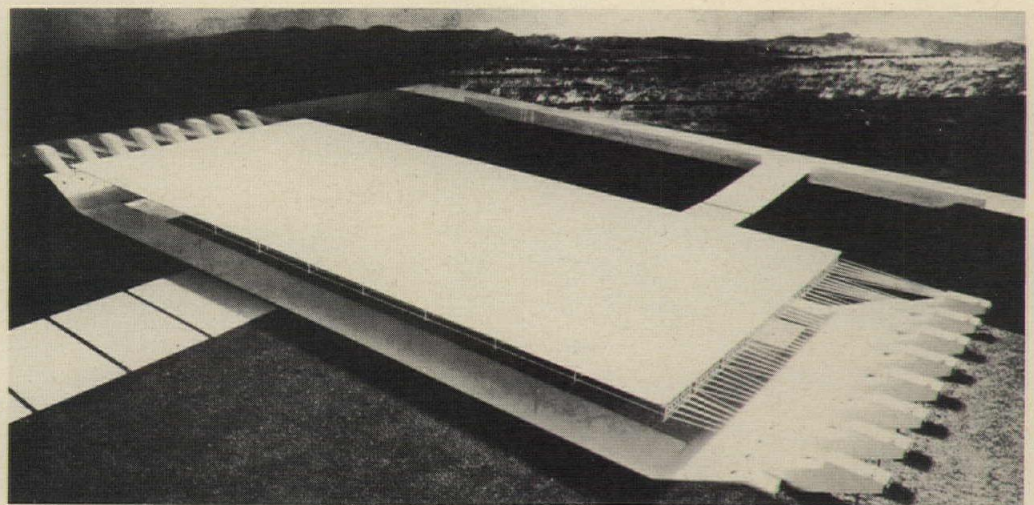
The National Air and Space Museum of the Smithsonian Institution, Washington, D.C., is now under construction, with a planned opening on July 4, 1976. Designed by Hellmuth, Obata and Kassabaum, Inc., St. Louis, with Gyo Obata as principal-in-

charge, the building is sited on the Mall opposite the National Gallery of Art. The Mall side features three bays faced with glass through which persons outside will see the museum displays in glass-roofed exhibit halls 60 ft high, 115 ft wide and 120 ft deep.

As they walk through more than 20 exhibit halls, located throughout the two level building, visitors will see NASM collections documenting the technology and history of flight. The museum will also house an auditorium/film theater, a 350-seat plane-

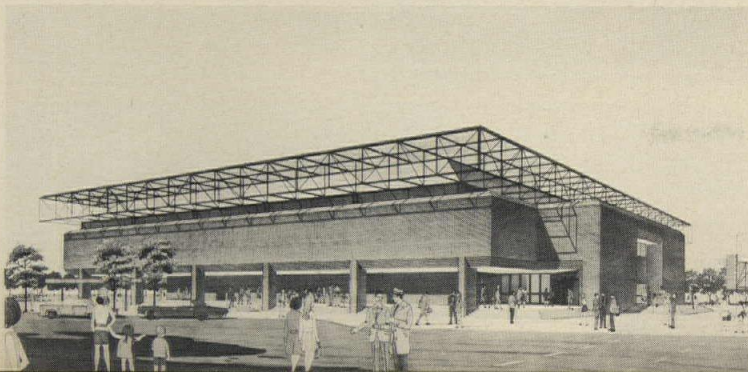
tarium-like room, a large library-research center, a cafeteria for staff and the public, and an underground parking garage for 500 cars. The building is between 4th and 7th Streets, Independence Avenue and Jefferson Drive, site of a former parking lot.

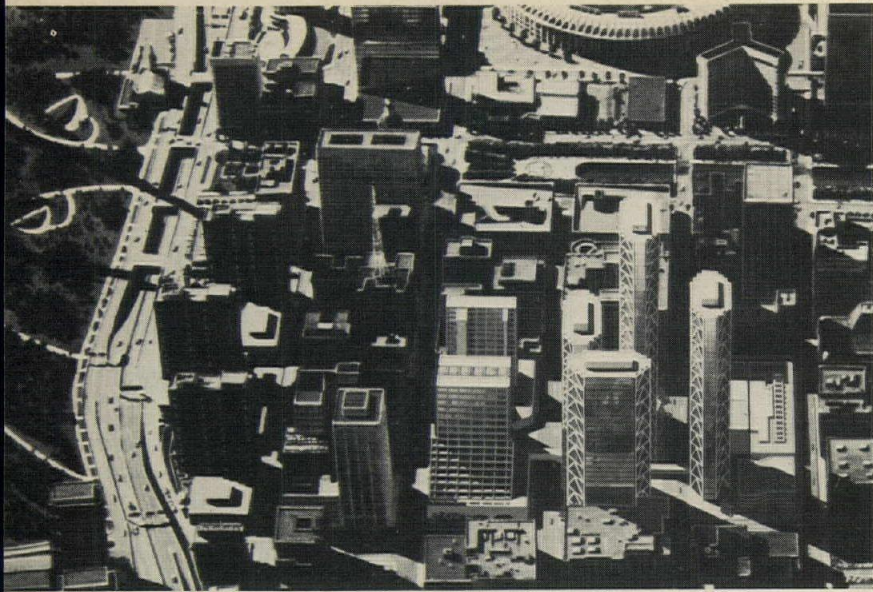
Conway Square, an exhibition and convention facility for Waterloo, Iowa, has been designed by Architectural Planning Research Associates and Thorson-Brom-Brosnar-Snyder. The building will contain 89,000 sq ft, housing an exhibition hall, assembly rooms and commercial space. The roof structure is a steel truss.



The California City Civic Center is out of the planning stages and is expected to be completed by January of 1974. The 14,000-sq ft structure with cable-supported roof and subterranean offices was planned by Kariotis and Kesler, structural engineers of South Pasadena. Architect James Ronald Fetridge of Palmdale is in charge of reviewing the plans and construction

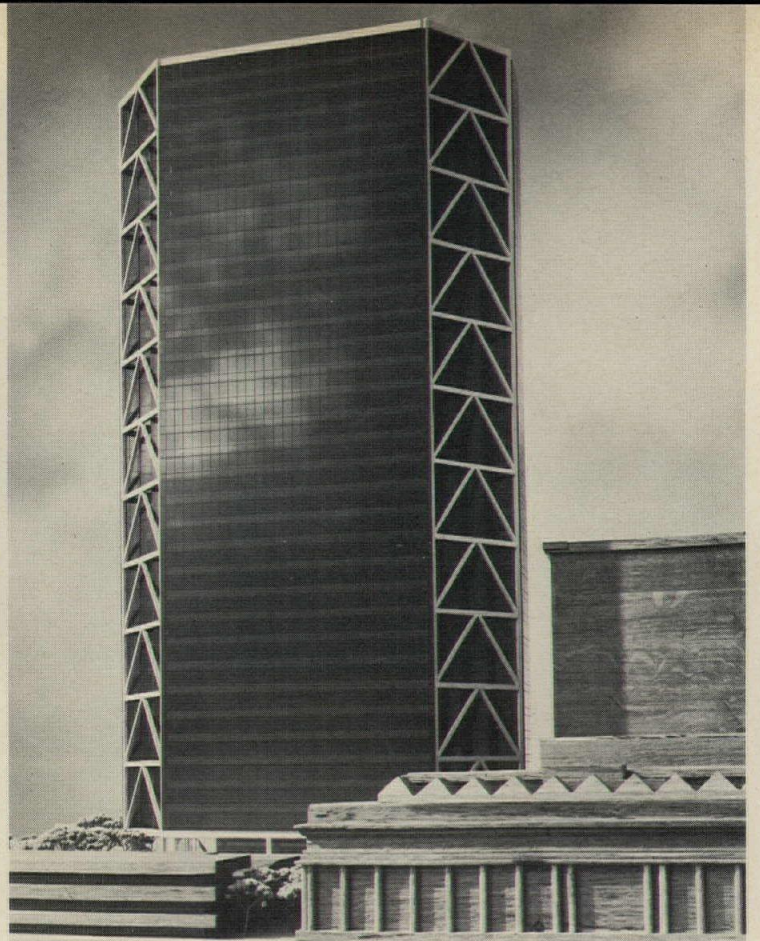
management. The straight-line, high-tension cable system of 1¼ diameter cables, tensioned at 94,000 lbs, two feet on center horizontally and 18 in. vertically, forms an 80-ft floating roof structure, with vertical tie-downs 192 ft apart. Stressed-skin fiberglass panels 16 ft wide and 80 ft long, connected by accordion-type neoprene expansion joints, form the roof surface.



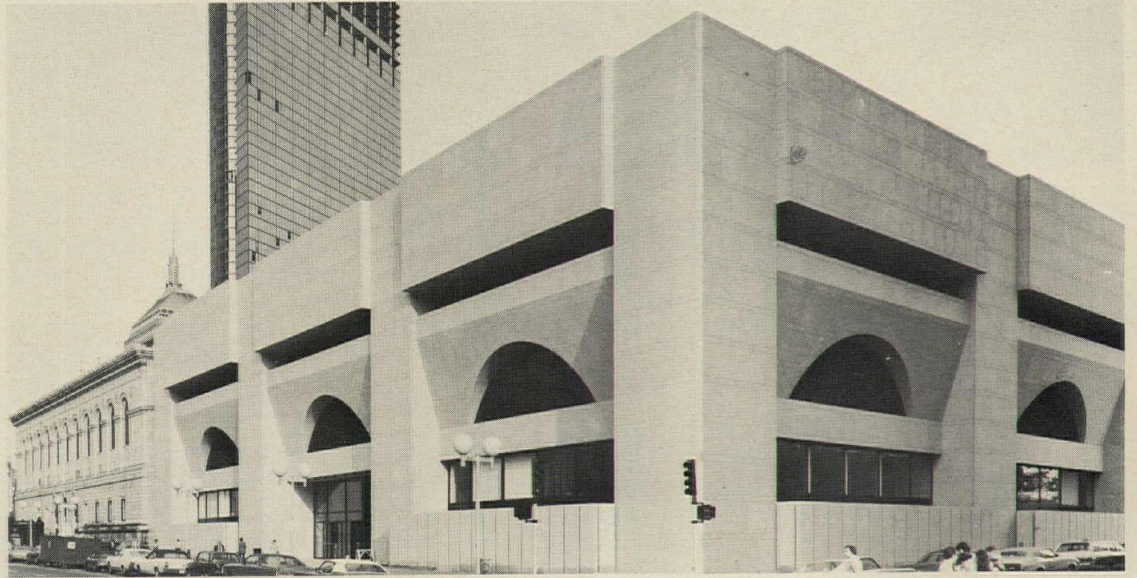


**The Mercantile Center**, St. Louis, is a \$150 million, six-block, multi-use facility that will be developed over the next ten years. In charge of design and the project's master plan is Thompson, Ventulett & Stainback, Inc., of Atlanta, with Sverdrup & Parcel and Associates of St. Louis as supervising architects and engineers. The first phase will be

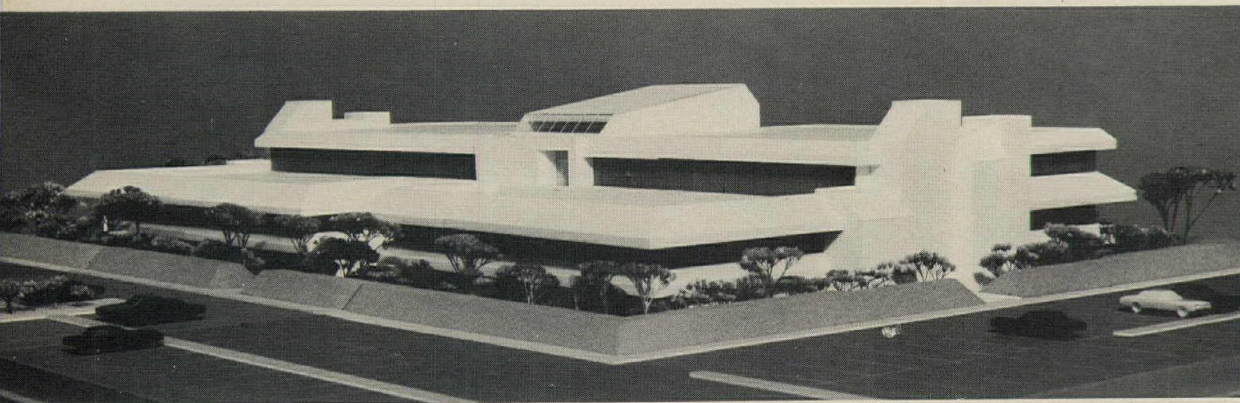
a \$25 million bank building 35 stories high, to be started this spring. A hotel, restaurants, shops, entertainment, etc., are also planned. To create large, column-free spaces in the towers, as well as increase wind resistance, the design calls for corner bracing to provide a strong, economical structural system, plus 16 corner offices.



**The Boston Public Library addition** by Philip Johnson and Architects Design Group, opened recently, joining the original library designed nearly 70 years ago by McKim, Mead & White. The 480,000-sq ft extension has a large amount of usable uninterrupted floor space that is the result of a complex structural steel framing that hangs the third through sixth floors from a grid of 16-ft deep interconnecting trusses on the seventh, or top, floor. Granite is the facing material.



**The Northwest Regional Headquarters** for the FAA, in King County, Washington, is the design of Mel Streeter & Associates, Seattle. The 84,000-sq ft structure consists of two loft spaces, unequal in area, with a central core for service functions. The building has been depressed 5 ft below grade for both visual and audio separation from parking at grade. A perimeter berm furthers this separation. The structure is cast-in-place concrete, exposed, with precast sun and sound shades on the exterior.





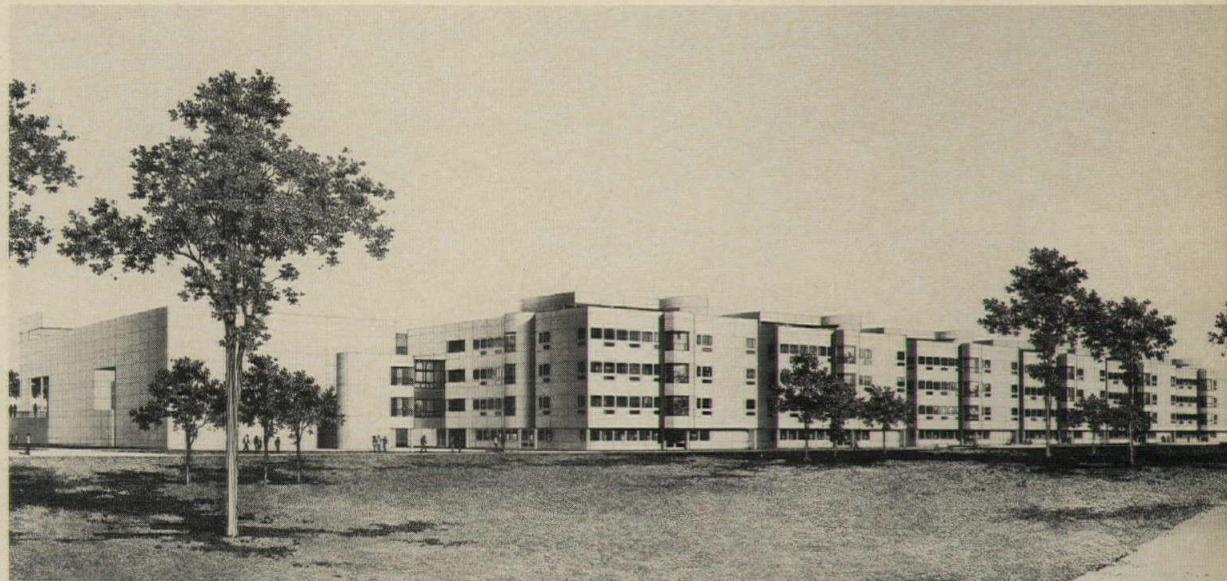
**One Federal Street**, Boston, is the design of The Architects Collaborative Inc., Cambridge and is scheduled for occupancy in 1975. The 38-story building is the new headquarters of the National Shawmut Bank which will occupy the first 11 floors. Steel framing is used with a precast panel and bronze glass exterior.

**Loop College**, to be built in downtown Chicago, is by the Office of Mies van der Rohe. It is designed to provide facilities for 12,500 students as well as administrative space for the City Colleges of Chicago. Nine double-deck, skip-stop elevators will serve the 20-story building which is divided into four-story clusters. To reduce energy consumption, the building will have a minimum of glass, while the exterior will be painted in a heat and light reflecting metallic silver color.



Hedrich-Blessing

**The Bronx State School** for the mentally retarded is being built on a 20-acre site adjacent to the recently opened Bronx Children's Psychiatric Treatment Center. When completed in 1975, the school will provide residential care and treatment for 384 severely retarded children and adults. The design is by Richard Meier and Associates and consists of two buildings housing residential units and support facilities. A third building will include a gym and swimming pool. Because of the terrain, two thirds of the residential units will have access to grade. Educational, recreational and administrative facilities will comprise a "town square" along with a cafeteria and central stores.



**A new branch bank for the Fifth-Third Bank**, Cincinnati, Ohio by architects Harry Hake & Partners, Inc., uses some discreet but eye-catching supergraphics and earth berms to provide facilities well-suited to the character and scale of its neighborhood. Exterior colors are subtle: the facing is 8 by 8 dark-mahogany brick (with concrete

block back-up) and glazing is bronzer-color acrylic plastic. The building contains 3447 square feet of space and was constructed for a total cost of \$215,000, of which \$40,000 was spent for built-in equipment. The berms are an effective device to alleviate partially windowless façades and to reduce the apparent size.



# Now even better with **micro=lam**<sup>®</sup>

Since its introduction just two years ago the TRUS JOIST I Series, or TJI Joist, has become the fastest selling new structural component in the United States. Millions of lineal feet have gone into floor systems for apartments, town houses, condominiums and single family dwellings. In commercial buildings and apartments alike, it has provided a superior roof system as well. Utilizing 2 x 3 or 2 x 4 flanges of top grade Machine Stress Rated structural lumber it has always outperformed solid sawn joists, but now the TJI is rapidly becoming available nationwide with flanges of MICRO=LAM lumber.

MICRO=LAM is a new TRUS JOIST development wherein sheets of veneer are fed into one end of a 90 foot traveling press in an exact lay-up pattern. Precise amounts of heat and pressure are applied and the veneers exit from the machine in the form of a MICRO=LAM board or billet 80 feet long, 24 inches wide and 1½ inches thick. The billet is then cut to size for use as TJI flange material.

MICRO=LAM is a superior wood product in that every piece is uniform and of known strength. Any defects in the veneers are so widely scattered they do not affect the board itself. There are no problems with warp or shrinkage. MICRO=LAM is straight and it stays straight. It has excellent structural characteristics and an extensive testing program has shown it to be completely reliable. Major code groups and F.H.A. have approved MICRO=LAM flanges for the TJI Series joist as a direct substitute for the high quality structural lumber formerly utilized.

The introduction of MICRO=LAM is probably one of the most significant developments which have taken place in wood utilization in recent years. Because of its strength, versatility and availability in extremely long lengths it is destined to be used in many new applications of which the TJI flange is only the beginning.



Plywood web cuts easily

# I SERIES TRUS JOIST

## \* LIGHT WEIGHT, FAST ERECTING

Builders report the TJI goes in place two to four times faster than solid sawn joists. Saves time. Saves money.

## \* LONG SPANS

Up to 24 feet at 2 feet O.C. in floor systems, up to 40 feet at 2 feet on center in roof systems. Multiple spans to 60 feet. Available in depths from 10 inches to 24 inches.

## \* UNIFORM

Every joist is uniform and equal in strength to provide level floors which are far more rigid than those using solid sawn joists.

## \* DRILL EASILY

The plywood web drills easily and quickly to accommodate wiring, plumbing and even large ductwork. Often makes it possible to eliminate expensive hung ceilings.

## \* PROBLEM FREE

Will not cause cracked walls, sticking doors or windows because of shrinkage, a common failure of solid sawn lumber.

## \* ALWAYS AVAILABLE

Delivery within three weeks anywhere in the U.S., any time of year. Often sooner, if needed.

## \* REAL ECONOMY

In many areas the TJI will compete in price with 2x10's but the really big savings are in labor and faster construction.


## \* QUALITY

The TJI is precision engineered, manufactured to exact specifications in our own plants and absolutely guaranteed to carry the loads for which it is designed. It provides a floor or roof structure far superior to ordinary dimension lumber.

**trus joist**<sup>®</sup>

9777 Chinden Boulevard

Boise, Idaho 83702



A complete I Series file folder containing load tables, bearing details, design information, job photographs and other details was mailed to 30,000 firms this month. If you do not receive one and you are an architect, engineer, builder or developer just fill out and mail this coupon. We'll send your folder immediately.

NAME \_\_\_\_\_

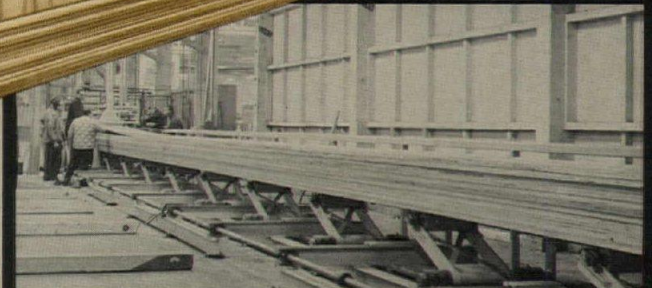
FIRM \_\_\_\_\_

ADDRESS \_\_\_\_\_

STATE \_\_\_\_\_ ZIP \_\_\_\_\_

If you're a builder or developer, how many residential or commercial units do you have planned for 1973? \_\_\_\_\_

For more data, circle 30 on inquiry card



80 foot Micro-Lam billets as they exit from press.



I Series joists go in place 2 to 4 times faster than 2 x 10's.



Accommodate even large duct work.

## Bruning diazo papers and supplies

If you are willing to settle for "good enough" in diazo reproduction of drawings and documents, maybe where you buy paper and supplies doesn't matter.

But if you want optimum reproduction for every dollar, then you should clearly consider Bruning.

When your operator opens a package of Bruning diazo paper, here's what you get that's extra:

First, the right paper for your job. Because Bruning makes papers for all three diazo

processes to match widely varying speed, line-color, and document-condition needs, you never have to settle for second best.

Second, *consistent* high quality. Our experts check constantly to make sure the high quality we design into our papers is really *put in* during production.

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Fourth, you get assured supply. A minimum of base-touching with your Bruning man means you'll never lack the papers you need. We have the production facilities, the distribution system, and the desire to keep you well supplied.

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# BRUNING

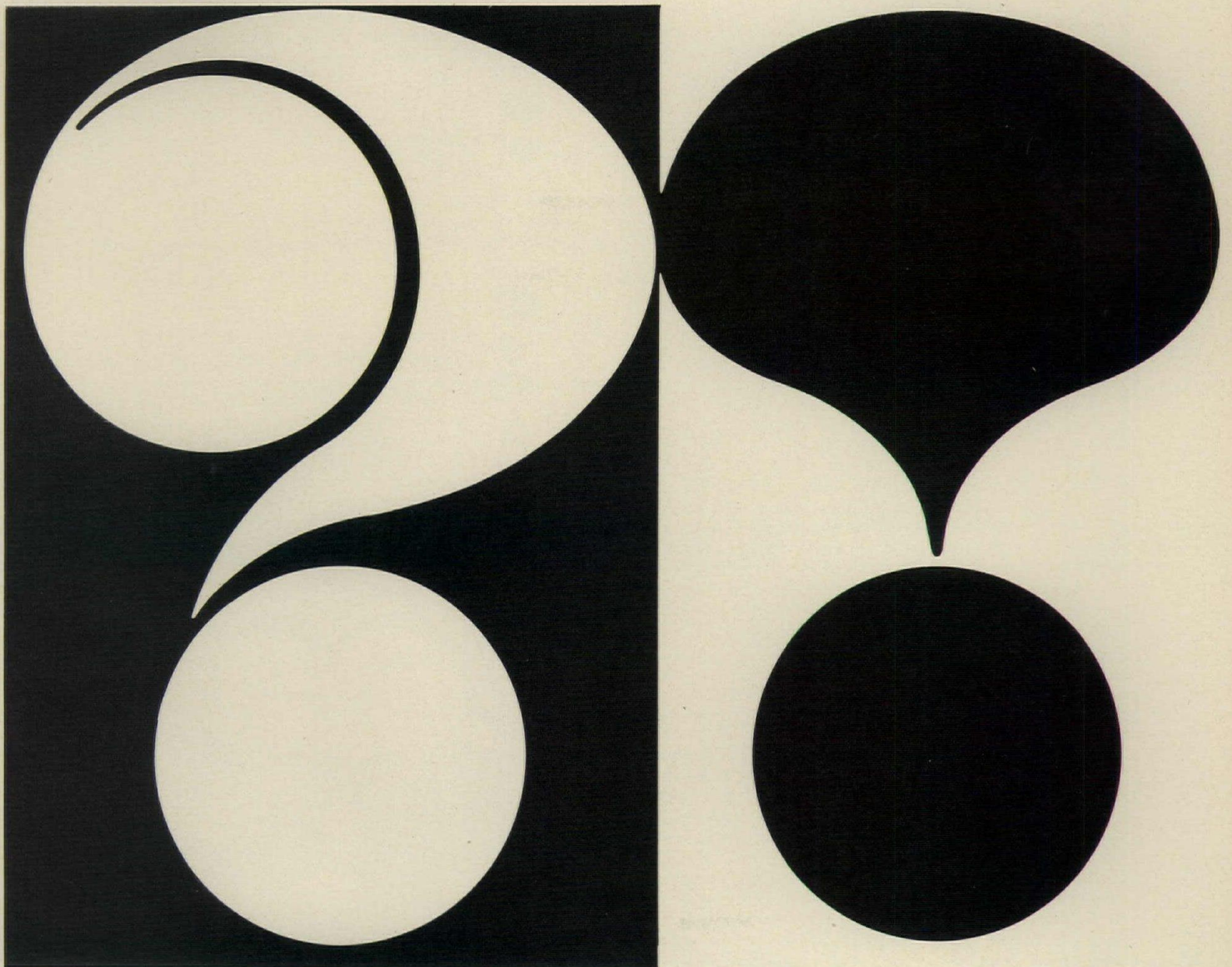
DIVISION OF ADDRESSOGRAPH MULTIGRAPH CORPORATION

For more data, circle 31 on inquiry card



# The Barrett Roof Inspection & Service Program.

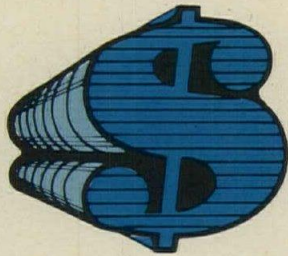
## Questions & Answers



# The Barrett Roof Inspection & Service Program.

## Questions & Answers

The Celotex Corporation conducted a series of interviews with architects all across the country to determine their awareness of the advantages and benefits the Barrett Roof Inspection and Service Program offers to building owners. The questions and answers on the following pages represent a composite of these interviews. We hope they will be helpful to you.



**How does the Barrett Roof Inspection and Service Program differ from the 20-year bond plan which has been so widely specified for so many years?**

The most important difference is the amount of liability which Celotex assumes. The old standard 20-year bond limits the manufacturer's liability to a total of \$10 per square during the entire 20-year period. Under the new program, there is no limit to the amount Celotex will pay, during the entire period of the contract, to correct leaks due to causes covered in the contract.

Let's use a practical example to illustrate the difference. You have a 20,000 square foot roof. A series of leaks develops and it is determined that the roofing manufacturer is to pay the cost of repair. Under the old bond plan, our maximum liability is \$2,000. When that \$2,000 has been expended, there is no further monetary liability, regardless of the bond issue date. Under the new contract, Celotex would pay for repair of all leaks covered, during the full period of the contract.

This program also differs from the old bond plan in period of coverage, in cost, and offers additional inspection service.

**What is the period of coverage under this program?**

The contract covers a period of 10 years. It also gives the owner an option to renew for an additional 10 years, if he makes recommended corrections and preventive repairs to the structure and to the roof, which our inspector determines are necessary to put the roof in satisfactory condition for continued good performance. This feature provides a valuable service which the bond did not offer: at no cost, at the end of 10 years, the building owner receives a roof inspection and recommendations which conceivably could help him avoid costly trouble. He can then elect to renew the contract.

# \$3/10

**What does the building owner pay for coverage under your program?**

Cost for the initial 10 years is \$3 per square. Cost to renew the contract for a second 10-year period will be two-thirds of the charge for the initial 10-year period in effect at that time.

Cost of the program, for the initial period, is the same as the current cost of the old 20-year bond—yet this plan provides additional inspection service and has no monetary limit on leak-repair costs. When compared to the cost of the bond and to the cost of independent inspection services—which do not provide monetary guarantee in case of leaks, or continuing inspection service—our program is obviously the best investment of all.

**How does the owner benefit by renewing the contract for a second 10-year period? Why not just make recommended repairs, if any, and save the cost of renewing?**

If no problems are indicated, he may be saving money by not renewing. If he renews, however, he gets all the original benefits for another 10 years: unlimited manufacturer liability in case of leaks due to covered causes; free inspections should leaks occur; and free inspection and recommendations, on request, when alterations or additions are contemplated.

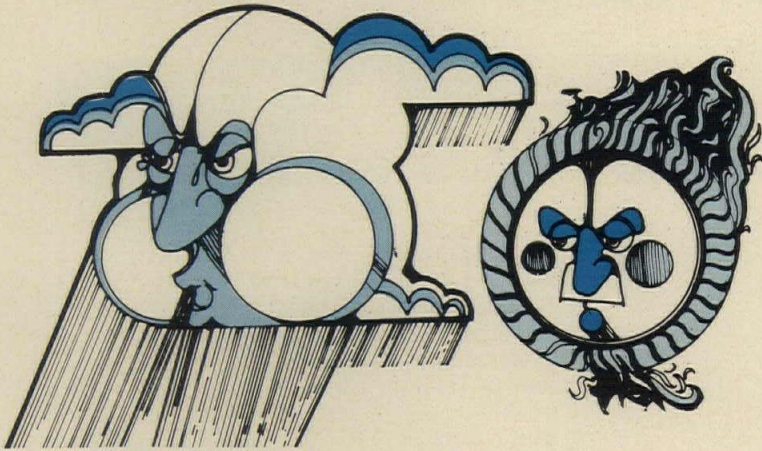
**What other services and inspections are included in the program?**

To begin with, on request, a qualified Celotex representative will review plans and specifications, attend pre-job meetings, and make recommendations. During application and after completion, inspections will be made and notice of inspection will be sent to the architect or owner. When the roof is two years old, another inspection will be made. And we'll make the 10-year inspection and recommendations, if requested, at no charge, even if the contract is not renewed.



**Does the Celotex liability apply to repair of leaks caused by faulty application, as well as to leaks due to defective roofing materials?**

Yes. This contract clearly states that Celotex will pay all costs of repairs necessary to correct roof leaks resulting from errors in workmanship of roofing contractors in applying Barrett roofing membrane and flashing materials. It also covers leaks due to failure of those materials resulting from usual and ordinary wear and weather. This liability does not apply, however, to errors in building design or construction.



**Does your guarantee include expansion joint covers?**

Yes, it includes the Barrett Expansion Joint Shield when installed in conjunction with a roof that is covered by our contract. It does not guarantee any other expansion joint cover even though that cover is installed by a Barrett Approved Roofing Contractor on a roof where Barrett roofing membrane and flashing are bonded. To our knowledge, Celotex is the only manufacturer offering a guarantee-type plan that includes an expansion joint cover.

**If I specify a reputable brand of roofing materials, and the general contractor retains a reputable roofer, isn't that sufficient assurance of good roof performance? Why should my clients spend the additional \$3 per square?**

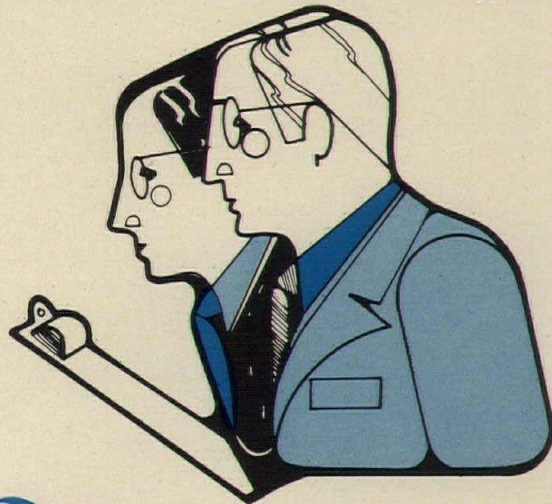
It is true that under those conditions you minimize the risk of leaks due to faulty materials or application. Our roofing materials are produced totally by machine under quality control methods, and there is very little risk of their failing. On the other hand, application of these materials is largely manual and the chance for leaks due to human error is far greater.

No matter how good the roofing contractor's reputation is, or how dedicated he is to doing a first-class job, one of his workmen can make an error, or fail to follow an instruction, or neglect to follow some requirement of the specification, and a leak can result. The Barrett contract protects the owner against cost of repairing leaks resulting from this situation.

As with most types of insurance, the buyer hopes he will not have to collect, but the nominal cost makes it a wise investment in protection.

**Does your on-the-job inspection insure proper application and adherence to specifications?**

While no inspection can include every minute of time for every workman and every square foot of the roof during application, the purpose of our inspections is to assist the contractor in making sure the roof is being applied as specified. An error can occur on any roof, no matter how diligent the inspector. Under our program, chances for these errors are minimized in two ways: (1) the two-party inspections, ours and the contractor's, (2) the fact that only Barrett Approved Roofing Contractors are authorized to apply our guaranteed roofs. Contractors must meet the highest industry standards to qualify for approval.



**Why should the building owner buy an inspection and service contract to protect against the possibility of leaks due to faulty application? Doesn't the roofing contractor bear a responsibility for good workmanship?**

In some localities the roofer has a written obligation to repair leaks due to faulty application during the first two years after completion, but no liability of any kind after the first two years. Some roofers accept responsibility for their work for two years or even longer, but do not enter into a written agreement. In short, there is no standard industry practice. During a 10-year period, a roofing firm may change management and policies.

Experience has proved that the most reliable protection for the building owner is a long-term guarantee by an established roofing manufacturer. Barrett introduced the roofing bond in 1916, and all major manufacturers adopted the same type of plan. The Barrett Roof Inspection and Service Program is an updated version of the bond plan, with additional owner benefits.

**One of our large clients has thousands of squares of built-up roofs installed annually. Wouldn't it be to his advantage to set up a \$3 per square reserve fund for possible repairs, rather than buy your inspection and service contract?**

It could work out that way. He may never have to spend any money for repairs due to faulty application or materials, and he would have saved the contract fee. On the other hand, one serious leak problem could wipe out his entire fund. What you are suggesting amounts to an underwriting plan with very little leverage. There would be no opportunity to spread repair costs against fees from a large number of owners as is normally done under insurance-type programs. Being his own underwriter could end up being a very uneconomical choice.



(SEE PRECEDING PAGES)

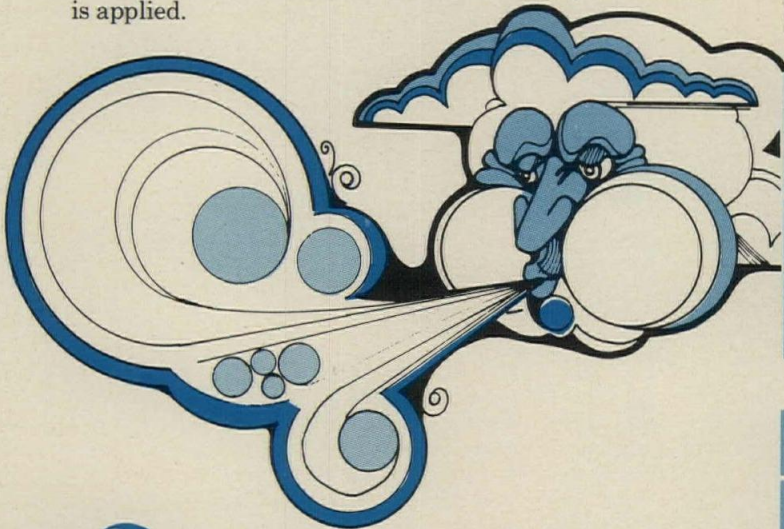
# The Barrett Roof Inspection & Service Program.

## Questions & Answers



**What types of leak problems are not covered by your contract?**

The contract plainly states that Celotex is not liable for leaks or damage caused by: natural disasters such as hurricanes, hail or windstorms; or by structural failures; or by changes in building uses unless approved in advance by Celotex; or by additional installations on or through the membrane, or repairs to roofing or flashing membrane, after completion, unless accepted by Celotex. Nor is Celotex responsible for damage to interior, building contents, roof insulation or deck over which roofing membrane is applied.



**How will it be determined whether a leak is due to errors in application, faulty materials, structural movement or other causes?**

When we are notified that a leak has occurred, a Celotex representative will inspect the roof. The architect and owner may be present or represented. In most cases, the cause of leaks will be readily apparent. For example, leaks through openings in the plies in an area where there is no evidence of structural movement, or leaks through blisters which may have ruptured due to drying out, would be ascribed to improper application and cost of repairs would be paid by Celotex. If the trouble is due to structural movement, evidence is usually equally apparent. If a flashing has broken away from a wall in which there are severe cracks, the cause is obviously building movement and is not covered.



**Do other roofing manufacturers offer this new-type contract?**

While a number of other major manufacturers offer inspection and service contracts that are close to the Barrett contract, the Celotex guarantee is the only one, to our knowledge, that includes an expansion joint cover—the Barrett Expansion Joint Shield.



**Does Celotex still offer the old-type roofing bond?**

Yes. Even though we strongly feel that our new Barrett Roof Inspection and Service Program is a far better program for building owners, we will continue to offer the bond as long as necessary from a competitive standpoint. Also, many existing specifications calling for "bonded roofs" were written before the new program was developed, and Barrett Approved Roofing Contractors must be kept in position to bid these jobs.

# FREE



**If Roof Inspection And Service Programs Were Free.** . . chances are that architects and building owners would insist they be included in every specification. Therefore, the added cost would seem to be the determining factor in deciding whether or not guarantee-type coverage should be specified. *What is the added cost of the Barrett Roof Inspection and Service Program in relations to total building cost?*

	School 2 floors 100 MSF	Hospital 6 floors 180 MSF	Factory 1 story 100 MSF	Office Building 10 floors 200 MSF
Sq. Ft. Cost of Building	\$24.	\$45.	\$14.	\$18.
Total Cost of Building	\$2.4 million	\$8.1 million	\$1.4 million	\$3.6 million

### ADDED COST FOR 10-YEAR BARRETT PROGRAM\*

Total of \$3 per 100 Sq. Ft.	\$1,500	\$900	\$3,000	\$600
Per Sq. Ft. of Building	1½¢	½¢	3¢	3/10¢

\*10-YEAR BARRETT ROOF INSPECTION AND SERVICE CONTRACT PROGRAM

The actual added cost for the Barrett Roof Inspection and Service Program is small. It is relatively insignificant in the total sq. ft. cost of the building. When consideration is given to the period covered (10 years) and the no-monetary-limit feature, the program is indeed extremely low-cost protection.

We'll welcome your request to have a Celotex representative tell you more about the Barrett Roof Inspection and Service Program and supply you with data on Barrett roofing products and systems . . . "everything from the deck up."

# Celotex\*

BUILDING PRODUCTS

The Celotex Corporation  
Tampa, Florida 33607  
Subsidiary of Jim Walter Corporation \*Trademark

For more data, circle 32 on inquiry card

# BARRETT ROOF INSPECTION AND SERVICE CONTRACT

NO. C000

THE CELOTEX CORPORATION, UNDER THE PROVISIONS STATED HEREIN, WILL PROVIDE INSPECTION AND REPAIR SERVICE TO THE BARRETT ROOF DESCRIBED BELOW FOR A PERIOD OF TEN (10) YEARS FROM DATE OF COMPLETION.

Owner: \_\_\_\_\_

Building Description: \_\_\_\_\_

Location: \_\_\_\_\_

Roof Specification No.: \_\_\_\_\_ Flashing Specification No.: \_\_\_\_\_

Area of Roof Under Contract: \_\_\_\_\_

Lineal Ft. of Flashing Under Contract: \_\_\_\_\_

Date of Completion: \_\_\_\_\_

Roofing Contractor: \_\_\_\_\_

**COVERAGE**

The Celotex Corporation will pay all costs of repairs necessary to correct roof leaks resulting from the following causes:

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. Deterioration of Barrett roofing membrane or Barrett base flashing resulting from usual and ordinary effects of wear and weather.</li> <li>2. Errors or mistakes in workmanship of roofing contractor in applying the Barrett roofing membrane and Barrett base flashing.</li> <li>3. Blisters, bare spots, buckles, wrinkles and ridges, in the roofing membrane.</li> </ol> | <ol style="list-style-type: none"> <li>4. Splits in roofing membrane or base flashing except as excluded below.</li> <li>5. Damage to roofing membrane or base flashing resulting from extreme fluctuations in temperature.</li> <li>6. Breaks in flashing strips over gravel stop or other metal flanges.</li> <li>7. Slippage of roofing membrane or base flashing.</li> </ol> |
|---|--|

**EXCLUSIONS**

The Celotex Corporation will not be responsible for leaks or consequential damage caused by any one or combination of:

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>A. Natural disasters including but not limited to floods, lightning, hurricanes, hail, windstorms, earthquakes, tornadoes.</li> <li>B. Structural failures such as settling, shifting, distorting, splitting or cracking of roof decks, walls, girders, partitions, foundations, etc.</li> <li>C. Improper application or failure of any component underlying the roofing membrane or base flashing such as deck, roof insulation, vapor barrier, etc.</li> <li>D. Changes in the original principal usage to which building is put unless approved in advance in writing by Celotex.</li> </ol> | <ol style="list-style-type: none"> <li>E. Erection or construction of any additional installation on or through the roofing membrane or base flashing after date of completion unless installed in a manner prescribed and accepted by Celotex.</li> <li>F. Application of or repairs to roofing membrane or base flashing after date of completion unless done in a manner prescribed and accepted by Celotex.</li> <li>G. Under no circumstances whatsoever shall Celotex be liable for damage to interior, contents of building, roof insulation, roof deck or other base over which roofing membrane or base flashing is applied.</li> </ol> |
|---|--|

**ACTION**

In the event leaks from any cause should occur, owner shall notify Celotex promptly, confirming such notice in writing. Celotex will inspect the roof, and if cause of leak is within the coverage as stated above, Celotex

will arrange for repairs to be made at no cost to owner. If cause of leak is not covered, Celotex will not be responsible for cost of any repairs.

**RENEWAL OPTION**

At the end of the initial ten (10) year period, the owner shall have the option to renew this contract for an additional (10) ten years under the following conditions:

During the tenth year of this contract, if the owner of the building so requests, Celotex will make an inspection of the roof and issue to the owner a report on the condition of the roof outlining any and all maintenance work that should be done. This inspection by Celotex is free of charge and without obligation.

If the owner elects to exercise his option to renew this contract, he shall have the maintenance work de-

scribed in the report performed at his cost by a roofing contractor acceptable to Celotex and will notify Celotex upon the completion of this work. Maintenance work required must be completed no later than 90 days after expiration date of this contract.

Upon payment of a charge which shall not exceed  $\frac{2}{3}$  of the then current initial service fee being charged by Celotex, the roof will be reinspected by Celotex and, if found to be acceptable, this contract will be extended for an additional ten (10) year period.

**Celotex makes no guarantees of any kind, express or implied, except as herein stated.**

By EA Franklin  
Attorney-in-fact

The Celotex Corporation • 1500 North Dale Mabry • Tampa, Florida 33607  
Subsidiary of Jim Walter Corporation



1

2

3

4

# FOUR MODERN TOWERS, ONE ANCIENT WINDOW PRINCIPLE.

New York's four newest office towers share a window-covering based on one of the world's oldest kind: an offspring of a venetian blind. Because, through the centuries, only blinds have offered infinite light control, privacy and unmatched design latitude.

But not just any blind. For these four buildings, the architects used the Levolor Riviera blind.

Rivieras enhance design, regardless of structure. Their less than one-inch-narrow slats and lace-like ladders "disappear" when viewed from a distance. And Levolor's Top-Lok keeps blinds uniform: they are either fully up or fully down.

While each building uses Rivieras with distinctive modifications, all four enjoy their easy maintenance and ability to cut air-conditioning power costs; two bonuses master builders of past ages didn't ask of their blinds.

But you can ask today, for tomorrow, and get them from Levolor—in 60 colors and designs, in two color slats, in perforated slats, in metallics. . . .

For complete details on Rivieras and other Levolor blinds, write to Levolor-Lorentzen, Inc., 720 Monroe Street, Hoboken, N.J. 07030.



THE UNOBTRUSIVE BLIND

## LEVOLOR RIVIERA BLINDS

A fresh old idea...unsuccessfully imitated the world over

For more data, circle 33 on inquiry card

When modern buildings go up, qualified electrical contractors go in . . . with the ready capability, latest equipment, specialized experience to install electrical systems correctly. Systems for heating. Cooling. Lighting. Communications. Systems adding up to the building's modern Electro-environment. It's an environment of comfort, convenience, efficiency and esthetic appeal for the people who will live or work inside for years to come . . . thanks to the qualified electrical contractor.

He'll safely satisfy a new building's power distribution needs, and keep pace with needs as they change. Many factors contribute to the ready

capability he can put to work for your benefit. Among them, he has the best-trained manpower, the work-force flexibilities and the awareness of local codes to keep electrical problems from developing. To keep all electrical systems functioning efficiently. Economically. Reliably. And remember: when he installs electrical systems, he *guarantees* electrical systems . . . for one full year. A qualified electrical contractor takes a lot of pride in his work. And you can count on it.

National Electrical  
Contractors Association  
Washington, D.C. 20036



**The electrical  
promise of  
tomorrow  
needs  
the  
electrical  
contractor  
of today.**

New construction. The building won't be complete until a qualified electrical contractor provides for its modern Electro-environment.



# toppers

*PERMALITE Pk and PERMALITE RIGID URETHANE*

*Grefco roofing boards; unequalled for quality and economy —*

Permalite Pk: The unique composite of famous, non-combustible  $\frac{3}{4}$ " Permalite board, required thickness of self-extinguishing urethane and high strength water repellent laminate. Provides superior insulation at minimum thickness... sharply reduces shipping, installation and operating costs.

Permalite Rigid Urethane: The extremely lightweight board that set the industry standard for thermal efficiency. Particularly stable and resistant to damage... ideal low temperature insulation and for masonry applications.

Get the facts.



**Grefco, Inc.**  
Building Products Division  
2111 Enco Drive  
Oak Brook, Illinois 60521

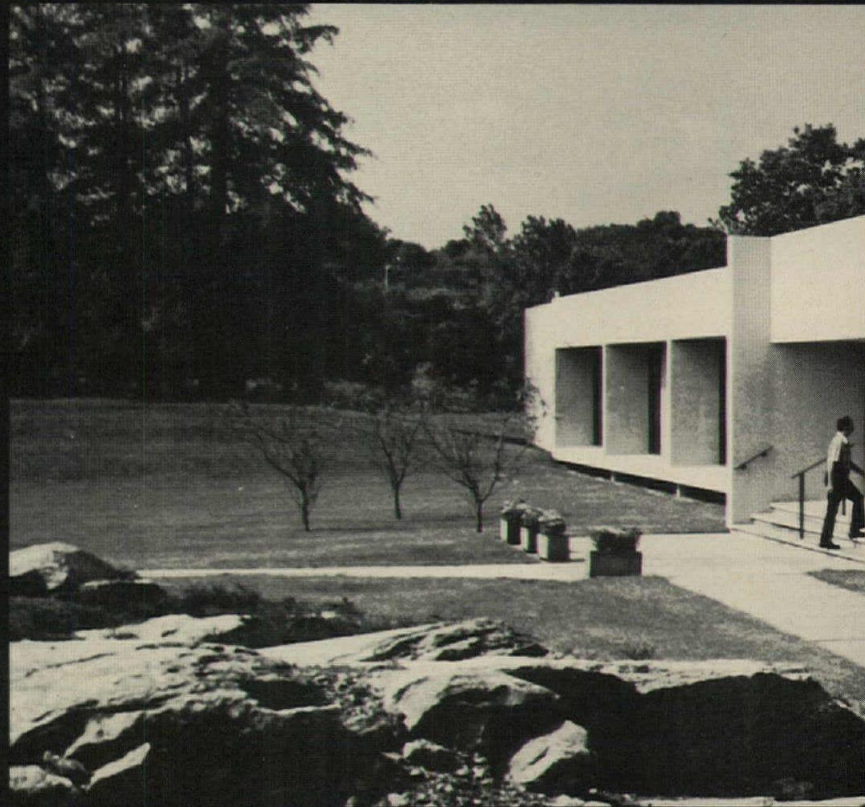
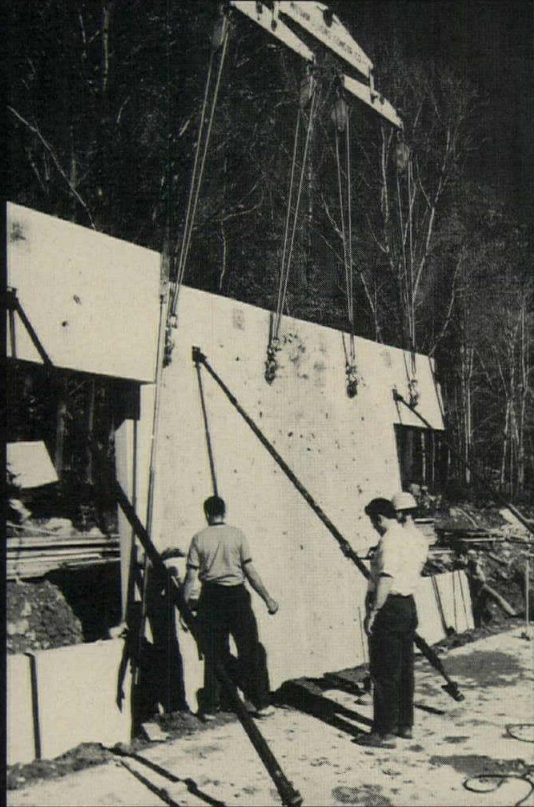
*A Subsidiary of General Refractories Company*

**Permalite**  
RIGID ROOF INSULATION

\* Note: Permalite Pk 1.6" has "C" value of .12, an "R" value of 8.33 and is equivalent to as much as 3" of competitive material. Listed by FM for Class 1 Steel Deck Construction (fire and wind uplift); UL Metal Deck Assemblies Construction Nos. 1, 2 and others.

For more data, circle 34 on inquiry card

# REINFORCED CONCRETE TILT-UP SPEED



Dow Corning Lubricants Plant, Trumbull, Connecticut.  
Architects/Engineers: Fletcher-Thompson, Inc., Bridgeport, Connecticut.  
Contractor: W. J. Megin, Inc., Naugatuck, Connecticut.

## Why the upswing in tilt-up?

More and more architects and builders are choosing tilt-up construction for a wide range of commercial, industrial, and institutional projects. Tilt-up construction delivers the advantages of speed, economy, and low maintenance. And now, the universal availability of economical Grade 60 rebar and lightweight aggregate concrete increase that inherent economy even more. Just one example proves our point in dramatic fashion: the Dow Corning Lubricants Plant in Trumbull, Connecticut.

## Exit the column.

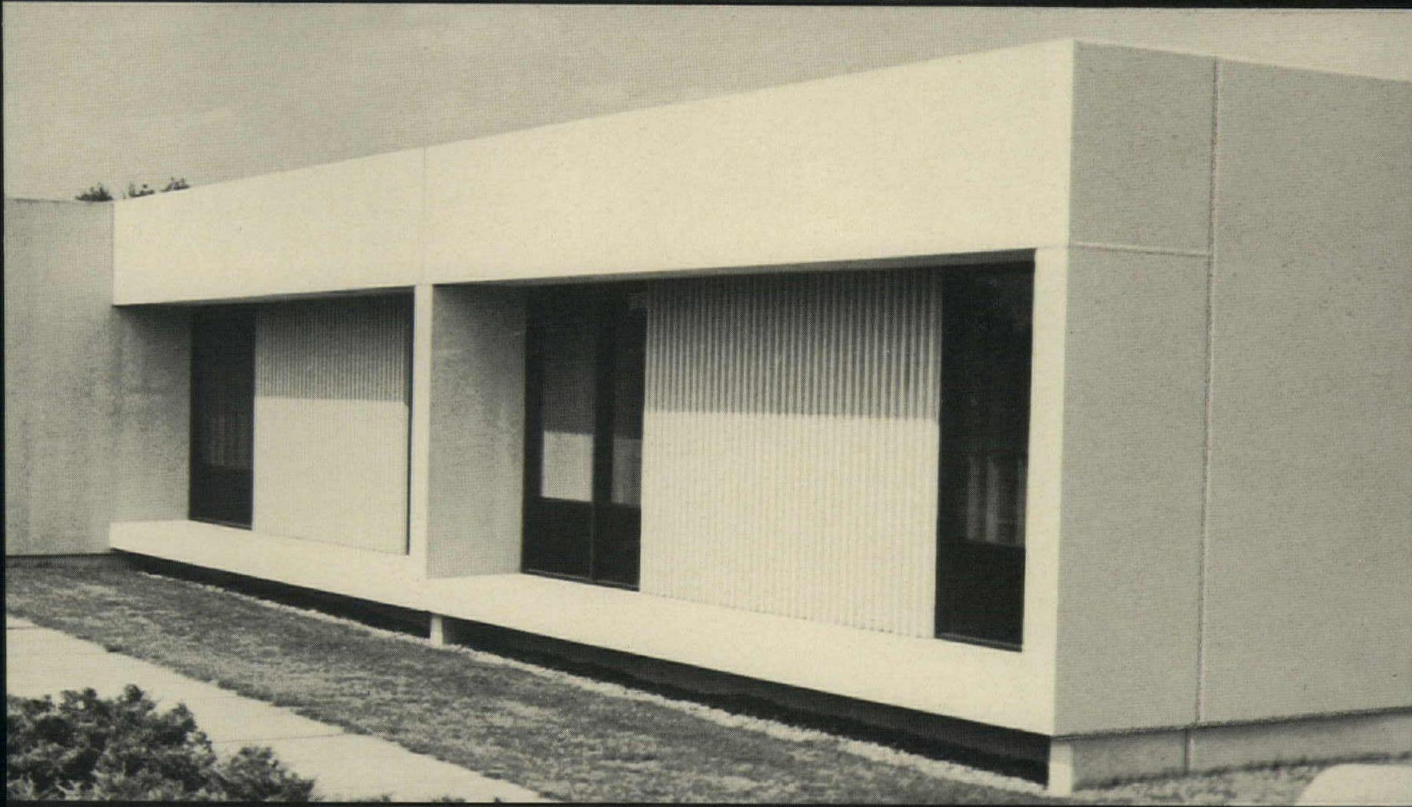
One impressive design feature of this structure is the complete absence of exterior columns as such. The reinforced concrete wall panels were cast atop the floor slab. These load-bearing walls were then tilted

into place, with the edges of adjacent walls butted together. Each panel has a cast-in angle for joining the wall sections. A connection angle is attached, locking them together. This also provides a connection for the roof girders.

## The savings add up with tilt-up.

There's more than one way to look at the economy of reinforced concrete tilt-up. With Grade 60 rebar, less steel is required. And Grade 60 is available everywhere, so costly delays are avoided. Then too, the tilt-up method permits casting and erection of many low cost panels in a single working day. For a structure the size of the Dow Corning plant (54,000 square feet), the basic wall cost was approximately \$1.30 per square foot—a figure as much as 25%-30% lower than that of any other comparable

# TILT-UP SAVINGS.



method or material of construction. And the speed of tilt-up versus traditional unit masonry also means measurable savings for any owner in early completion, early occupancy, and lowered financing charges. And tilt-up is virtually maintenance-free.

#### **New insights on insulation and insurance.**

The use of lightweight aggregate reinforced concrete in this structure minimized heat losses — in or out — due to its superior insulation values. And resulted in a reduction in heating/cooling costs. The superior fire resistance of lightweight concrete means reduced fire insurance premiums—a saving that will pyramid over the life of the building.

#### **Surfaces to order.**

A special decorative effect was incorporated in the outside walls of the Dow Corn-

ing plant. Corrugated metal was used as a bottom form on the floor slab when the wall panels were poured. The resulting ribbed effect is in pleasant relief to a stark, plane surface. Many other decorative surface treatments are, of course, possible without loss of economy: textures applied in finishing, exposed aggregate, colors in both aggregate and matrix, almost any combination the designer chooses to give a building individual character.

#### **Concrete reinforced with Grade 60 bars: speed plus savings for tilt-up.**

Get a new angle on fast, economical construction. The time-tested, versatile, tilt-up method—using economical concrete and Grade 60 rebar—is now a beautiful solution for building on a tight schedule. And for building on a tight budget.

For further technical data, write for Report T-3.

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## Capital comments: Brooks bill passes; housing costs probed

President Nixon's signature on the Brooks bill—that long-sought amendment to the Federal Property and Administrative Services law—finally assures that government procurement agencies will continue to use the traditional practice of selecting architects and engineers for their construction projects as professional services rather than on a basis of competitive bidding.

An almost inordinate amount of attention has been paid to the five-year or longer effort on the part of architects' and engineers' organizations to achieve this response to a General Accounting Office report advising Congress to clarify the law. It has, in fact, been an important effort and an expensive one.

What the architects and engineers now have is a short, simple amendment which states as policy, "The Congress hereby declares it to be the policy of the Federal Government to publicly announce all requirements for architectural and engineering services, and to negotiate contracts for architectural and engineering services on the basis of demonstrated competence and qualification for the type of professional services required and at fair and reasonable prices."

To the architects and engineers who have worked assiduously for so long to get the legislation into law, this policy speaks loudly and clearly as the intent of Congress that professional design services will not be procured on a basis of bid price alone.

The new amendment calls for the submission of statements of qualification and performance data annually by interested professionals to the construction procurement offices of the various agencies. At least agency heads are directed to encourage the submission of such information. The agencies will evaluate the current statements on file and consider all those submitted in relation to particulars and scope of each construction project.

The law then directs the procurement official to conduct discussions with no less than three firms regarding anticipated concepts and use of alternative methods, fair and reasonable to the government. In doing this, he considers estimated value of the project and the scope and complexity of whatever professional services may be involved.

The Senate Government Operations committee report on the bill explains that the phrase "highest quality" is not limited merely to the technical acceptability of the firm, but includes other meaningful, pertinent consid-

erations which have been applied universally in determining relative qualifications. These considerations, said the report, relate to the quality of work the government might reasonably expect from members of the professions.

If the agency head cannot negotiate a satisfactory contract with the most qualified firm at the fair and reasonable price, he terminates the effort and begins negotiations with the second most qualified firm. This process continues until a satisfactory agreement is reached. Should he be unable to reach satisfactory terms with any of the firms on the selection list, he has authority in the new law to select additional firms "in order of their competency and qualifications," and continue negotiations until agreement is finally reached.

Concerned with costs, the Senate committee members said that in this instance the government and public interest is best served by emphasizing the highest quality of architectural and engineering services available. In reporting out the bill they reasoned this way on the cost matter: "The bill makes ample provision for keeping costs under control by requiring negotiation for a fee that is fair and reasonable to the government under the circumstances and by retaining the statutory six per cent limitation on architect-engineer fees. Failure for any reason to provide the highest quality plans and specifications may well result in higher construction costs, a functionally inferior structure, or troublesome maintenance problems."

And because the amendment merely casts in statutory form the traditional system agencies have used for more than 30 years in the procurement of A/E services, its enactment will require no additional costs for the A/E selection process.

The architect and engineer organizations were, of course, elated with the outcome of their lengthy battle to secure this law.

Commenting immediately following the White House signing, the Consulting Engineers Council said:

"Government and industry alike feel strongly that competitive bidding by design professionals is simply not in the public interest, whereas the traditional method which the bill backs will hold down Federal construction costs, help assure quality performance of A/E services, provide better government facilities, and will increase competition on the basis of qualifications for available work.

"To reduce the problem of A/E procure-

ment to its least common denominator would be to say simply that any reduction in the amount of the engineer's or architect's fees which is based upon competitive price could, and most probably would, come out of the quality of the work—."

### Housing subsidies to get searching review

The presumption that 1973 will be a year for major revision of long existing Federal housing programs, particularly the subsidy-supported plans, was strengthened last month by a statement from Sen. William Proxmire (D-Wis.), chairman of the Joint Economic Committee. Accompanying his release of the housing subsidies portion of his panel's broader study of all Federal subsidy program economics, the declaration used strong language to emphasize that he will be instigating reform of housing programs he considers long overdue.

The report itself was a compilation of half a dozen in-depth papers by widely known experts on subsidies, touching on distribution of rental housing services, Sect. 23 leasing, costs, benefits and interactions of credit programs and Federal income tax incentives. But the 134-page compendium was not half so interesting as the Proxmire release that accompanied it.

This stated that the Wisconsin Senator, as ranking member of the Housing sub-committee of the Senate Banking unit, and as chairman of the Senate Appropriations sub-committee which funds housing programs, will "pursue the issue of housing programs and housing reform until we get some order out of the present chaos." He claimed that the studies presented in the report constitute a damning indictment of present housing programs and their administration, adding that the issue of shelter subsidies and programs is one of the top priorities facing the 93rd Congress.

The 92nd Congress, he asserted, found the housing subsidy area such a complicated mess that it could not decide what to do.

The piecemeal enactment of legislation bearing on this subject has built up a crazy-quilt system hiding many subsidies from budget review, it was claimed. Proxmire also held that the studies released last month reveal excessive rates of return to investors, staggering subsidy and housing cost increases, a poor quality housing product in far too many cases, and many other deficiencies.

—Ernest Mickel

# 36,000

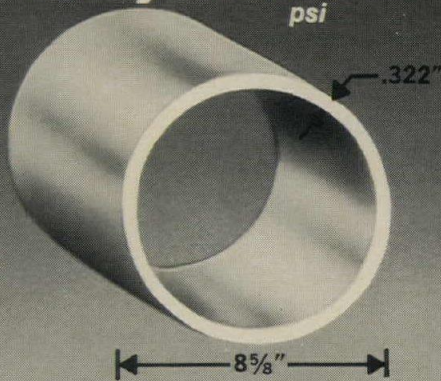
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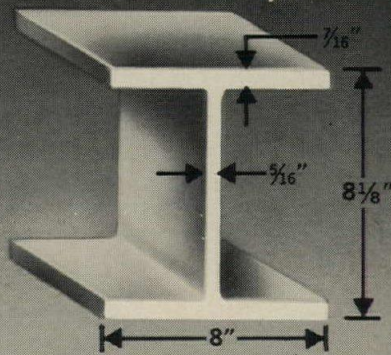
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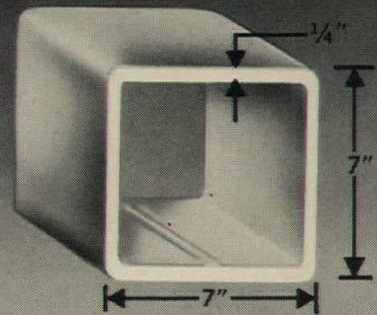
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## What are city population statistics saying?

The central cities of our ten largest metropolitan areas *lost* over 100,000 people between 1960 and 1970. The dramatic significance of this number stems from the fact that, to achieve it, to overcome the natural rate of population increase (births minus deaths) in these areas over the decade, some two million people had to physically pack up and leave. Where did they go? According to the data available on migration patterns, not very far. Most of them just crossed the city line and moved into a suburban county.

The suburban counties of these metropolitan areas *grew* by more than six million over the decade. Put another way, a fourth of the 24 million gain in the total population during the period occurred in the suburban counties surrounding the top ten metropolitan areas. People who move to the suburbs typically move to improve their social and/or physical surroundings. And, given the economic setting of the sixties, more and more could afford to do so, it seems.

The ten *richest* counties in the nation in terms of median family income are found within the ten largest metropolitan areas—all of them in the suburbs.

The numbers by themselves, of course, do no more than spell out the situation. They do not suggest where the process is ultimately leading, nor do they really say much about how the process got started in the first place.

### Coming events cast their shadows before

Perhaps, a few minutes spent assessing the longer-term patterns of urban population shifts may provide some insight into future trends.

The period of the Depression, the 1930's, marked the great divide as far as urban population growth was concerned. It was during this decade that the suburban counties of the nation's metropolitan areas first achieved a greater population increase than the central cities, as the search for employment triggered higher levels of population movement.

World War II and the reconversion period of the late forties saw sharp population gains in both the central cities and the suburbs. And, although the suburbs maintained the volume edge that they picked up during the depression, in percentage terms, the gains were exactly parallel. Also, up until then (1950) no significant difference existed in metropolitan area growth patterns from a size standpoint. The behavior of the top ten areas was pretty

consistent with that of the second ten, third ten, or of the total. Absolute size was not a factor in urban-suburban growth patterns.

### Post-war migration accelerates exodus from cities

Such was not the case over the next decade, however. While the 1930's marked the great divide for urban-suburban population trends, the period when suburban growth began to exceed that in the urban areas, the 1950's marked the period when these trends began to diverge at an accelerating rate. And, here, for the first time significant differences can be seen between cities of different size.

Between 1950 and 1960, all the suburban counties in the nation gained nearly 18 million people, significantly above the 10 million increase of the 1930 to 1950 period. But, while the central cities added nearly seven million between 1940 and 1950, the gain in the following decade was well under six million. This divergence is solely attributable to the top ten metropolitan areas, whose core cities went from a net increase of two million in the 1940 to 1950 period to a net *loss* of more than 200,000 between 1950 and 1960. As a group, the core cities of all metropolitan areas outside the top ten gained more in the 1950-1960 decade than they did in the prior ten years. This is even true of the cities immediately outside of the top ten. The next 30 ranking cities, for instance, had core area gains of 2.3 million people during the fifties, against gains of 1.8 million during the forties.

In the most recent decade (1960-1970), the core area losses in the top ten metropolitan areas stabilized (they actually lost less in the sixties than they did in the fifties; 100,000 vs. 200,000), but the core area gains in the next 30 ranking cities were curtailed sharply from the 2.3 million of the fifties to less than a million in the sixties. And, while the curtailment was not as sharp, even the central cities of those metropolitan areas below the top forty also gained fewer people in the last decade than in the fifties—2.3 million vs. 3.4 million. The decline of birth rates generally during the sixties also has a bearing on these figures.

The top 40 metropolitan areas divide fairly evenly along regional lines. The Northeast and Midwest have ten each, the South has nine, and the West has eleven. For the core cities of the Northeast's top metropolitan areas, the decade of the fifties was far worse than the sixties in terms of population losses. Nearly

450,000 people left these cities between 1950 and 1960, while in the 1960 to 1970 period, losses tapered off to 200,000. The reverse was true of the Midwest's cities, which lost only 100,000 in the fifties, but sustained a drop of 550,000 in the sixties. The South and West both showed central city gains in the fifties and the sixties, although in each case, the gains were smaller in the most recent decade.

The fact that a relationship between city size and urban-suburban living preferences arose over the last 20 years really raises more questions that it answers.

### Migration effects are not as simple as they seem

While it's true that there has been an increasing tendency in industry to move out of the central city and into the suburbs in recent years, a significant majority of suburban dwellers still commute into downtown every day to earn a living. Since commuting conditions are likely to be less arduous in the smaller metropolitan areas than in the larger ones, it would seem that there would be a trend toward more of it (i.e. more suburban living) in these areas than in the larger ones, not the other way around, as the data are implying.

Deteriorating housing and social conditions are, of course, factors frequently mentioned as causes for migration out of the central cities of some of our larger metropolitan areas, but why only of our larger cities?

Maybe our initial observation about the rich suburban counties around the top ten metropolitan areas has a bearing here. Does the core area population of the small metropolitan areas stay there because it likes it, or because it can't afford to get out?

Is there an optimum size for cities, beyond which conditions become so unmanageable that an exodus is triggered by some natural process akin to the migrations in animal populations once overcrowding occurs?

It's evident that a lot is still unknown about the dynamics of urban population movements. But, if the numbers we've just reviewed are saying anything at all, they are saying that the patterns of central city decline (and consequent suburban growth) that have been with us for the past two decades are pretty certain to be with us through the current one too. And, this brings up the real question in all of this: In terms of long-run social goals and objectives, should these trends be accepted and fostered, or resisted?



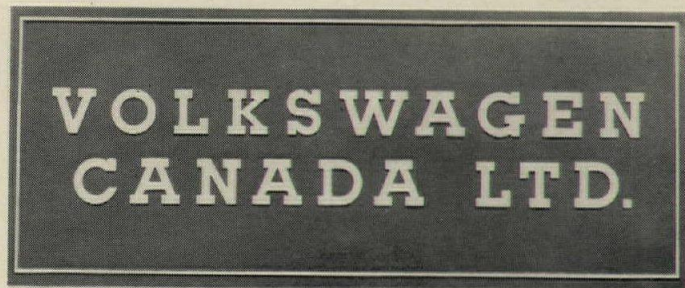
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**HOUSING COSTS UNDER SENATE FIRE**

Senator William Proxmire (D-Wis.) complained last month (see page 58) of overlapping subsidy programs in the housing field which are too complex to understand and certainly too complex to manage. And he is convinced the Federal government has done too good a job of hiding total costs of these programs by shifting from direct loans to subsidies of private mortgage loans.

Commenting on this aspect of the problem, Sen. Proxmire said: "... One negative effect of hiding the full budgetary cost of housing credit subsidies has been to put the government into long-term hock for an estimated \$100 billion without a full understanding of the resource commitment involved." He added that \$200 million a year could be saved if all Federally subsidized housing had been financed by direct government loans.

He urges the government to lead an across-the-board attack on lumber costs, land costs, interest costs, reforming property taxes, reducing restrictions on site improvements and codes, reducing construction time in Federal programs, work practices, etc.

**House committee stalls housing and standards legislation**

The Omnibus Housing Act of 1972 failed to get out of Committee in the House. With it went the National Institute of Building Standards (NIBS), originally a separate bill to create a non-governmental body to develop and publish standards affecting building materials, codes and techniques.

1941 average for each city=100.00  
(except as noted)

Metropolitan area	Cost differential	Current Indexes				% change last 12 months
		non-res.	residential	masonry	steel	
U.S. Average	8.3	391.1	367.3	383.0	373.1	+ 6.38
Atlanta	7.9	503.5	474.8	489.5	478.8	+ 8.25
Baltimore	8.2	427.3	401.8	417.0	403.7	+ 9.98
Birmingham	7.4	362.7	337.4	350.3	345.4	+ 7.87
Boston	9.1	399.3	377.3	396.3	383.6	+ 8.78
Buffalo	9.0	430.9	404.6	425.7	411.9	+ 3.51
Chicago	8.4	450.3	428.2	436.6	428.0	+ 5.95
Cincinnati	8.6	415.8	391.3	404.2	394.2	+ 6.22
Cleveland	9.3	435.1	409.5	424.2	414.2	+ 3.15
Columbus, Ohio	8.3	411.8	386.7	399.5	392.0	+ 4.16
Dallas	7.7	389.9	377.5	382.3	374.2	+ 7.85
Denver	8.2	419.8	394.9	414.9	400.6	+ 5.57
Detroit	9.5	437.7	417.0	439.3	422.0	+ 5.56
Houston	7.5	369.4	346.9	360.9	353.2	+ 4.57
Indianapolis	7.9	363.6	341.4	354.5	347.0	+ 6.01
Kansas City	8.2	371.5	351.1	362.1	352.5	+ 6.30
Los Angeles	8.2	433.4	396.4	420.7	412.2	+ 5.74
Louisville	7.7	389.8	366.1	380.4	371.6	+ 7.47
Memphis	7.6	369.7	347.2	356.9	351.1	+ 7.97
Miami	8.0	411.1	391.6	400.0	391.2	+ 5.48
Milwaukee	8.4	439.8	413.1	433.6	420.1	+ 3.91
Minneapolis	8.8	417.2	392.6	410.9	399.1	+ 3.93
Newark	8.7	380.8	357.6	375.4	366.1	+ 3.88
New Orleans	7.4	374.2	353.3	367.7	359.2	+ 7.99
New York	10.0	432.6	402.3	420.1	409.2	+ 9.57
Philadelphia	8.9	423.9	403.9	419.9	408.2	+11.73
Phoenix (1947=100)	7.8	222.9	209.3	215.3	211.4	+ 7.33
Pittsburgh	8.8	384.2	361.5	378.3	366.7	+ 4.86
St. Louis	8.7	407.5	384.7	400.8	389.5	+ 7.03
San Antonio (1960=100)	7.5	150.5	141.4	146.8	143.1	+ 4.29
San Diego (1960=100)	7.9	153.1	143.8	149.7	146.4	+ 5.16
San Francisco	9.4	573.3	523.8	567.6	550.0	+ 9.39
Seattle	8.5	380.9	340.9	377.3	362.6	+ 3.49
Washington, D.C.	7.9	373.3	350.6	361.5	354.0	+ 7.54

Cost differentials compare current local costs, not indexes.

**HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL NON-RESIDENTIAL BUILDING TYPES, 21 CITIES**

1941 average for each city = 100.00

Metropolitan area	1962-1970										1971 (Quarterly)				1972 (Quarterly)			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1st	2nd	3rd	4th	1st	2nd	3rd	4th	
Atlanta	298.2	305.7	313.7	321.5	329.8	335.7	353.1	384.0	422.4	424.0	445.1	447.2	459.2	472.5	473.7	496.1		
Baltimore	271.8	275.5	280.6	285.7	280.9	295.8	308.7	322.8	348.8	350.3	360.5	362.5	381.7	388.1	389.3	418.8		
Birmingham	250.0	256.3	260.9	265.6	270.7	274.7	284.3	303.4	309.3	310.6	314.6	316.4	331.6	340.4	341.6	356.7		
Boston	239.8	244.1	252.1	257.8	262.0	265.7	277.1	295.0	328.6	330.0	338.9	341.0	362.0	377.3	378.5	392.8		
Chicago	292.0	301.0	306.6	311.7	320.4	328.4	339.5	356.1	386.1	387.7	391.0	393.2	418.8	422.8	424.0	442.7		
Cincinnati	258.8	263.9	269.5	274.0	278.3	288.2	302.6	325.8	348.5	350.0	372.3	374.3	386.1	399.9	401.1	400.1		
Cleveland	268.5	275.8	283.0	292.3	300.7	303.7	331.5	358.3	380.1	381.6	391.1	393.5	415.6	415.2	416.4	427.7		
Dallas	246.9	253.0	256.4	260.8	266.9	270.4	281.7	308.6	327.1	328.6	341.4	343.4	357.9	364.9	366.1	385.0		
Denver	274.9	282.5	287.3	294.0	297.5	305.1	312.5	339.0	368.1	369.7	377.1	379.1	392.9	398.3	399.5	413.8		
Detroit	265.9	272.2	277.7	284.7	296.9	301.2	316.4	352.9	377.4	379.0	384.6	386.8	409.7	416.9	418.1	431.5		
Kansas City	240.1	247.8	250.5	256.4	261.0	264.3	278.0	295.5	315.3	316.6	329.5	331.5	344.7	348.7	349.9	365.4		
Los Angeles	276.3	282.5	288.2	297.1	302.7	310.1	320.1	344.1	361.9	363.4	374.2	376.4	400.9	407.8	409.0	422.9		
Miami	260.3	269.3	274.4	277.5	284.0	286.1	305.3	392.3	353.2	354.7	366.8	368.9	384.7	391.5	392.7	404.8		
Minneapolis	269.0	275.3	282.4	285.0	289.4	300.2	309.4	331.2	361.1	362.7	366.0	368.0	417.1	401.7	402.9	411.3		
New Orleans	245.1	284.3	240.9	256.3	259.8	267.6	274.2	297.5	318.9	320.4	327.9	329.8	341.8	350.9	352.1	368.1		
New York	276.0	282.3	289.4	297.1	304.0	313.6	321.4	344.5	366.0	367.7	378.9	381.0	395.6	406.5	407.7	421.5		
Philadelphia	265.2	271.2	275.2	280.8	286.6	293.7	301.7	321.0	346.5	348.0	356.4	358.4	374.9	394.2	395.4	417.9		
Pittsburgh	251.8	258.2	263.8	267.0	271.1	275.0	293.8	311.0	327.2	328.7	338.1	340.1	362.1	364.5	365.7	378.7		
St. Louis	255.4	263.4	272.1	280.9	288.3	293.2	304.4	324.7	344.4	345.9	360.0	361.9	375.5	385.5	386.7	400.9		
San Francisco	343.3	352.4	365.4	368.6	386.0	390.8	402.9	441.1	465.1	466.8	480.7	482.6	512.3	535.3	536.5	559.4		
Seattle	252.5	260.6	266.6	268.9	275.0	283.5	292.2	317.8	341.8	343.3	347.1	349.0	358.4	363.0	364.5	369.9		

Costs in a given city for a certain period may be compared with costs in another period by dividing one index into the other; if the index for a city for one period (200.0) divided by the index for a second period (150.0) equals 133%, the costs in the one period are 33% higher than the costs in the other. Also, second period costs are 75% of those in the first period (150.0 ÷ 200.0 = 75%) or they are 25% lower in the second period.

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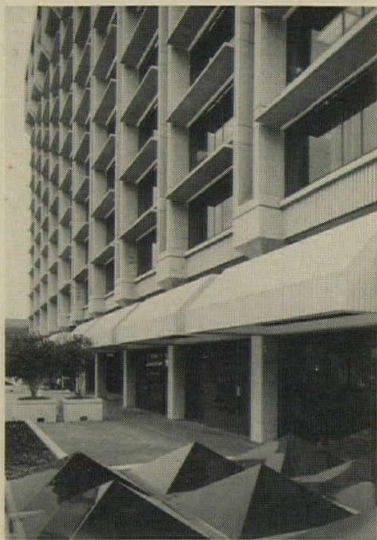
**Steelcase**



Saab-Scania of America, Inc., Orange, Conn. Architects: Douglas Orr, de Cossy & Winder

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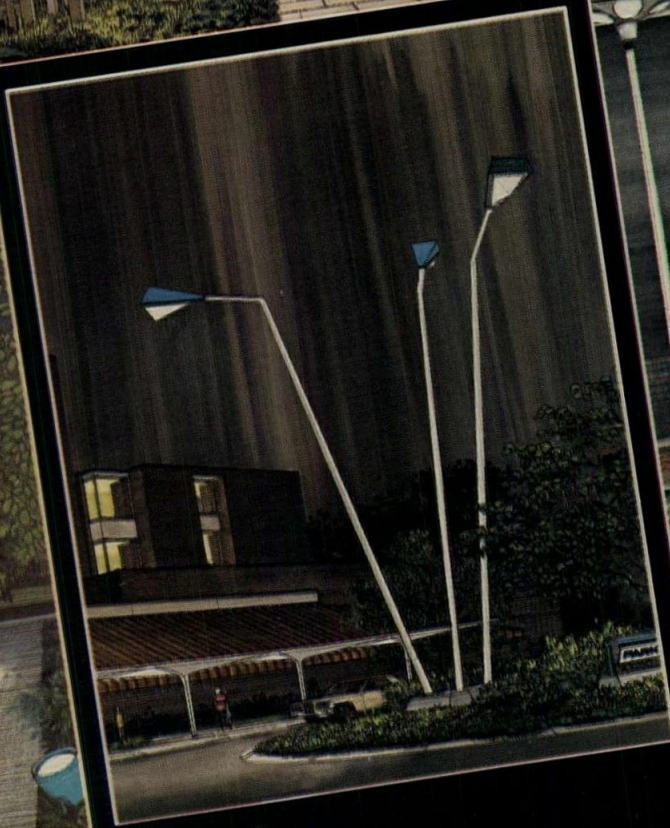
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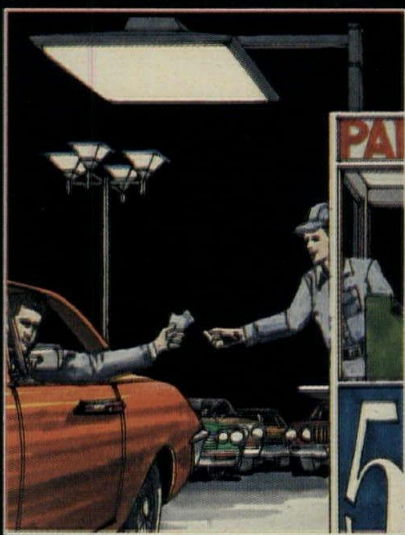
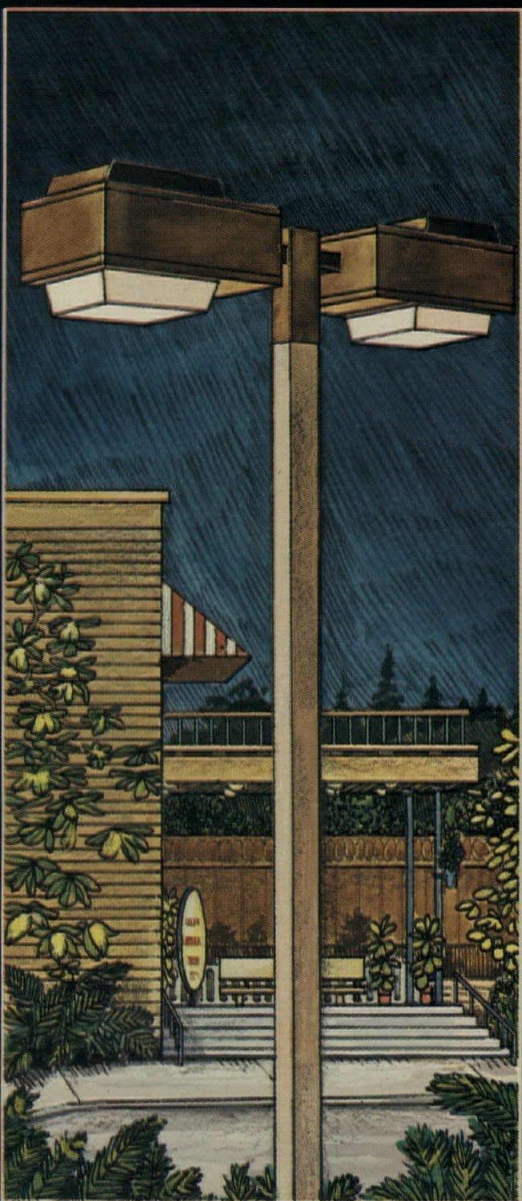
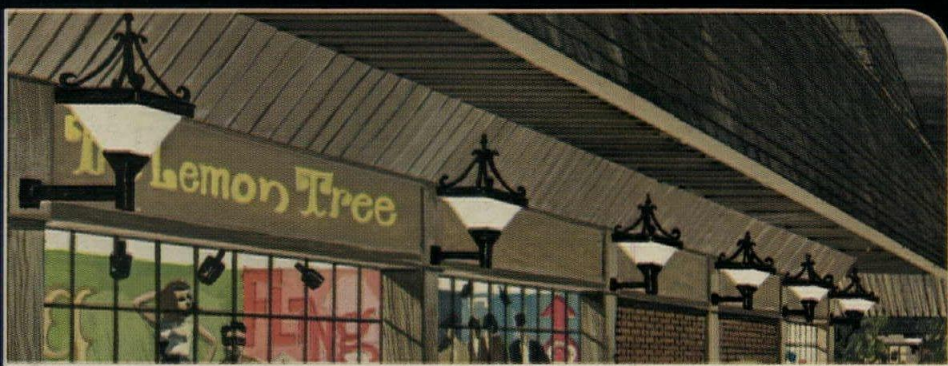
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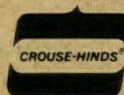
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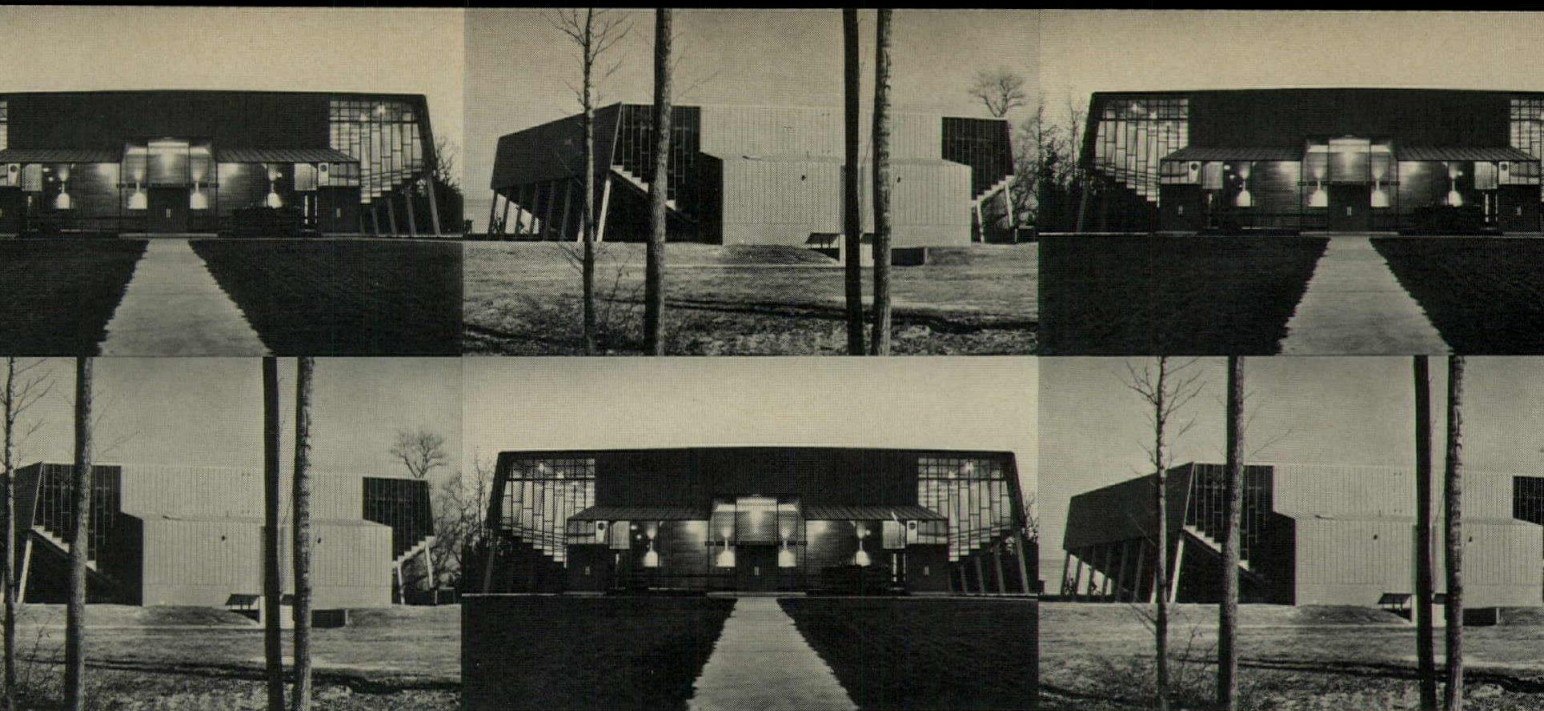


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# OFFICE NOTES

## NEW FIRMS, FIRM CHANGES

**Ivan R. BeRossy**, formerly of Innovative Interiors by Morgan, announces the opening of his own Interior Design office. The new company will be known as **Creative Interior Designs** at 1351 Washington Blvd. in Stamford, Conn.

**Joseph Lombardo**, AIA architect, announces the opening of his office at 200 California Avenue, Palo Alto, California 94306.

The office of **Walk Jones & Francis Mah, Inc.**, Architecture, Engineering, Planning, and Interior Design, is moving to a new headquarters building, now under development with completion anticipated for December 1974. During the interim, they will be temporarily located at 1256 North McLean, Memphis, Tennessee. Their mailing address during this period will be Post Office Box 8006, Memphis, Tennessee 38108.

The firm of **J. Paul Robinson and Associates, Inc.** has expanded its services to include environmental planning as well as engineering (structural) and architecture.

**John M. Hewitt**, president of **Hewitt and Royer**, architects, engineers and planners of health care facilities and **Arthur H. Stromberg**, president of **URS Systems Corporation**, jointly announced the affiliation of the two firms.

**Crissman & Solomon Architects** announce the relocation of their office to 272 Centre Street, Newton, Massachusetts 02158.

**Hallum/Fowlkes Associates, Inc. Architects, AIA** announce the merger of V. Aubrey Hallum & Partners and Fowlkes Associates, Inc. for the purpose of providing comprehensive professional services in architecture, planning, and development. Their new offices are located at 3624 Oak Lawn Avenue, Suite 310, Dallas, Texas 75219.

Alvin Aldrich, Dean Burland, Marc Gulliver, and Jon Look AIA, have formed **Integrated Graphics Inc.** 4 Waltham Street, Lexington, Mass. 02173.

The Honolulu-based architectural and planning firm of Au, Cutting, Smith and Associates, Ltd. became **Au, Cutting, Smith & Haworth, Ltd.**, November 1. The name change reflects the addition of **Orrin A. Haworth, AIA**, as a principal of the company.

**Stanley Tigerman and Associates, Ltd.** announces a new office location. They will be located at 233 North Michigan Avenue, Chicago, Illinois 60601.

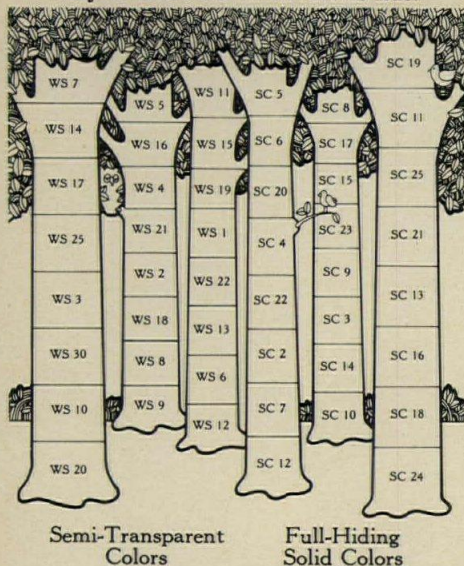
**Hall & Waller & Associates, Architects, Inc.** announce the removal of their offices from 3355 Poplar Avenue to the Sellers Building 2714 Union Avenue extended, Suite 220, Memphis, Tennessee 38112.

Kenneth C. Groves, AIA announces that the name of his firm now located in the Mutual Savings Building at 102 East Abram, in Arlington, Texas will be **Ken Groves, Architect and Engineer** to reflect the scope of the services offered.

**Alfred S. Kochanowski** recently joined Stanley Consultants as head of the department of architecture.

**George Erdstein** has been appointed to the board of directors of the architectural firm of **Leonard G. Siegal Associates, Inc., AIA**, of Detroit, Michigan.

Key to colors shown on reverse side.



## Condensed Specifications for Sherwin-Williams® Stains

Based on Specification Nos. 72.06, 72.07 and 72.08, in Sherwin-Williams Catalog 9.9/Sh, Sweet's Architectural and Industrial Construction Catalog Files.

### 72.06 Flat finish stain/Alkyd base

1st coat:  
Sherwin-Williams Semi-Transparent Exterior Stain  
Top coat:  
Sherwin-Williams Semi-Transparent Exterior Stain

### 72.07 Flat finish/Alkyd base

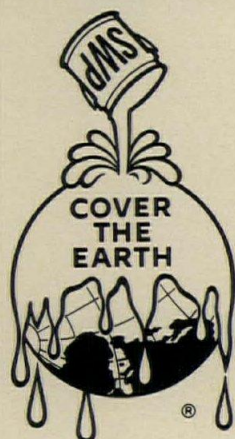
1st coat:  
Sherwin-Williams Solid Color Exterior Stain  
Top coat:  
Sherwin-Williams Solid Color Exterior Stain

### 72.08 Flat finish/Oil base

1st coat:  
Sherwin-Williams Weathering Oil®  
Top coat:  
Sherwin-Williams Weathering Oil®

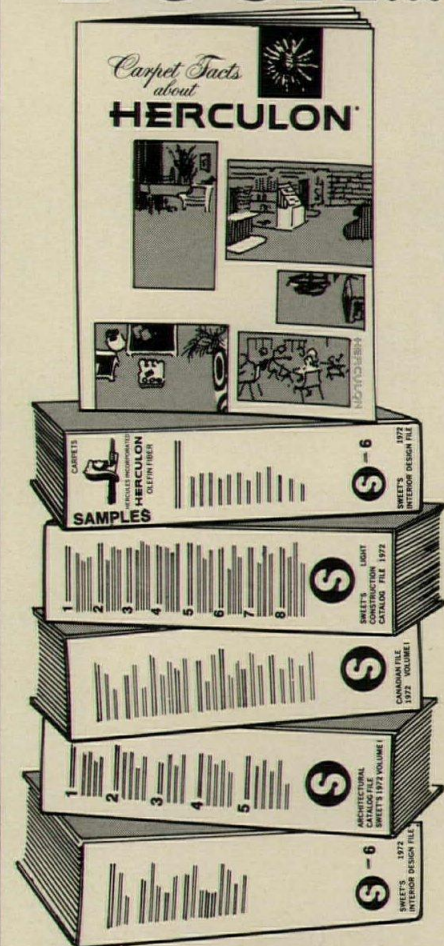
Specifications for shingles, shakes and rough-sawn lumber are listed under Spec. Nos. 72.11; 72.13; 72.14; 72.15.

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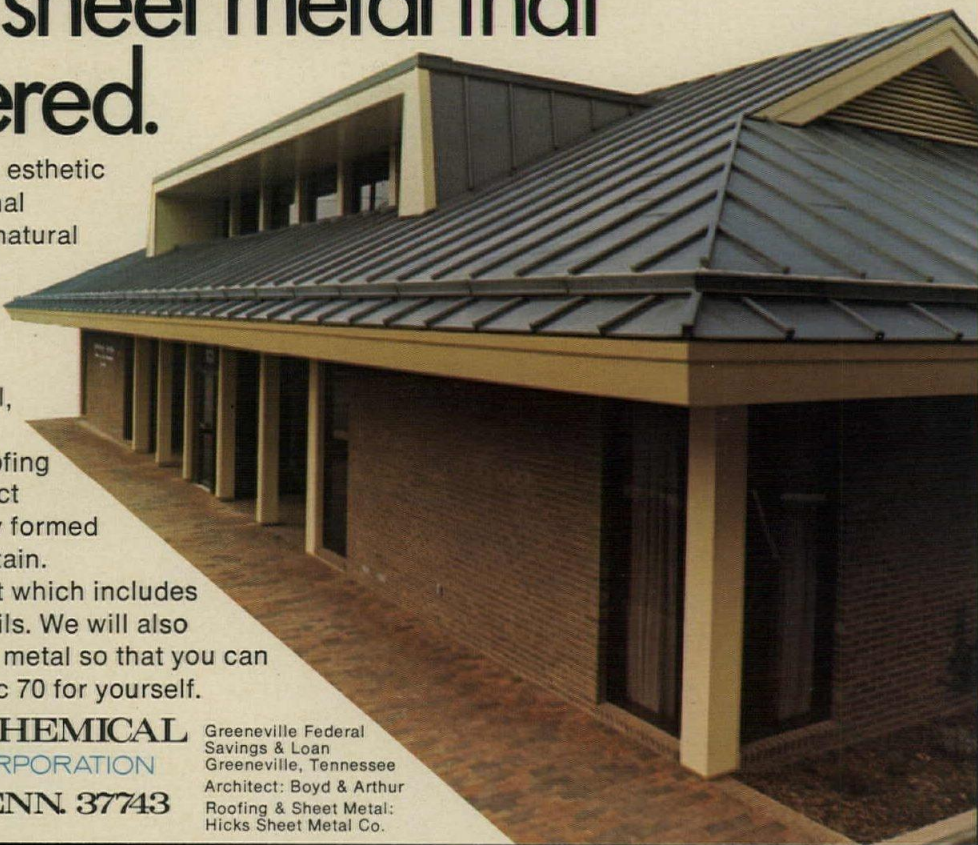
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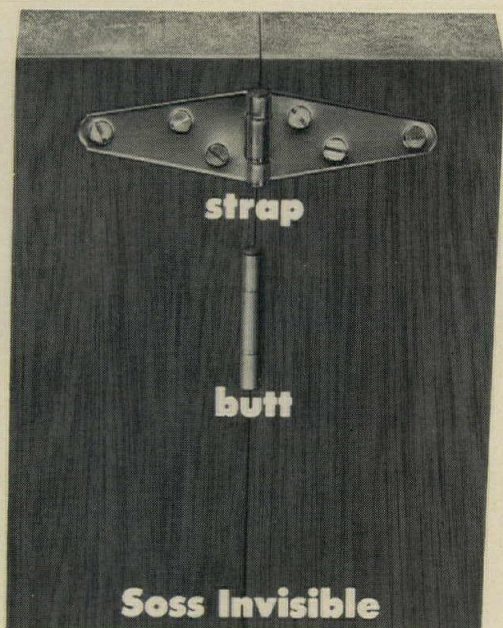
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DIVISION OF BALL CORPORATION  
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Greeneville Federal  
Savings & Loan  
Greeneville, Tennessee  
Architect: Boyd & Arthur  
Roofing & Sheet Metal:  
Hicks Sheet Metal Co.



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## Pick the hinge that hides



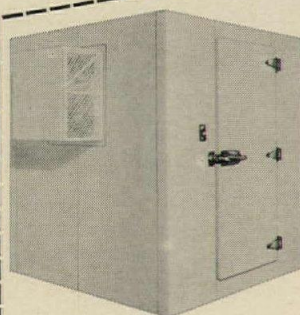
Compare the Soss look of invisibility with any strap or butt hinge and you'll choose The Soss Invisibles. These amazing hinges hide when closed to blend with any decor. With The Soss Invisibles you can create room, closet, or cabinet openings which are unbroken by hinges or gaps . . . the perfect look for doors, doorwalls, built-in bars, stereos, or T.V.'s. The Invisibles are extra strong, open a full 180 degrees, and are reversible for right or left hand openings. See listing in Sweet's or write for catalog: Soss Manufacturing Company, Division of SOS Consolidated, Inc., P.O. Box 8200, Detroit, Michigan 48213.



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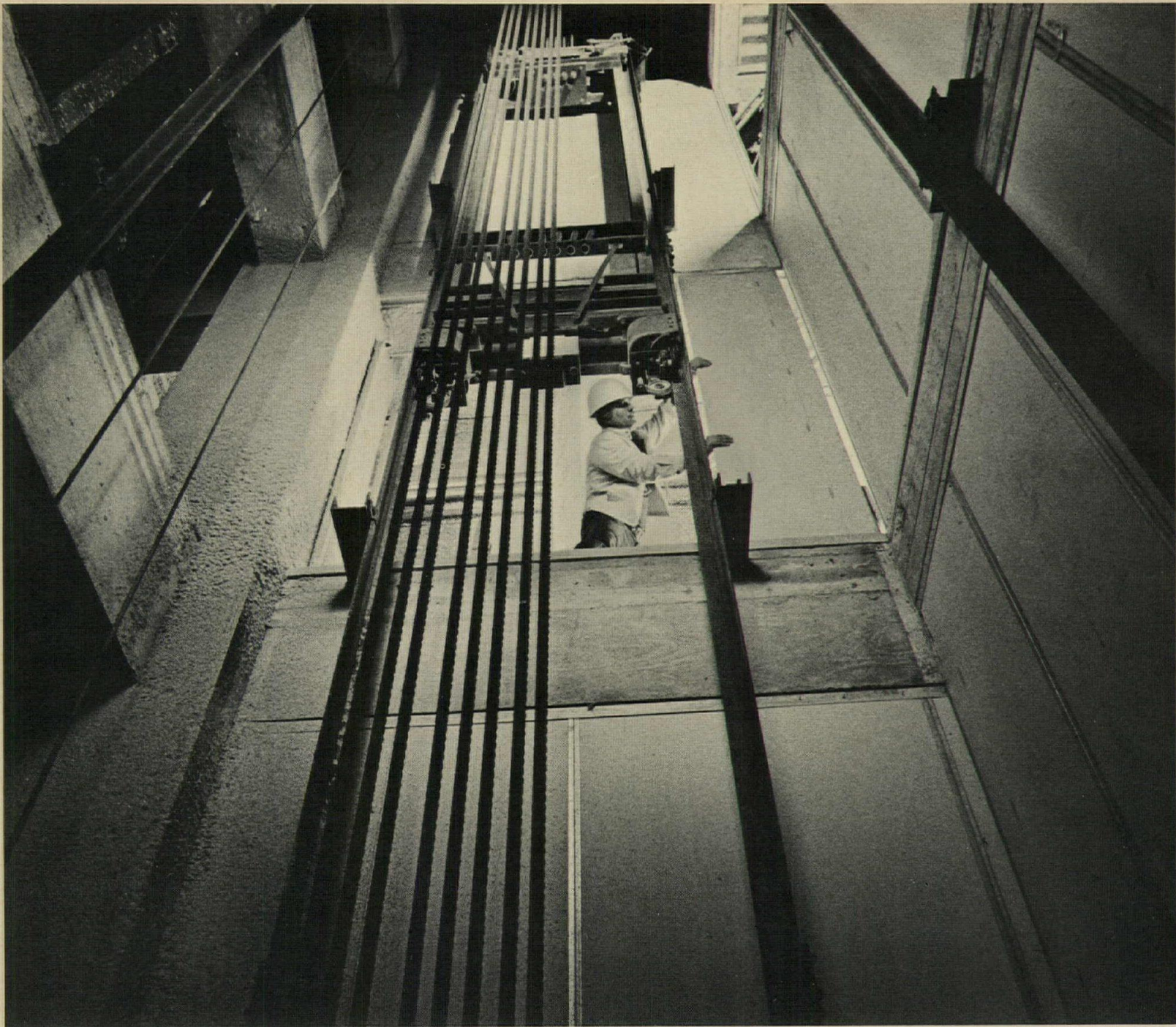
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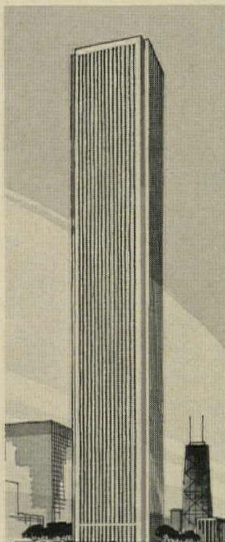


For more data, circle 48 on inquiry card



## "Big Stan" going up 80 stories with new idea in elevator shafts

Based on the tube concept with perforated steel shell walls, "Big Stan" will rise 1,136 feet above ground level. Architects: Edward Durell Stone & Associates, New York; Perkins & Will, Chicago. General Contractor: Turner Construction Company of New York and Chicago. Shaft Wall Contractor: McNulty Bros. Company, Chicago.



**USG® CAVITY SHAFTWALL SYSTEMS** are going up fast at the new Standard Oil Company (Indiana) headquarters building on Chicago's lakefront. This original concept was developed by United States Gypsum working with architects and general contractors. It combines the speed of gypsum panel installation with easy erection from the corridor side. And in-place costs are so convincingly low, these systems are also being installed at Sears Tower, Chicago, One Shell Square, New Orleans, and other megastructures nationwide. For good reasons:

**Faster Installation.** Takes less manpower, less time to build. Gets elevator cars running sooner.

**Lighter Weight.** Only 10 lbs. per sq. ft., 78% lighter than masonry. Reduces dead load to save on structural steel.

**Eliminates Extra Work.** System includes vertical chaseway to speed installation of electrical conduit.

**Meets Any Design Need.** Simplifies handling of special heights at lobby and mechanical floors. Unique design of steel components allows for ceilings up to 18 feet high, shaft pressures up to 15 psf.

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The paneling on the left was erected in early 1964; that on the right in 1970. As these March 1972 pictures show, both sides are practically identical, with the same bright even color. Color that stays so true these Dow Corning® silicone-based coatings can be offered with long-term guarantees.

Yet, the cost of silicone-based coatings (almost identical with that of organic coatings) is 50-70% lower than other kinds of high-performance finishes that have no demonstrably better weatherability.

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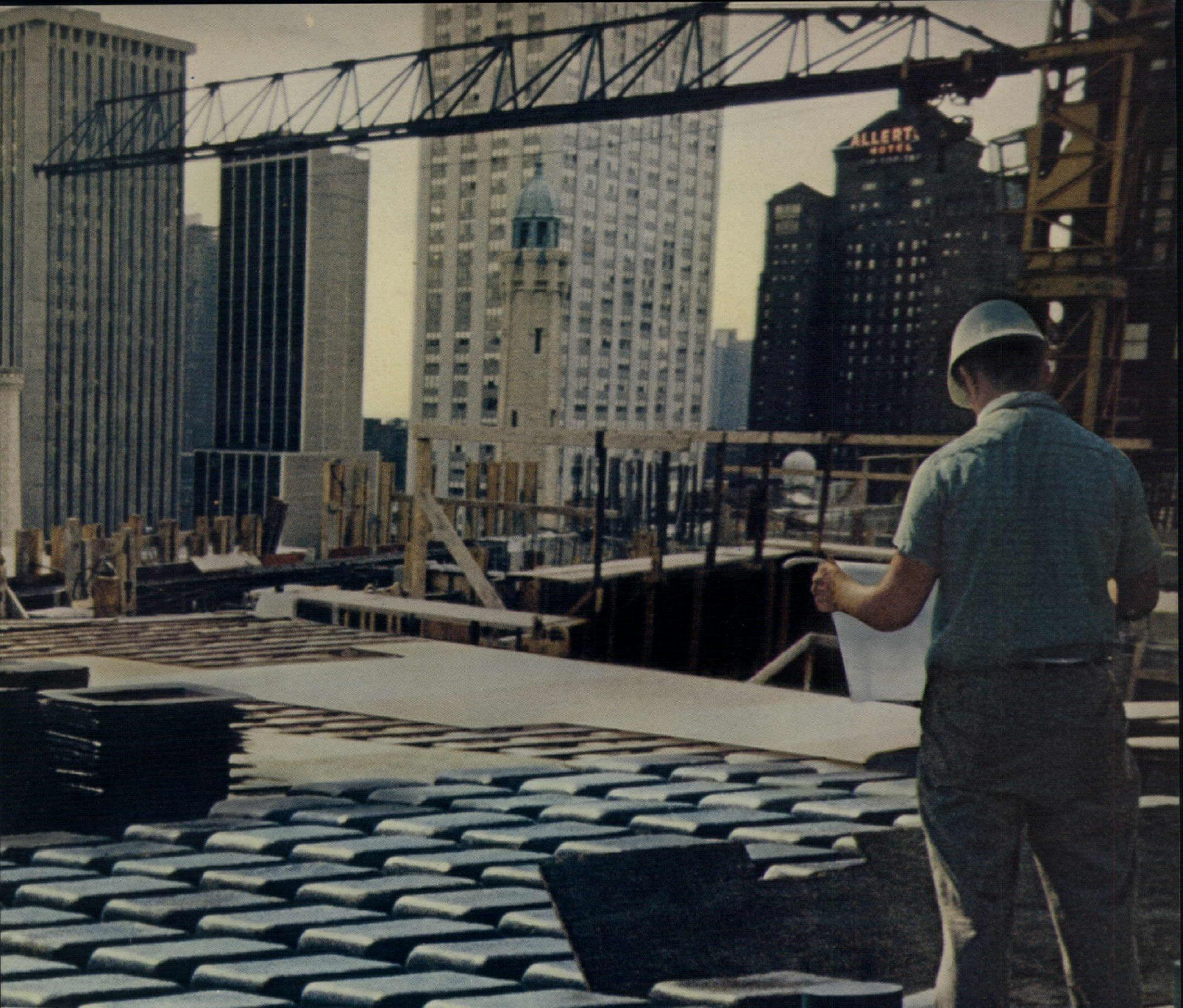
**DOW CORNING**

Photos courtesy Elliott Company, Division of Carrier Corporation, Jeannette, Pa.

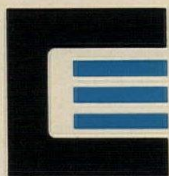


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# Robertson's Frank Dane knows his territory from Boston to Kuwait.

## Kuwait?



You read it right. Frank Dane is the Robertson man in Boston; however, he has just finished four years' work on Shuaiba South, an electrical power and de-salination project in Kuwait. With an American consulting engineer, Chas. T. Main International, Inc.; a Japanese contractor, Taisei Construction Co.; subcontractors from Greece and Lebanon, and laborers from Pakistan, this installation presented Frank with unusual challenges. With the help of Robertson's agent in Kuwait, Abdul Aziz Alghanim, he overcame differences in language, local "standard" building design and opinion. Assisted by Robertson's Alan Tompkins in Beirut,

and on-site supervision by Robertson's Dean Keys of Pittsburgh, Frank coupled the efforts of production, packaging and engineering specialists in several Robertson plants, and contracted for an installation that went into place in a uniquely unproblematic way. The parties involved in this project counted on one man—Frank Dane—to attend to all aspects of Robertson's contract for roof, wall and floor systems.

In your town, there's a Robertson man—like Frank Dane—who's ready to help. With plants and offices in 60 countries, Robertson men have a world-wide network of experienced specialists to call upon for help in

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We have prepared an interesting, in-depth Project Profile on the Kuwait project. For your copy, or for more information on Robertson's international capabilities, write Dept. 7203, H.H. Robertson Company, Two Gateway Center, Pittsburgh, Pennsylvania 15222.

**Robertson**

*For more data, circle 52 on inquiry card*



# Efficient building idea: Recent report tells how to solve the acoustical problems of open offices.



Good news for architects who like the design freedom of open offices—but don't like the acoustics.

Tests by Geiger & Hamme, an independent acoustical testing agency, show you can get excellent open office acoustics by using these three things (with the help of an acoustical consultant):

1) An acoustically non-reflective ceiling—so the sound won't bounce off to other areas. (Of all the ceilings

tested—including expensive coffered and baffled systems—the best, they say, is Owens-Corning's Nubby II Fiberglas\* Ceiling Board in a standard grid suspension system.)

2) Sound-controlling screens—to stop the sound from going directly from one work area to another. (Either directly or by reflection.)

3) A masking sound system—technically designed to fill the

sound voids without increasing the overall ambient noise level. This makes it possible to hold personal conversations in a normal voice—without being overheard.

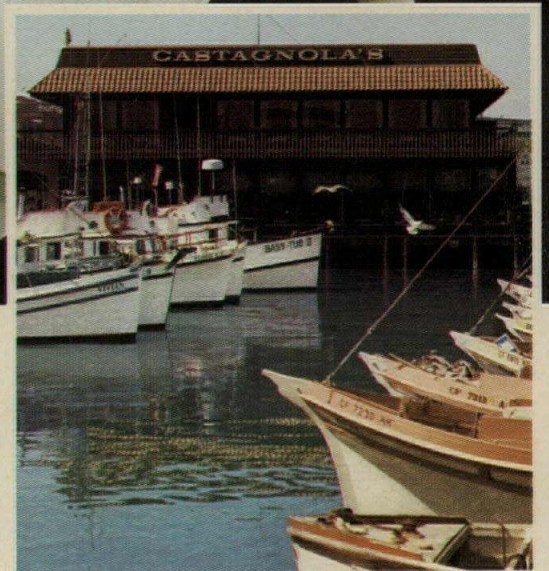
If you'd like the whole story, send for our free design guide, "Achieving Acoustical Privacy in the Open Office." Write to Mr. A. A. Meeks, Owens-Corning Fiberglas Corporation, Fiberglas Tower, Toledo, Ohio 43659.

\*T.M. Reg. O.-C.F.

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# THE YOUNG ARCHITECTS: A PROFILE

Surveys of recent graduates and of practicing architects under 35 provide background for assurance that changing times cannot dismay nor obscure the essential architect—in fact he drives and designs change.

**Y**oung architects, it seems, are not all that different from those that have gone before.

If you analyze the surveys of young architects reported in the next few pages, you'll find that . . .

- Young architects are not much different from their older colleagues in terms of general goals.
- They expect large firms to become larger and more numerous to cope with large commissions.
- They do not expect the demise of the small- or medium-sized firm; and most would prefer to work in that size range.
- They want their own firms to offer a full range of architectural, engineering and construction management services—although individual preferences for their own occupations run strongly to architectural design and planning.

And a general conclusion emerges—more from the cumulative sense of essay response than from any tabulated data. Insofar as you can make any generalization about so heterogeneous a mix of individualists as is implicit in the two words, young architects, it seems that they are neither dismayed nor entranced by computerized technical and economic changes that have given some of their elders pause. Their pleas for educational curricula to meet these changes are discussed by Elisabeth Thompson beginning on page 134 of this issue.

To gain perspective for reports about and from young architects, it seems appropriate to review some of the trends and changes that are affecting the professional and economic milieu in which they must operate. Changes in the format of client-architect relationships, for example, have been observed in these pages before. Those changes have been brought about by the need for multi-service architects to meet multi-headed corporate and governmental clients on their own multi-level planes.

Huge and complex projects with stringent budgets in the midst of inflationary costs have set more inexorable values upon time and money; to the point where the management of projects, formerly normal within the fees of architects and the profit margins of contractors, now spins off as that separate professional expertise called construction management.

Another shift toward size and complexity in practice has been the increasing participation by architectural firms in the actual processes of project development and construction. While this participation, thus far, is usually structured through organizational channels separate from the work of architectural design, its presence is nonetheless felt and reflected in a whole new set of attitudes toward its ethical acceptability. Young architects, having grown up among these concepts—and without prior commitments of reserve against them—bring unencumbered élan to their views of practice in these fields.

Youthful views of practice also now en-

compass an expanded social consciousness of architects' responsibilities in urban planning and ecological controls. The increase in public monies available for real commissions in these areas has multiplied opportunities for career specialization in them. Here again, the required backup of interdiscipline expertise carries with it implications of increasing firm size.

How, then, do young architects propose to reconcile their acknowledgment of broad-gage professional needs with their explicit yearning for the personal identity and that "close touch with the job" they see as best available in the smaller firms? How, too, are big, established firms adjusting their own organizations to accommodate these valid yearnings for professional and personal identity so that young architects will gladly work for them?

Here are just two examples of this reconciliation:

The first is the shift toward the "studio" format of organization by the large and growing firm of Heery & Heery. The other is the two-year-old firm of Gaio Associates, established by a "young architect" for the sole purpose of pooling the resources of a nationwide network of small- and medium-size firms in proposals for large jobs. Neither the studio format nor the joint venture is a new concept, but these two examples come to view as specific to the confrontation of young architects with today's world.

## **A large and growing firm reorganizes for staff identity**

Long before construction management and fast-track became the catchwords of the day, Heery & Heery of Atlanta had gained a reputation for delivery of substantial works (especially industrial plants) on time and within stringent budgets. The firm grew, and the variety of work increased. Commissions for stadiums, public facilities and, more recently, the Cincinnati Airport broadened the scope and extended the organizational talents of the firm. They became forerunners in the economics of systems and modular construction. Now, with about 150 architects and engineers, more than double the size of three years ago, they are responding to a sense of unease about losing the rounded, personal participation essential to full effectiveness of professional staff.

George Heery, who heads the firm, became increasingly aware that his own contact with the work of architecture was being obscured by the problems and business of management. He recognized the stifling effects of losing contact, and that these would be aggravated among staff who needed career growth along with firm growth.

The Heery solution was to create six or more complete integral practices within the framework of his firm. These practices are organized in groups of six to eight key people. Each group organizes its own practice along whatever lines it chooses, and each is responsible for its own work from beginning to end. They are called project-control

groups, and each has access to corporate support capabilities in engineering, interior design, etc. Each of the 16 principals is a member of one group or another. Only two executives, George Heery and Louis Maloof, have overall responsibility outside the groups.

This form of organization has done away with over-all management and supervision along classic lines. There is, of course, surveillance of the design quality and profitability of the groups, much as might be the case in any consortium of firms. The surveillance is not so much over-the-shoulder interference as it is a continuously stated policy of design quality and time/cost control.

The youngest group is headed by Larry Lord, Ennis Parker and Mack Scogin, each 30 years of age or less. This group has in work about \$60 million worth of buildings, including a condominium, high school, office building, industrial building and the Cincinnati Airport.

The point of it all is, says George Heery, that these young people—and the older ones as well—conduct their business and their practice with a full scope of approach to each project. There is no middle management. There are conferences with top principals during pre-design analysis and regularly scheduled meetings and reports to George Heery, but the usual prevailing welter of paperwork and inter-office communication no longer submerges either individual architects or the principals. The principals themselves feel better related to the design purpose and the central motivations of architectural practice.

This idea of the studio format has been tried by other firms and will be tried again in many variations. Its emergence in the Heery organization is notable because of the realism that has been characteristic of this firm. One of the newer young firms (Designbank) that is committed to this studio idea is quoted at some length in following pages dealing with survey results.

#### **A young architect sets up to bridge the red-tape gap**

One firm, established in 1970 and headed by architect Raymond L. Gaio, now 34, is a clear demonstration of the diversity of opportunity in architecture and related fields today. Gaio Associates, Ltd. is an inter-firm collaborative idea serving a clientele of ten small-to-medium sized architectural firms located in widely scattered regions throughout the nation. None of these firms is formally or permanently related to the others except through application of the Gaio services. Those services include skilled representation and pooling of affiliates' resources in various combinations for making proposals for all manner and size of Federal and other governmental construction programs. Other activities of the Gaio firm are: a constant search for upcoming jobs, business development in both public and private sectors, business management advice

and personnel search.

Raymond Gaio acquired his knowledge of Washington affairs during about a decade of intimate professional activity on the Washington scene. About five of these years were spent on the staff at AIA national headquarters where he directed the departments of State Chapters and Student Affairs. The first Grassroots programs were under his direction. He had also worked as an architect for several architectural firms. Other members of his firm, Robert S. Carter, George E. Via, Jr., and Julian Singman provide an aggregate of about 50 years of Washington experience in governmental, architectural, and legal practices. Jerre Jones, formerly in business development roles with Ed Stone, Vincent Kling and Ellerbe Architects, and currently awaiting publication of his book on professional business development, joined Gaio in October of this year.

In addition to his permanent roster of ten firms (which may increase to a dozen or so distributed roughly as one each among the regional divisions of AIA) the Gaio firm has a first-call relationship with some of the large engineering and other professional firms for the purpose of presenting a rounded capability of various combinations of his member firms, tailored to the scope of specifics of prospective work. Expansion of the membership is not contemplated as a primary goal. Mr. Gaio insists that there be no regional conflict of interest on the part of any two of his firms and further that the resources of his own firm be made available on a clear-cut professional basis guarding against dilution of the personal relationship between his staff and his subscribing clients.

Young architects? Small firms? The permutations of opportunity and enterprise are endless.

#### **What has happened to recent architectural graduates**

The research department of ARCHITECTURAL RECORD conducted a study to learn about recent graduates of architectural schools—specifically the graduating classes of 1965, 1967 and 1969—to find out what the graduates are doing and what their future aspirations are. The deans of 34 of the 70 accredited schools of architecture in the United States provided the names and addresses of graduates with professional degrees (B.Arch. or M.Arch.) in those classes. Of the 2,858 graduates surveyed, 43 per cent replied. There was no significant difference in profile between the graduates of one university and another.

The following questions were asked: 1) Are you currently employed by an architectural firm? If not, in what type of firm do you work? 2) Are you registered? If not do you aim to be? 3) How many different full-time jobs have you had since graduation? 4) As a graduate architect what are your long-term goals (start your own architectural firm, work in a large architectural firm, go into a related field, etc.)? The charts shown present the general order of results in each

class. The question about number of jobs does not emerge in detail on the charts. Tabulated results for that question showed that 85 per cent had changed jobs three times or less, but about 25 per cent of the class of 1965 had changed four or five times—not surprising in the light of recent economic conditions.

The manager of the research department, Elizabeth Hayman, draws two general conclusions from this study. 1) The graduated classes do not differ from each other in any significant way (other than the normal accretions of experience, of course). 2) These graduates do not differ from older architects in any statistically significant way.

For example, a quick look at the per cent of graduates employed by architectural firms seems to reveal a decline from 75 per cent of the class of 1965 to 58 per cent of the class of 1969. However, 15.7 per cent of the class of 1969 is either unemployed, attending school or in military service. Only 4.5 per cent of the class of 1965 was so removed from active employment. The tight employment situation of the last couple of years and the military draft operates on these figures. They do not reflect any difference in aspirations of the graduates.

It is also noted that the per cent of graduates employed by firms other than architectural is much the same as that reported by the AIA study of the profession in 1950.

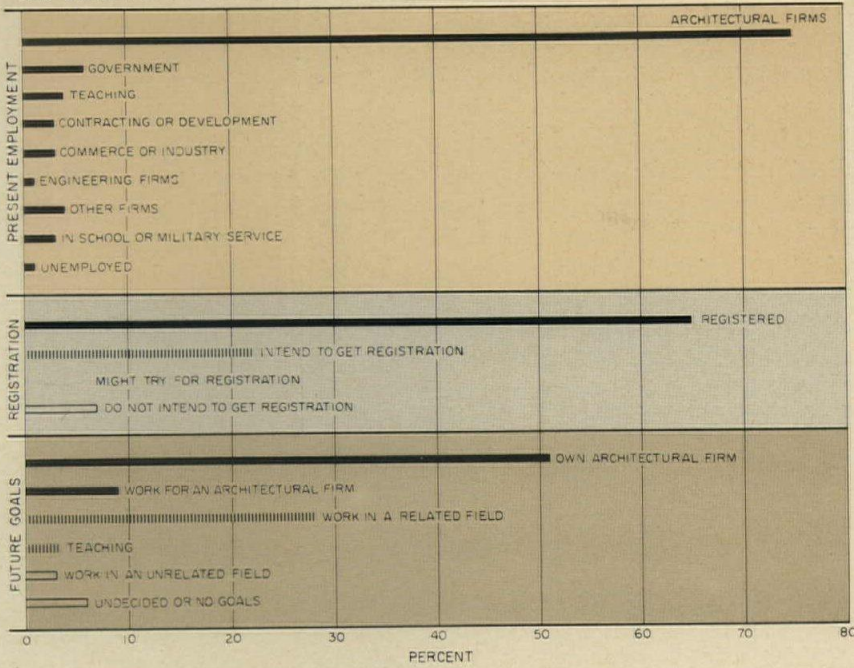
The number of graduates who are registered or intend to be remains fairly constant at about 65 per cent. Also the future goals of graduates present a consistent pattern across the three classes.

However, analysis of written comment with replies shows there is some difference between these young graduates and their older colleagues. Although the evidence is not statistical, it is nonetheless apparent that there is greater interest among these younger people than among their older colleagues in development, planning, construction and building. "A number mentioned wanting to be builders as well as architects," Miss Hayman observes, "and this is a fairly new, though already known, attitude. On the other hand, evidence is beginning to come in that more and more established architectural firms are getting involved in development and construction, so maybe these young architects aren't different after all."

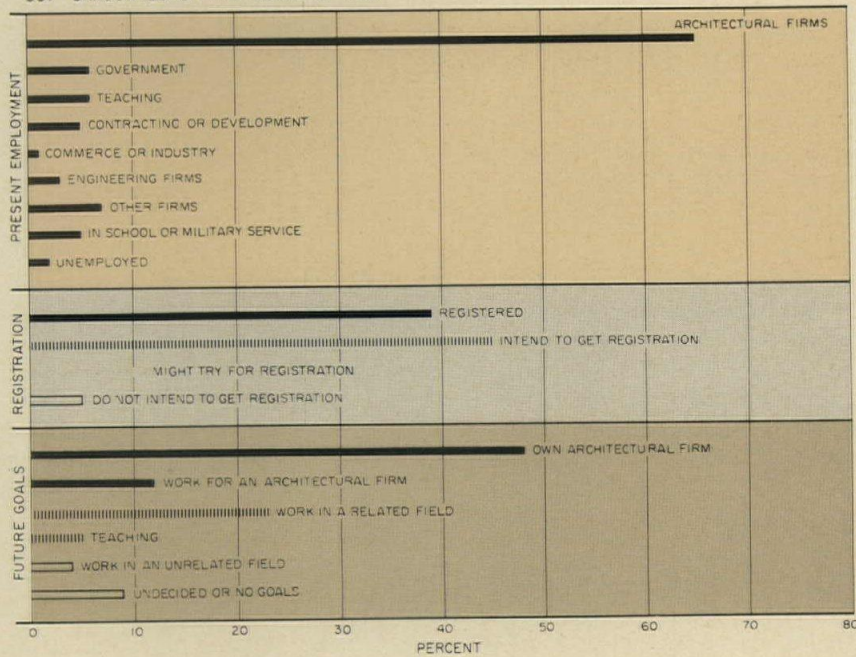
#### **A second survey of young architects probed ideas, ideals and goals**

About half of the more than 400 young architects who submitted exhibits for this issue were asked to summarize their experience and views regarding their education and their goals. The candidates receiving the questionnaire were selected entirely at random, and the number of questionnaires was determined largely by the practical capability of handling the response in the time available. There were about 175 replies ranging in scope from simple checkmarks

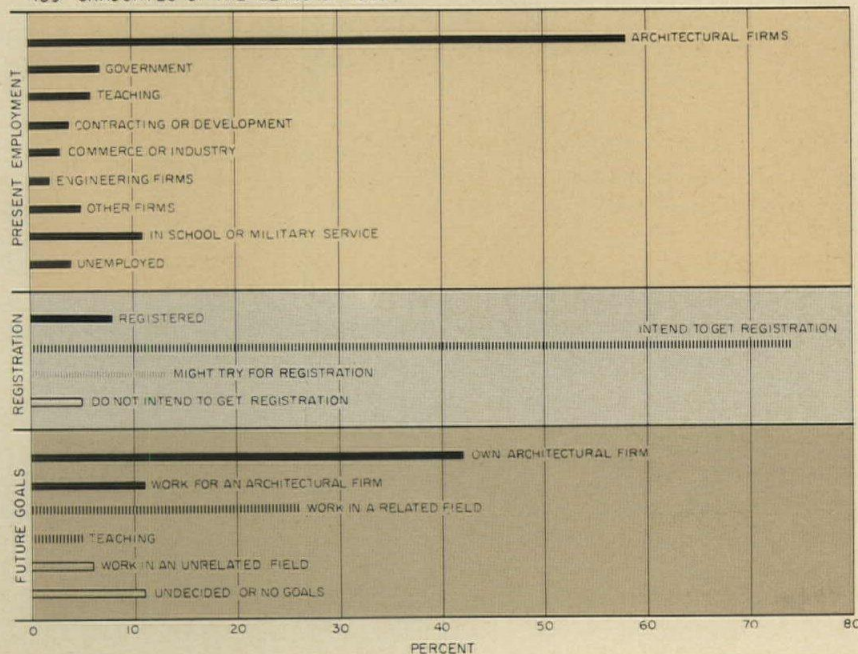
346 GRADUATES OF THE CLASS OF 1965



397 GRADUATES OF THE CLASS OF 1967



459 GRADUATES OF THE CLASS OF 1969



and phrases on the questionnaire itself, to several pages of essay. That was our invitation, and the task of sorting out the volume of response was one we welcomed.

The questionnaire itself was presented as eleven questions. Three of those questions had to do with the architects' evaluation of their own educational experience and their suggestions as to changes they might recommend in academic programs or professional training for architects. The review of responses to these questions, and other matters dealing with architectural education, are encompassed in the article by Elisabeth Thompson on page 134.

Other questions dealt with the young architects' views of the future of the profession and their own preferences about size of firm, building types, scope of services, and the general sphere of desired employment.

The thoughtful quality of replies precluded much tabulation by numbers, as might be inferred from the following recap of questions other than educational:

*Question 4:* From where you now stand, what do you see as likely and/or desirable for the future of architectural practice in terms of firm size, organization, services, pre- and post-design responsibilities, inter-discipline relationships, etc. and why?

*Question 5:* For your own professional fulfillment, what size of architectural firm would you like to head or be an associate of . . . and why?

*Question 6:* What building types do you want your firm to handle—and why?

*Question 7:* What general services do you want your firm to perform: architectural design only, planning, A/E, A/E-contractor-developer-construction manager, other . . . and why?

*Question 8:* What kind of work do you personally prefer: design, management, planning, promotion, research, or . . . ?

*Question 9:* How do you regard computers and other technical developments in the professional scene: as good tools, as bad tools, indifferent; what are you using and why?

*Question 10:* Would you consider or even prefer working as an employee of a firm other than architectural: developer, manufacturer, package builder, government, other; and why?

*Question 11:* Would you comment on other aspects of the profession today: the AIA, the team approach to design, licensing, ethical standards, fee structures, Federal (or other) selection procedures. What bugs you, what inspires you, why practice?

#### A sampling of thoughtful response

The process of review of replies was a conscientious outline of the points of emphasis, agreement and disagreement of each return, whether brief or copious. The sampling of replies that follows is an attempt to reflect the frequency and weight of each opinion. Names are attached to each quoted return,

but the intent is not to publicize or favor those individuals so much as it is to round out the presentation with that detail of attribution. Many articulate responses will not be quoted at all, but those respondents not cited can be assured that their own response was nonetheless primary in its influence on this report. There just is no other way to keep the sampling within the bounds of physical practicality.

The very first sample is perhaps typical of the quandary of emphasis we face. It is a letter that acknowledges and states our problem about as adroitly as any. It reads in part as follows:

■ "Louis Kahn, if he were under 35, might be answering that 'a good question is greater than the most brilliant answer.'

"With all due respect to the listed eleven questions and their good intentions, there hastens to my mind a sensing that by their very form you will be submerged with more quasi-erudite, scholarly type answers than you may have bargained for.

"To add to your burden, let me preface some very general comments on the whole quandary of education and practice by offering to you a reminder that I have carried about with me through school and from office to office, invariably finding its way over my drawing board, tacked somewhere between a very fashionable 'Knoll' Bertoia poster, perhaps a MOMA postcard, plenty of yellow tracing paper and the New York Giants' football schedule. It's Thoreau and it reads simply: 'The youth gets together his materials to build a bridge to the moon, or perchance, a palace or temple on the earth; and at length the middle-aged man concludes to build a woodshed with them.'

"In essence, this reflects my outlook on both *learn* and *do*. It seems that we architects, whether we are championing systems design, advocacy planning, POP solutions or whether our Utopian dreams are couched in Mies or Corbu, have all been ill equipped in some measure to cope with (much less change) the restrictive and limiting forces that prevail in our society.

"Therefore, no matter what numbers game you play, whether you advocate a five-year or six-year masters program (which I prefer), it behooves the institutions to deliver something more than a perfunctory exposure to the world of finance, law and government so that the practitioner is able to put into being that place of wonder rather than playing it safe in favor of that woodshed.

"Playing it safe is the curse of the large office, despite the absolute necessity of inter-disciplinary team approach to complex problems and corporate clients. Since, all too often, the emphasis is just to please the client, there is little time for excitement, inspiration and discovery in the mind of the architect; compromise and expediency rule, and efficiency and motivation diminishes to that point where two or three middle-aged men are doing the work of one.

"At the other end of the scale, you have

the private practitioner working in a vacuum, dealing with limited problems and few variables, offering somewhat less than the optimum effectiveness of a professional problem solver and client server.

"Presently, I'm building my practice (which will sustain itself for five years) on a single inter-disciplinary team basis; one architect, one planner, one engineer and one finance consultant."—*Don Alvaro Leon, North Wales, Pennsylvania.*

Well, we are not dismayed—nor are we building woodsheds with your dreams. We cherish them. You are not alone. Nor are you typical. Praise be that in this world of architects no one is.

Before we continue with quotations in support of that thesis, here are a few numbers that help show the drift of response:

■ Probable future firm size: large, 50 per cent; medium, 25 per cent; both large and small, 25 per cent.

■ Preferred firm size: small to medium, 70 per cent.

■ Preferred building types: variety, 77 per cent; residential, 8 per cent.

■ Firm services intended: full, including construction management, 60 per cent; architecture and planning, 25 per cent; architecture only, 10 per cent.

■ Work personally preferred: design, 44 per cent; variety, 35 per cent.

■ Work for non-architect firms: no, 60 per cent; developer, 18 per cent (but with design control).

We hold no brief for the deep significance of these numbers as such, but some general conclusions were stated at the beginning of this report. The following excerpts from replies are the real essence, unhappily curtailed by the limits of space.

#### **Young architects deal with the modern world**

■ I feel that the profession now is in a state of schizophrenia: one part denying the central ego and promoting the disenfranchised ego or the watered down team and producing a corporation machinery encased in organization, bureaucracy, hierarchy, money and power games with extensive involvement with technology and growth and large-scale thinking. On the other hand, there is centralized ego clinging to the sanity of a coherent unified creative effort, seasoned with a personal touch and nowhere near the capabilities of handling large or complex programs.

Each denies the other; each destroying the other. For myself, right now I favor the smaller, more personal approach, as I look at it from the standpoint of the building. I would rather be a smaller piece of the pie that still stands after a large political riot; the piece that can really touch the lives of the individual.

I think architecture should inspire, charge, move, stimulate, function, arouse, soothe, foil, supplement, reinforce, amplify, respond, communicate, suggest, grow, live, contain, combine, collide, and spring from

the roots of social needs, aspirations, and capabilities of the constantly changing civilization of the present.—*Phillip J. Tabb, RNL, Inc. Denver, Colorado.*

■ I see the architectural profession entering more of a full service field from site selection to building construction. Architectural firms will enter the building construction field and furnish contracting services. As computers begin to play a major role in providing the architect with services, separate computer corporations will be established inside large architectural firms. Because of economy of scale, computer services will be sold to smaller architectural practices. Thus a three-man office will be able to do the work of a thirty-man office. Architectural firms may then function similar to the doctors' clinic, which uses the back-up support of a large hospital. Small- to medium-sized firms will become a more viable size again.—*Robert W. Dvorak, University of Arizona, Tucson, Arizona.*

■ Personally, I have had it up to here with these vogueish public images of architects as businessman—smoothies who "coordinate" and provide "services." That sort of thing hardly results in anything more than zippy technological decoupage. After all the ballyhooing and promise, we should expect no less than indecently wonderful work from this kind of approach everytime. But more often than not, we get the equivalent of a Jeanette MacDonald/Nelson Eddy style of extravaganza, very expensive, often well manicured, but heavy handed and just a little too dumb for my taste. The paradox is: currently, there seems to be some sort of showy, pragmatic, Southern California style of right wing thinking in the profession that looks down its nose at the conventional problems and their solutions, which I personally think are often very wonderful. Yet after all the talk, the right wingers still seek out the middle of the road solutions to architectural problems. So that what often happens is that a building that is too wonderful or too conventional is self-righteously put down as irrelevant or unimportant. And we get a chancy "good design" that hopefully satisfies as high a percentage as possible of the public and private agencies that have a grasp on our very vitals.—*Dario Santi, Hickory, N.C.*

■ Architectural practice should be centered around small teams of professionals that are directly responsible for the environmental solution: understanding, the problem of the program, providing the solutions and implementing the building process. Any organization that does not provide the structure of the team of responsible professionals, inter-disciplines, and consultants to respond to the client and social needs does not contribute. The organization can be of any size, shape, offer any services, as long as this responsibility is maintained by the creative team.—*Laurence O. Booth, Booth & Nagle, Chicago, Illinois.*

■ The range of architectural services and involvement will and must expand into politi-

cal and community oriented problem solving. This will not mean the proportionate expansion of office personnel. The desirable trend for myself would be the employment of sophisticated office equipment and methods to limit physical office size and employment. I believe we are seeing the return of the individual, with new technical resources of graphic and communication techniques available for him and to provide expertise in the largest context of problem solving.—*Edward R. Niles, Malibu, California.*

▪ A/E-contractor-developer-construction manager. I personally find this very challenging because you have control over the entire project. Many of my clients are asking for comprehensive services. For a small office, this is financially rewarding and allows the architect to spend more time with the client. The architect receives an architectural fee plus a construction management fee.—*Joseph J. Railla, Hollywood, California.*

#### Size and studio approaches to organization

▪ Our approach to firm size and organization is essentially based upon a studio concept. As we grow we plan to expand based upon a 4- or 5-man studio concept which we hope will prevent the development of huge anonymous departments. Each studio will theoretically be able to handle any job which the office produces. We will attempt to balance each studio in terms of talents, experience and interests so that each one is to the maximum degree possible, self-sufficient. For large jobs, two or more studios might be combined during the duration of a particular project. Certain individuals in the firm will move horizontally through the firm where these individuals are particularly strong in a given aspect such as urban design or architectural programming.

If we can make this type of concept work, we have no real limits to ultimate size. It theoretically should not make that much difference provided our management system is properly designed and maintained.—*James C. Morgan and Paul J. Foster, Denver, Colorado.*

▪ I think there is a great excitement today in all of the environmental arts, something which was not present in the early Sixties. At least a partial understanding of what the environment is all about has permeated all areas of life, all economic levels . . .

The future of the profession-art-business of architecture is optimistic. Major problems are going to be attacked in major ways, by major firms who have a professed expertise in the solution to complex environmental problems . . . We can no longer afford the luxury of building something we think will work; we have to know it will work. We can no longer exist in a vacuum without the lending institutions, real estate brokers, marketing analysts, management and legal professions, and the computer . . .

We hope to create with Designbank an organization with the vast resources of a large firm, with all necessary disciplines

housed together to help each other but with each remaining autonomous. Designbank, the name, becomes a corporate umbrella under which singular staffs of architects, interior designers, graphics and industrial designers, planners, and eventually developers do their own thing, each with their own principals and profit incentives . . . We want to keep the organization as loose as possible, and perform in all areas of environmental design.—*Nathan S. Leblang, Designbank, Baltimore.*

#### Kicks and kudos for the AIA

▪ We strongly support AIA as it currently exists. Its position of advocacy for the profession is long overdue, particularly in the area of advertising, technical services, lobbying and continuing education. Our desire for a day of quiet for research and personal renewal has led us to give serious consideration to a four day week, although maintaining 40-50 working hours per week.—*David E. Nordfors; Joyce, Copeland, Vaughan, Seattle, Washington.*

▪ The AIA should take a far stronger stand on the quality of architecture, rather than on just the quality of architecture produced by their members.

Obviously, there is a need for licensing various levels of architectural practice. One license for all people, regardless of their interest is absurd.—*Clark H. Neuringer, Frost Associates, New York, New York*

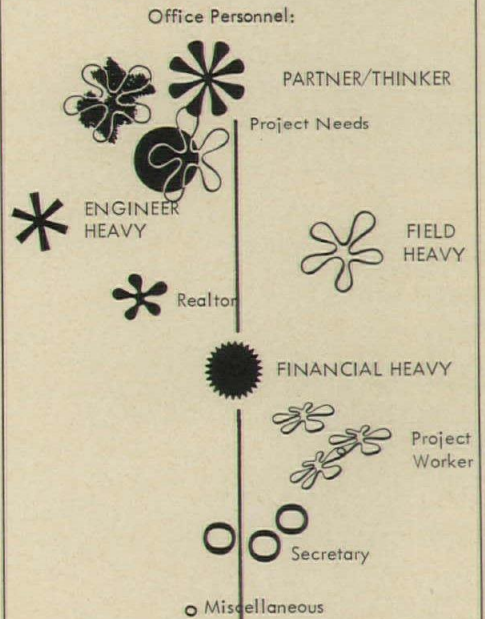
▪ The AIA is by and large the organization which protects the employers. There is a need to have similar protection for employees.—*Jacqueline Stavi, Kamnitzer/Marks & Partners, Beverly Hills, California.*

▪ While the AIA provides certain services at relatively low cost, it should confine itself to those activities and any other non-coercive and needed services. The AIA's political activities should be discontinued. While I suppose these activities are well meant, they do more harm than good for both design professionals and everyone else. The recent AIA task force recommendations on land-use policy are immoral as well as impractical. To forcibly take from one to give to another solves no problems—it only creates the problem of another established injustice. The task force architects are dabbling in a dangerous game of power politics with men who are far and away much more adept at the use of political power than they are.

I am disturbed by the willingness of many design professionals to endorse a policy of government-initiated force to solve social and environmental problems. As mentioned before, force doesn't solve problems, it creates them. This willingness to endorse force bespeaks a miserable lack of imagination—possibly understandable in bureaucrats, but unthinkable in designers.—*John B. James, Denver, Colorado.*

Thoughtful, articulate, enthusiastic, angry, optimistic, conventional, inventive, artistic, undaunted; these are the young architects.—*William B. Foxhall*

One respondent, Phillip J. Tabb, provided the following diagram of his preference for a medium to small organization and concluded with the melting figure at the bottom—which seems an appropriate terminus for this profile.



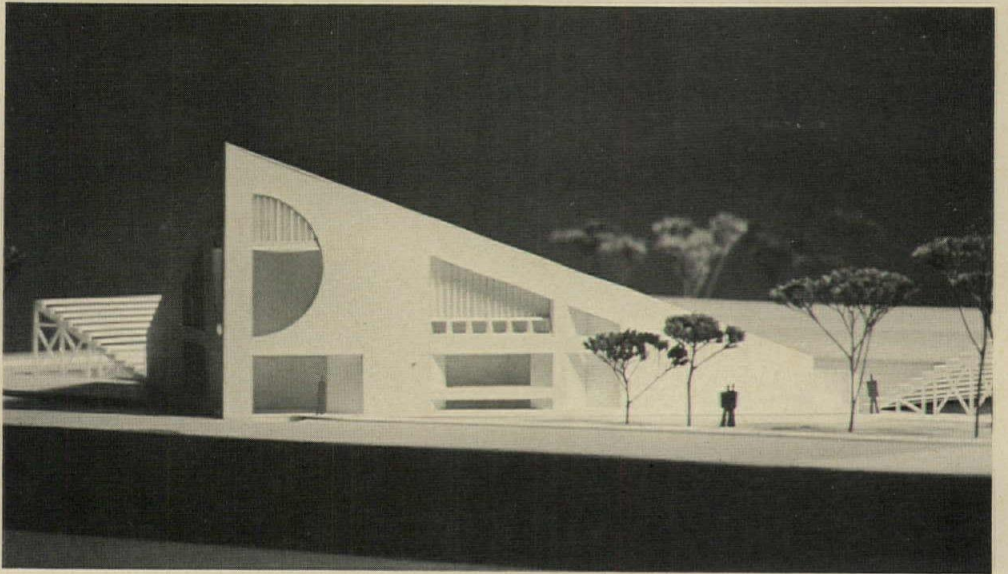
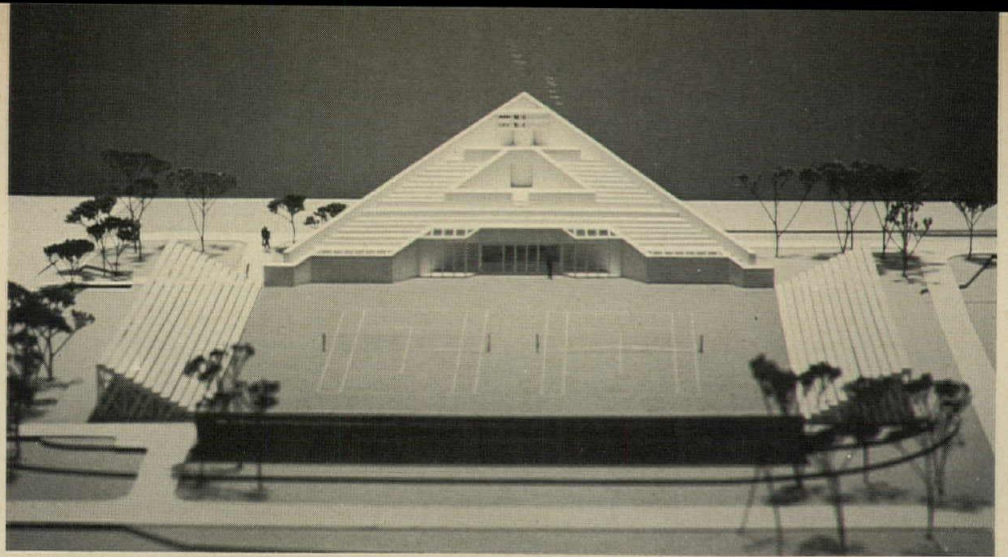
"You can say about art—meaning the inner psychological side of the creative process—that it is the process of solving problems that cannot be stated clearly before they are solved. The process of orientation to a new problem is practically one hundred per cent of the solution." —PIET HEIN



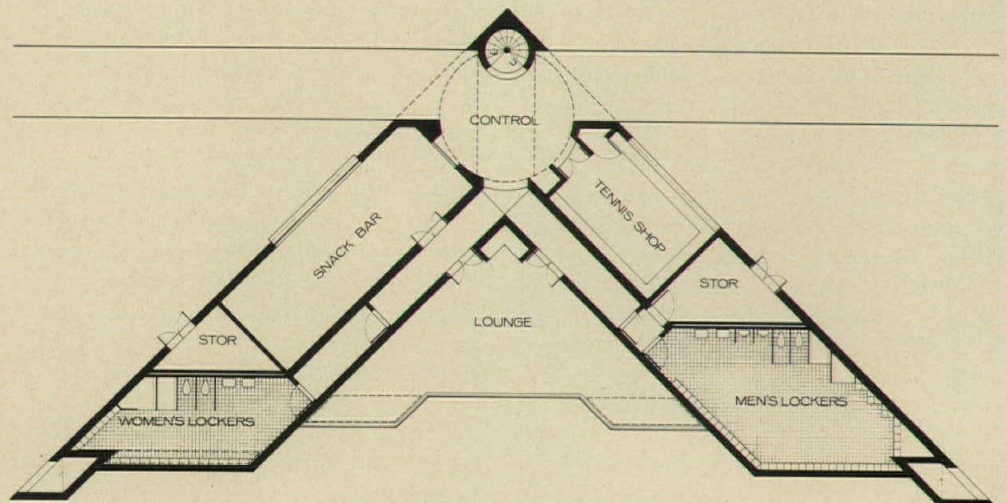
Thank you for the opportunity to express my views.

# YOUNG ARCHITECTS ON THEIR OWN

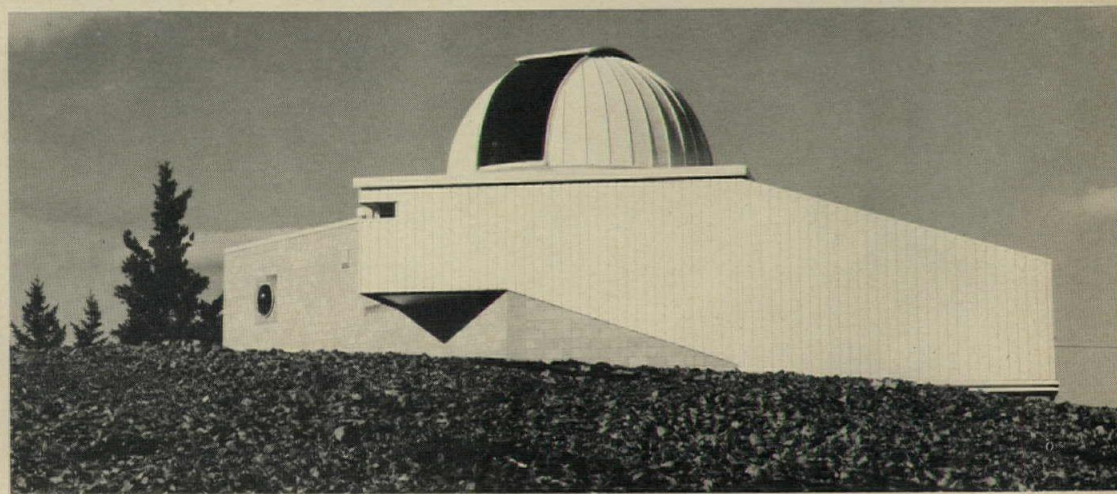
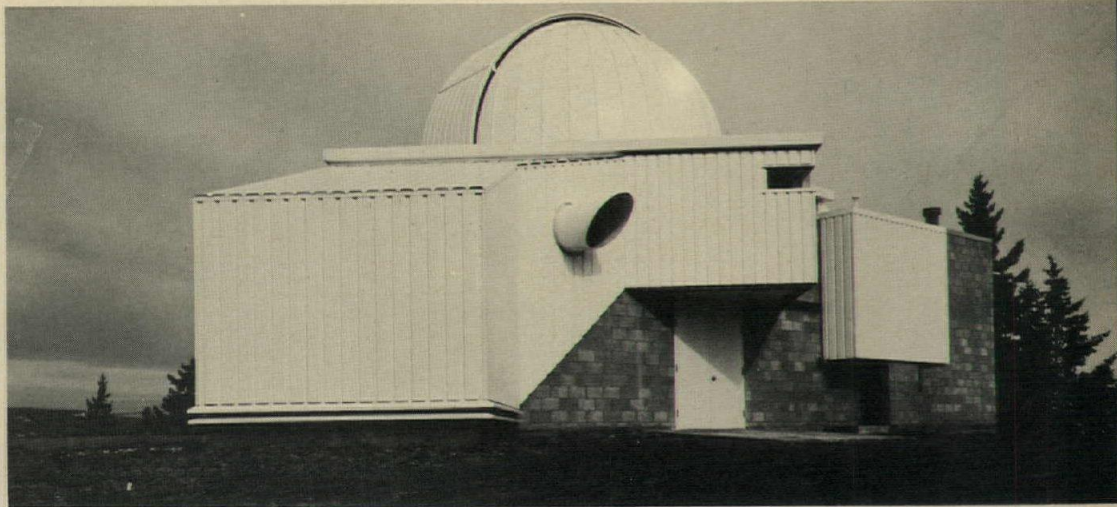
Individuals represented in this section have their own practices—by themselves, as partners with other designers or in conjunction with their teaching activities. Whatever the context, they are establishing their talents and their reputation in the traditional way that most architects have wanted to work: on their own.



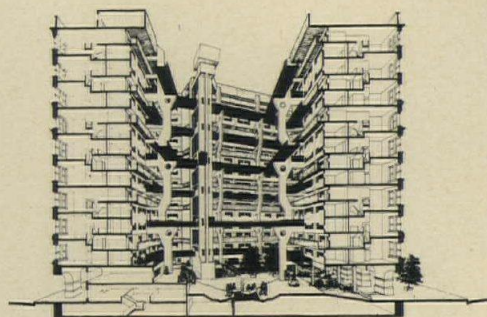
□ Tennis stadium and facilities, Washington, D.C.; by Hartman - Cox Architects, Washington. An existing wind-swept complex of 16 tennis courts needed new bleachers, and this design provides spectator seating for about 800 with press, television, committee facilities, and scoreboard on the roof. Locker, ticket, food-preparation and viewing lounge facilities are underneath. The inclined wedge is built of concrete blocks and concrete planking, with exterior walls to be painted blue. Client: The National Park Service and the Washington Area Tennis Patrons' Foundation.



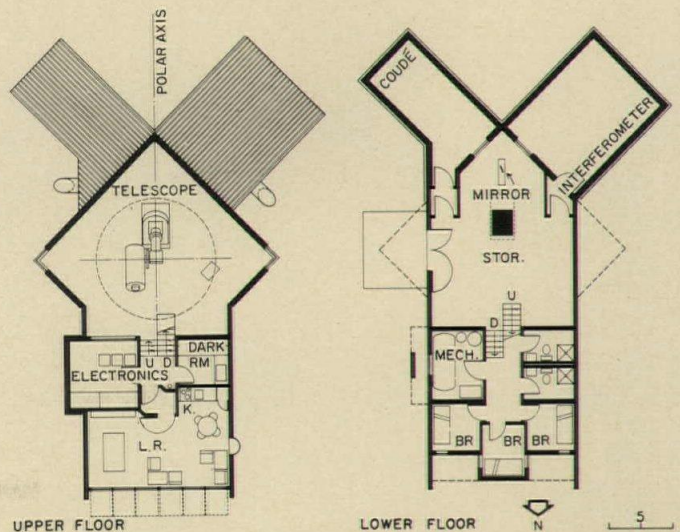
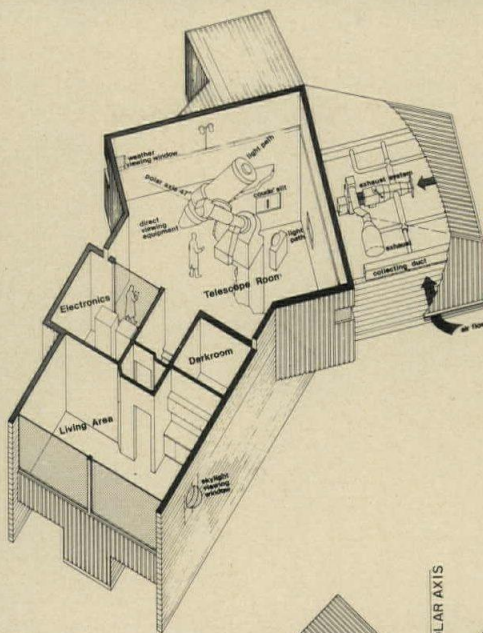


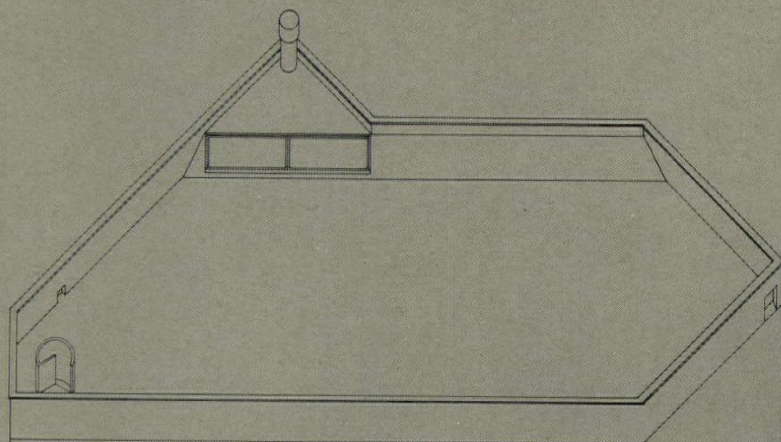


**Renovation of Greenwich Village Post Office, New York City,**  
 by Nancy and Eric Goshow. This Federally-owned building, now designated a New York City Landmark, is not now threatened—but it is under-utilized. Nancy Goshow's scheme would keep its exterior absolutely intact, while converting its interior into interesting and much-needed housing. Some parts of the core would be removed to make a large interior court around which the circulation would be organized vertically and horizontally. Innovative modern design works together here with older architecture.

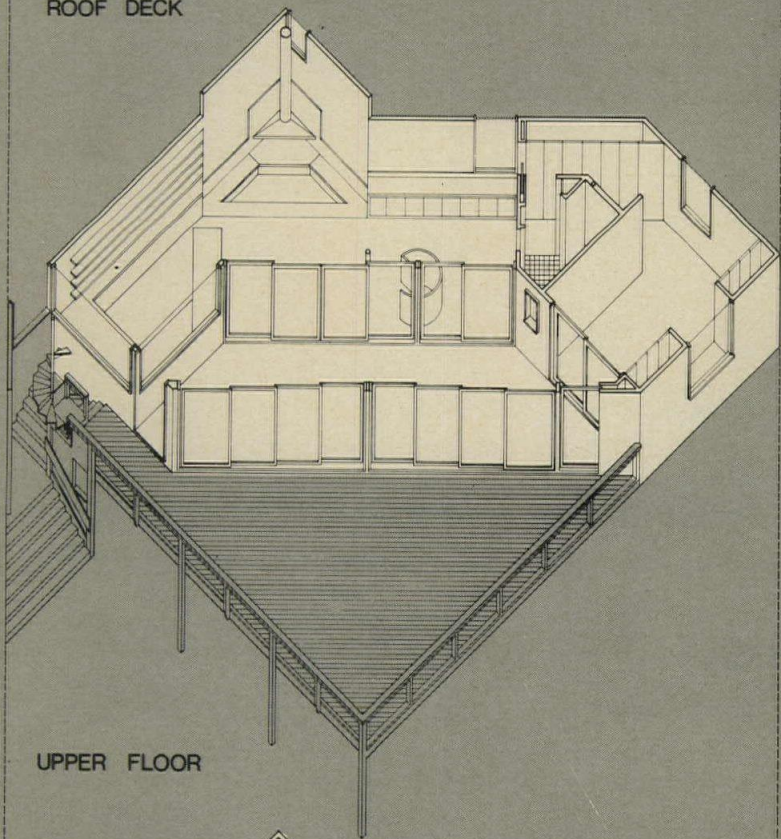


**Manastash Ridge Observatory, Ellensburg, Washington,**  
 by Joyce, Copeland, Vaughan Architects, Seattle. The facility houses a 30-inch telescope, support equipment, and living quarters for three persons engaged in a variety of astronomical and astrophysical research projects. Exterior openings can be completely sealed during the observatory's unused winter months; there is a self-contained waste system and a suspended outer metal skin to disperse heat in order to maintain critical temperature control. Completed in 1970, the building cost \$100,000.

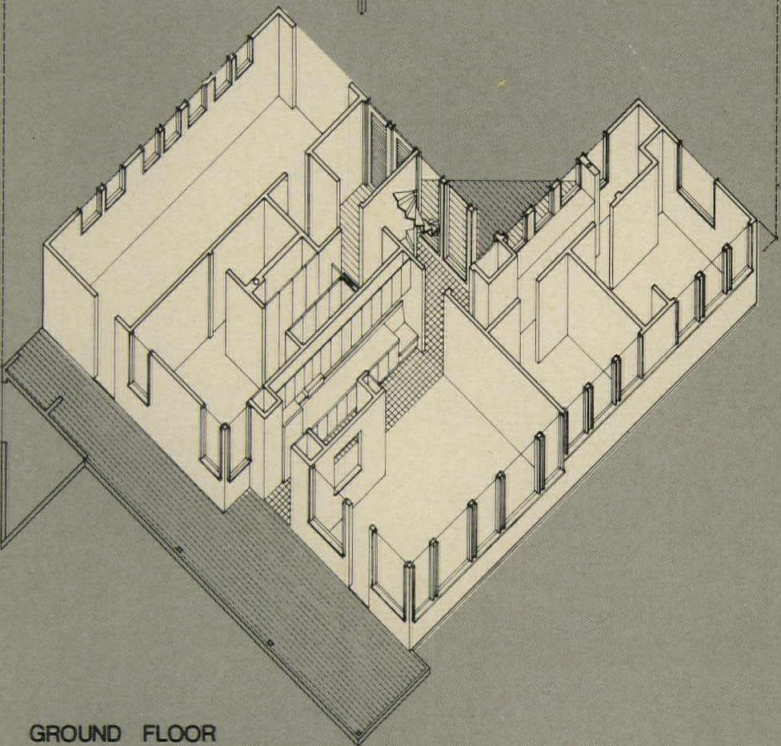




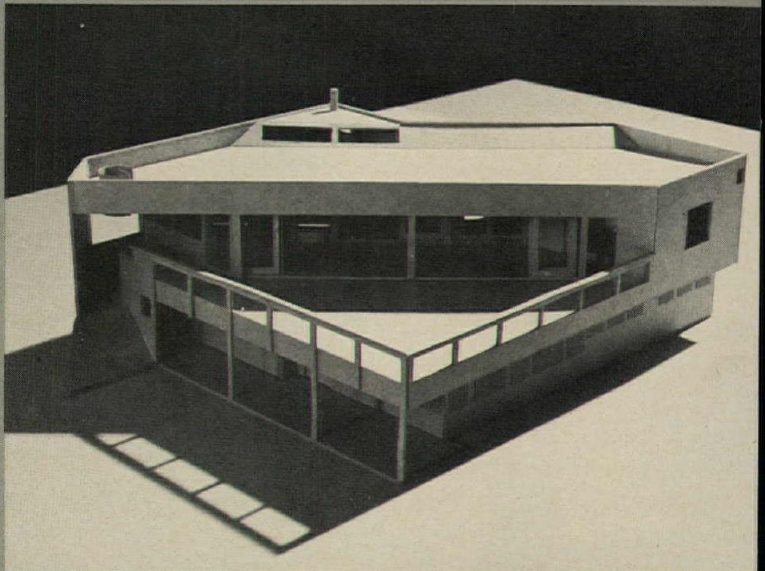
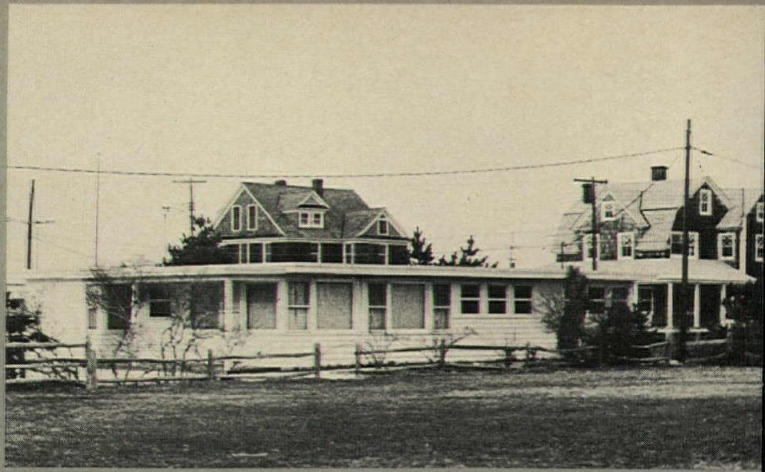
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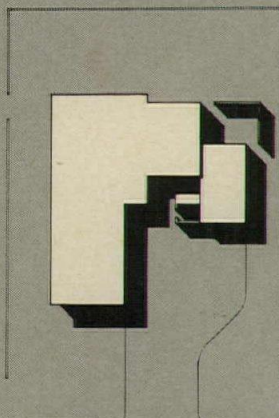
UPPER FLOOR



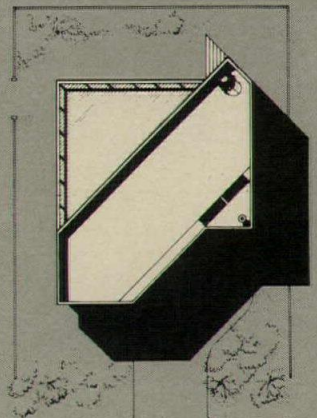
GROUND FLOOR



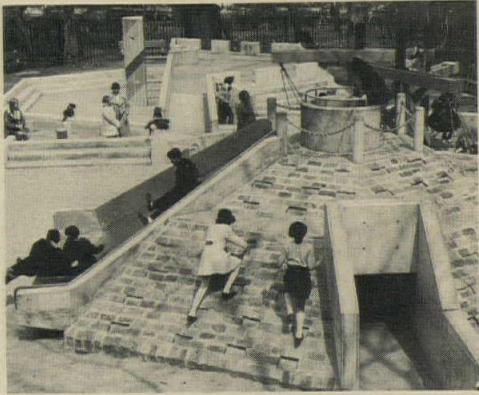
□ Rothenhaus residence, Mantoloking, New Jersey; by Vollmer/Knowles, Philadelphia. The program here was to drastically remodel an existing house in an established, well-preserved resort area, two blocks from the beach. Major design considerations were the view, the temperate climate, the nearby buildings, and the need to build over the existing house. The new house creates a "wall" to the street and a view to the bay, from the deck. There could be no point loads on the existing structure; construction was conceived "as a ladder placed on thin ice." Above all, the completed work was to appear as a coherent entity, a totally new house. Construction is two-thirds finished; the contractor is Herbert Van Schoick.



EXISTING



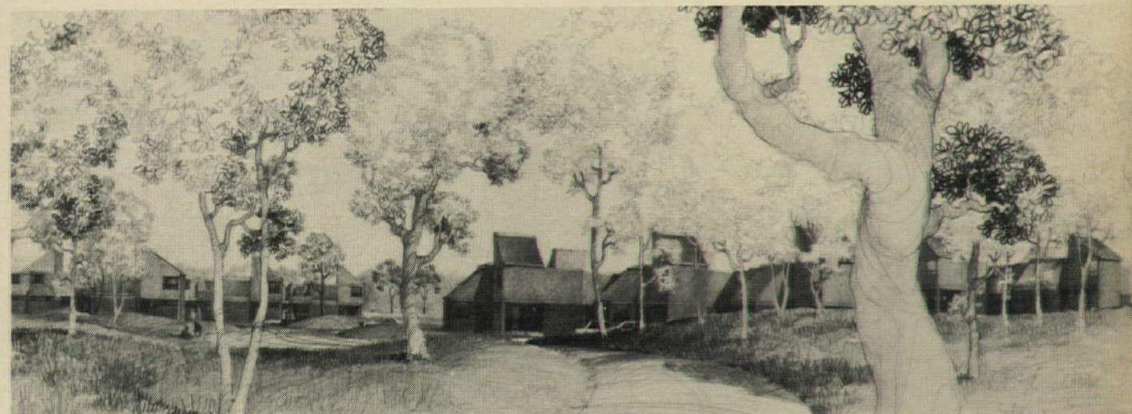
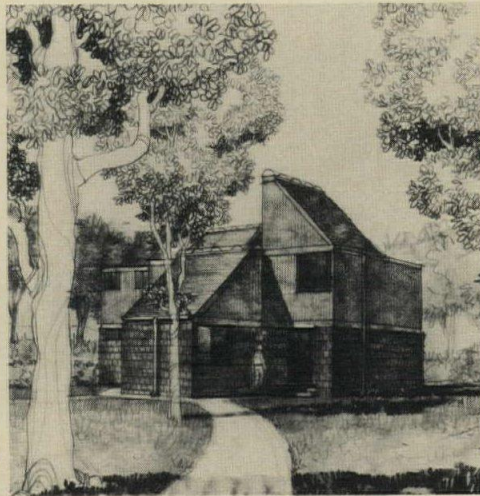
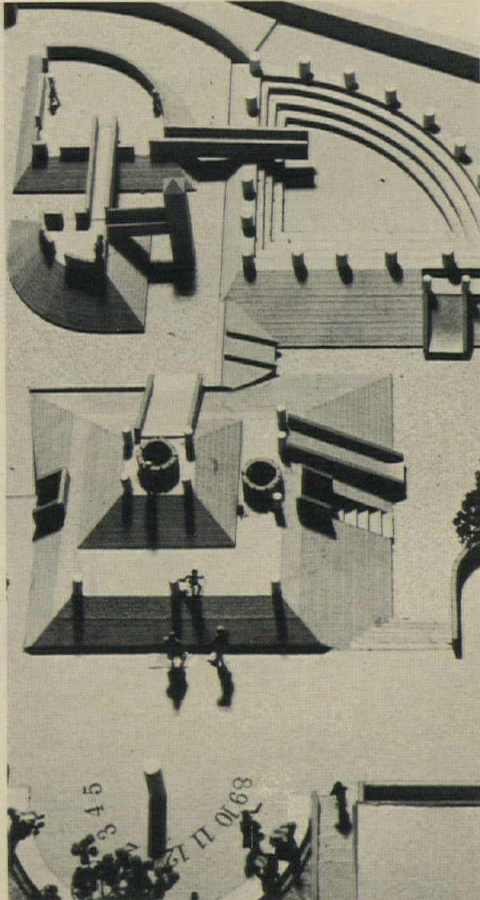
DEVELOPED



□ Ancient play garden, Manhattan; by Richard Dattner & Associates, New York City. In this playground next to the Temple of Dendur—the ancient Egyptian monument the Metropolitan Museum of Art is currently erecting on its property in Central Park—Dattner has used textures, color, and changes in elevation to define his playground, to create a man-made landscape for climbing, crawling, jumping, or just “lying around.” The forms have a vague resemblance to pyramids, but are unquestionably modern. The project is now complete.

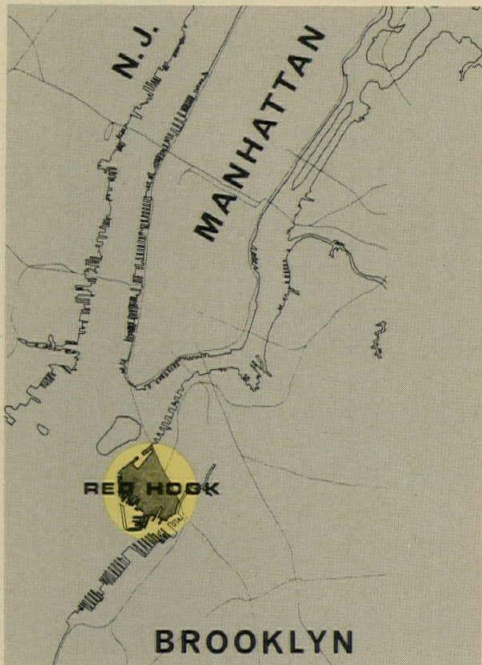


□ Modular four-plex project, Blue Springs, Missouri; by Collaborative: Phase One Plus, Kansas City. Three young principals—Jon Thogmartin, Richard Sneary, and Kenneth Wilson—formed CPOP three years ago, and have had the normal variety of work since then: a small office building for Kansas City’s Black Economic Union, four residences completed, the renovation of their own offices in the city, and two medium-scale planning projects. The work is accomplished with a freshness and vitality that sets it apart, however, as indicated by these renderings for a housing project of interlocking modular units, now through working drawings. The graphic quality here is one example of the exceptional design and graphics in all their work.

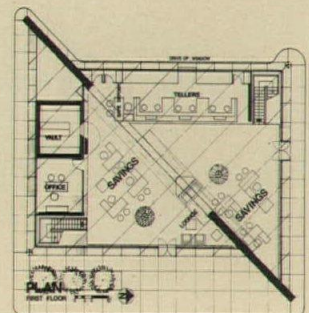
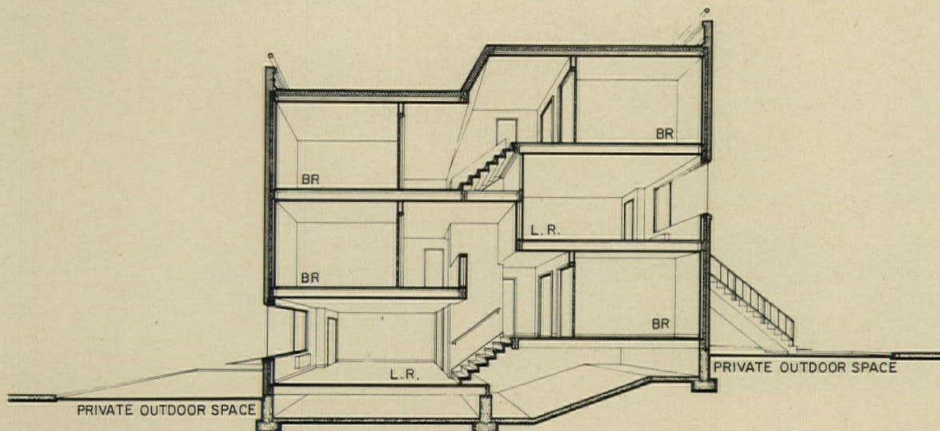
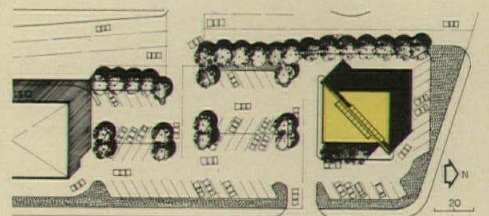


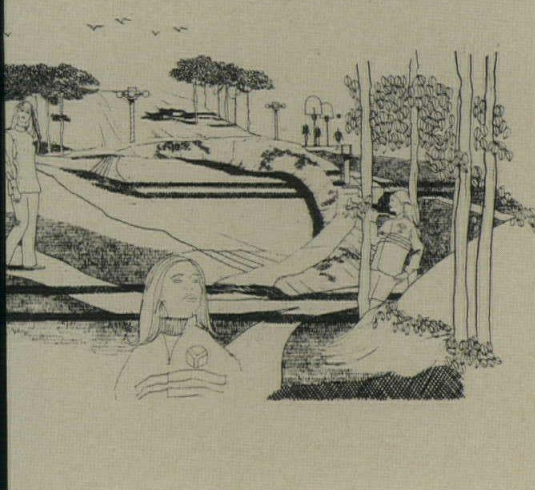
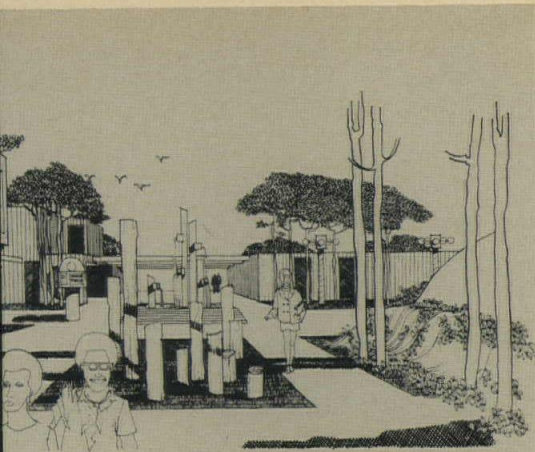


□ **Golden West Savings, Salinas, California, by Elbasani/Logan Severin, Berkeley, California.** One of series of designs being developed for the same bank using triangular forms as part of a public identification program, this scheme is now out for bidding. Two right triangles are placed adjacent to each other in plan, and the two forms are acknowledged as geometric shapes in both plan and elevation, while still forming one large banking space inside. There are private offices at the second level, and drive-up banking along one edge, with large on-site parking in this suburban location. The model (see front cover) has a working drawing sheet as the outside skin, complete with material call-outs, with the bright colors of the proposed finishes included.

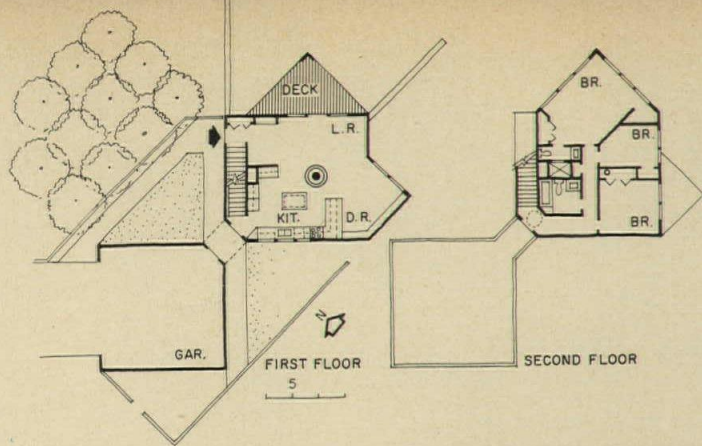
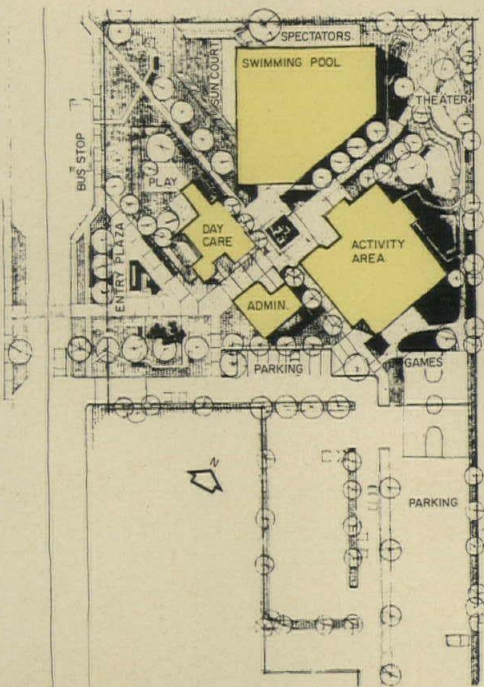


□ **Red Hook Housing, Phase One, New York City, by John Ciardullo Associates, New York.** This development, using conventional construction, provides housing in a manner designed to reinforce the existing community character. Individual vacant lots in Red Hook, partial blocks, and full blocks are being filled with new row housing with private entrances for each residence. Thus the old housing pattern is being reinforced rather than shattered, and private rehabilitation of adjacent existing housing is being encouraged. The split-level dwellings house low-income, middle-income and the elderly, under a FHA-assisted 236 program. These scattered site, high-density, low-rise units are being developed mostly on privately owned land. The contractor is J. Baranello & Sons.



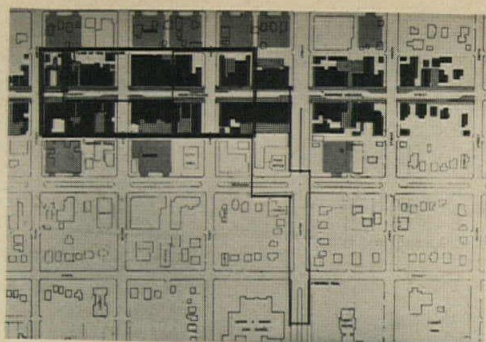


**South YWCA, San Diego;**  
**by PBD Architects Associated,**  
**San Diego.** This community service  
 facility in the heart of San Diego's  
 black community was designed carefully  
 from a program drawn up by the women  
 of that community. It is designed as a  
 green oasis in the neighborhood with no  
 fences and plenty of spaces for all to use.  
 O. W. Phipps (33), Richard Bundy (29)  
 and Bruce Dammann (32) formed  
 PBD two years ago.

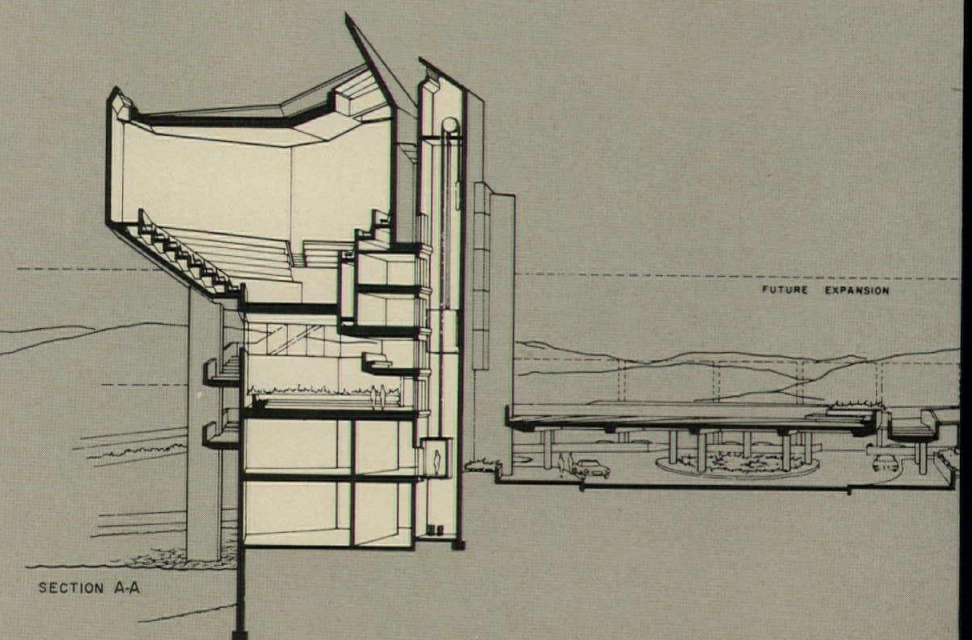
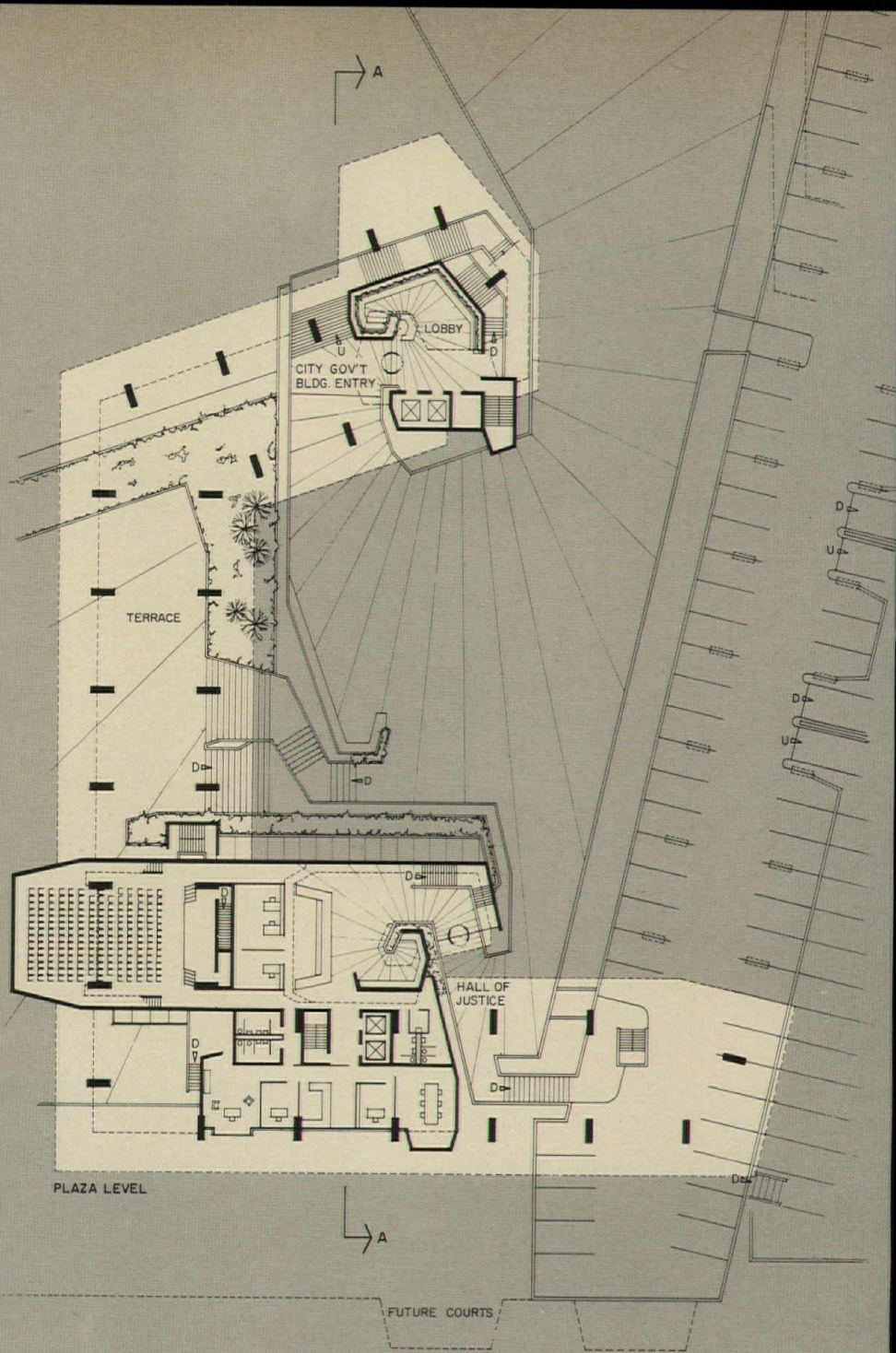


**Residence for Dale and Jan Funk,**  
**Fort Calhoun, Nebraska,**  
**by Bahr Hanna Vermeer & Haecker,**  
**Lincoln, Nebraska.** These four  
 principals, all under 35,  
 have built a varied practice in just  
 five years, with several residences  
 complete. A 40-acre farm overlooking  
 the Missouri River provides an  
 isolated site with sweeping views  
 for this house. Two 24-foot  
 squares interlock to create the  
 plan with additions possible over  
 the garage "square" in the future.  
 The treeless plain is going to  
 be selectively landscaped in the  
 future to achieve enclosure and  
 protection, and a bird aviary will  
 be developed down the hill on the  
 property. Construction costs were  
 \$11.20 per square foot.





**Urban Revitalization of New Ulm, Minnesota, by InterDesign Inc., Minneapolis.** An association of downtown businessmen were the clients for this preservation work. The project includes storefront renovation, development of an historic trail, and the renewal of Minnesota Street in New Ulm as a pedestrian shopping area. Proposals for renovating buildings in each block were developed, along with color schemes, and some buildings are now complete (below). InterDesign is a team of five young men (Alfred W. French, Peter Seitz, Duane Thorbeck, Stephen Kahne, and Roger B. Martin) representing the fields of landscape architecture, architecture, graphic design and systems analysis. Together they bring the idea of total design and uncommon graphic skill to their work.



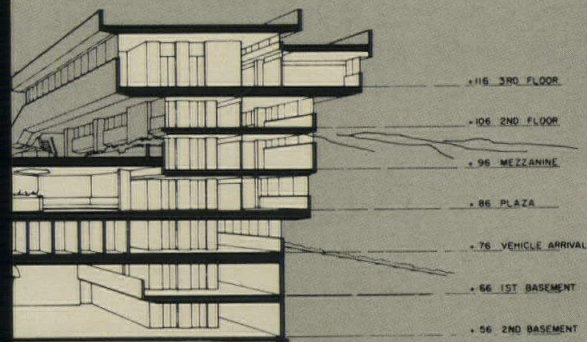


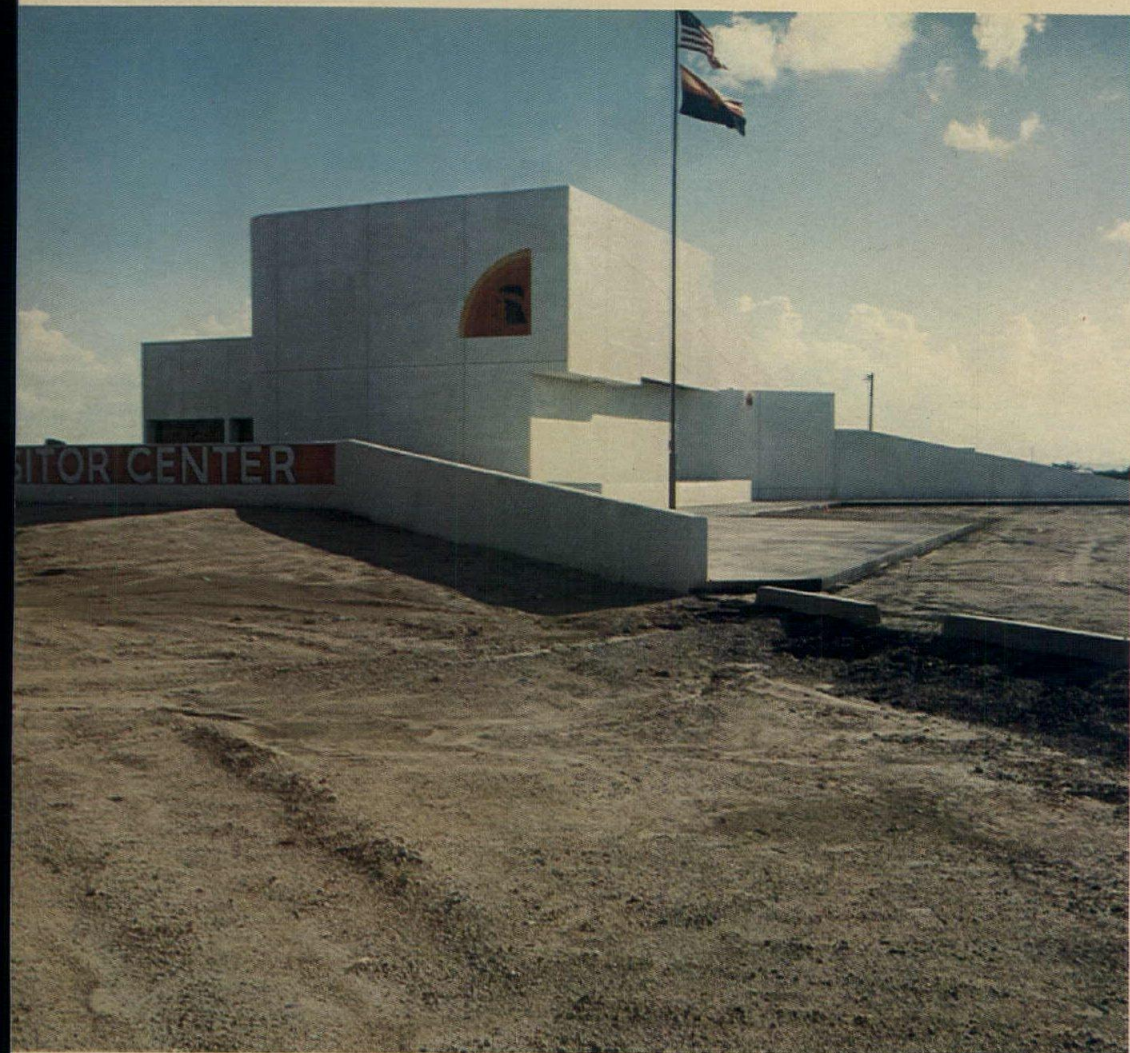
Jeremiah O. Bragstad photos



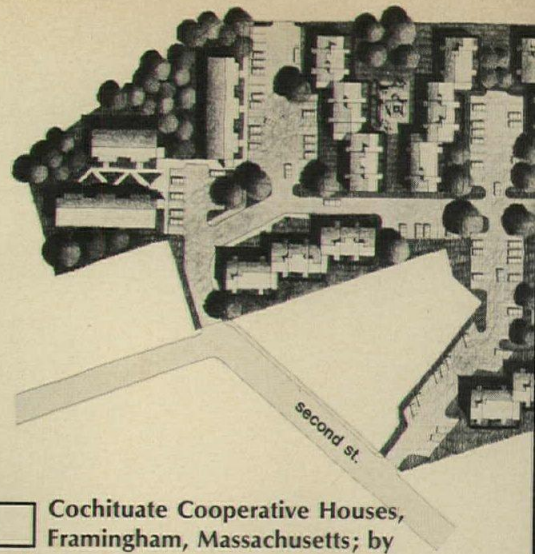
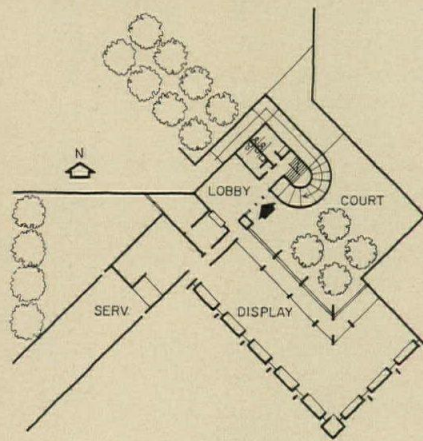
**Fremont Civic Center, Fremont, California, by Fremont Associates (City Hall) and Mittelstadt, Griffin & Dalton (Police Building).** The police building, city government offices and the Council Chamber are now complete as the first phase of this much larger development. Robert Mittelstadt (now 37) won a competition for the project in 1966 and associated with the two firms listed above to complete the work. At the time of the competition, he was a Rome Prize Fellow, and so had a wide range of critics available in developing his designs. The master

plan of the Civic Center calls for future extensive parking facilities, a new civic auditorium, theaters, a post office, county and state office, and commercial shops. The exterior is exposed reinforced concrete with brick pavers in the plaza area, set in a pattern that radiates from the Council Chamber wing (above) the focus of the plan. A small lake is adjacent to the buildings, as shown in the photographs. Robert Mittelstadt was design architect; Robert T. Simson was project manager. Contractors were Cortelou & Cole and Barnhart Const. Co.

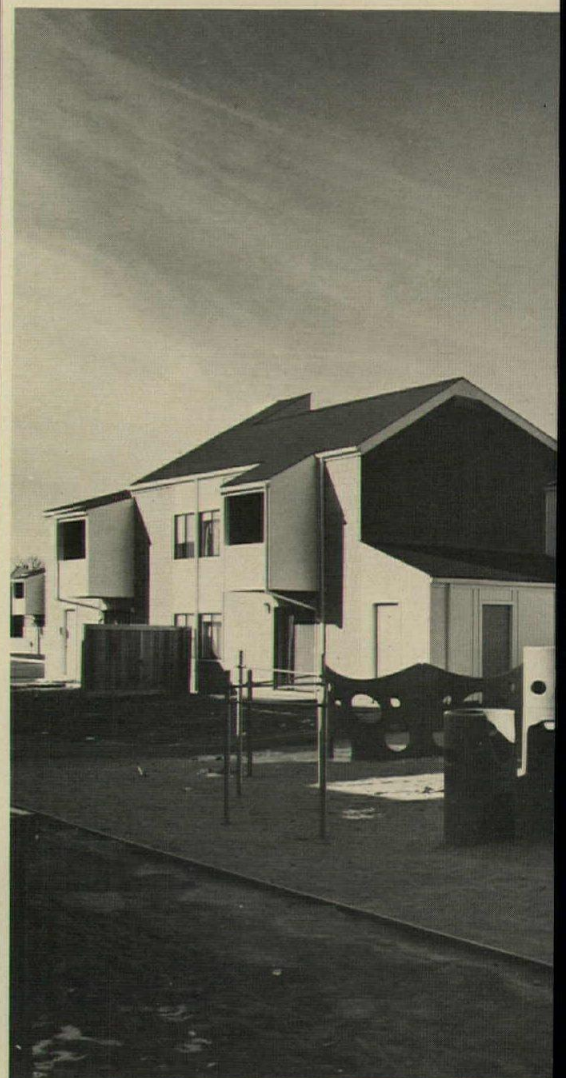




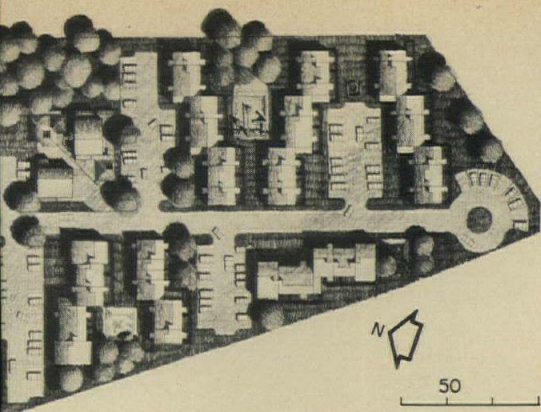
□ Cochise Visitor Center near Willcox, Arizona; by Dinsmore, Kulseth & Riggs/Architecture One, Ltd., Tucson. This firm of three young principals (the oldest graduated in 1956) submitted many projects. Cochise Visitor Center's primary function is to attract highway travelers along Interstate 10 near Willcox, and introduce them to the area and its history. It is also an asset to the people of Willcox and Cochise County, and a strong landmark. The walls are stuccoed, the roof is wood-shingled, and the building plan is organized around a 40-foot-square courtyard.



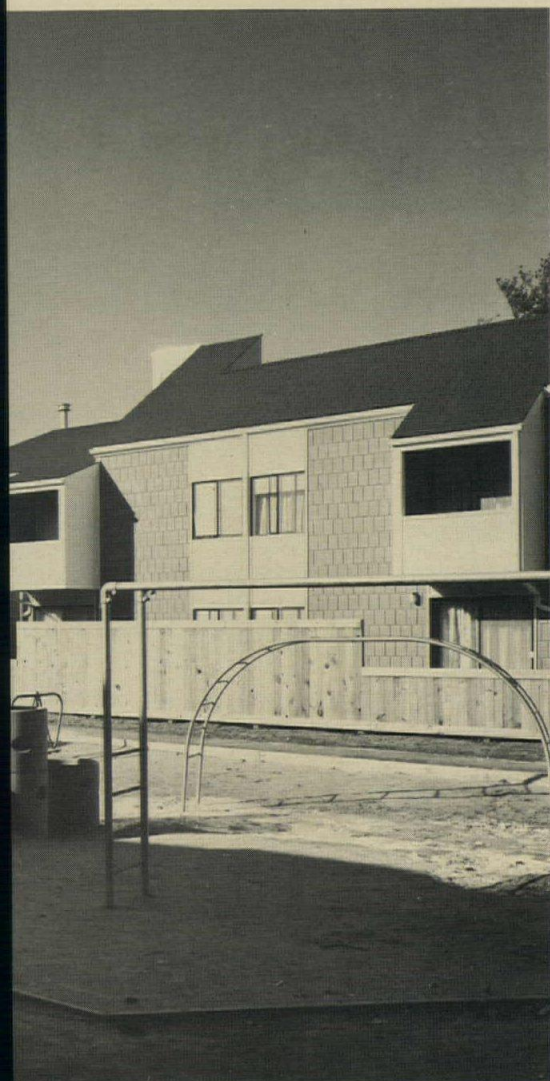
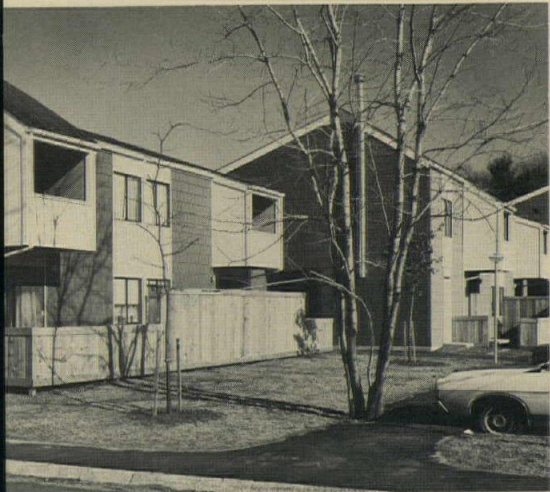
□ Cochituate Cooperative Houses, Framingham, Massachusetts; by Stull Associates, Boston. A Federally-financed 236 project for low- and moderate-income people, Cochituate Houses have been skillfully placed to blend with the indigenous architecture of a Boston suburb. The houses range from one- to four-bedrooms, with some set aside for the elderly; all built in conventional wood frame construction. Other exterior materials of cement asbestos panels and concrete block (stained in three different shades of brown or grey) enhance its unpretentious residential flavor; common forms, materials and techniques are perfect here. Project architects were Don Stull, Stephen Tise and Bart Kaltenbach.



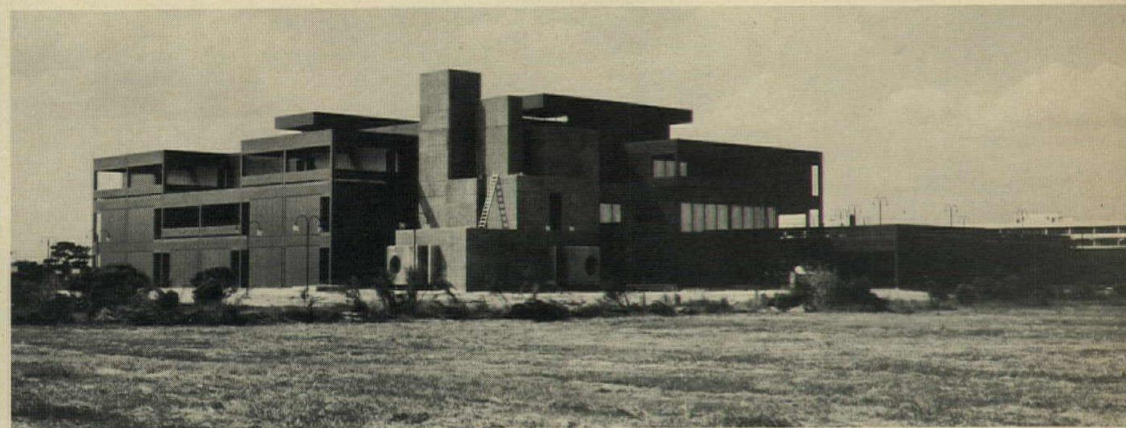
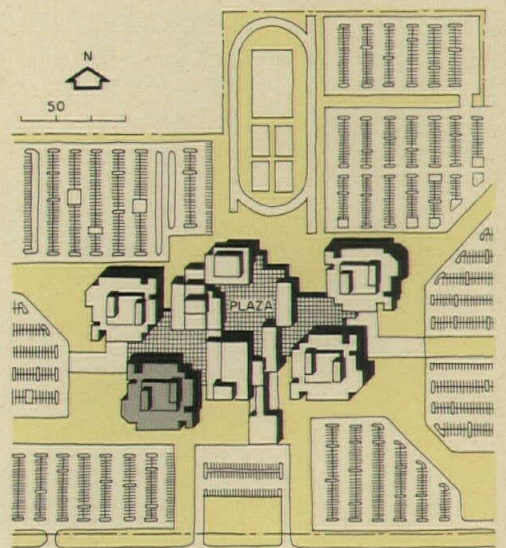


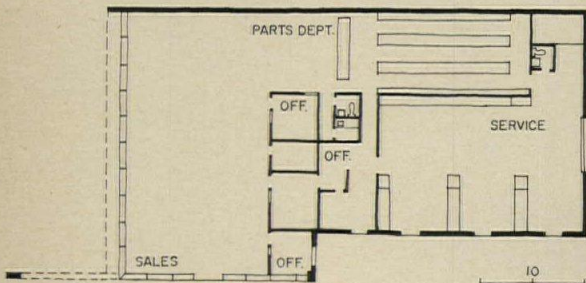


George Zimberg photos

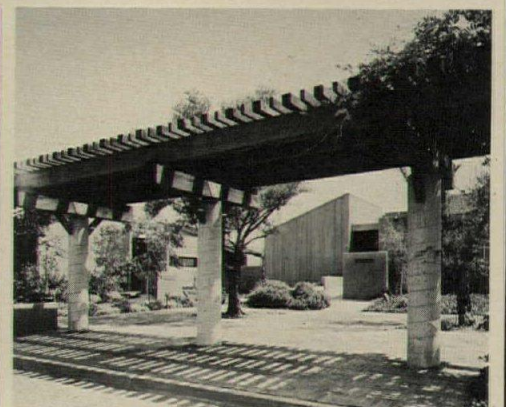


**Dale Mabry Campus,**  
**Hillsborough Community College,**  
**Florida, by Friedman & McKenna,**  
**Tampa.** Collegium One is the first  
 phase of what will eventually be  
 four collegiums of 1,250 students  
 each in a suburban Florida area that  
 has no public transportation at all.  
 Hence, a large portion of the site  
 is parking. Collegium One combines  
 metal siding with exposed concrete  
 outside, and is nearing completion.  
 A small second level courtyard inside  
 each college will lead students to  
 the large central plaza in which  
 libraries and other common supporting  
 facilities will be located. This project  
 was designed under the associated  
 firm of Weilage and McKenna and Diaz,  
 Seckinger & Associates. John McKenna,  
 age 30, was project architect.

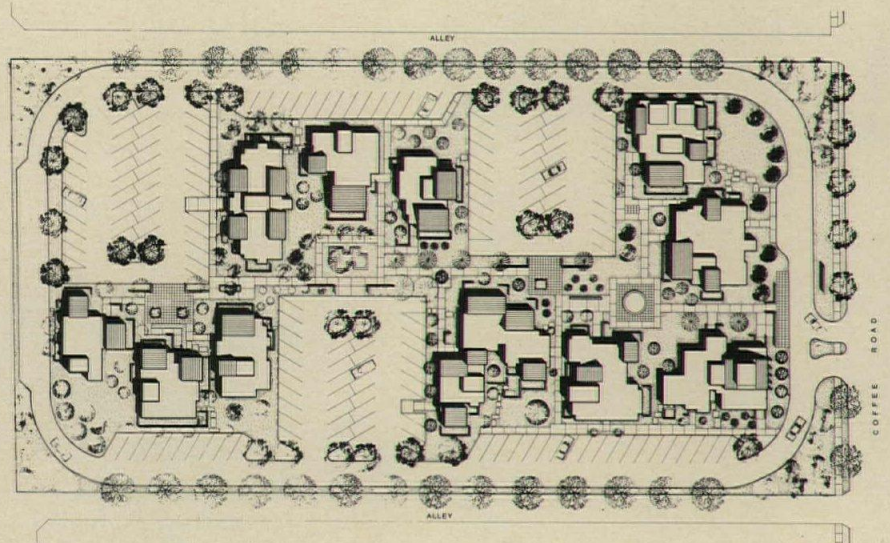


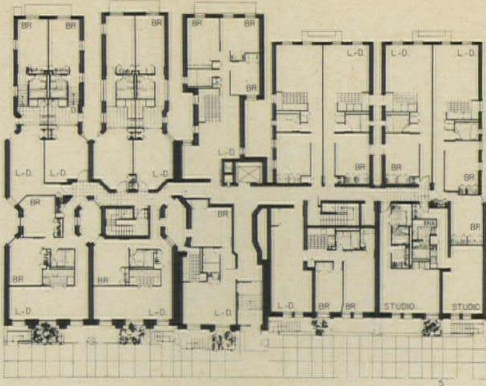


**Motorsport, Inc. in Albuquerque;**  
**by Carl Gene Dyer, Patrick McClernon,**  
**Architects, Albuquerque.** This building  
 provides open views of its display of  
 motorcycles inside, along with a  
 powerful commercial identification along  
 a major roadway in the city. The  
 showroom is column-free, spanned by a  
 series of 50-foot trusses that in  
 turn establish spaces for the required  
 graphics and signs. Materials are  
 wood, concrete block, steel bar joists,  
 and lots of bright paint—used within a  
 budget of \$13.50 per square foot. Mr. Dyer  
 is 31 and Mr. McClernon is 29.



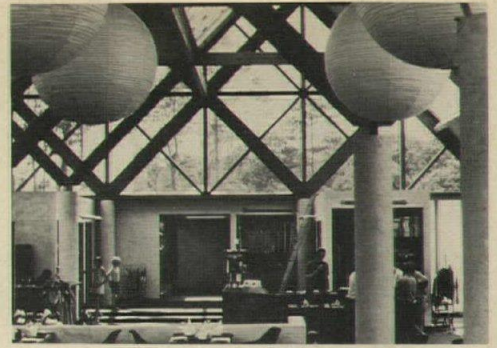
**Downey Park Medical, Modesto,**  
**California; by Donald Sandy Jr.,**  
**James A. Babcock, San Francisco.** This large group of doctors' offices,  
 along with ancillary facilities, have been  
 placed in a park-like setting. The plan  
 is residential in character with each  
 office designed as a detached, one-story  
 building, all heavily landscaped.  
 Parking is at the perimeter with  
 pedestrian circulation connecting the  
 various offices. Materials are stucco,  
 vertical wood siding and cedar shingles.



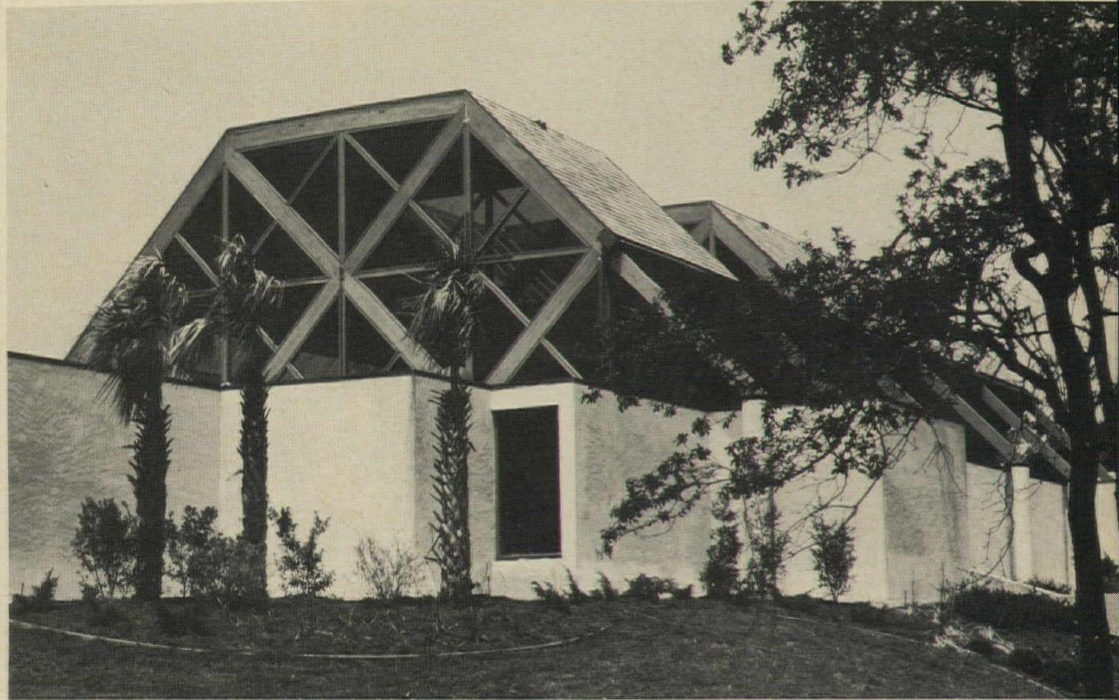


**Rehabilitated housing on West 83rd Street in New York City; by Simmons, Architects, Brooklyn.**

Harry Simmons heads a young black architectural firm with a rapidly expanding practice in the core-city areas of New York. Typical of the firm's rehabilitation projects are the units shown above, with St. Matthew's and St. Timothy's Episcopal Church as the sponsors. Rehab work is desperately needed on a large scale in New York, and this firm is making it profitable work. In addition, the Simmons firm has two new housing projects underway in the Bedford-Stuyvesant section of Brooklyn, day-care centers in Manhattan and Brooklyn, and a large new Cultural Arts Center in Queens honoring Louis Armstrong.

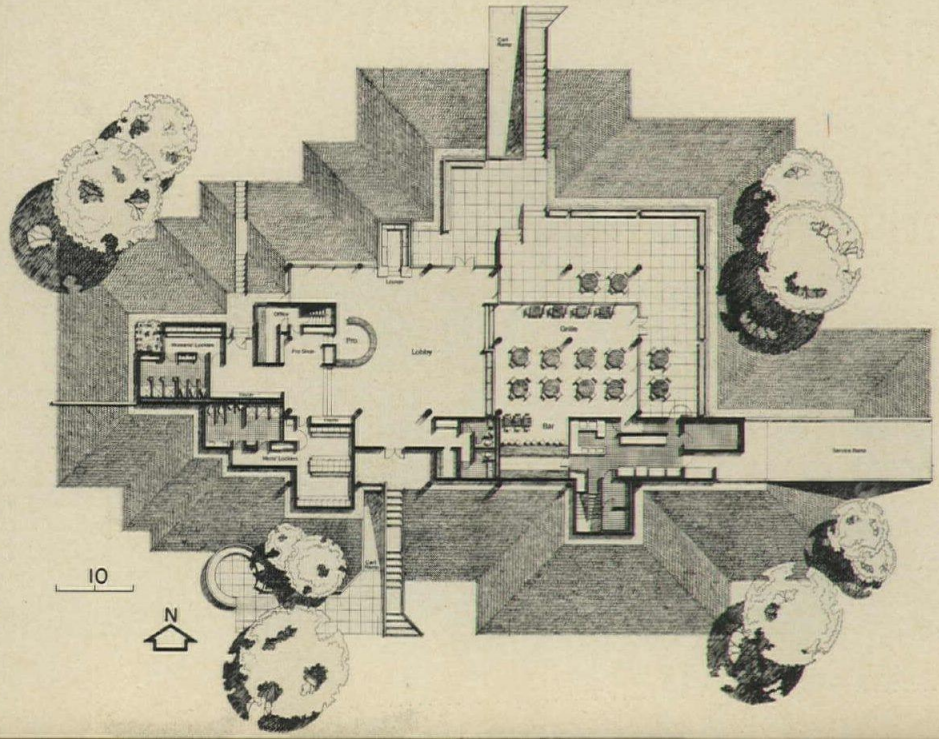
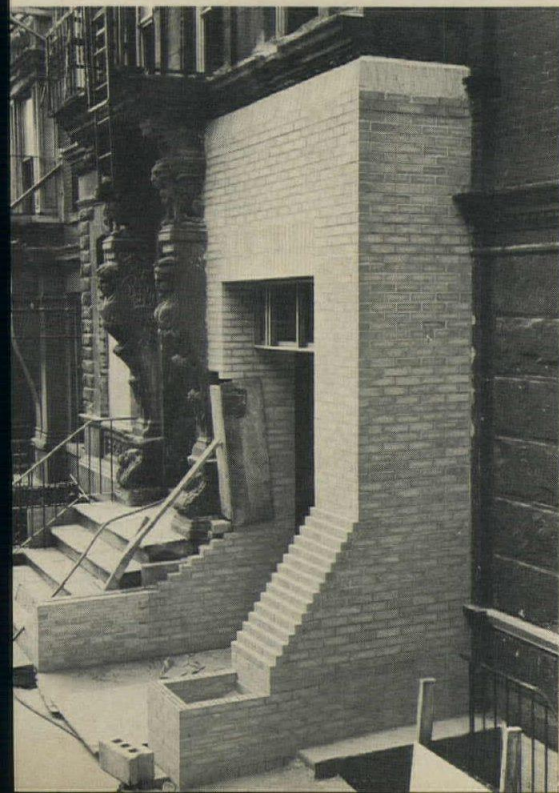
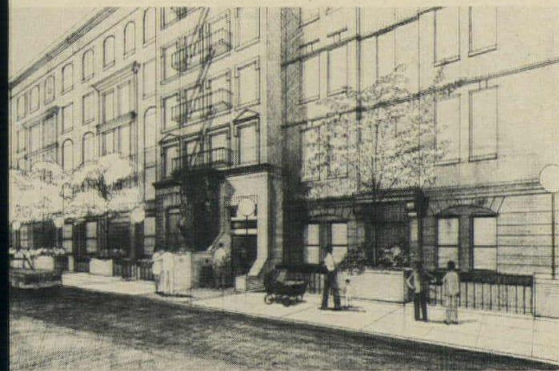


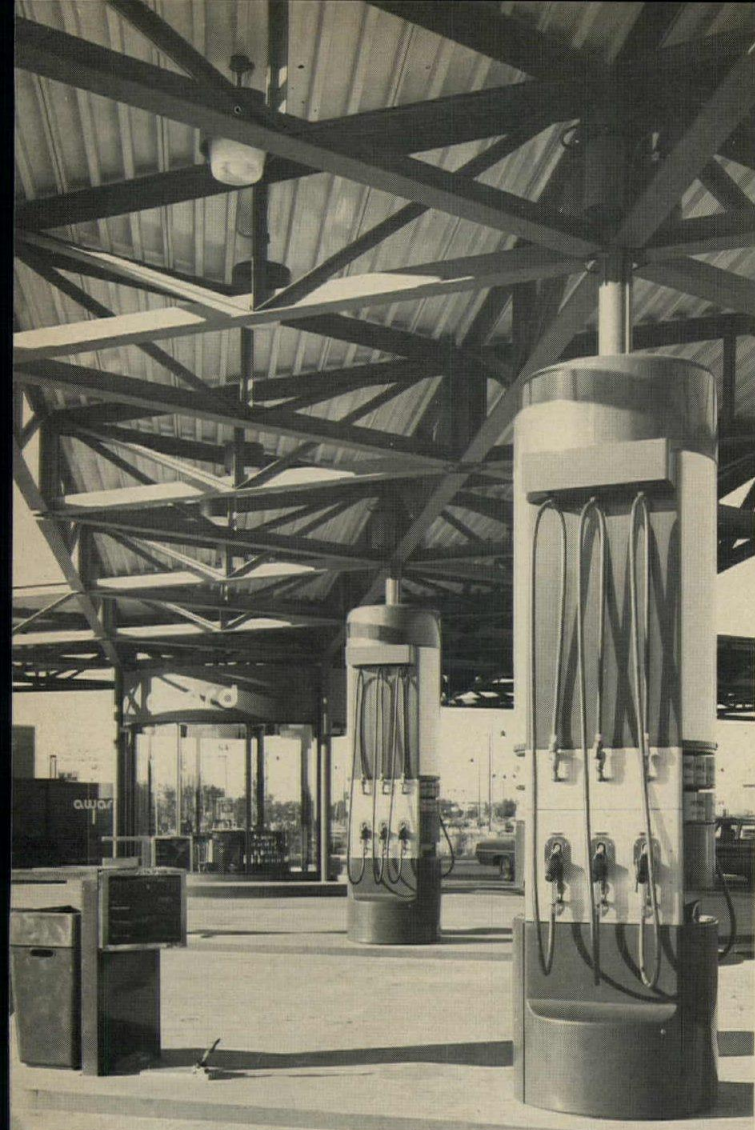
Joseph W. Molitor photos



**Palmetto Dunes Clubhouse, Hilton Head, South Carolina; by Copelin and Lee, New York City.** This central clubhouse for two full golf courses was built within a new resort development. The main upper structure, 28 feet high, is a series of trusses cut out and varied to receive light and to modulate the space beneath. Below the shingle roof and slung between the round columns that support the trusses are all the "functioning" elements of the building—locker rooms, storage areas, and kitchen facilities—

each designed for future expansion. These lower elements are solid, of beige stucco, while the large truss structure containing the pro shop, lobby, and restaurant is completely glazed both between the columns and at the triangulated gable ends. Beyond the glass, with long vistas of the golf courses, are the terraces and benches to accommodate those people waiting to play. Engineers were Dolton & Dunne (mechanical/electrical) and Donald Butterfield (structural). Contractor was G. E. Moore, Inc.



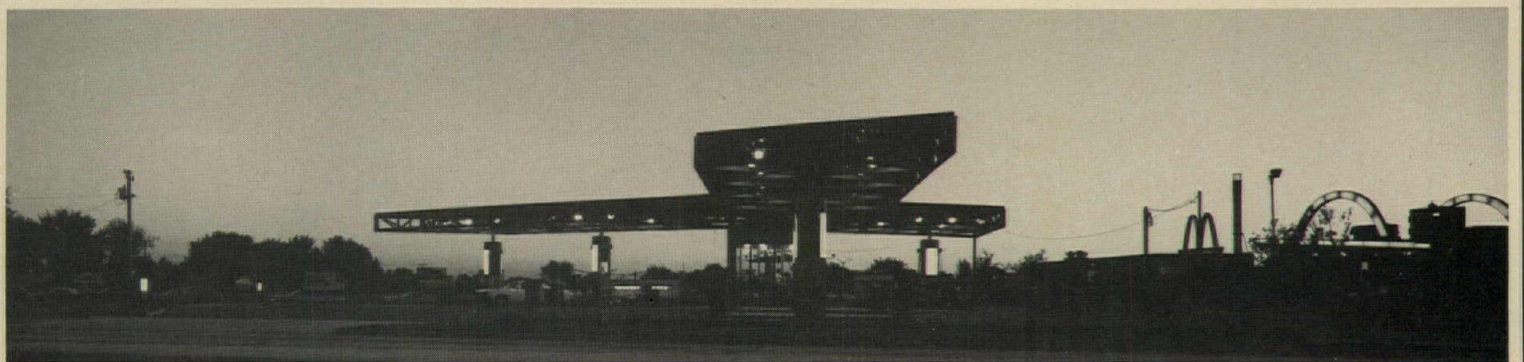
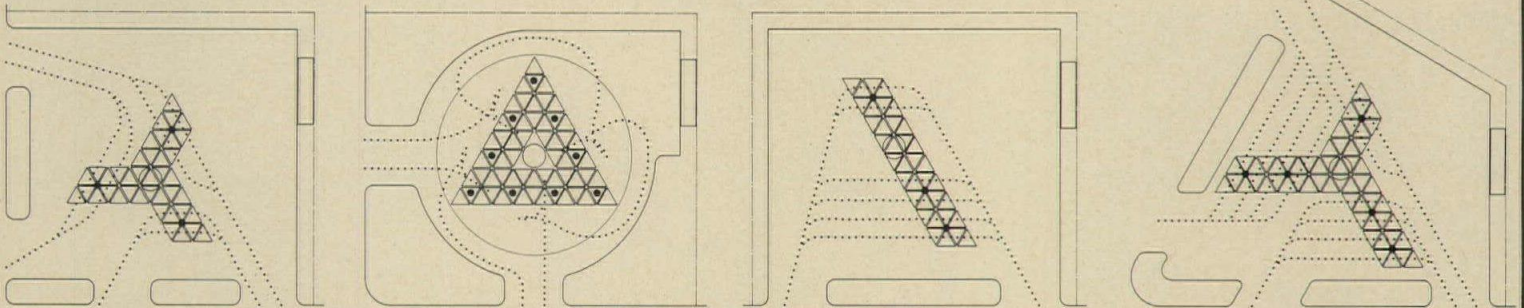


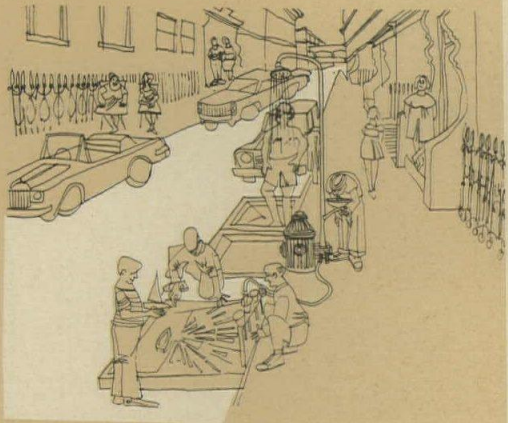
**Gas station for the Award Oil Co.;  
by Booth & Nagle, Chicago.**

This station design is adaptable to large variations in its site and traffic patterns, without losing its powerful visual identity. It is created from a family of four components: gas dispensing modules or pumps; an attendant waiting module; the triangular roofing module; and a utility building that is at the edge of the site containing lockers, storage and washrooms.

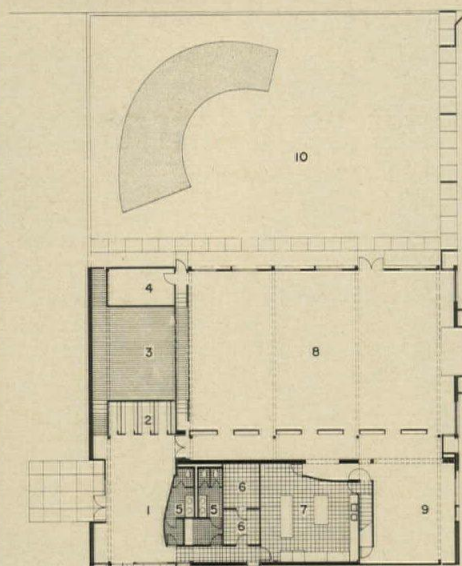
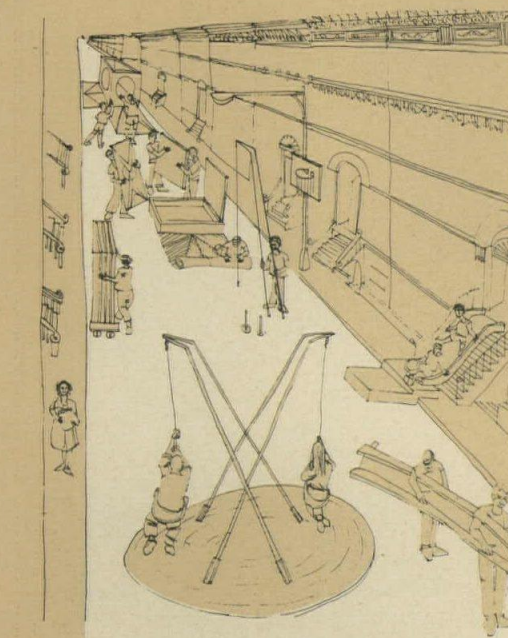
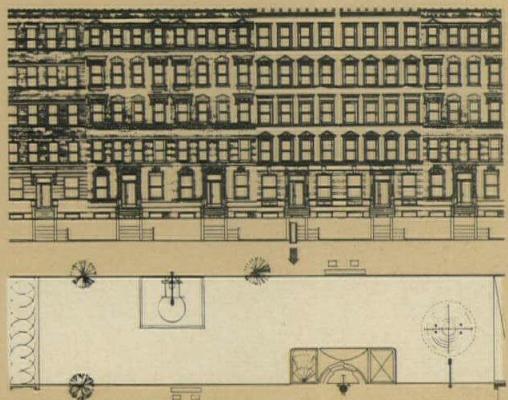
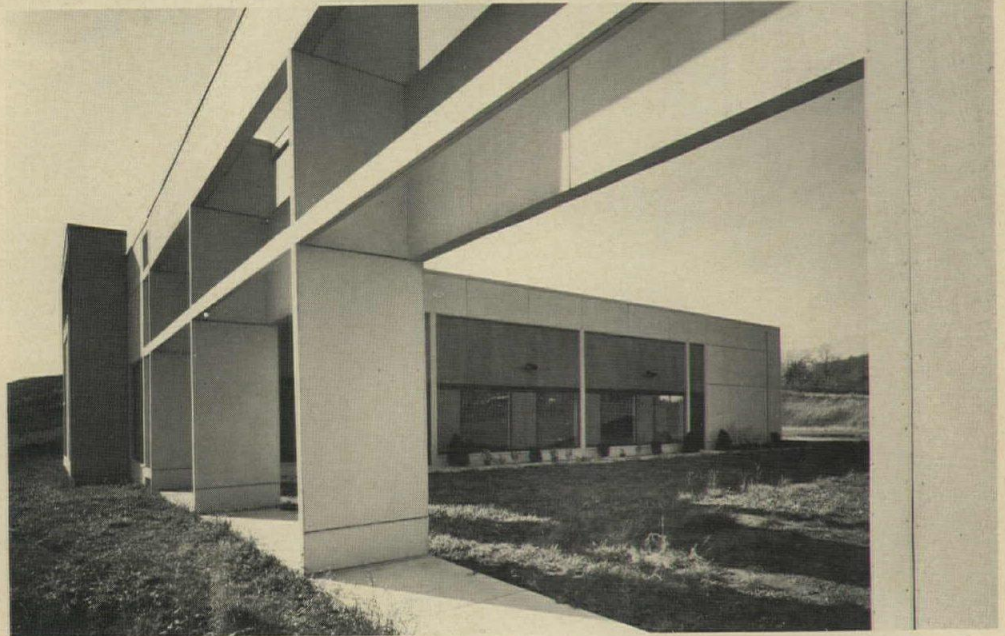
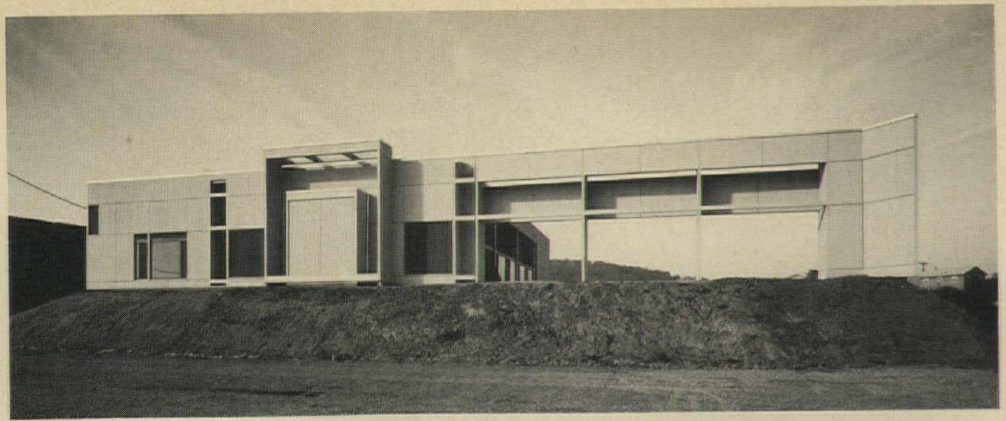
The image of the station develops from the scale, the repetitive structural system, and the size of the pumps plus the clear and uncluttered access patterns. The architects designed the station in coordination with The Center for Advanced Research In Design, and explain that the design process was fundamental to reaching the solution they did. "A team was formed with members from the graphic arts, product design and architectural disciplines. All members

of the team participated in a very long and exhausting analysis of the problems—image, marketing, employee relations, signage, etc. Then all factors of the problem were correlated to identify groups of smaller problems that were closely related and easily understood." The commitment to the problem and the effort put forth by all members of the inter-disciplinary team were clearly evident in arriving at this solution.





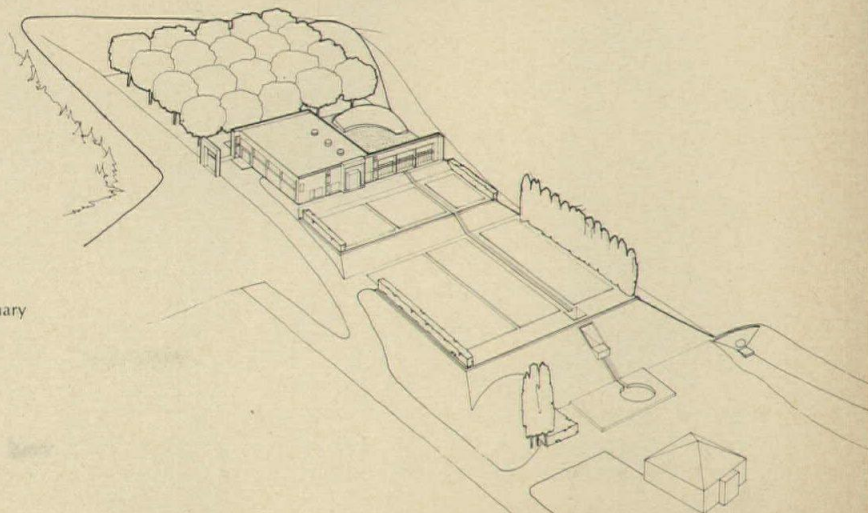
□ **Proposal for a year-round play and recreational facility for selected New York City streets; by Michael J. Altschuler, New York City.** One storefront is the workshop for the games and street furniture developed by the neighborhood, where children can make their own derby cart for the festival contest. City fire hydrants serve several uses through standardized adaptors—as drinking fountains, outdoor shows and water sprays. Basketball backstops are designed to fit standard light poles. Client: N.Y.C. Council for Parks and Playgrounds.



- 1 Entry
- 2 Coats
- 3 Stage
- 4 Storage
- 5 Toilets
- 6 Mechanical
- 7 Kitchen
- 8 Social hall/sanctuary
- 9 Library
- 10 Garden

□ **Synagogue, Syracuse, New York; by Chimacoff/Peterson, Ithaca, New York.**

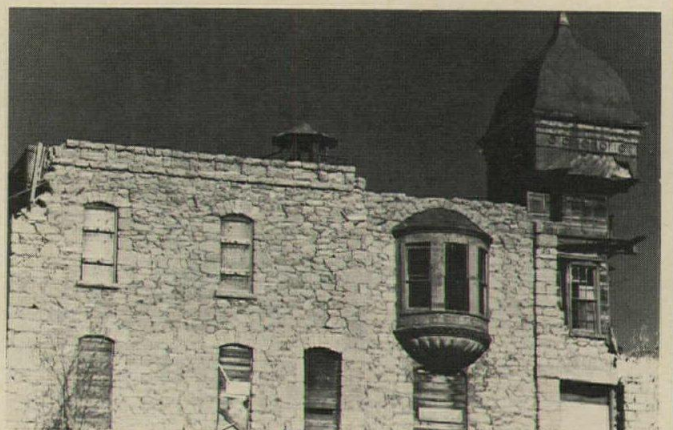
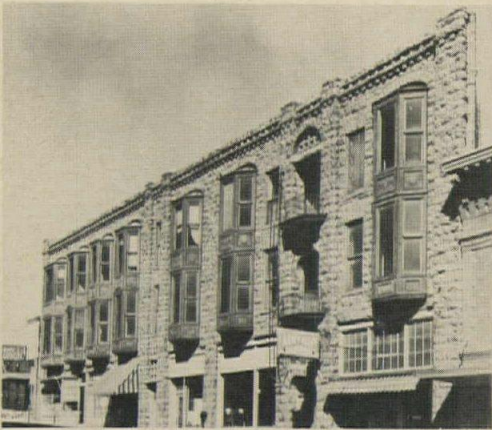
A congregation of 175 families has built on a suburban site that required much re-contouring to make it accessible. The architects wanted simple "neutral" interior spaces and exterior forms—because each room has a multiple-use and additions are expected in the future. The columns and roof structure are a pre-engineered building, while the exterior walls are stained plywood over a wood frame, as are some interior partitions. The plywood was stained in the factory and fastened with coated nails; there was no on-site painting. The present screened courtyard will remain as future additions are planned around it.

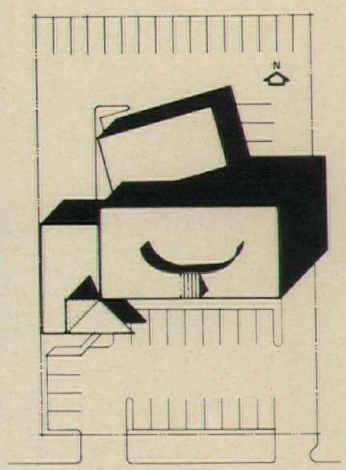




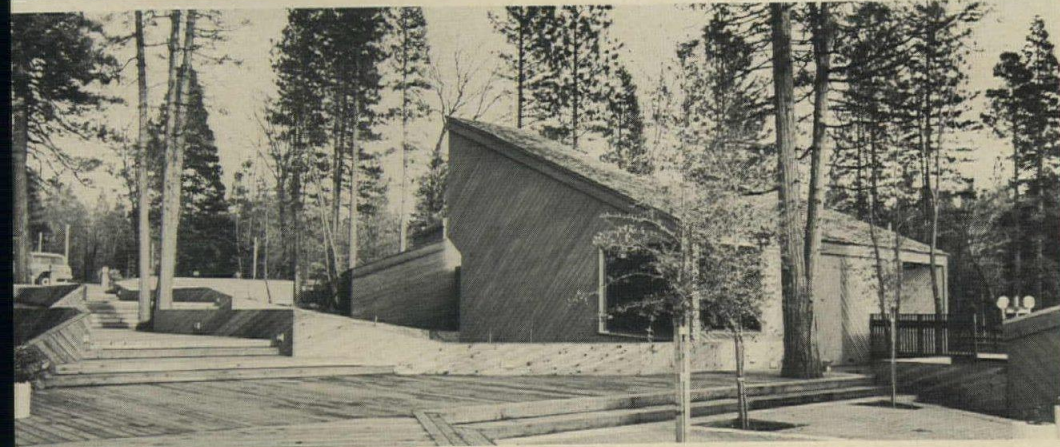
**Historic Architectural Survey  
for the City of Helena, Montana;  
by Jacobson & Shope, Architects, Helena.**

In 1968, Helena was designated a Model City and received a HUD grant to plan the restoration of the central business district, as part of urban renewal funding for the city. Jacobson and Shope subsequently completed a survey of over 90 structures, some of which are shown on this page, and the firm is currently doing rehabilitation work on two; the Diamond Block (below, middle) and the Old Blue Stone House (two photos left, middle). Helena possesses magnificent nineteenth-century architecture, but some of it is deteriorating rapidly. Survey work such as Jacobson and Shope have accomplished is a vital first step in preservation. Mr. Shope is 31 years old.

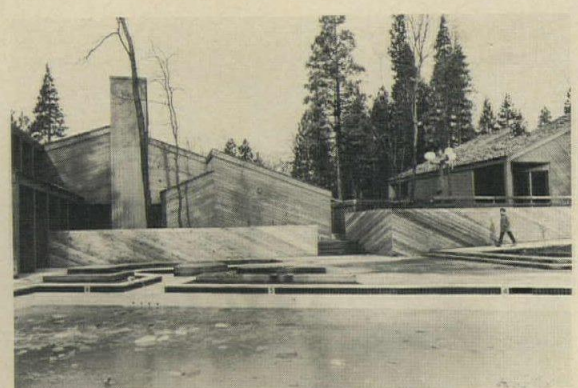
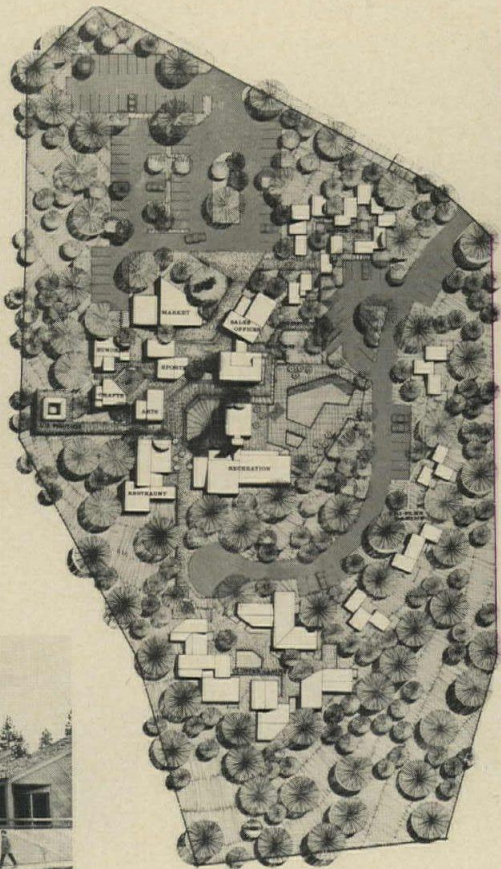




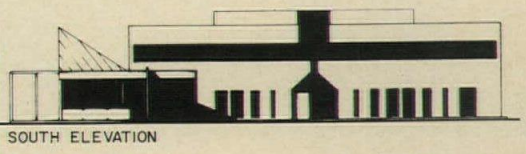
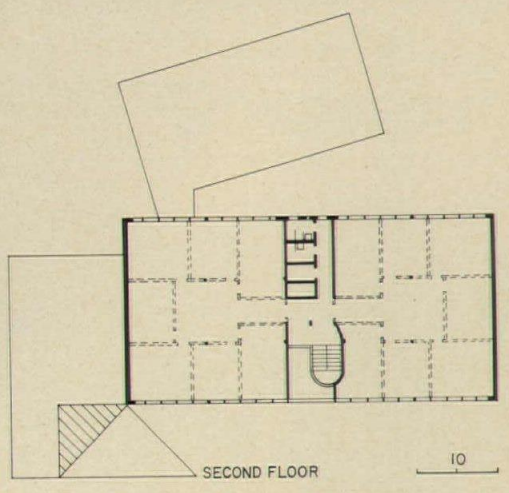
□ The Gilliam Office Building, Houston; by W. Irving Phillips, Jr. and Robert W. Peterson, Houston. This partnership has been busy since its formation in 1969. Several houses are underway or completed, along with two fire stations, three large-scale planning projects, and several small commercial structures like this one. It houses everything from realtors to fast foods along a busy roadway, and is a direct acknowledgement of its commercial purpose. A few acute angles and cutouts in the facade bring it "out-of-the-ordinary."

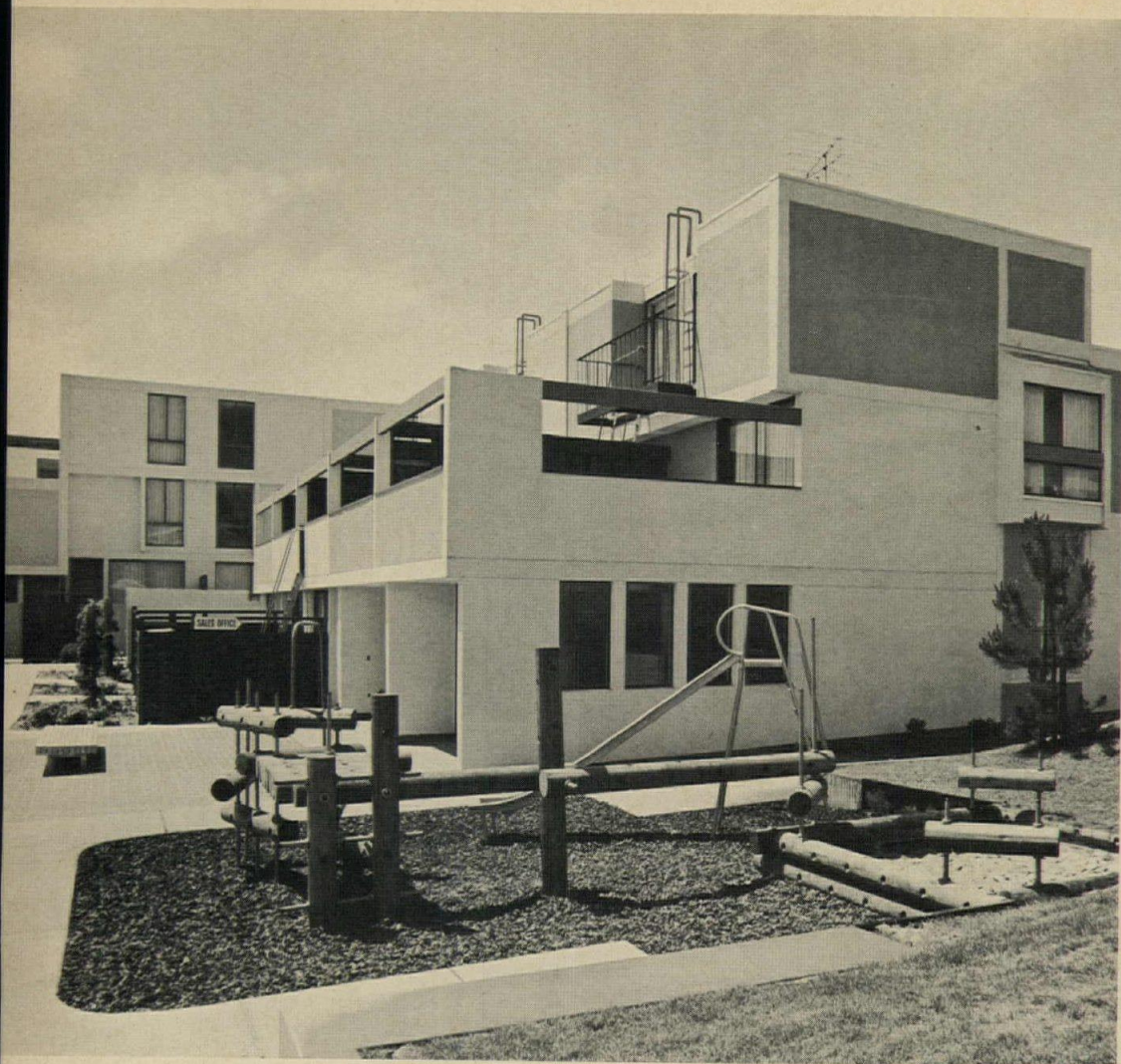


□ Paradise Pines Development, near Sacramento, California; by Stewart Woodard & Associates, Irvine, California. A central "village" has been designed for this development project, in which lots are restricted to single-family houses or mobile homes. The first stage includes a sales office, a restaurant and bar, conference rooms, a swimming pool, saunas and other recreation spaces. These are grouped around a central plaza of redwood decking with a weathering steel fountain in the center. Building exteriors are stained cedar with wood shingle roofs, relating well to the pine forest around the site. This second home community is being developed by the Larwin Group of California.



Elyse Lewin photos

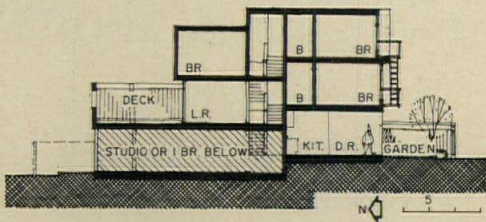




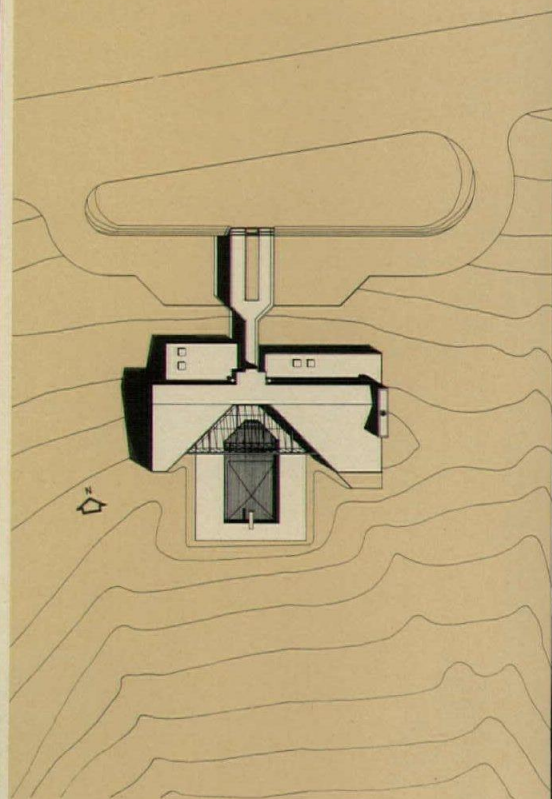
□ The Combs residence, Springdale, Arkansas; by James Lambeth, Fayetteville, Arkansas. This house, now under construction, is a renewed application of James Lambeth's research in solar radiation as a way of heating interiors and exterior surfaces. Here, the swimming pool is placed to collect the maximum amount of solar gain in the winter and to decrease gain until mid-summer. This is done using a mirrored surface above the pool area, as the drawing (above right) indicates. The mirror is angled to the south at 75 degrees. The side walls are at 45 degrees to the south, admitting winter sunrise and sunset, and blocking off summer sunrise and sunset. This gives the Combs residence a 27 per cent gain at mid-winter, heating the water and the enclosed portion of the deck. The solar device generates powerful geometric forms, which Lambeth, age 31, has used to organize his plan.

□ Loren Miller Homes, San Francisco; by Wasserman-Herman Associates, San Francisco. This high-density, low-rise housing has been designed so that individual apartments control their own private outdoor space as much as possible. Public spaces have been reduced in size, and the developer is attempting to sell each apartment as a private co-operative. The construction techniques and materials were appropriate for

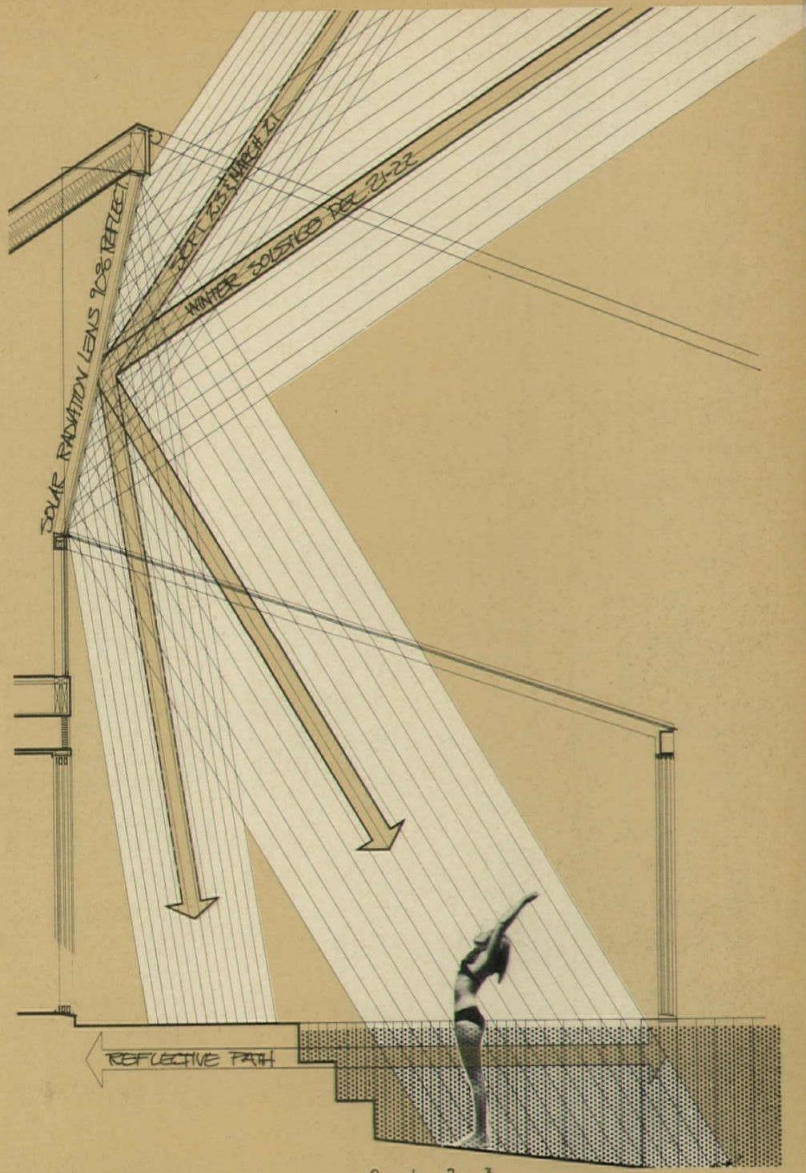
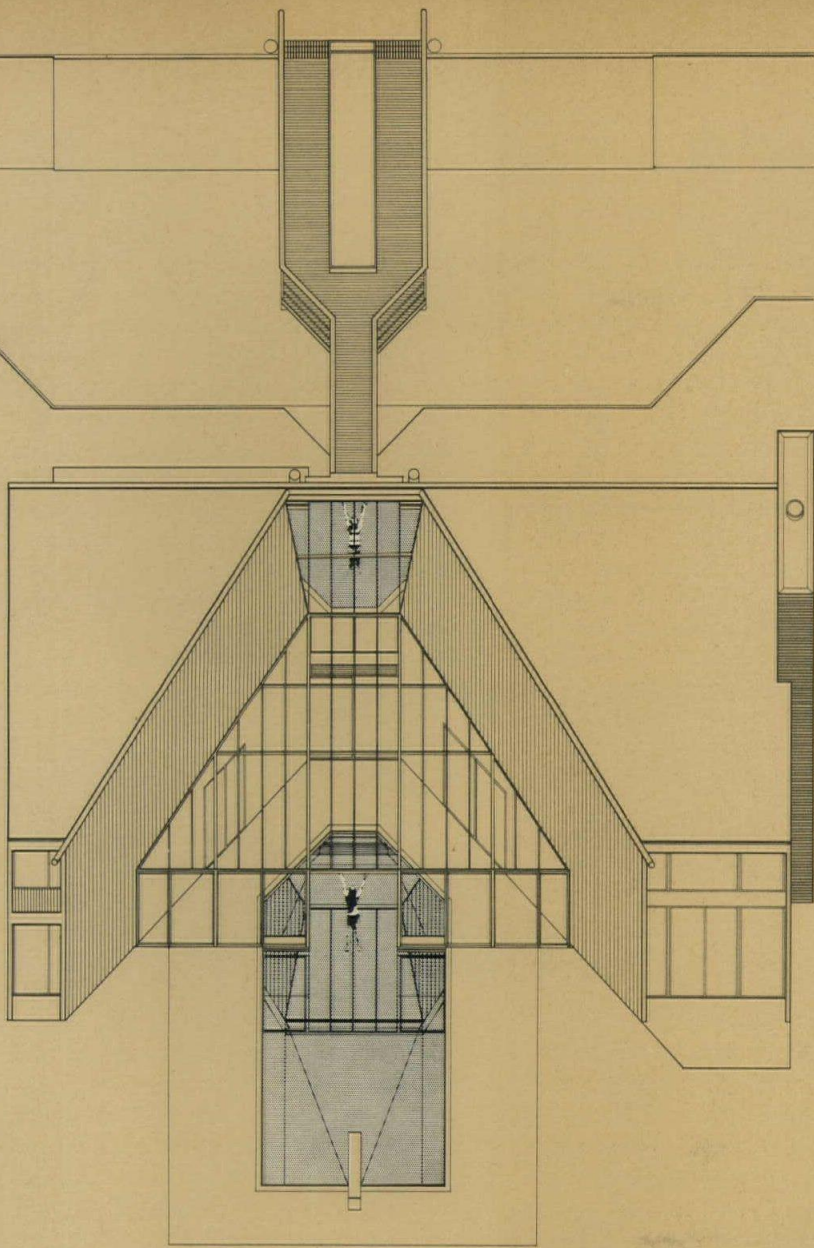
an apprenticeship training program during construction. There is 75 per cent on-site parking, with no parking garages. The Federally-financed 236 project makes sense in its core-city location, attempting to give individual control over property to individual residents. The sponsor was the Labor Assembly for Community Action in San Francisco and the contractor was Maisin-Taylor Associates.



Robert A. Isaacs photos

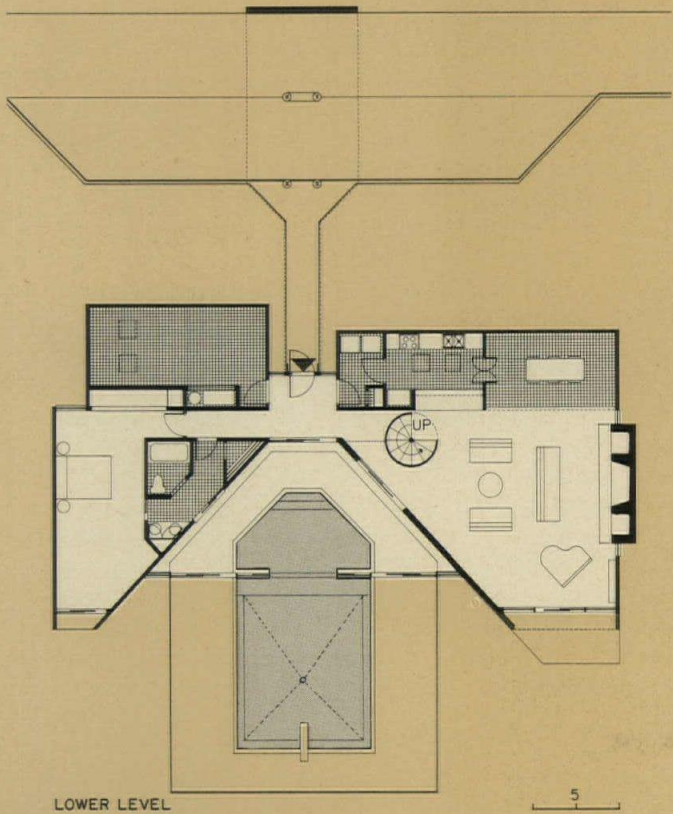






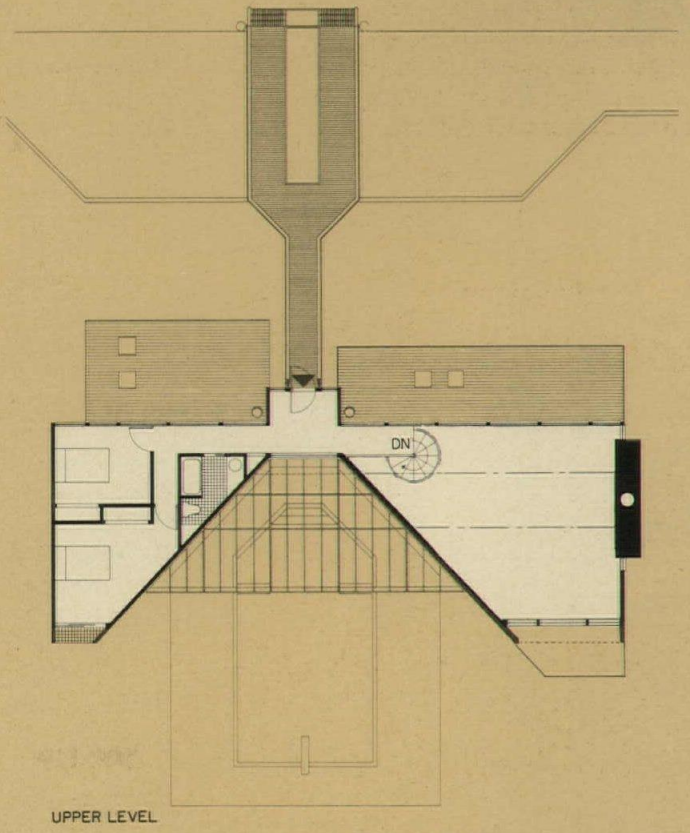
SECTION THROUGH SOLAR LENS

0 1 2 3



LOWER LEVEL

5



UPPER LEVEL

# NEW ROLES FOR YOUNG ARCHITECTS

Urban design and planning as well as public service, new uses for computers, various aspects of real estate development and allied arts are fields that young architects are exploring with enthusiasm.

**E**very young architect has heard at one time or another a person who graduated from architecture school in the thirties say—very apologetically—that he was “forced” by the Depression to find another field than architectural design in which to make his living.

Today's beginning architects, however, some faced with similarly meager job prospects, see the alternatives to traditional practice in a much more positive way. If the schools have dragged their feet in broadening the scope of architectural education, the graduates themselves are not as tyrannized by the myth of the designer as the preferred professional role in the way earlier generations tended to be.

That means that many young architects have moved with gusto into areas their seniors often viewed with disdain or prejudice. The obvious result is a boost in quality of the architectural input in such fields as government service, planning, computer and programming technology, and real estate operations, areas that formerly got design professionals with a marginal sense of commitment to them. Many of the replies in our survey of young architects (page 81) indicate that increasing numbers of them are vigorously and significantly involved—by their own choice—in non-traditional practice.

Practice based on political action—direct or indirect—unheard of in the past, is perhaps the most intriguing new development in the area of alternative practice. James F. Gayton III, who at 34 has a substantial practice near Pittsburgh, was a candidate in November for the Pennsylvania General Assembly. While he lost, his point of view was expressed to many who might not otherwise have known of his ideas as a citizen and an architect. But political action means more to young architects than running for office or even working for a political party. In fact their principal impact has been through organizations whose political aspect is much broader than that. The Peace Corps, Vista, Community Design/Development Centers, government bureaus at all levels, and even the national AIA staff are agencies which have been strengthened in their operations by the participation of young architects.

Another discipline to which young architects have been drawn with enthusiasm is the use of computers. For site planning, programming, construction management and cost estimates—even some intriguing

graphic studies—people with an architectural background are developing new and useful possibilities for computers. The whole field of real estate development, which has recently become one of the hottest topics in the profession as a whole, has attracted many young architects. They have taken jobs ranging from carpenters to real estate salesmen to entrepreneurs—and have made unique contributions. We have also included in this section people who are working in the areas of planning and urban design, which, although always closely allied to architecture, have become clearly separate disciplines in recent years. Finally, we will mention a few young architects who have chosen other artistic media than building to express their ideas. But then, that's a rather more traditional alternative to architectural practice than computers or political action.

When John Kennedy first announced his intention to sponsor the Peace Corps if elected President in 1959, few of the architects under 35 today had yet graduated from school. There could hardly have been a more enthusiastic group of students than those studying architecture since the Peace Corps offered possibilities both to build and to alleviate social inequalities, the twin goals of so many when they entered school. In the end, many fewer actually served abroad than may have wanted, to, but their contribution was remarkably substantial for their age. Tunisia is a country where young architects accomplished a great deal. In the past ten years, the volunteers have built everything from mosques to new communities, always careful to preserve local traditions and art forms and to use local materials as far as possible. Two interesting commercial projects there were the new market complex for Houmt Souk on the island of Jerba designed by Peace Corpsmen Thomas Rochon and Thomas Bast (photo acrosspage, third from top) and a tourist center for the town of Tozeur, Tunisia by Michael Kaplan and Kenneth Karpel. Both use masonry vaults and harmonize well with their surroundings. Another remarkable project by a Peace Corps architect was the new Parliament building for Western Samoa. Joseph Snearly designed a solid timber shell dome (acrosspage, bottom photos), 103 feet in diameter, which used a traveling boom to generate its form and from which workmen glued and nailed each successive ring of wood. The dome was self-supporting during construction.

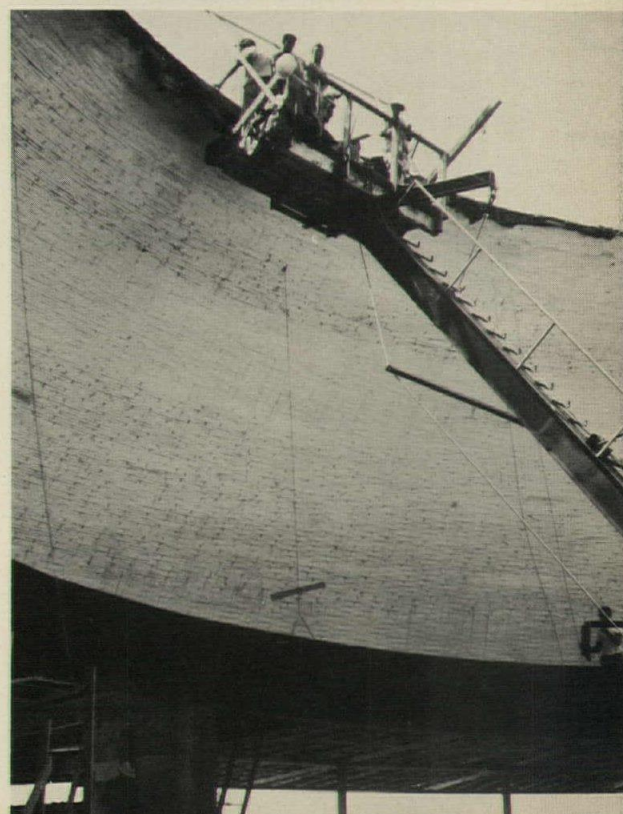
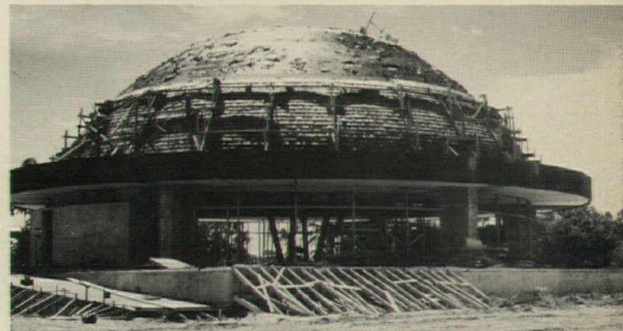
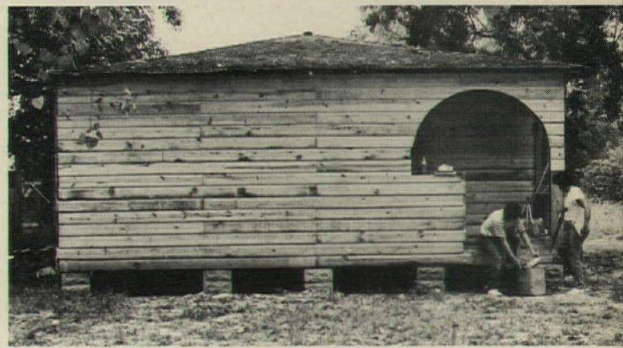
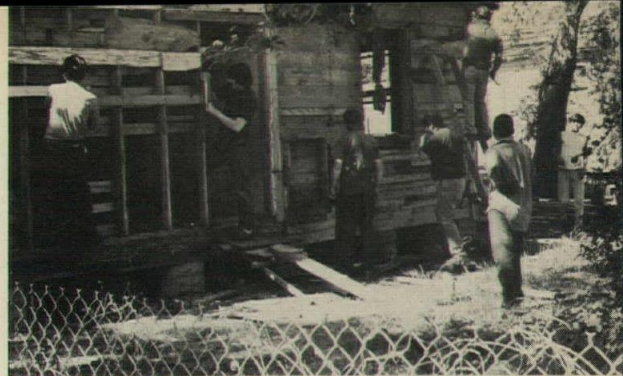
In the United States, VISTA volunteers who had studied architecture have staffed many of the Community Design/Development Centers that provide a domestic service equivalent to that of the Peace Corps. In fact, although older architects and planners have offered important guidance and made substantial contributions, the CDC movement, never financially viable, would have disappeared long ago without the committed efforts of architects under thirty-five. From those active as directors of various local CDCs and members of the national organization (see *RECORD*, April 1971, page 10 and October 1971, page 128) which worked with the AIA to the architectural students who flocked to help, the CDC movement has been one of youthful enthusiasm. Advocacy architecture, as Michael Sorkin makes clear in his essay, "The Radical Alternative," in this issue, is perhaps the most substantial contribution architects can make toward redressing of social and political ills. One especially worthwhile project which came to our attention during preparation of this issue is a teen-age center for a run-down neighborhood near Houston (top photos, right). Called "The Brave New World Truck Stop," it is in a remodelled abandoned house and was directed by the Buffalo Speedway, a group of young architects assigned to the job by the Houston Urban Bunch, the local CDC. Their comment: "The building itself is not the solution to the problem. Hopefully, the process of which it is a product may eventually lead to a solution."

Affecting the process of our profession's involvement in national political terms, the opposite end of the scale, are the ten architects under thirty-five who have important positions on the national AIA staff. Between them, they direct the majority of the departments into which the organization is divided and run many of the programs. The five who administer departments within the Institute are: James C. Donald, Government Affairs; Arthur T. Kornblut, Professional Services; Michael B. Barker, Environment and Design; James E. Ellison, Education and Research; and E. Donald Van Purnell, Community Services. The other five are program directors: Wayne L. Schifflbein, Federal Agency Liaison; Steven H. Rosenfeld, Professional Practice Programs; Robert A. Harris, Component and Student Affairs; David S. Clarke, Assistant Director for Education and Executive Secretary of the ACSA; and Stuart W. Rose,

Continuing Education. Vernon Williams, the effective director of the AIA's Community Design Centers program, recently joined the National Urban Coalition.

**B**ut no group of young architects has matched, for sheer drama, the accomplishment of the five who approached John V. Lindsay during his New York City campaign mayoralty in 1965. They suggested that the urban design process might be valuable in tackling the city's physical problems should he win the election and assume the responsibility for them. Jonathan Barnett (then a *RECORD* associate editor), Giovanni Pasanella, Jaquelin Robertson, Richard Weinstein and Myles Weintrub, the oldest barely thirty at the time, proposed first to study the decision-making process of the New York City government. It was their contention that by identifying the places where choices that reduced the quality of urban life were made, that the planners could gradually improve things by pointing out better alternatives. They saw the city itself as a process, not as an almost infinite series of independent actions unrelated to each other.

Fortunately, both Lindsay and Donald Elliott, who became chairman of the City Planning Commission, understood the potential in the group's proposal. As Jon Barnett has said in a comprehensive report on the first four years' work of the Urban Design Group, which was organized after Lindsay's election (*RECORD*, January 1970, pages 131-150), the good luck of being there at the right time has led to new techniques and concepts that otherwise would not have developed. Here—as in the Peace Corps or CDC work—the circumstances are most certainly political but not based on the partisan politics that older architects have shrunk from. Because the Urban Design Group has been able to present its ideas with clarity and firm factual support, it has prevailed against those whose motives cannot only be described as corrupt or self-serving but which work against the realization of the City's potential. In other words it is hard-nosed idealism. At the same time, the Urban Design Group did not propose to be unsympathetic to the human problems of the city. "City planners," wrote Jon Barnett, "can no longer take refuge in a cult of objectivity and impersonality, because a decision-making process that does not consider the social consequences of an action



does not relieve the government of responsibility for the results."

The range and scope of the Urban Design Group's projects, once it was established in 1967, is breathtaking. The basis for most of the work is imaginative and thoughtful use of existing zoning laws. Midtown Manhattan is the site of three special zoning districts that the UDG has helped develop for the City. It was their contention that for zoning to be more constructive, to make large-scale co-ordinated development possible, it had to be dealt with in larger chunks than the block-by-block effect it tends to have. The first special district is that around Times Square and has as its principal goal the development of new theaters as well as through-block arcades and other street-floor amenities.

The second district, around Lincoln Center, was designed to stimulate construction of a covered pedestrian promenade from Columbus Circle past Lincoln Center on the east side of Broadway. The third district involves Fifth Avenue from 42nd Street to 59th Street. To stem the flow of department stores and other intensively used commercial establishments from Fifth Avenue to less expensive space elsewhere, the Midtown Planning Office, a division of the UDG directed by Jaquelin Robertson, has proposed regulations which will require inclusion of both commercial and residential space in office buildings built along the east side of Fifth Avenue.

Another example in the Bronx is the Concourse Action Program. The Bronx Office of the City Planning Department developed a community advocacy design team to work with local organizations on the four major problems of the area around the borough's Grand Concourse: safety, sanitation, housing maintenance and recreation. The young architects involved, Peter Magnani and Robert Esnard, worked mostly with the committee on recreation facilities to program and design the rehabilitation of two major parks, a vest-pocket park, and other facilities. Their proposal for treating a street which has been turned into a pedestrian mall (across-page, bottom) includes a series of portable modular precast concrete units that can be interlocked to form many different elements of street furniture.

Chris Chadbourne, who at 28 years old was made director of the Staten Island office, is an example of the young architects who have been attracted to the City Planning Commission staff since the Urban De-

sign Group was founded. He describes his work as "Environmental Management." He sees his role as attempting to "maximize the output of the decision-making processes which guide development in all sectors of the economy."

A final example of imaginative yet highly useful work done by the young architects associated with the Urban Design Group is the project to build a park on the ten-acre roof of the existing sewage treatment plant at Owl's Head in Brooklyn. Working largely on their own initiative, Michael Kwartler and Charles Reiss developed a scheme for landscaping which did not exceed the roof loading limit of 150 psf and which met the budget of \$150,000 per acre. They also worked with the community in developing the operating budget for the park in order to convince the Parks Department the facility was needed. This comprehensive approach is typical of many of the young architects now employed by these government agencies.

Indeed, perhaps the most valuable contribution the UDG, the UDC, and similar city and state organizations are making is in the practical training of young urban designers. People working in these programs constantly refer to the opportunities they have to develop new techniques for dealing with the governmental decision-making process. In other words, they are constantly learning how to deal constructively with the real forces that shape the environment in America. It's not so much what the developers do that matters—but how they are allowed to do it by the regulatory agencies and governing bodies. The input which shapes the decisions those people make, and they are often as politically motivated as any "machine" politician might have been, comes from this new breed of urban designer who has learned to wrestle with—and often beat—the political process. As time passes and conditions change, these individuals will move into important planning posts all over the country and it will be then that the true influence of the five young architects who approached John Lindsay over seven years ago will be known.

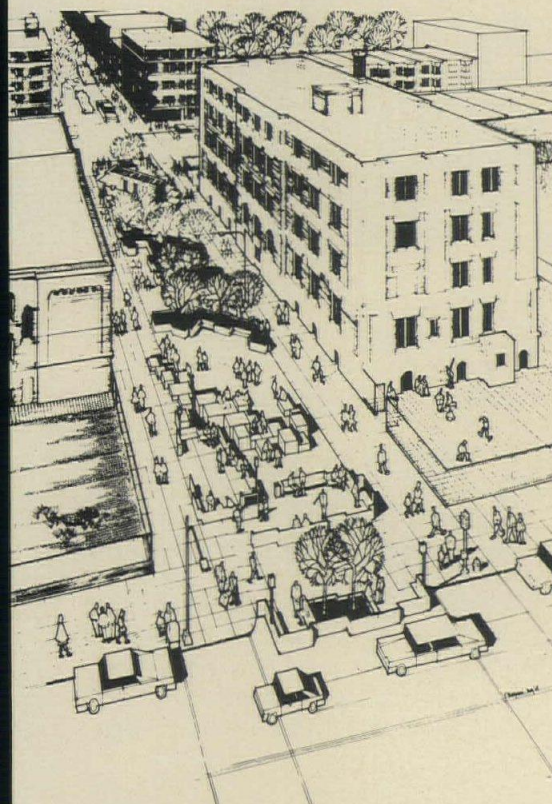
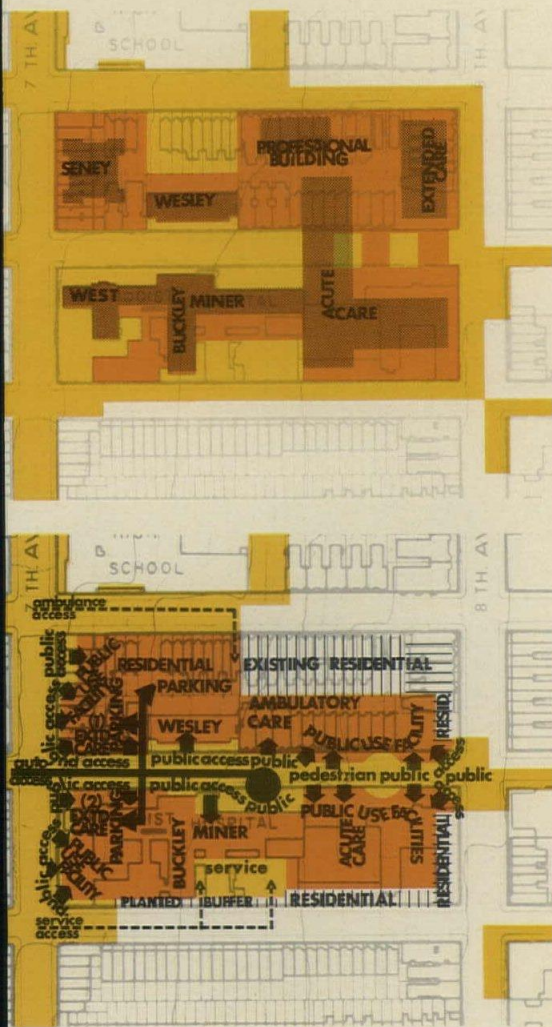
Even now, of course, New York City is not the only place where young urban designers are influencing policy and urban growth. In Los Angeles, the two huge architecture/urban design/engineering firms of Gruen Associates and Daniel, Mann, John-

son and Mendenhall each have assembled teams of extremely talented young designers who produce stunning proposals for downtown renewal projects and new communities. Cesar Pelli, who has served as Director of Design for both firms, seems to have a genius for directing committed young architects working together to solve complex urban design problems. Not only do these projects appear to resolve many conflicting requirements, but they always do it with exceptional style. One of the most aromatic results of this teamwork was the original winning entry in an international competition for the "UN City," an office and conference center in Vienna (RECORD, February 1971, page 37).

Actually, the work in Los Angeles and New York represents quite different attitudes toward the city as an entity, both of which can be seen as extensions of architectural thought. On the one hand, the Los Angeles approach seems very much in the sculptural tradition. Not only are the forms themselves highly polished—that is, sleekly shaped as well as thoroughly designed—but the various conflicting functional requirements are manipulated until they work together as a visual whole. Process is implied by the seemingly open-ended nature of the forms although in many cases, too much growth would weaken the sculptural impact. In the New York work, on the other hand, "process" is so thoroughly emphasized from the beginning (the functionalist approach) that the results often are disappointing. The new apartment building directly across from Lincoln Center on Broadway, built in conformance to the Midtown Planning Office's regulations, is still an aggressively ugly building. Maybe there is a natural law that says it is impossible to build beautiful buildings in New York.

Not all the young architects in urban design and planning work at the large scale that is implied by either of these last examples. To the extent that their effort goes beyond the design and construction of individual buildings, they are practicing in what we have chosen to call a non-traditional fashion. There were a number of submissions for this issue involving site planning for land development at resorts or in suburban areas done by young architects. There were also examples of comprehensive planning such as the proposal for Seattle's Lake Union by Joyce, Copeland and Vaughn.

Finally there were many parks and environmental design projects submitted by



people trained as architects, some of which appear in other portions of the issue. The best known of these were the two cascading fountains in Portland, Oregon by Lawrence Halprin and Associates. Credit for their design goes to Angela Tzvetin, a young Bulgarian architect in the office, who has designed a number of other intriguing parks and plazas on the West Coast.

**P**rogramming of building design is an area of architectural practice which has developed astronomically since most of the people mentioned in this issue began to study architecture—not because it was unknown twenty years ago, but because the sophistication with which it can be used today is so much greater. Computers, of course, have been credited with an important role in bringing about this development, and to the extent that computer language and techniques have opened up new ways of looking at building programming, that is true. But the most important factor remains the efforts by architects and others to understand the complexity of human use of buildings.

One submission, which also falls into the area of urban design and thus makes a good transition into the matter of building programming is a planning study by Raymond Gindroz of Urban Design Associates, in Pittsburgh. When the trustees of the Methodist Hospital in Brooklyn, which had a very tight site, found its expansion plans blocked by vigorous opposition in the local community, it called in Gindroz, whose firm had had success in mediating other institution-community confrontations earlier. What he found required no computer to understand: the local people feared the hospital as a huge and impersonal juggernaut that seemed to have an insatiable appetite for their houses; the trustees, on the other hand, lived elsewhere and had never understood the need to explain their problems to the neighbors. Gindroz and his colleagues told the hospital it could do nothing without community participation. After a painful series of meetings in which each side became aware of the other's concerns, the Urban Design Associates formulated a report that stressed the need to integrate the hospital into the community: "The community image of the hospital is largely a result of what parts of the physical facility are exposed to public view. The elements which face out to the public are now largely

blank walls, service entrances and asphalt parking lots—all creating the image of an impenetrable institution." Their planning and design proposal is summarized nicely by two diagrams (left). The top one is the 1970 Master Plan, which caused the confrontation with the community. Wesley Pavilion was the only hospital property on the upper block at the time. Hospital expansion plans would have taken almost all the remaining residential buildings on both blocks. The revised plan shows that many houses will remain on both blocks and, most important, the street between them is proposed as a pedestrian corridor through which the neighbors are encouraged to pass and where the hospital will focus its facilities for community health care.

"Problem definition" is the way Donald Roughley, a Canadian architect, speaks of programming. As president of Built Environments Co-ordinators Limited, he offers their service to other architects clearly outlining the client's needs in four areas—functional, legal, scheduling, and financial. His firm is especially interested in developing performance criteria that assure optimal psychological and sociological environment. In addition, BEC is developing management expertise with building systems and industrialized buildings. But, their primary concern remains programming as consultants to other architects. They are apparently good at it: since 1969 the firm has acquired an impressive international set of clients, much of whose work involves complex projects in university and research facilities.

Stephen Friedlaender, of Hill Miller Friedlaender Hollander Inc., Cambridge, Massachusetts, is another young architect who has done physical space programming which has had an effect on the organization of the institution for which he was doing the work. In 1970, the Cambridge School Committee asked HMFH to develop immediate and long-range building plans for the Cambridge High and Latin School and for Rindge Technical School, which share a common site. Friedlaender's group quickly discovered that the two schools had "an inadequate educational relationship with each other." So before developing a program for revamping the two buildings, the architects worked with educators to define an educational program to reconcile apparent conflicts in interests and priorities of all the parties involved. Indeed, says

Friedlaender, "The complexity of the problem was such that only the ability to focus both educational and architectural expertise concurrently made it possible to digest the various inputs into a meaningful solution." They propose to consider CHLS and Rindge as two autonomous "schoolhouses" within a larger entity. Within each schoolhouse, students will be divided into 300-member teams, each a representative cross-section of the student population. The vocational and technical facilities would become a separately administered Occupational Resources Center, available to both schoolhouses.

**U**p to this point, the programming described has been accomplished without aid of computers. It appears that when the scope of the project moves beyond the single building or even small building complex, however, there are definite advantages to computerized programming as well as construction management.

In order to control costly delays in the \$1.5 billion construction program of the City University of New York, quite a different scale from the Cambridge study, James T. Biehle, an architect working in CUNY's Management Information Systems Division, has devised two interesting uses for the computer:

The first, called the "Logical Sequence Diagram," lists the major steps of the design process and other important parallel points in a network diagram. The consultant architect to CUNY is required to prepare the diagram before signing his contract and it becomes the schedule for the job. Second, Biehle has prepared computer programs which allow the CUNY Department of Design and Construction Management to monitor their many concurrent building projects.

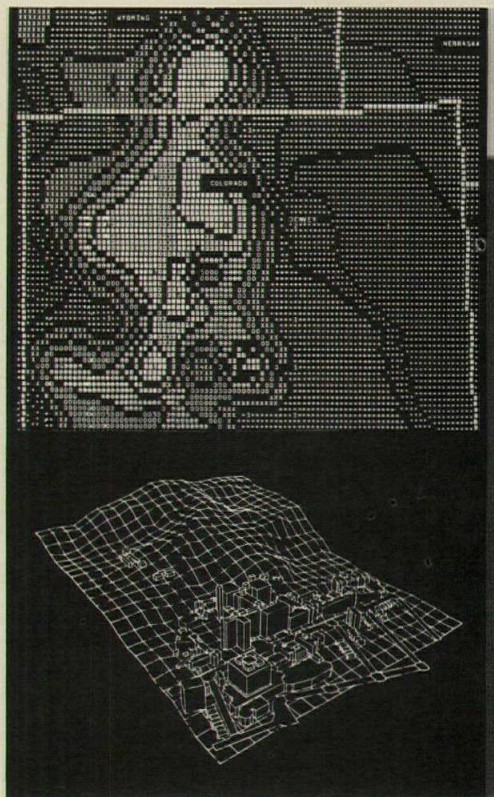
William R. Miller is a young architect who established (with Vahe Khachooni) a multi-disciplinary team called Design Methods in June 1971. Based in Los Angeles, the firm offers computer applications in nearly every phase of architectural practice: from the early stages (market research, financial analysis and site selection) through design (space planning, perspective graphics, and drafting) to the construction management aspects of the project. One special application, use of the computer in environmental impact studies is shown (far right): the upper

cloud cover in Colorado (not a study likely to be done without electronic assistance) and the lower, one of a series of perspective drawings (from various directions) showing the proposed University of California Medical School complex at the foot of Mount Sutro in San Francisco. At the other end of the country and within the structure of a large firm, Skidmore, Owings and Merrill, Charles F. Davis is using computers in similar ways. He and his staff have developed several "information systems" dealing with large interior design projects, hospital programming, manpower projections, historical data on past jobs and cost estimating. Davis sees the role of the computer this way: "The major thrust of earlier attempts at computer applications to architecture was in automating design. This was deceptively glamorous. Design is what architects do best and, for some time to come, what computers do worst. The computer does have seemingly miraculous capabilities in information maintenance . . ."

**O**ne of the most intriguing computer studies that has come to our attention has been done by Donald Greenburg and David Simons who teach architecture at Cornell and Robert Hastings, a graduate student in the Architectural Sciences program there. The Arts Quadrangle at Cornell is seen in the winter (across page). A collection of views, from various vantagepoints, at different times in the university's history, during summer and winter and including night scenes, was assembled into a film by Greenburg, his colleagues and students. The images are generated on a color television set as a set of opaque colored planes which obscure the lines that generated the image. Each plane can rapidly change color, as from snow-covered to the green or gray of the roofing itself or even to the dark grays of a night time view. This is a system, according to Greenburg, which was developed by the General Electric Visual Simulation Laboratory as a teaching tool to aid astronauts in docking maneuvers in space.

Regional planning is one of the most sophisticated uses of the computer. There were several submissions in that category, including that of Design Methods mentioned earlier. In an analysis of the site for the Pattonsburg, Missouri new town, a team of four graduate students in architecture, at Washington University under Robert Royse, John Blackburn, John Crane, Rob Dvorak

and Bob Fuller, used the computer to show that while the site chosen for the new town was quite adequate, another one equally good was available. These analyses use the SYMAP computer program which allows each parcel of land within a given area to be assessed for several factors simultaneously and then compared with others around it. In the case of the Pattonsburg study, overlays based on Ian McHarg's analytic techniques were prepared for agriculture suitability, engineering geology, slope, climate, highway accessibility, vegetation, nuisance factors, views from the highway and of the Pattonsburg Reservoir. The



SYMAP output map, a weighted projection of all the overlays, indicates which of the areas are the best for building development.

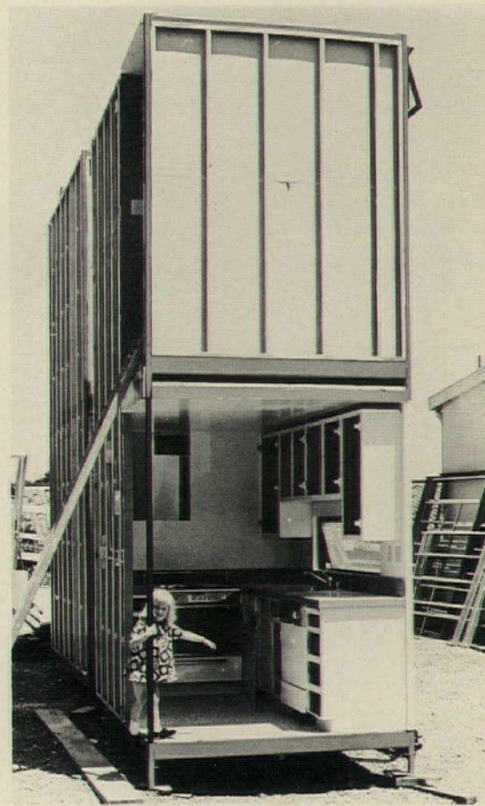
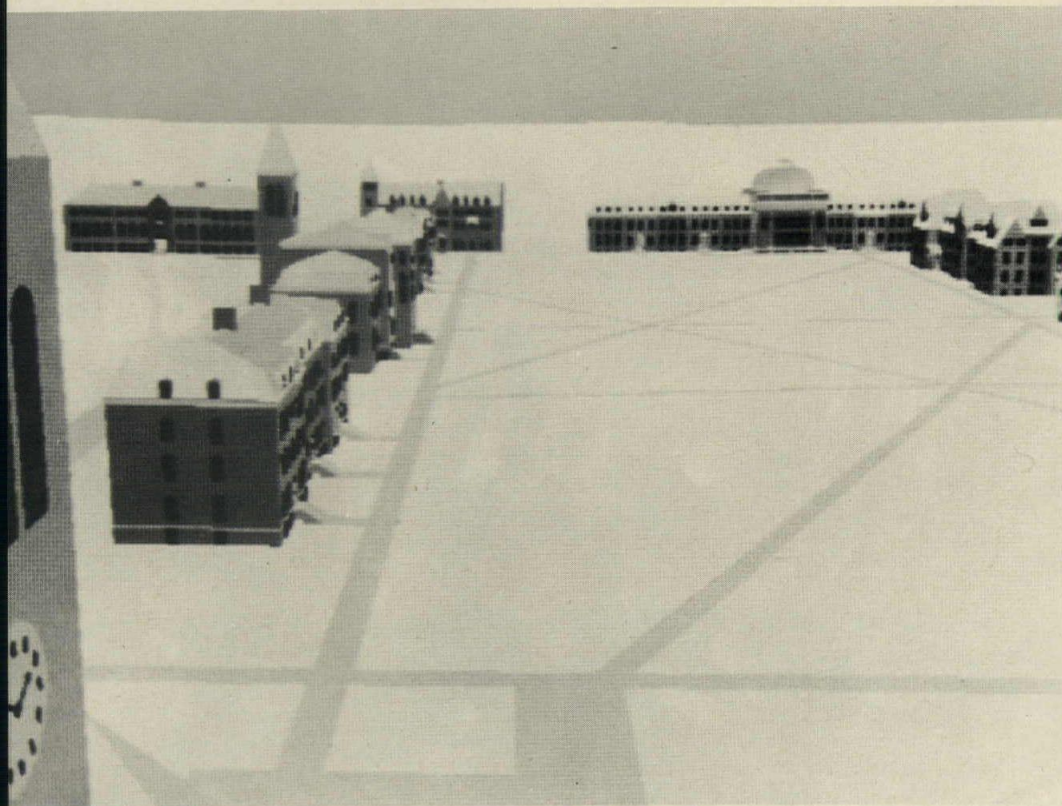
An even more ambitious study using these techniques was undertaken last year by the Urban Studies Center of the University of Louisville. Under Donald Williams, a young architect, and Carl Sharpe, the Center has done a report comparing six sites in Kentucky and Indiana for a new regional airport. This work grew out of an earlier project to find the optimal site for a 100,000-person community, called New-Com, which would reverse the heavy trend of emigration from rural areas in Appa-

lachia to cities. The goal of the airport location study was to develop an analytic procedure for selecting such large sites that can survive the inevitable tests in the courts by those whose interests are compromised. In their words (from *Landscape Architecture*, April 1972): "Our problem was to determine the weight and shape of two stones [NewCom and Airport] plus the size, shape and water quality of the pond [the region] into which the stones would be dropped—in order to anticipate the ripples that will be caused. That's really what 'environmental impact statements' for new components of urbanization are all about."

on analytic performance standards. While the public officials who will make the choice of location for NewCom and the Airport can ignore such recommendations, the solid basis on which the Urban Studies Center report was built seems likely to make it the legally defensible guideline for their action.

**O**lder architects tend to regard the new trend among architects toward more direct involvement in real estate and building development with attitudes ranging from distaste to horror. Almost all the firms involved in working on housing either as developers or

have picked up hammers. Yet starting with the Prickly Mountain boys of the middle sixties—David Sellers and Bill Rienecke—the trend of architectural graduates going directly into building houses instead of the traditional apprenticeship has continued. Many such persons have approached this activity as one way to actually produce the modular design ideas with which they were so caught up in school. James S. Malott is one of them. He is now a principal of International Mod Core Inc. which designs, builds and markets interior utility cores (above) for use in multi-level housing. The fire-proofed Modcores are assembled into



Geological and soil problems were the major deterrents to intense development, so that six suitable areas were quickly identified in the 6.5 million-acre regional area selected for original study. A computer cluster analysis program was used to find areas within the six chosen locations which performed similarly across thirteen "hazard and resources" parameters. These are similar to the ones used by the Pattonsburg team but also included surface and ground water hazards as well as wildlife and natural amenity resources. Twenty-five such clusters were identified from which recommendation for land-use development could be made based

with an equity involvement in the projects have principals under 45 years old, including some who are young enough to be included in this issue. Young architects, as our survey makes clear (page 81), see it as a way to increase their influence on the design of housing as well as a way to make such practice more profitable. The involvement of young architects in this area who submitted material for consideration is wide-ranging.

The most direct involvement, of course, is for the architect to become the builder. Even though the AIA revised its Code of Ethics three years ago to remove the clause prohibiting work for profit, few members

two- or three-story stacks of kitchens or bathrooms at the plant, tilted on their side for shipment to the job. The unit is meant to be incorporated into conventional construction; all design elements are arranged to suit the particular plan into which the units will be incorporated. Malott has also done in a house in Nevada which, naturally, includes Modcores.

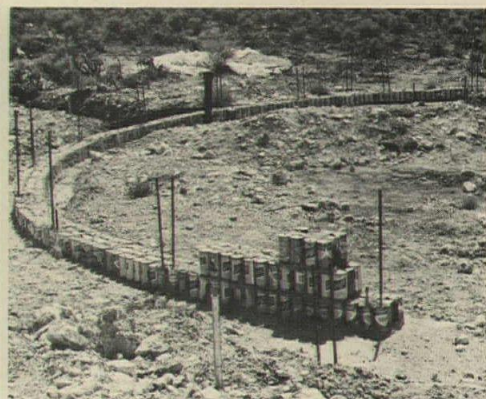
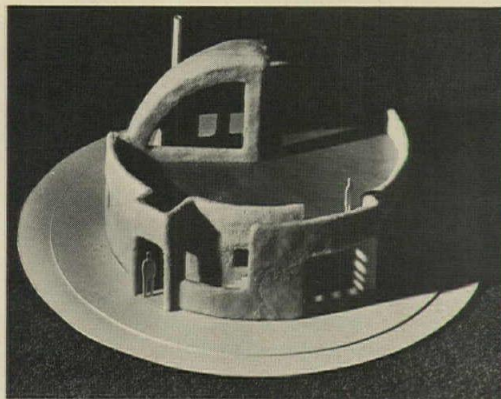
Vaughn McIlrath is another young architect who is actually building houses and other buildings. He calls it "hit and run" architecture. It means that he and his wife Anne move onto a construction site and with the help of the owner, sometimes of

architectural students, they build the project he's designed and then move on. Most of the projects are in Oregon; some of them are designed by Bill Church of Church and Shields, a firm in Portland. "We think that what we are doing is a vital alternative to traditional office-based architecture," the McIlraths say, "We are finding that there is a need for young architects to build and for people to have a more extensive part in the building of their houses."

Susan Willy is an architect who is also a developer and contractor. After four years with the New Haven Urban Redevelopment Agency working on plans for downtown New Haven, she formed Developers Collaborative Incorporated which bought two 1850's houses in the Urban Renewal Area and got HUD 312 financing to renovate them. She is contracting the work and using her fee as "sweat equity" for the one she will live in herself. The interior has been gutted and when reconstructed, will have two duplex apartments, two floor-throughs and a studio at the top.

Many young architects are working for large companies as construction managers. James Woodworth went to work for Southwestern Bell in St. Louis after graduation and managed construction of buildings until November, 1971. At that time he became supervising architect-general for Southwestern Bell and has two responsibilities: that of improving the quality of the company's design (by designing some buildings and working with outside architects on others) and by training the staff architects (who are recent graduates) to work within the design parameters established by the local company and AT&T.

Michael Burrill, Captain, USAF, is another architect working within an organization to improve the quality of buildings commissioned by the organization (there were almost a dozen buildings submitted by young architects presently in military service). Attached to HQ USAF/Housing Division, Burrill has been responsible for the preparation of performance criteria and review of turnkey proposals for industrialized, conventional and mobile housing at the rate of 3500 units a year. The Request For Proposals documents which Burrill prepares are remarkably complete, covering every aspect of the building from site planning to plumbing. The documents attempt to "blend subjective architectural and objective criteria into a quality point rating system used to

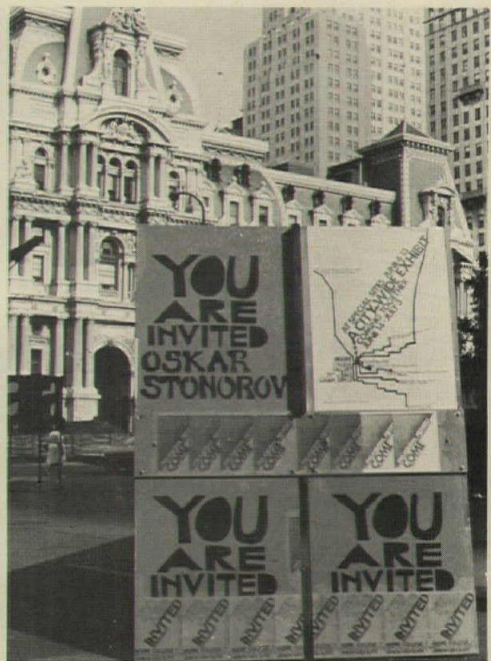
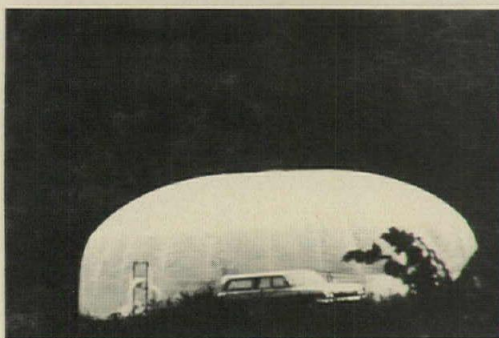
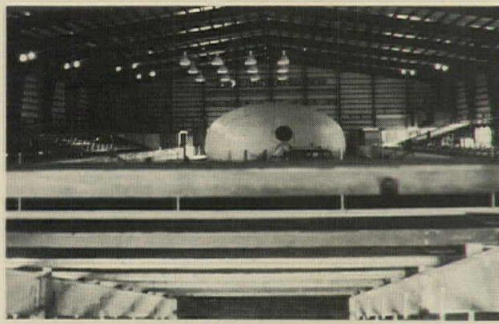


determine the best house for the money." He has also been involved in the review and redesign of master plans and project designs for eight USAF bases since his graduation in 1968.

One index of the AIA's broadened attitudes toward practice in new fields is Clark P. Halstead, Jr. He is a real estate consultant who is also chairman of the New York Chapter's Committee on Financing of Construction. To Halstead, "The entrepreneur-architect who has some or all of the developer's responsibility commands a greater degree of design control while earning a greater financial reward than his colleague who passively awaits the hiring of his design and drafting service. In fact, it may be a question of survival—while the developer-architect's practice grows, his passive colleague's practice may well wither and die out." As an ap-

prentice architect, Halstead decided he needed a firmer base in business and finance. After completing an MBA, he joined a prominent New York City real estate consulting firm. As the only architect, Halstead has seen his influence in the design of the projects his firm undertakes. For developer-clients, he develops land-use plans, writes design programs from market and feasibility studies, selects architects and supervises their work. In effect, he is a developer.

There were, of course, a number of submissions for this issue which were difficult to categorize. Steve Kiviat, for instance, is a young architect who has specialized in interior design and graphics. He is also one of the founders of Atelier International, Limited, a New York City furniture showroom

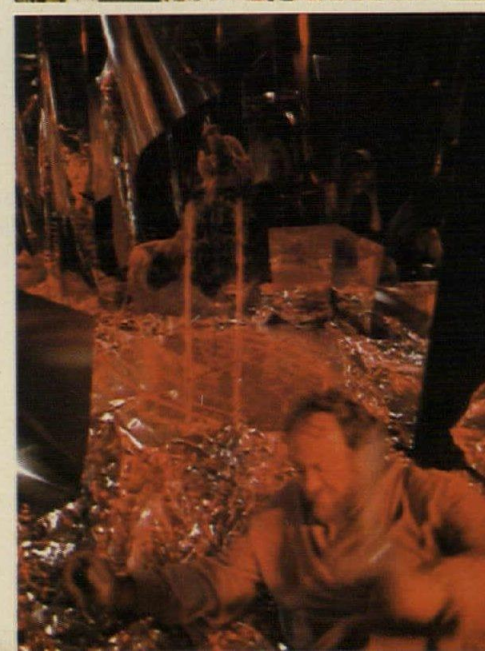




which was one of the first to introduce American architects to the new Italian furniture designs which have been so well received. Still others have written books that are not easily related to standard architectural practice. Roger H. Clark, who teaches at North Carolina State University, has written (with William Zuk) a book entitled *Kinetic Architecture*, published by Van Nostrand Reinhold Company. The argument is for buildings which can respond easily to change: self-erecting buildings including inflatable structures; incremental structures; disposable buildings; mobile buildings and other possibilities. Most architects are familiar with such projects but to see them collected in a well-designed volume is fascinating. Tabor Rodger Stone, who works in Washington D.C. as a designer and transportation/circulation planning specialist, has written a textbook on urban and regional transportation planning entitled *Beyond the Automobile: Reshaping the Transportation Environment*, published by Prentice-Hall. During the past two years, Jim Crain and Terry Milne have prepared a two-volume camping guide as an alternative to those generalized guidebooks commercially available. The two volumes are filled with drawings and maps that only could be done by architects. They are available, divided into Northern and Southern California, at \$3.00 each from the Fifth Street Press, 1409 Fifth Street, Berkeley, California 94710. Ralph Wafer is the present editor of AS, the official "magapaper" of the Association of Student Chapters/AIA, following Art Hacker and Bruce Webb, all of whom are architectural graduates.

Perhaps the best known of the young architects who have written about architecture and the city in non-traditional ways is Richard S. Wurman of Philadelphia. His principal concern, in publications like *Making the City Observable*, MIT Press, has been to help children understand and see the city around them. "Everything we do is education," writes Wurman. "The city is education but the architecture of education rarely has much to do with the building of schools. The city should be a schoolhouse and its ground floor can be both bulletin board and library."

Among the very unorthodox building projects submitted was one to be built of used cans (left, above). Ronald McClure and Michael Reynolds are building it in Taos, New Mexico with some assistance from the



Continental Can Company. Reynolds sees the house, which uses a basic block of six used cans wired together covered by an inch of foam and then a stucco coating, as an answer to ecological problems—especially what to do with used cans. Furthermore, he says, "Can-unit-construction is a housing system people can get involved in themselves. People could collect cans for their own house while cleaning up the countryside at the same time!"

Finally, theater and architecture often come close to each other, both in physical terms (see page 114) and in their intention of affecting human emotions. It was no surprise therefore to find that some of the young architects who submitted material for this issue are working primarily in the theater. Gus Solomons, Jr. is well-known in New York City as a modern dancer. His logical and angular dance compositions clearly reflect architectural training. William Brandon is the director of architecture for the new theater school of the black American theater company in Washington, D.C. and sees theater as a means to convey architectural ideas. But no group of architects has realized the potential of architecture as theater, using concepts of form and light in dynamic fashion, as has ALLEY FRIENDS of Philadelphia. Ace Johnson, Wud Stange and Reb Brown practice the most flamboyant variety of architecture imaginable. Not only that, the range of projects is amazing, too—from "Vena," the inflatable traveling theater structure (acrosspage, far left) shown set up in a fieldhouse and in the wooded hills of Woodstock; to the city-wide exhibit honoring architect Oskar Stonorov; to sets for a horror film called "Malatesta's Carnival (left)." The sets, like much of what ALLEY FRIENDS does, are made of materials discarded by others—such as packing materials found outside furniture warehouses. Although they have spent most of their energies exploring alternative forms of practice they have also collaborated with other architects on two building projects: a 38-story apartment house adjacent to Philadelphia's Academy of Music and a community college in Charlottesville, Virginia. ALLEY FRIENDS is one of the few groups we found in preparing this issue which is in fact carrying on the kind of radical practice that seemed four years ago to be a wave of the future but which hardly exists today. We hope they can keep it up.

—Jim Morgan

# INTERIORS: A GROWING INVOLVEMENT

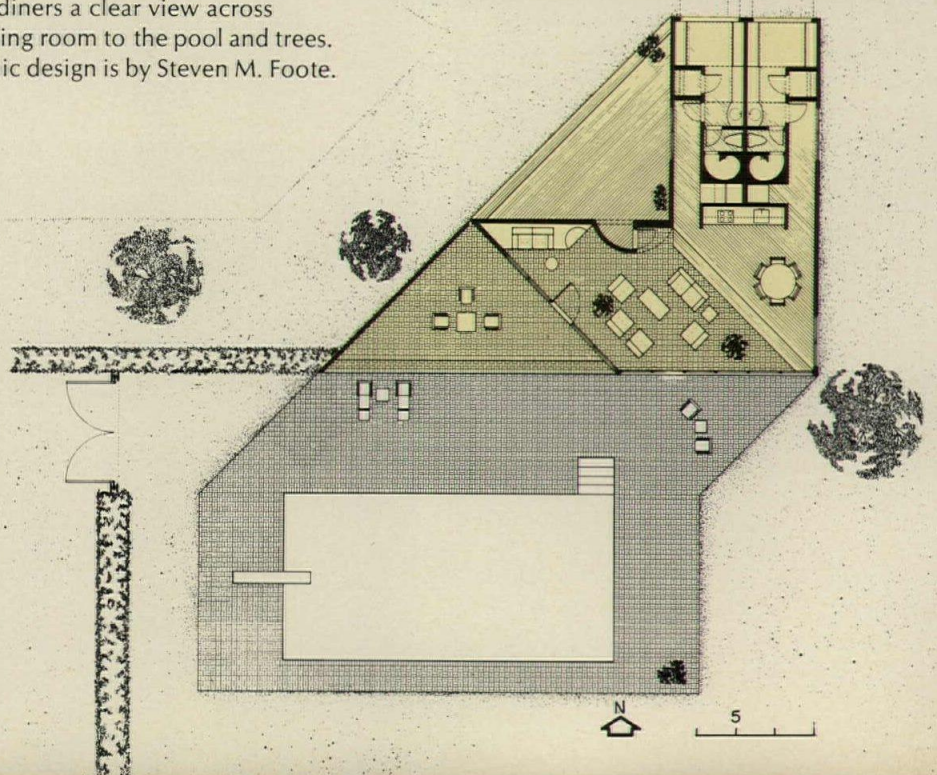
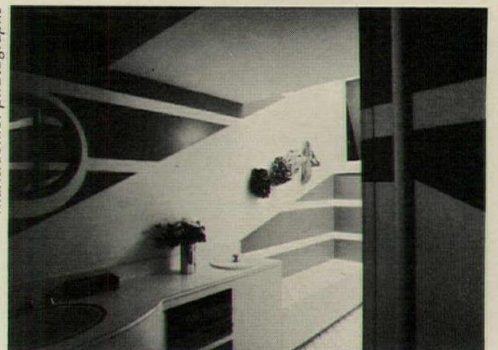
Many young architects are finding—as is the profession in general—that interiors offer bright opportunity for inventive design at all scales—from tiny shops to acres of office space.

Photographs this page courtesy of House Beautiful copyright The Hearst Corporation 1972



□ **Poolhouse in Purchase, New York;**  
**by Robert A. M. Stern and**  
**John S. Hagmann, New York City.** Two dressing rooms, a laundry-kitchen, and the “screened porch” provide summertime living and dining space for the owners. The diagonal form in plan emphasizes the view; while diagonal shapes in section relate the poolhouse to the traditional gable-roofed main house. Changes in ceiling height and floor level articulate the various spaces; and a step up gives diners a clear view across the living room to the pool and trees. Graphic design is by Steven M. Foote.

Maris/Semel photographs





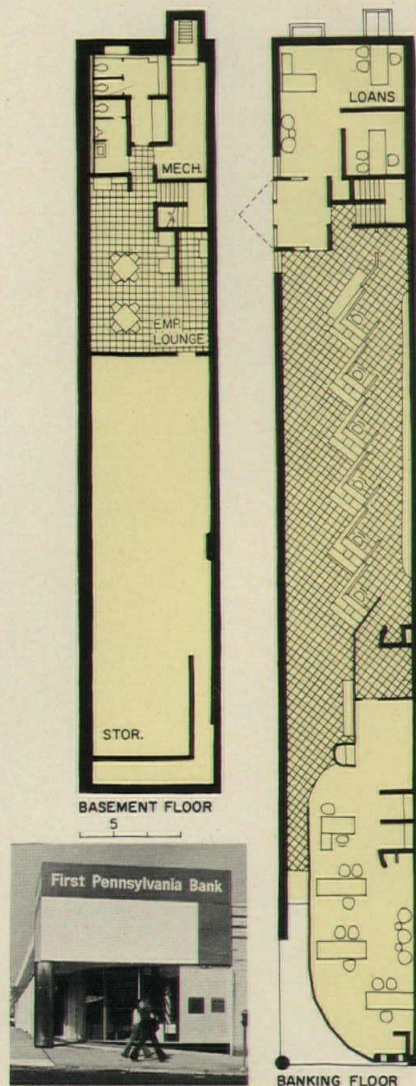
□ Offices for Marsh & McLennan, Inc., New York; by Richard Seth Hayden of Poor and Swanke & Partners, New York.

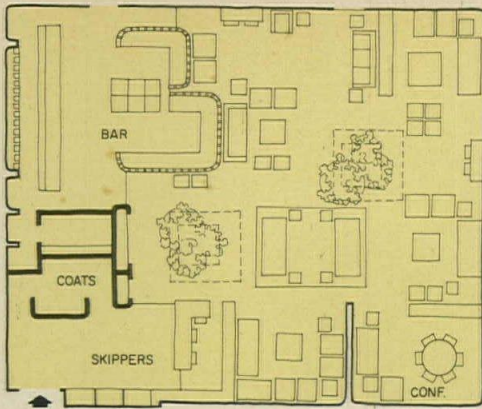
The program for offices for this insurance corporation called for "a contemporary, dignified facility using as many 'building standard' components as possible." Solar bronze glass maintains an open feeling where private offices were required; secretarial areas are in 30-foot lengths respecting the structure, with storage units incorporating the building columns. Metal finishes are statuary bronze, cabinet work is natural oak.

Otto Baitz photos



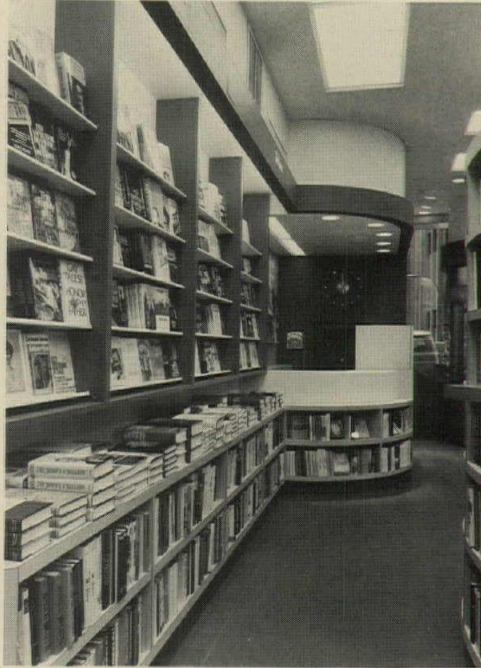
□ 1st Pennsylvania Bank branch, Philadelphia; by Brown Goldfarb Gallagher, Philadelphia. For a difficult long-and-narrow storefront location, this young firm developed a complete system of exterior signing and graphics, interior graphics (including the singularly appropriate mural above) materials, furniture, and teller's booths. Total budget for 3500 square feet, including furnishings and equipment, was \$90,000. In practice only three years, this young firm has been consultants to a black community group, The Young Great Society, and has assisted them in finance, development and construction of day-care centers, housing, and a children's school. They have also developed two housing projects, and been designers for a variety of other work.





**Airport VIP lounge, Boston; by Bretos and Napoli Associates, Ltd., New York City.** The objective in this space for Logan International was to create a restful environment in sharp contrast to the busy commercial spaces beyond the walls. To provide flexibility and "living-room intimacy," several seating areas were devised, and functional dividers were used in place of walls to establish the recreation area, the bar, a conference room, and a television lounge. The use of skylights (above planter areas in plan) brings daylight into the windowless building. Extensive use of carpeting—used even on some vertical surfaces—helps dampen the noise of the jets just outside. The goal of contemporary furnishings and finishes with a traditional club-like feeling—seems well met.

H. Bernard Askenazy

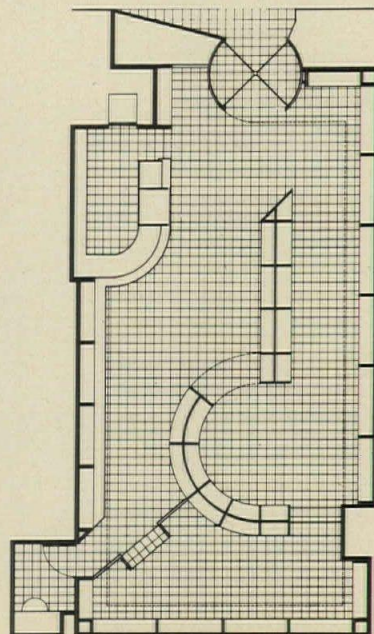
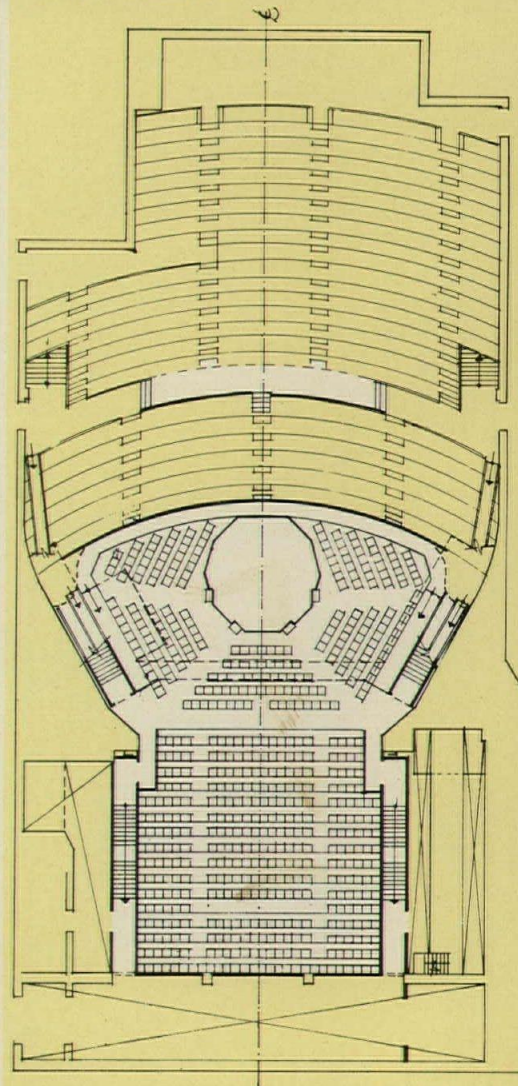


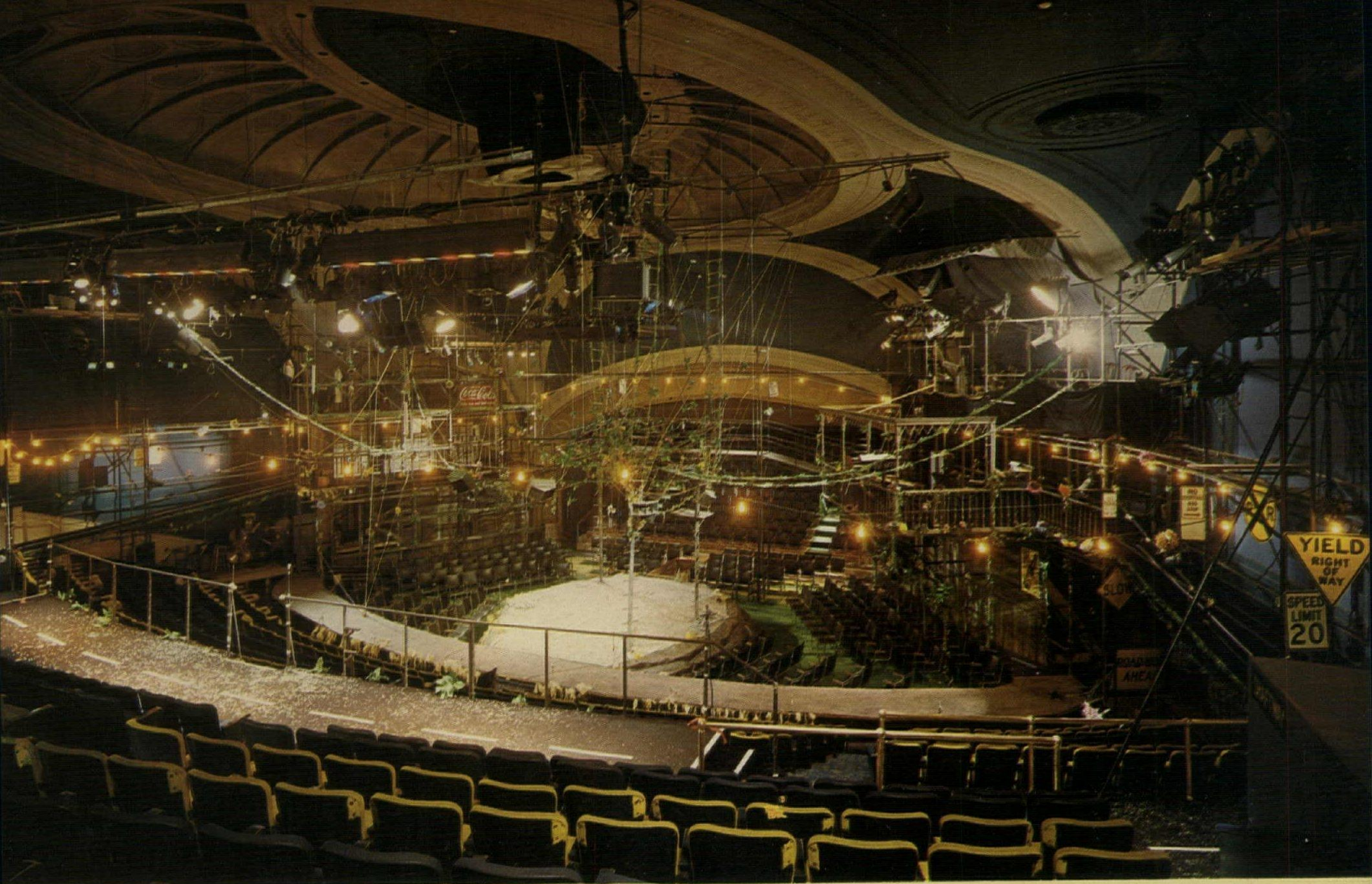
**Doubleday Book Shop, New York; by Jack L. and Rosanne Gordon, New York.** In this tight space—only 17 by 32 feet with 12-foot ceilings—every inch has been used to advantage. The use of one strong form—an island book unit—divides the shop into a variety of functional and varied spaces, and serves as a dominant piece of sculpture within the space. The round form of this unit echoes the form of both the existing revolving door and the cash counter. The quarry tile floors and perimeter shelves are a rich rust color; the cash counter and island unit—in sharp contrast—a brilliant chrome yellow.

**Alteration of The Broadway Theater, New York; by Leslie Armstrong Cortesi of Pokorny & Pertz, New York.** If "Dude"—a major on-Broadway rock musical—had only a short and financially disastrous run, it did bring to life this brilliant and inventive scheme for the alteration of proscenium theaters to the arena form. The section (below right) tells it best: New seating and the central stage for "Dude" were created by building a deck out from the level of the existing balcony rail, through the proscenium arch and then up, in eight-inch steps, across the stage house to the upstage wall. The structure—temporary in this case—was well-braced conventional building scaffolding, placed directly on the auditorium and stage house floors, supporting 8-inch steel beams running the length of the house. The deck was 3-inch fire retardant planking laid on the beams. Both the main deck and the risers were covered in 3/4-inch fireproof plywood, to which chairs were bolted. On either side, along the existing walls, steel stairs in heavy-duty scaffolding unit provided audience access to the decks, to musicians' platforms and to the lights. Production designers were Roger Morgan, Eugene and Franee Lee; consulting engineer was Henry M. Garsson.

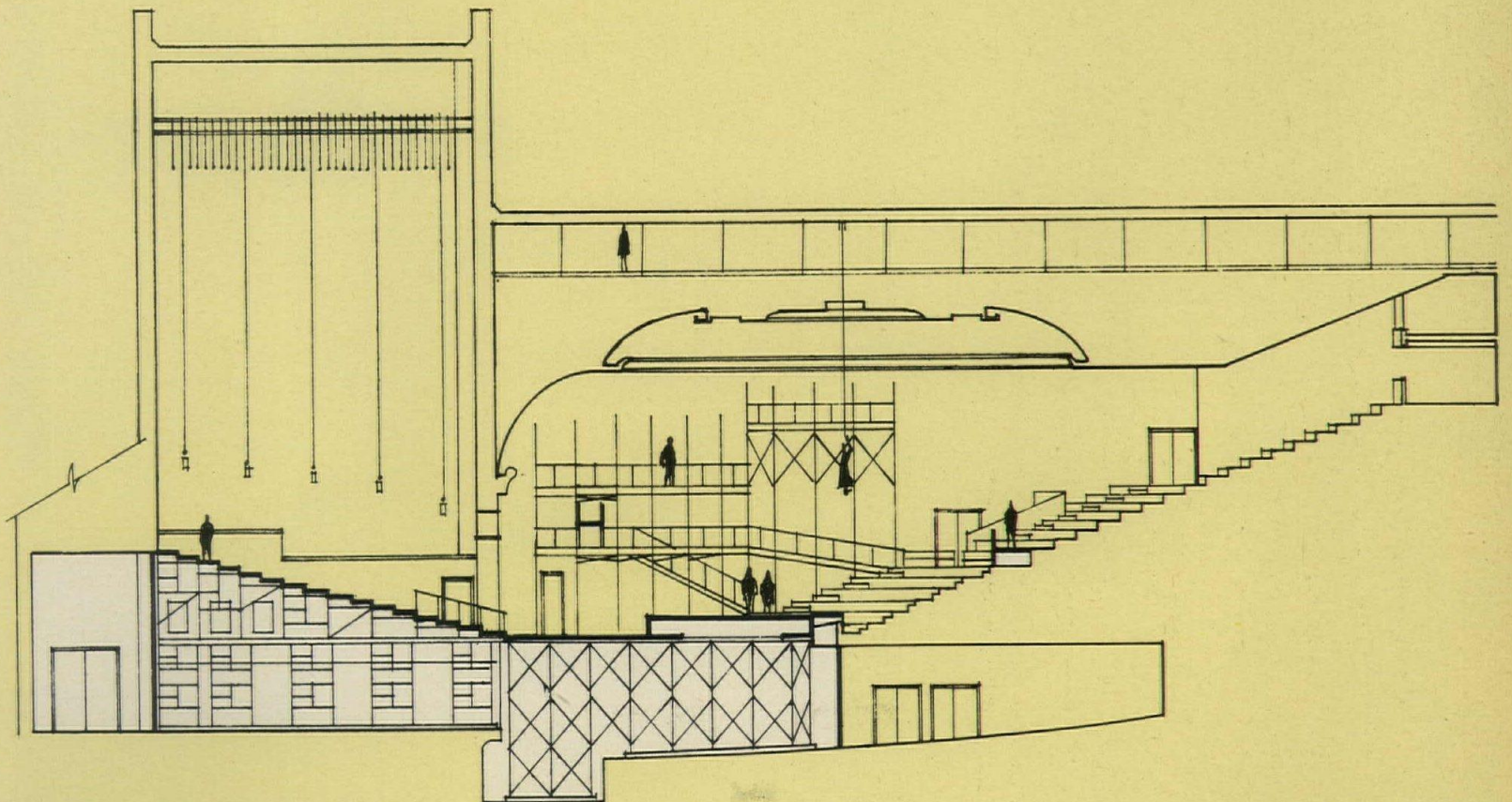


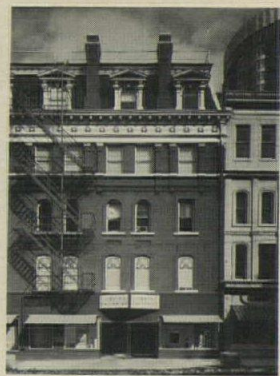
Phokion Karas photos



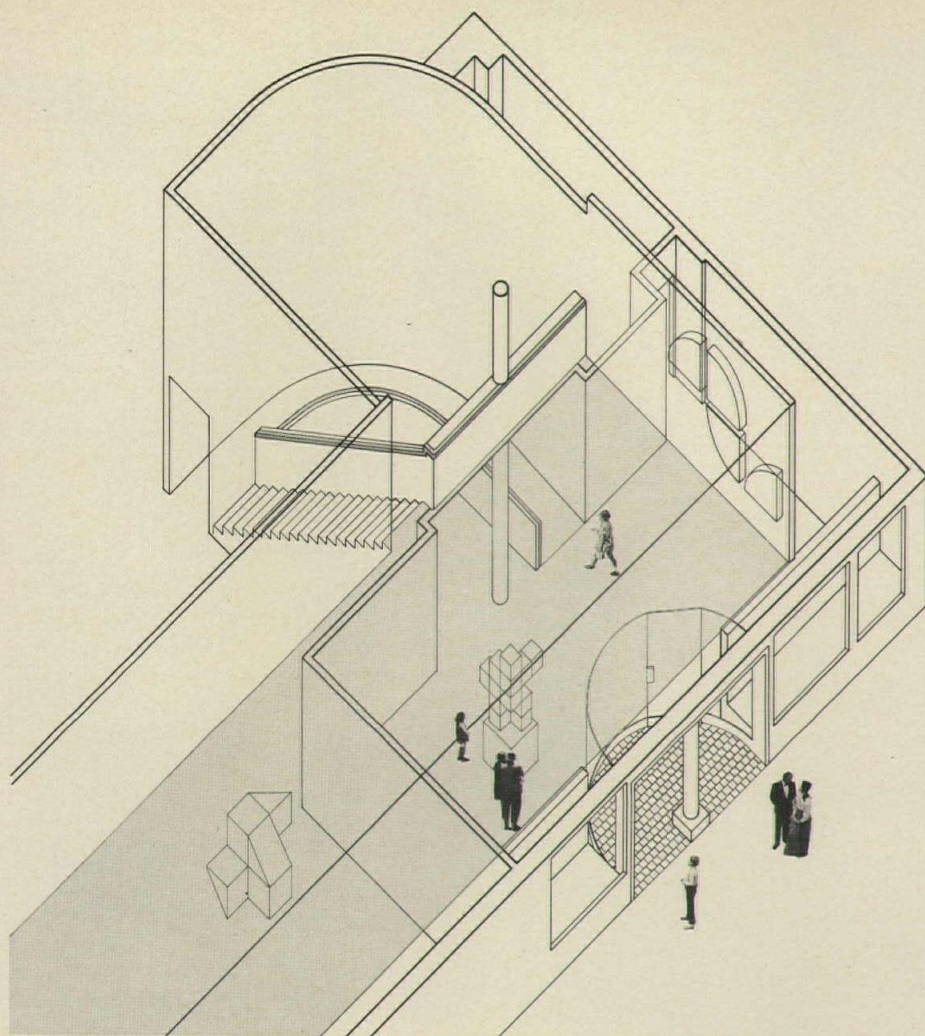


Richard Isaacs





□ **Irving Galleries, Milwaukee;**  
**by David Kahler of the Office**  
**of Fitzhugh Scott, Milwaukee.** The program here was to reduce the ground floor space of the gallery by 50 per cent (the remaining space was to be rented) and encourage clientele to visit a second-floor showroom; yet "not create the impression that the operation was smaller in scale." A new semi-circular entry with curved glass was designed to let passersby "feel inside the gallery." A portion of the original second floor was removed to provide a two-story space over a curving ramp (right in photo below) leading to a stair—a device which tends to lead visitors towards the upper-floor display. Polished stainless steel trim set off the white walls and the simple lighting. Contractor was J. M. Nuetzi, Inc.



*Hedrich-Blessing photos*



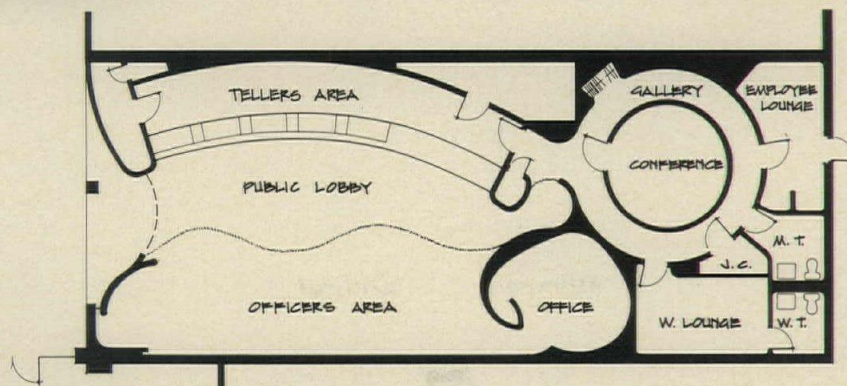
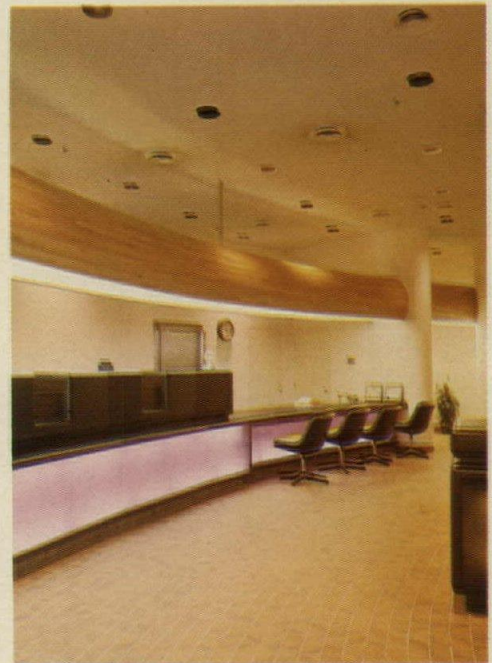


□ **Leader Federal Savings & Loan, Memphis; by W. Marion Bamman of Bank Building Corp., St. Louis.**

This Savings & Loan branch office is in a shopping center (designed by another firm). The general approach of the design was to create a space which would attract and draw in shoppers from the enclosed mall area.

Thus, the designers frankly used "eye-catching" free-form spaces, curved elements, and—perhaps strongest of all—a lighted purple plastic facing on the lower portion of the tellers' fixture and illuminated bronze-color plastic check desks. The plan reveals a highly unusual but quite efficient use of space, providing a variety of closed office, lounge, and conference spaces. Photo at left shows the conference space.

The project was opened early this year.



# a RADICAL ALTERNATIVE

Recent graduate Michael Sorkin describes the sources for those aspects of today's architectural profession that young radical architects find unacceptable and gives some constructive alternatives.

Generally, when we hear or read an allusion to "radical architecture," a series of evocative physical images—be they of Dymaxion houses, megastructural sprawls, or drop cities—is instantly conjured up. Similarly, when a building is dismissed by critics as "fascist" or "Mussolini Modern," the Reich's Chancellery, Lincoln Center, the Rayburn Building, or some equivalently monumental structure springs to mind. The notion, in other words, that basically political or social meanings can be and are embodied in the outward forms of architecture is very much taken for granted. Indeed, the political appropriateness and efficacy of a given style or building are often considered sufficiently important to be thought worthy of strict regulation. Examples are legion. The Bauhaus and the architecture it represented were made into a major election issue by the Nazis and were subsequently suppressed as "Bolshevik" and "Un-German" despite the apolitical position of such proponents as Gropius or Mies. Ironically, Stalin felt called upon to outlaw similar architecture in the Soviet Union, presumably because he felt it insufficiently Bolshevik. More recently, a jury in Scandinavia charged with choosing among entries in a competition for the design of a new city hall rejected the lot, claiming that none was "suitable" architecture for a democracy.

Such an approach to architecture is problematic at best. Architecture, as we most conventionally think of it, is not political. That is to say, the strictly physical amalgam of bricks, mortar, space-time, commodity, firmness, and so on, holds no intrinsic political meaning. Whatever social and political content architecture may manifest is associative, drawn from the fact that the architectural object is part of, product of, or supportive of, a process to which it is related only peripherally. This is a virtual truism—there is no denying that architecture is a potent symbol and may, like any artifact, be judged accordingly, as in the above examples. Architecture makes excellent propaganda. But, too often far more than symbolic or rhetorical importance is claimed for the act of building. The responsibility for the prevalence of the assumption that architecture is directly instrumental in politics rests to a great extent on the shoulders of the architectural profession. Indeed, ever since the architect Imhotep was made a god for his pyramid building efforts (lately much imitated) on behalf of Pharaoh Zoser, the collective professional head has been swollen.

Given this presumed potency, architects have long labored under the assumption that the reshaping of a tormented world was both their special capacity and responsibility, a conviction that would seem to spring, in part, from a rather bizarre reading of history.

While the legitimacy of drawing historical or even political conclusions about a given society on the basis of its architecture—Greece was orderly and sublime, Rome grand, the Middle Ages pious—is indisputable, reversing the equation to suggest that Platonism was the product of the Doric Order or that Aquinas had to await the development of the Gothic is patently absurd. Nevertheless, such a reversal is characteristic of those who argue for the socially ameliorative potential of architecture. Many architects implicitly assume (some, as will be seen, even go so far as to say as much) that: Since it is true that architecture represents a visible, schematically comprehensible, crystallization of social organization—and is thus, at a certain scale, paradigmatic of the social relationships in a given society—then it must logically follow that if the physical relationships within architecture were to be reorganized in strict accordance with the social parameters of the longed-for state of consciousness, society itself would, *ipso facto*, be reorganized. Stated explicitly, the speciousness of such an argument, with its manifest confusion of cause and effect, is obvious. Architectural change has never been, nor can it be, the harbinger of social change. But, on a less conscious level, the attitude runs very deep and, since it should be at the top of the intellectual cleaning list for those who would seriously discover the conjunction of social activism and architectural practice, it may be useful to discuss it a bit farther.

The real emergence of the idea that architecture might be employed therapeutically for the purpose of bettering mankind is undoubtedly—like all good liberal ideas—a product of the Enlightenment. In the light of the new Rationalism, the architectural profession abandoned its previous preoccupation with the search for divinely inspired proportions and, snatching the fallow calipers from the heavenly architect's idle hand, launched itself on the search for a way of building that would render men angelic. A proliferation of architectural schemes for "social improvement" ensued and continues unabated even today. Typical of the attitude is this passage from an early publication of the



Boston Prison Society, published at the dawn of the nineteenth century: "There are principles in architecture, by the observance of which great moral changes can be more easily produced among the most abandoned of our race. There is such a thing as architecture adapted to morals; that other things being equal, the prospect of improvement in morals, depends, in some degree, upon the construction of buildings." A prisoner's comment is perhaps more to the point: "The science of architecture has been exhausted on experiments to construct a reformatory prison, as if the form of a cell could regenerate a vicious heart into virtue."

Architectural debate in the nineteenth century was centered to a profound degree around moral issues. Revivalism was, par excellence, the embodiment of the inverse historicism alluded to above. In this country, Jefferson asserted that Greek architecture (which he couldn't quite keep straight from Roman) would enhance the blessings of democracy. In England, while Pugin stoutly upheld the Gothick as the very embodiment of Catholicism, Ruskin saw that style as the best way of compelling adherence to the Protestant Ethic. With similar zeal, Morris and his Arts and Crafts cronies play-acted the lives of medieval folk, mimicking their art on the assumption that it was as morally and politically superior as their lives.

The nineteenth century also saw the burgeoning of Utopian Socialism, a tradition which, in concert with these parallel developments in the notion that architecture could convey a strong social influence, has proven to be extremely durable. Both are predicated on similar thinking. The Utopians—Saint-Simon, Fourier, Owen, Cabet, et al—shared with the revivalists a certain faith in the political and social efficacy of physical exemplars. As a famous commentator once remarked of their outlook, "Society presented nothing but wrongs; to remove these was the task of reason. It was necessary, then, to discover a new and more perfect system of social order and to impose this upon society from without by propaganda, and wherever it was possible, by the example of model experiments. These new social systems were foredoomed as utopian; the more completely they were worked out in detail, the more they could not avoid drifting off into pure fantasies." The failure of the Utopians was in their inability to either perceive or provide an organic connection between their well founded and often

acute critiques and the solutions they promulgated. It is hardly coincidental that they often relied heavily on very particular, minutely specific architecture for the accomplishment of their aims. Stylistically, the architects of the Utopian schemes—Considerant, Whitwell, Pemberton, Buckingham, et al—provided no significant departures from the contemporary revivalist vocabulary. Indeed, they manifested the same tendency to assume that certain virtues were permanently associated with certain forms—that the Socialist New Man would be ennobled by living in a replica of Versailles. For them architecture was utterly seminal. Fourier's architect and heir, Victor Considerant, wrote, "Architecture is the pivotal art, the art which summarizes all others, and which therefore gives a summary of society itself—Architecture writes history."

The emerging Modern Movement drew

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strongly on both Utopian and associative principles. Its progenitors believed strongly in the inherent moral superiority of their new style and in its exemplary potency as an emancipator of humanity. The glaring schematicism of the Utopians was also clearly stock in trade. To buttress claims of social superiority for their stylistic preferences the Modernists rapidly produced not simply a substantial body of self-justifying dogma but also a jargon of moralisms with which to exalt their work. The rhetoric of "honesty," "integrity," "purity," "truth," "correctness," continues to infest architectural discussion, focusing fervor away from the real moral issues, just as in the nineteenth century. But the Modernists went beyond their precursors in their clear promotion of architecture as a phenomenon which was uniquely and preeminently qualified to set right the political and social difficulties of the race. We are all

familiar with Le Corbusier's famous dictum: "It is a question of building which is at the root of social unrest today: Architecture or revolution." In a similar vein, the CIAM charter proclaims, "Architecture is the key to everything" echoing Considerant. The Modern Movement, as the culmination of the marriage of Utopianism with the old moralistic view of architecture explicitly presented the idea that architecture could, and indeed should, be seen as a substitute for political action.

This messianic mentality has meshed well with the effete systems-thinking of today's social engineers and technocrats. For abundant evidence of this affinity between the "rationalism" of the Modernists with their conviction that the world can simply design itself to happiness (positive effectiveness) and the mentality of those in a position to actually make decisions about such matters, one need but note the transfer of the repressive vision of the Radiant City into the thoroughgoing and destructive blight of urban renewal that infects our cities.

Reigning guru of this detached and "scientific" (it is no coincidence that the early Utopians comprised a high percentage of engineers) approach to social problems is, of course, Buckminster Fuller. Fuller, whose following (especially among architects) is as legion as it is uncritical, is as adamant as Corbu in his insistence on the utter superiority of architecture as a solution for the problems of "spaceship earth." As he puts it in *Utopia or Oblivion* [!], "Politicians are not scientific inventors. The invention and systems design revolution must come before the *political adjustments* (author's italics). Revolution by design and invention is the only revolution tolerable to all men, all societies, and all political systems anywhere." There are those who might respond that any revolution acceptable to all political systems anywhere isn't much of a revolution. This is not to say that Fuller is politically benign—naive perhaps but not benign. For Fuller's proposals—essentially that the world set about producing so much stuff that eventually everybody will have such a pile of commodities that s/he won't want anymore—are really nothing but a pure distillation of capitalist

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*Michael Sorkin recently received an M. Arch degree from MIT. As one of the principal organizers of the Radical Environmental Designers Conference held in Cambridge, Massachusetts, last April 28-30, he is, in the opinion of the RECORD, well-qualified to discuss the meaning and goals of "radical architecture."*

consumerism. Whether or not such was his intent is beside the point—production and gadgetry are not the answer (think of the problems of the last big invention revolution). Fuller's "fellow adherents," the technological utopians, run the gamut from totem happy dome dwellers staked out under their geodesic icons in backwoods utopias, to the chicly histrionic likes of Archigram, Soleri, Friedman, the Mega-structuralists, and the Manipulativists, to the truly dangerous real world neo-Hausmanns and urban renewal artists. Architecture, be it technologist, organicist, ecologist, or constructivist, will not solve social problems.

The purpose of the foregoing discussion has been to set out, if briefly, the inherited attitudes which confront the socially minded young architect as s/he tries to arrive at a relevant means of putting skills and concerns to use. It was in the hope of finding some possible answers to this dilemma that a group calling itself Radical Environmental Designers organized a conference in Cambridge, Massachusetts last April under the rubric "Radical Designing—Practicing our Politics." The conference participants represented a wide spectrum of opinion and expectation, ranging from those who had come prepared to discuss "radical" architecture in the traditional sense—solar energy, domes, foam buildings, and inflatables—to those who had, for social or political reasons, renounced designing for avenues they held more relevant, direct, or useful. By and large, however, the conferees, mostly young, politically products of the turmoil of the sixties, were still groping for a stance that could satisfactorily integrate their social concerns with their professional commitment to designing. To many, the question was no longer simply one of finding the most suitable niche within the architectural establishment but was the more primary issue of whether there was any relevance whatever to the architectural practice they had been trained for. While such youthful clamour for relevance is not uniquely endemic to architecture, it is, due to a combination of factors, singularly acute at that locus. Architecture is, as has been mentioned before, a social and historical paradigm of the grossest and most conspicuous sort. This fact tends, if only symbolically, to distort the objective contradictions of architectural practice beyond life size. Perhaps as a reflection of this special and unravelable knottiness the mood of the conference was rather subdued—could it be one indication that in some quarters social evolution is beginning to catch up with the

ponderous dinosaur of utopian optimism? But, if the conference failed to come up with a single synthetic and altogether satisfactory solution to the common dilemma, it did elucidate a range of alternatives which, despite the somewhat prejudicial character of the following review, may provide some indication of what some young architects are thinking.

Fundamentally, the radical architect has but two choices: to practice architecture or not to. Let me dwell first on the most radical position by discussing some of the arguments for renouncing practice altogether before elaborating a number of additional alternatives. The root social and political circumstances of architectural practice are defined by circumstances outside the competence or effectiveness of the architect's actions qua architect. The macro-politics of a given society are not likely to be affected by building which can, at best, reflect

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changes, not initiate them. The radical designer is thus, as C. Wright Mills once put it, "in the middle," trapped between what s/he sees as the people's real needs and what society will allow to be built for them. Fundamental questions of what is to be built and for whom are not decided by architects. Traditionally, architects have been content, for the most part, simply to give worthy expressive form to objects whose social nature was previously decided, and have reserved their acrimony and polemic for the specific and isolated character of the objects they were charged to build. A thoroughly radical position, however, takes its issue not with the form of an object—which in any event can be no better than what society either wants or allows and thus can have no private political content—but with the process that generated the decision to make and use it. Therefore, if the architect finds the tasks offered by society politically objectionable,

s/he must operate extra-architecturally, that is politically, in order to change them.

In such a context the attempt to formulate, as a selective condition for practice, minute distinctions between various tasks or programs in a given society is not simply problematical, it is largely meaningless. Of course, such distinctions may have personal, local, or symbolic importance in terms of tactics or consciousness raising but are unlikely to have a large scale effect. So-called "radical" architects who would scruple to design a bank or corporate skyscraper yet would readily do a boutique or a discotheque have missed the point of radicalism. Occasionally, however, a clear cut moral choice—a task outrageous by any standards—is dropped in the architect's lap. Not long ago, *The New York Times* reported the belated trial of the architect responsible for one of the Nazi extermination camps. Although the architect claimed, somewhat predictably, that he really did think he was designing a shower house, it would seem that he had had such a choice. Similarly, the anonymous designer in the employ of the giant war construction combine Raymond, Morrison, Knudsen—Brown, Root and Jones (RMK-BRJ) who was charged with working up drawings for four new tiers of "Tiger Cages" at the celebrated South Vietnamese prison camp on Con Son Island might reasonably have been expected to balk (unless of course he thought they really were for tigers). And finally, to recall an old cause célèbre of The Architects Resistance, SOM might have ceased and desisted when it came to detailing the apartheid separate WC's in their Carlton Center project in Johannesburg.

Any "socially concerned" architect will ask of a project: What is its purpose? Whom does it serve? Most American architects—would undoubtedly repudiate the grotesqueries described above. Simple decency would find the answers to those two questions intolerable. But such targets are too easy—it is on the middle ground that decisions become difficult and distinctions muddy for the committed designer. A further complication for the radical architect is that to the two questions necessary to evince liberal concern must be added a third: does or can participation in this project serve to help promote the long-range goal of radical social change? That is, can the project be seen as an issue and not merely as an end. A classic area of argument over these three questions has always been that concerning the provision of housing and houses. Today, many young architects

declare their repudiation of the design of large or expensive private houses. Clearly, the private house is a conspicuous symbol of the class disparities in our culture and the renunciation of its design makes sense, if only symbolically. But if the alternative is no better than designing "public" or "low-income" housing to impossibly mean specifications, then the same set of class distinctions is served—if from the more theoretically "responsible" end of the philosophical spectrum.

In such circumstances, what are the "committed" alternatives? The first—the traditional argument of revolutionists—is to reject the design of "public" housing as a palliative, an instrument of social control, the equivalent of bread and circuses. The second, the "responsible" position is that which holds (on the basis of answers to the two responsible questions) that it serves the interests of the poor and disenfranchised to provide new housing, even within the prescribed limitations. This is an exemplary instance of the designer "in the middle," trying to compromise the often irreconcilable positions of separate client and user—in this case housing bureaucracy and urban poor. The third position is that of the architect allied with the user, the "advocate" position. Advocacy, in one form or another, represents the main possibility for the radically oriented architect who wishes to try to use architectural practice as a tool for social change. Advocacy, however, comes in a number of shades and thus bears some going into.

The primary thrust of the involvement of the "under thirty" generation in politics during the sixties was the fight for civil rights and it was from that tradition that advocacy in planning and architecture first emerged. The initial struggle of the civil rights movement was to gain integration, that is, to assure blacks and other minorities of the same treatment the system accorded to whites. It was an effort to "make the system work"—the system itself was seldom questioned. The same integrationist effort was characteristic of early advocacy and its main thrust was directed toward the attempt to assure an equitable distribution of available social rewards. But with the radicalization of the "movement" in the late sixties and early seventies, advocacy also began to change its perspective and to adopt new strategies and new tactics. The growth of the assumption that the citizens with whom the advocate worked did not in fact have interests which were ultimately in common with other segments of society caused con-

frontation—be it in the form of legal action, squatting, expropriation, or any number of other possibilities—to become commonplace. Liberal advocacy has now been rejected in many quarters for its inherent inability to accomplish basic changes. A Boston group, for example, which had been deeply involved with the organization of community corporations for the management of housing, largely abandoned such efforts on coming to the realization that a community landlord operating under the same constraints as a private owner was only marginally superior from the tenant's standpoint, if at all. That group, on the basis of political conviction and concrete analysis has turned its attention to confronting the real sources of control and influence—banks and other prime controllers of capital.

If this does not seem to be architecture in the traditional sense, it is not. Everyone knows the slogan "If you're not part of the

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**Radical architecture means  
choosing sides, not  
giving up. To the radical  
architect, design is not  
an end in itself, it  
is a tactic.**

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solution, you're part of the problem." Radical architecture means choosing sides, not giving up. To the radical architect, design is not an end in itself, it is a tactic. The decision to design will flow from social and political criteria. Such an inclusivist outlook will incorporate the forces that generate and flow through architecture in the effort to generate a complete shift from object to process.

If advocacy is the prime activist alternative for the architecturally trained radical, other options are also being exercised between this activist pole and that of abandoning the profession entirely. I spoke not too long ago to the editor of one of the major architectural magazines who told me of his interest in doing a story about a young man of his acquaintance, a graduate of one of the prestige schools, who had forsaken architecture to become a carpenter. Although the editor found it fundamentally charming

and bohemian, carpentry and craftsmanship have become components of an "alternative life style" which many young socially committed architecture graduates and drop-outs, resentful of the purposeless drear of "professionalism," are adopting today. It is an important and honest alternative. A group of craftsmen I know of, most of whom are architecture graduates, have formed a collective in order to live their convictions. They work as carpenters and builders devoting what time and labor they can afford to providing their skills to the people. Such politically motivated alternative practice is far from uncommon.

It would hardly be right not to mention briefly what alternative practice is an alternative to. The professional establishment continues its relentless preoccupation with mystifying the object of architecture and with promoting the kinds of easy (design) solutions to complex problems that will best insure the continuing high status of the architect. Witness only the latest manifestation, the pathetic report of the AIA's National Policy Task Force with its characteristic proclamation that the key to solving America's problems is a physical "Growth Unit" which specifies a density of 20 person/acre, the location of community facilities, open space, recreation, ad nauseam. Social unrest is not a question of architecture.

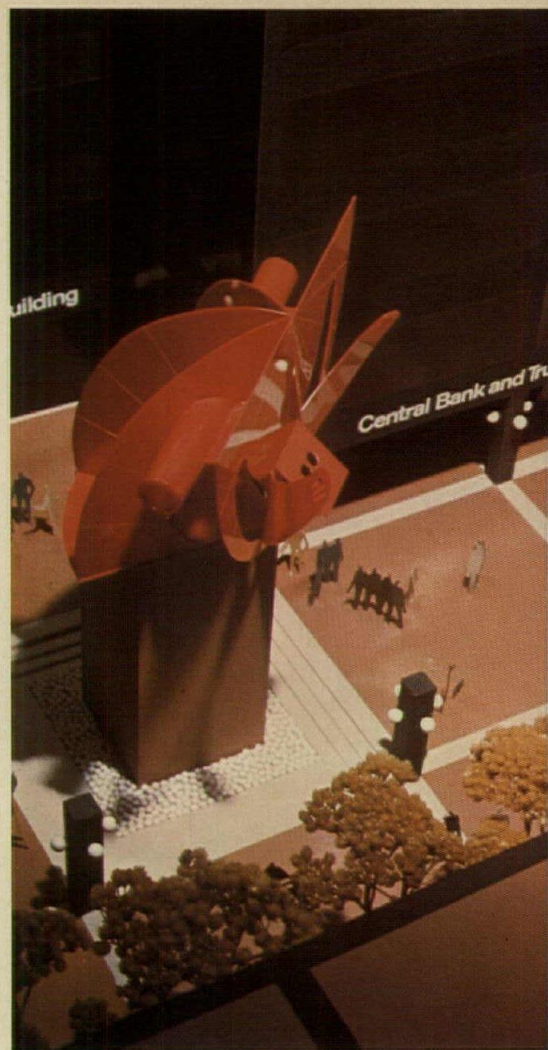
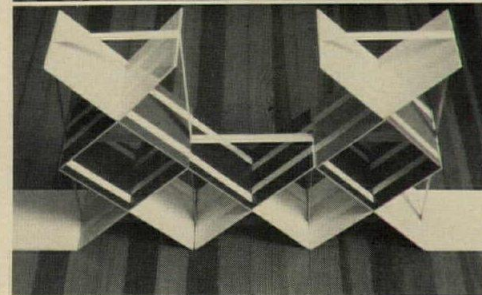
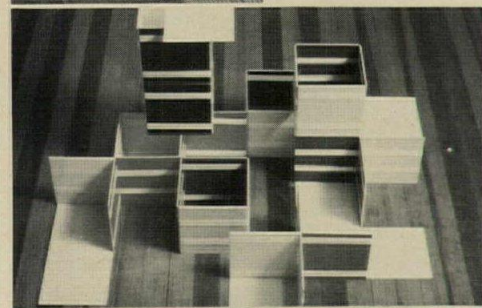
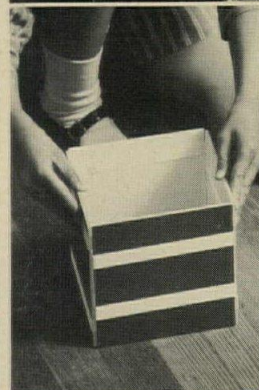
A famous revolutionist once remarked that although he had been trained as a physician, he had given up the practice of medicine in order to pursue revolution directly. It was his feeling that he could only be a revolutionary physician when he lived in a revolutionary society. The remark has two important implications for an architect who would practice his profession politically. First, although architecture, like medicine, is a "neutral" skill, it assumes social meanings from the society in which it is practiced. Second, the architect, if s/he would work for social change will be impotent if s/he works only through the conventional medium of architecture. For there is no "radical architecture." The attempt to apply universal political or moral criteria to buildings is an exercise in futility—the question is not whether there can be a good gas chamber or prison, it is whether society has the right to imprison or gas. Anything can be well designed.

The search of the radical architect is not for a way of designing but for a place to begin to design. S/he is preoccupied with a process not a product.

For me, this essay is part of that process. It is my architecture. —Michael Sorkin

# YOUNG ARCHITECTS IN FIRMS

The chance to work on important design commissions—without the headaches of day-to-day office management, continues to keep many young architects working in established firms.



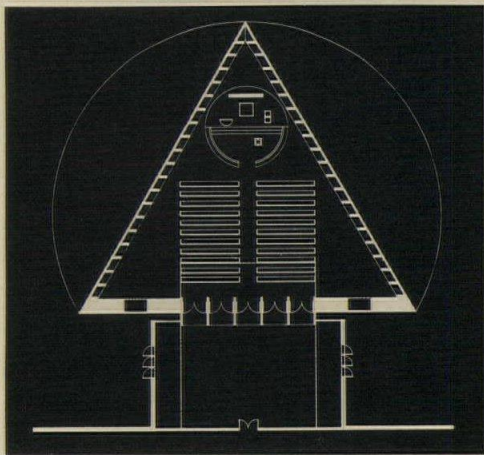
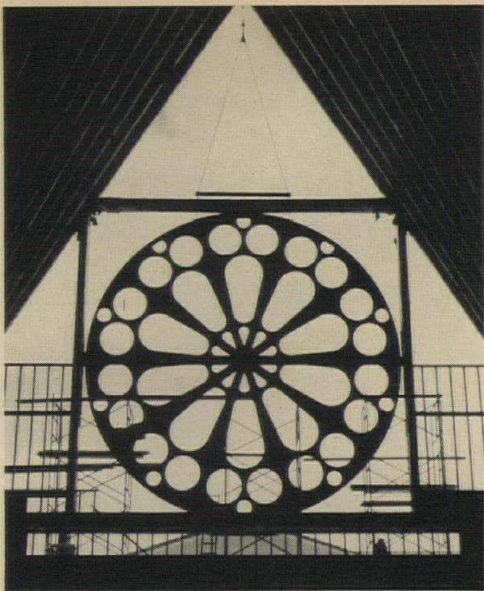
## □ Various projects by George Hoover (Muchow Associates, Denver). Hoover

is an architect who works easily at any scale and on almost any kind of design problem. Illustrated at left, for instance, is a toy he designed for his daughter. The double-hinged folding panels can be reversed (as shown) and, with the addition of a diagonal stiffener can be combined into configurations with clear structural implications.

Another scale and another design direction is illustrated above by the 40-ton steel abstract Hoover designed for the Park Central Plaza in downtown Denver. This 45-foot high focal sculpture is painted bright red and symbolizes, says Hoover, "Man's search for ultimate meaning and significance."

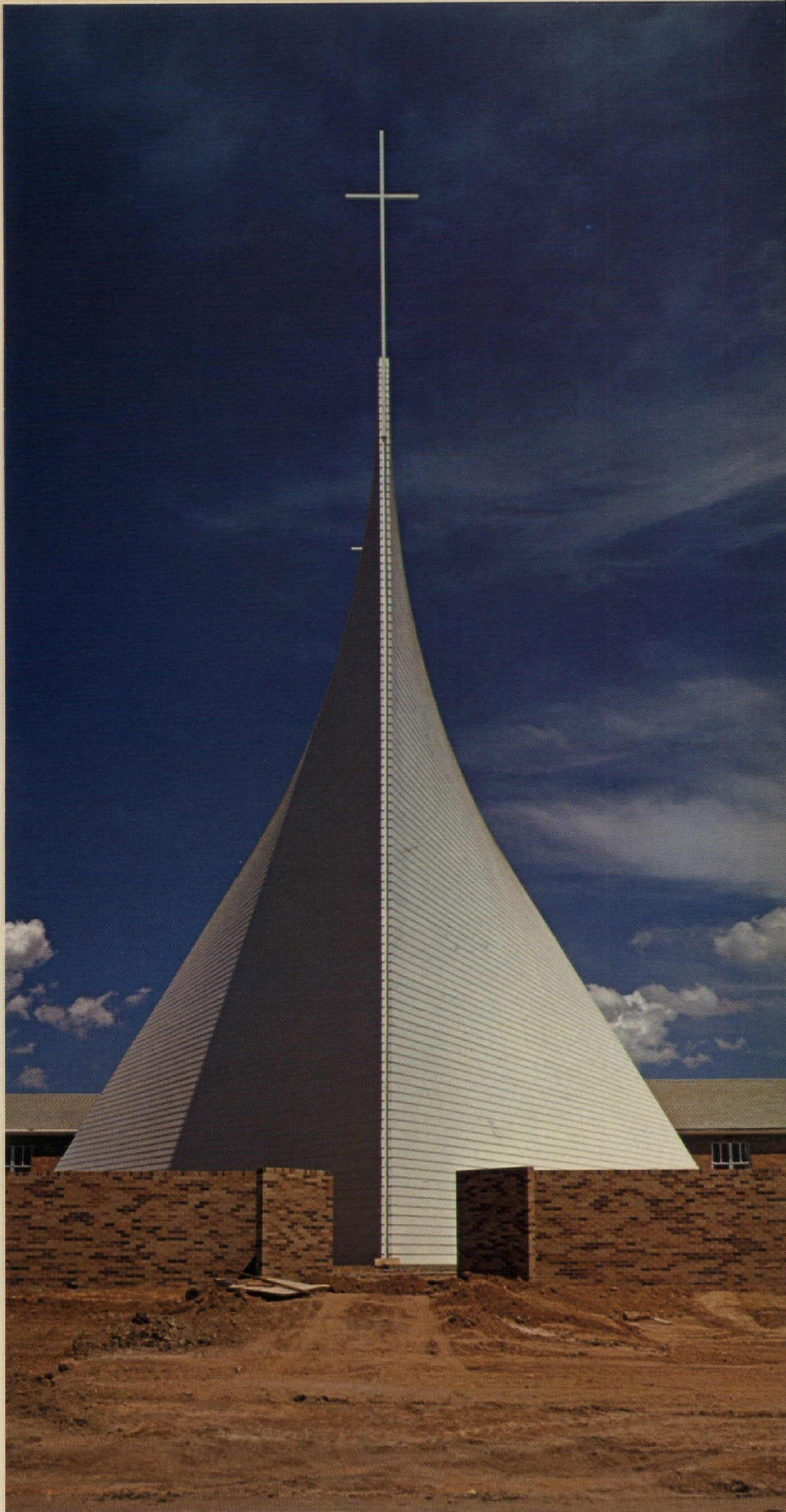
Hoover has plunged into a symbolic realm where architects seldom venture with confidence and created a handsomely folded and scribed form to which each viewer can attach his own subjective meaning or series of private associations.

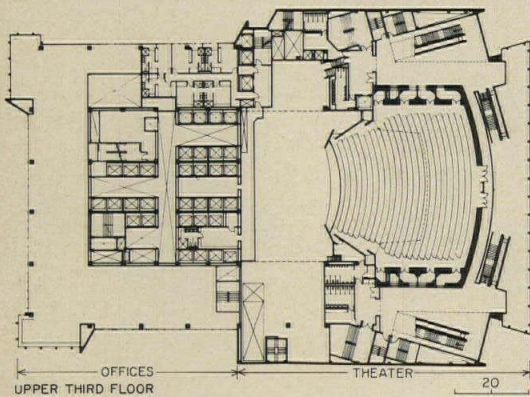
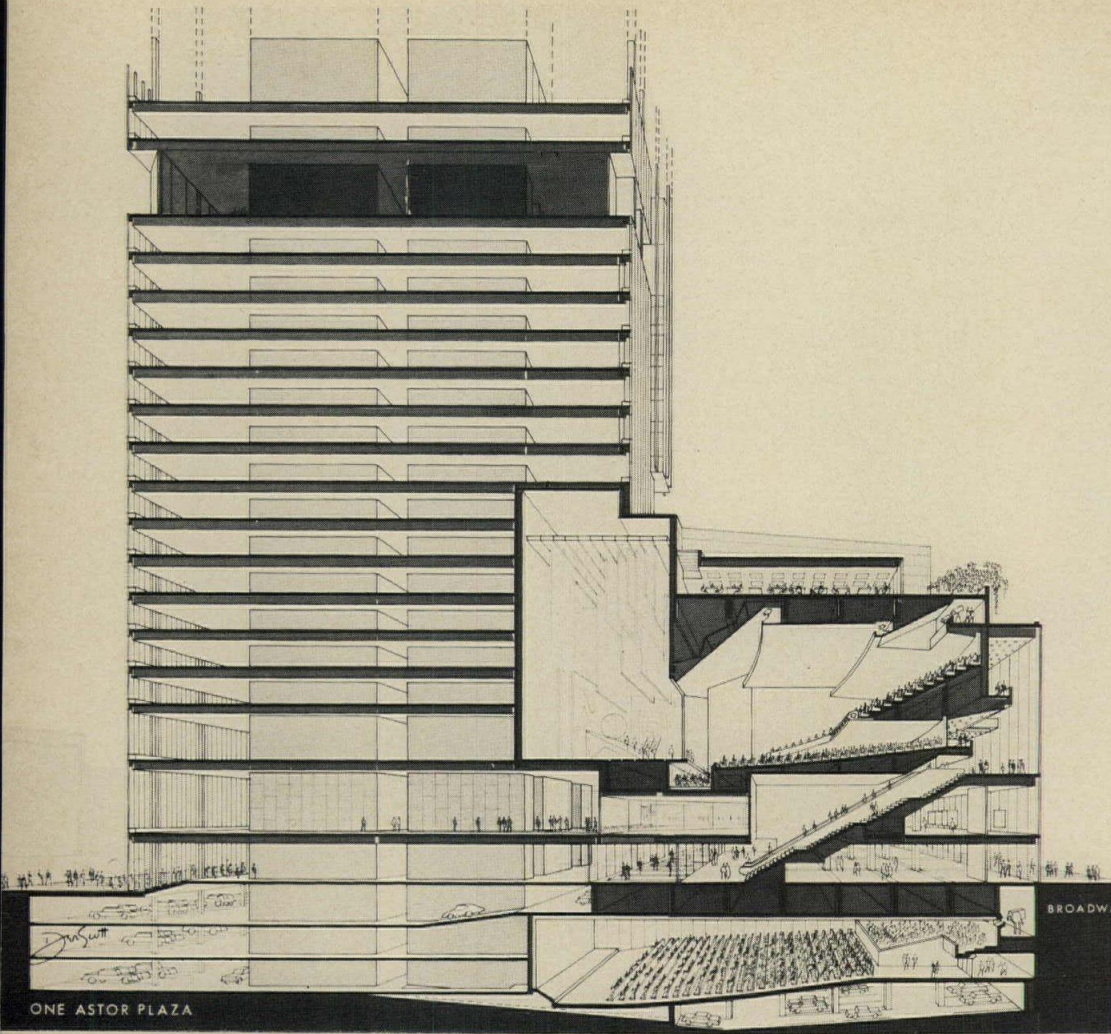
Hoover describes the United Methodist Church in Laramie, Wyoming (right) as a "simple, white, 20th century country church." It is part of an existing religious complex and its location at the center of the complex underscores the central place of worship



in the life of its congregation. The church plan and forms are simple and successful and strongly inflect the interior space toward the communion table, the focal point of Methodist worship. Readers will want to make up their own minds about the reinterpreted rose window over the entrance to the sanctuary. Its emblematic value is uncompromisingly forceful, but the question of its appropriateness provoked considerable discussion—pro and con—among the various editors who reviewed his submissions.

The breadth of Hoover's work can only be hinted at here. Readers will remember the inventive elementary school he designed for Bergen Park, Colorado (RECORD, August, 1972). Other projects include a private residence in Sun Valley, Idaho, the master plan for the Denver Community and Convention Center and a large office building for Blue Cross/Blue Shield—also in Denver. Hoover's strength as a designer reaches beyond questions of scale, details or perhaps even appropriateness. His exceptional ability to organize complex problems for study, his ability to isolate and solve problems inventively, his ability to present these solutions persuasively was apparent in all his varied and interesting submissions.





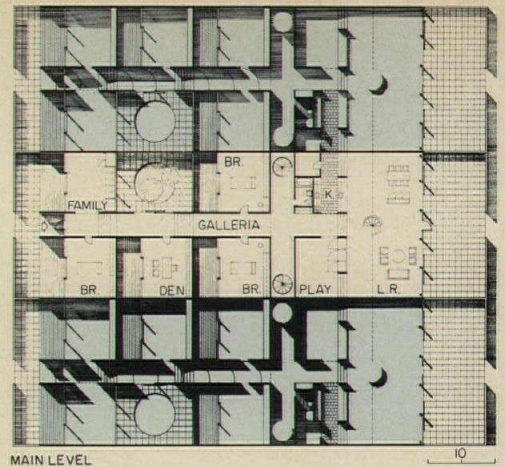
Norman McGrath



□ **One Astor Plaza, New York City, by Der Scutt (Kahn and Jacobs, New York).** Scutt's design for this midtown office building grew out of New York's incentive zoning plan that offers developers floor-area bonuses in return for certain public amenities they agree to provide. Here the amenity is an entertainment module consisting of a 1650-seat cinema, a 1500-seat legitimate theater, a two-story public arcade, shops and a rooftop restaurant—all facing Broadway. The joining of entertainment and office functions created planning complexities not easily resolved but Scutt's solution (see section above) seems orderly and practical.

The principal visual feature of the office tower is the system of large mechanical shafts located at the quarter point of each facade. This series of offsets creates a pinwheel system of cantilevered corners and culminates at the top in a vigorous sculptural form.

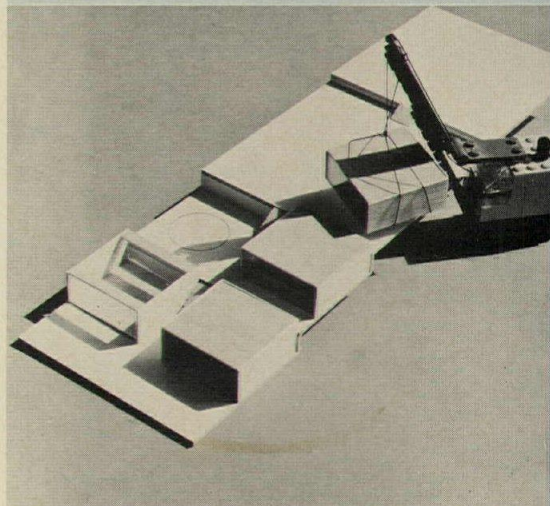
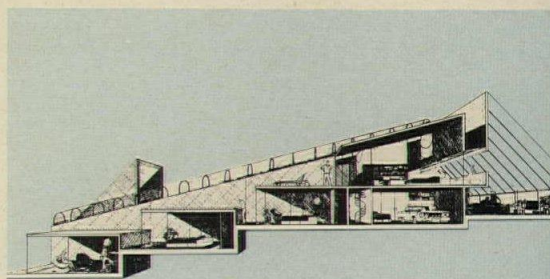
Scutt's other current work includes a laboratory for Roure-DuPont, Inc. and a recently completed office building for Western Union.



MAIN LEVEL

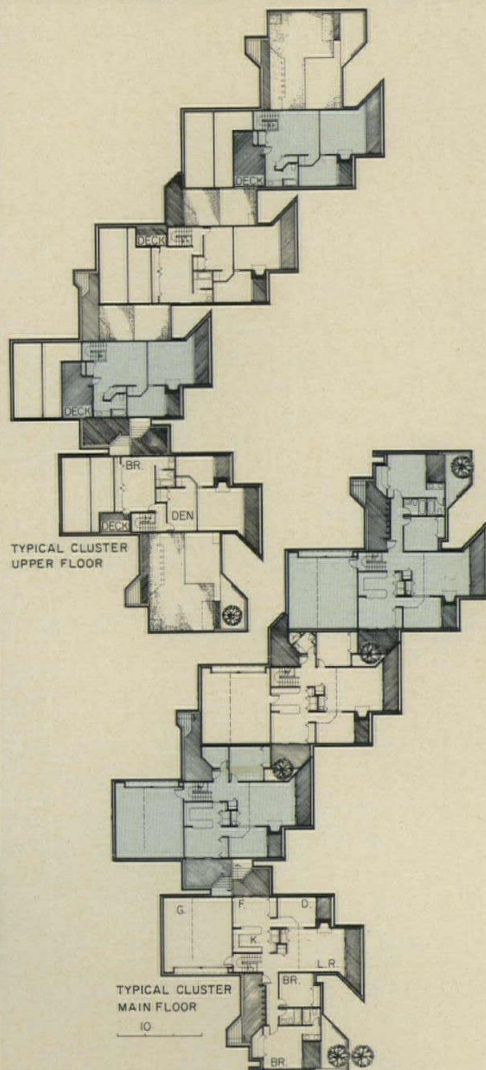
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□ **Prefabricated housing, New Jersey by Ronald Schmidt (Grad Partnership, Newark).** Schmidt's design for prefab housing can be constructed for either single-family or rowhouse application. It is assembled of 14- by 18-foot units, put in position as shown below, on almost any site of 10-25 per cent gradient. The geometry of the plan grows out of the requirement that each room have an outside exposure without sacrifice of privacy. A central circulation spine spaces out the units while bringing light deep into the interior space. The living room opens out to an enclosed private garden. Schmidt estimates at present that about 80 per cent of the construction can be systematized.





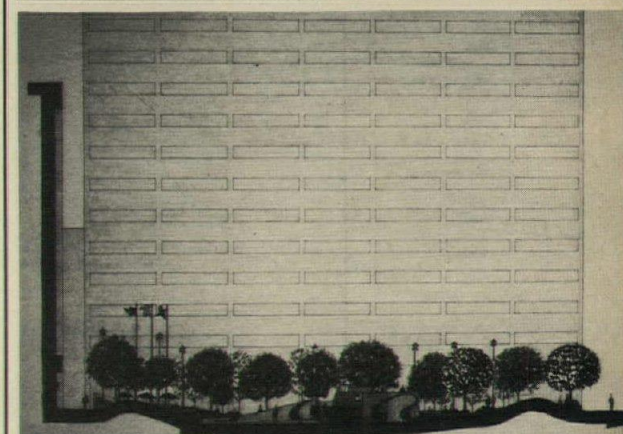
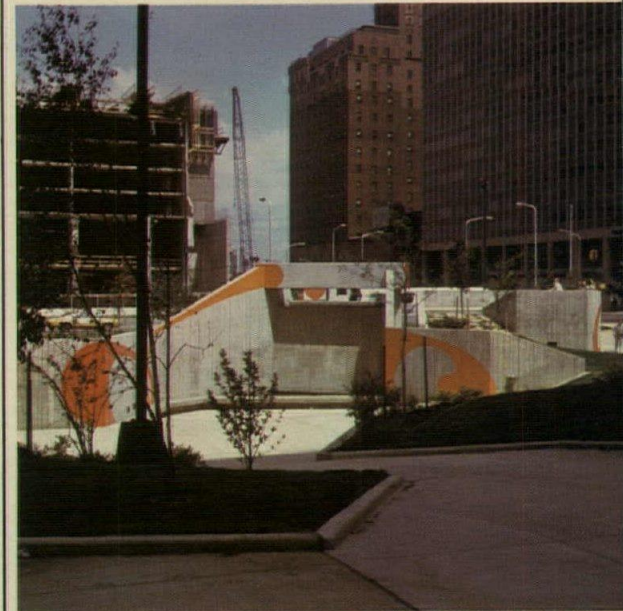
James K. M. Cheng photos

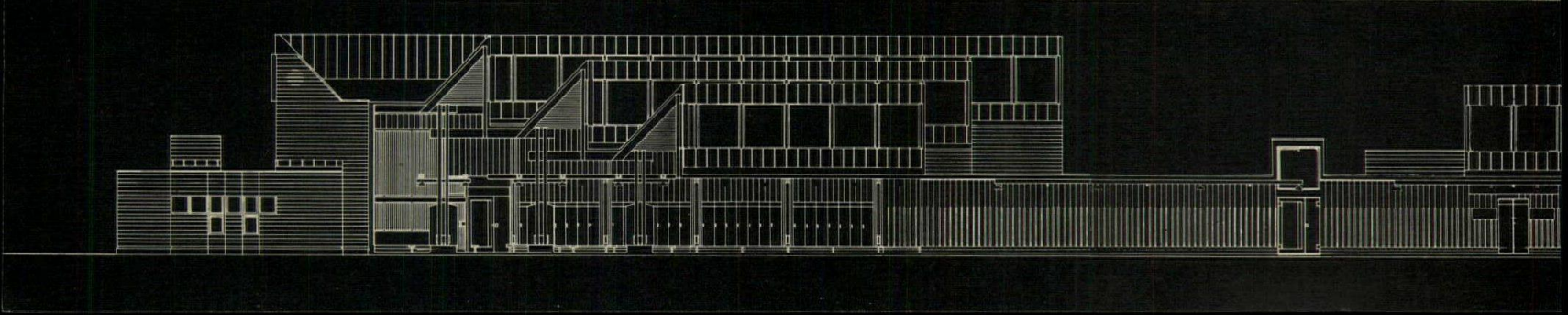
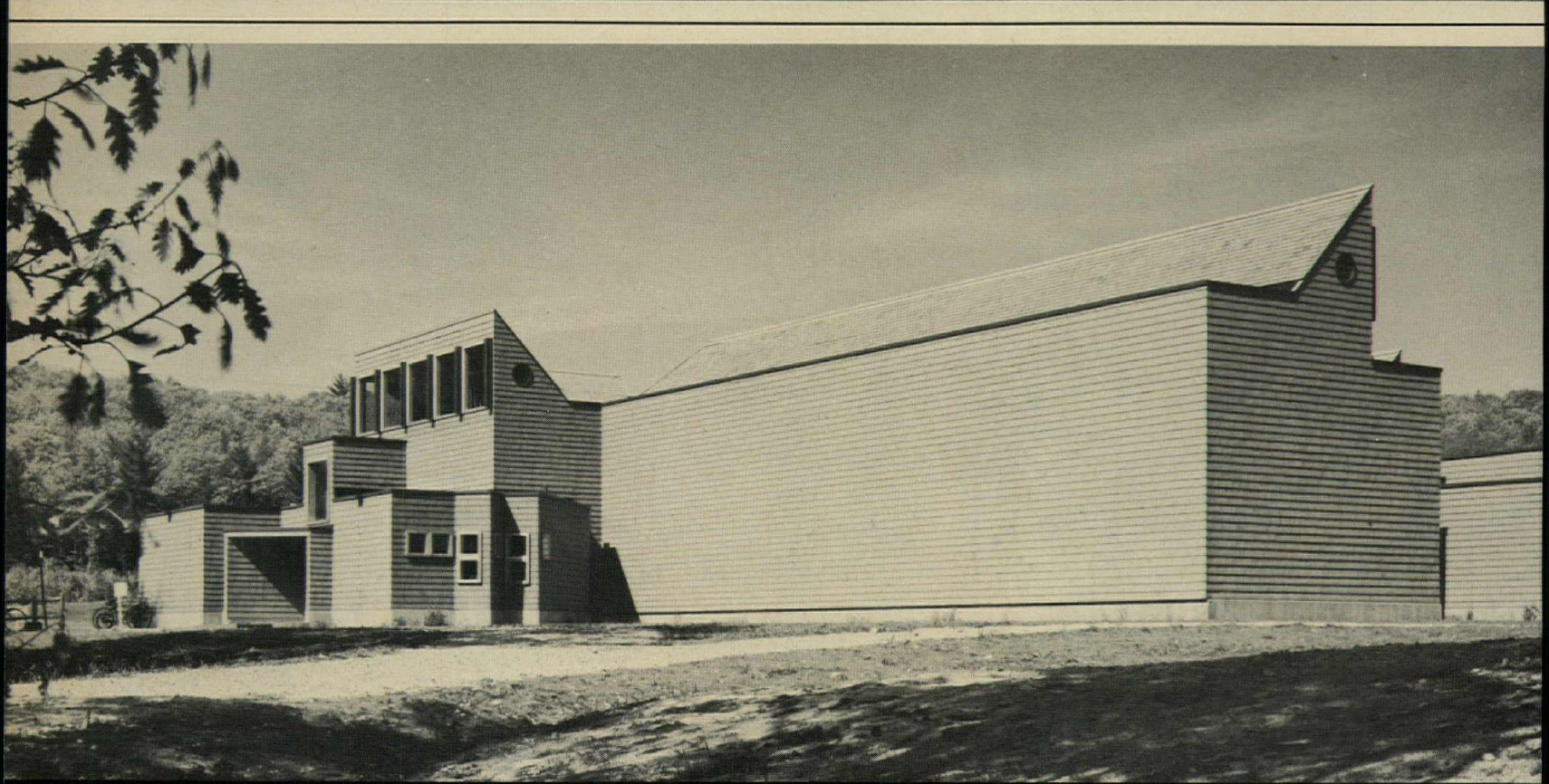


□ **Sahalee Houses, Redmond, Washington**  
 by **James Cheng (Mithum Associates, Denver)**. On a wooded site outside Seattle, James Cheng, 24, has designed a condominium village that richly expresses its regional flavor and provides more than the ordinary architectural amenities. Cheng developed a basic plan and variations with unusual sensitivity and combined these comparatively intricate elements in a series of gentle offsets that gives the site plan an appealing informality. The interior spaces are sensibly apportioned and organized to provide light, view and privacy. Cheng's ability to generate and modulate repetitive forms is striking. His use of materials and sensitivity to detail mark him clearly as an emerging talent.

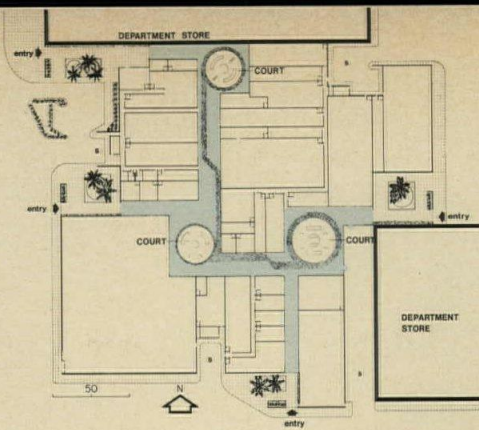


□ **Chester Commons, Cleveland, Ohio**  
 by **Robert L. Reeves and staff members (Department of Community Development, Cleveland)**. This new park in downtown Cleveland is located in an area now under heavy renewal. The park was designed to serve as a recreational focus for an emerging community and provides amenities for every age group. Brightly painted walls, trees, paving, planting, level changes, wood benches and water are the major design elements and they have been combined into a design of whimsical angularity and unusual gaiety and warmth—a really welcome and valuable addition to the city's urban park system.

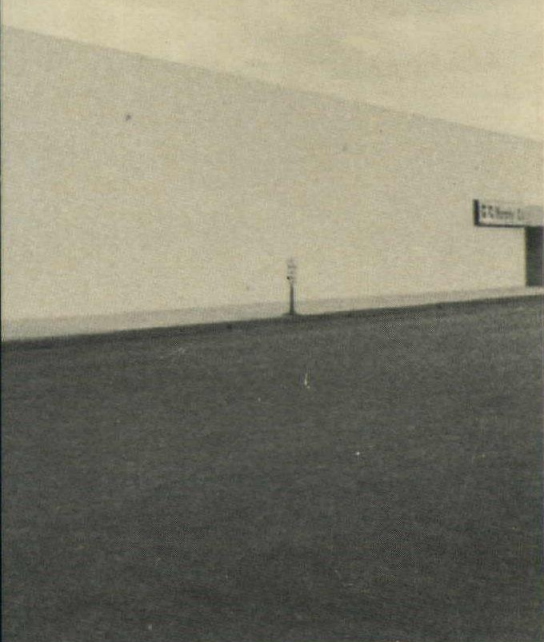
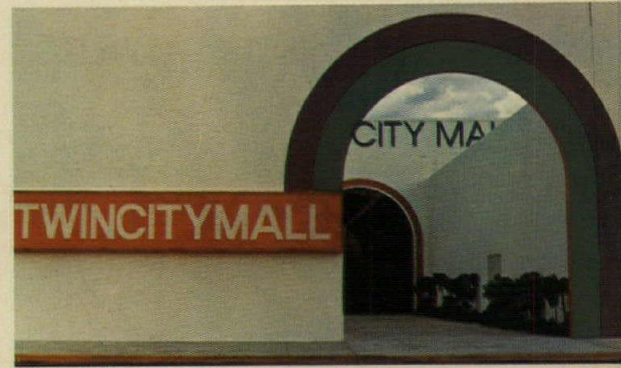




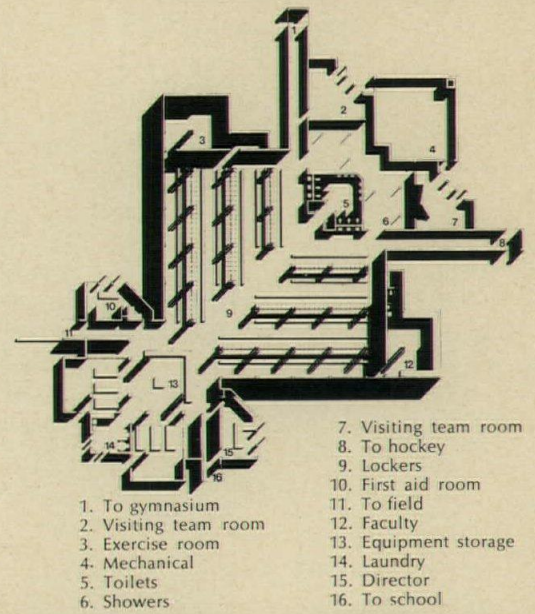




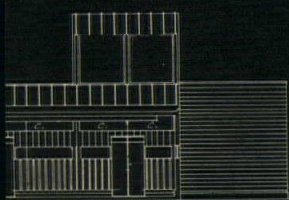
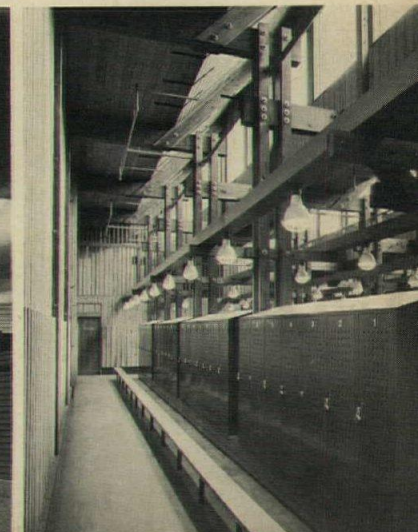
□ **Twin City Mall, North Palm Beach and Lake Park, Florida by Geoffrey Freeman, William Fay and Judy Swanson (Gruen Associates, Los Angeles).** This giant shopping center is built in an "L" shape to connect the existing Food Fair and J.M. Fields at the southern end of the site with a new Sears store at the north. The connection is made by a system of enclosed shopping malls, arcades and courts (see plan). The interior spaces are strongly defined by barrel vaulting over the directional arcades and circular drums over the more static courts. Within these volumes, the flow of shoppers is directed by broad strokes of bright colors, mirror glass and fluorescent tubing. The exteriors are white-painted stucco with entrances from the parking areas emphasized by ribbons of color. Inside and out, the design problems have been solved with vigor and consistency.

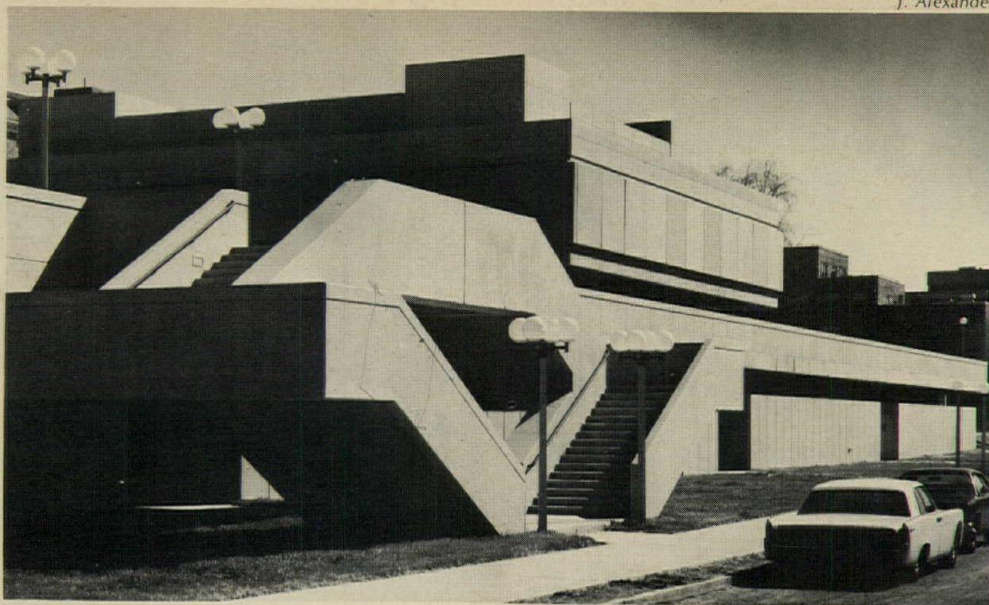


□ **Holderness School Athletic Facility, Holderness, New Hampshire by Charles Rogers II (Perry, Dean & Stewart, Boston).** This timber structure has been planned as the hub of a school's expanding athletic complex. The building was sited to provide easy access to field and slope and to shelter the existing hockey rink from wind-driven snow. The clerestories over the locker areas face south to take advantage of heat gain during the winter as well as the psychological and disinfectant properties of the sun. The interior was conceived as a single, sub-divided space to allow visual continuity and air movement throughout. The strong design, the careful articulation of parts, and the sympathetic handling of materials are praiseworthy.



Phokion Karas photos

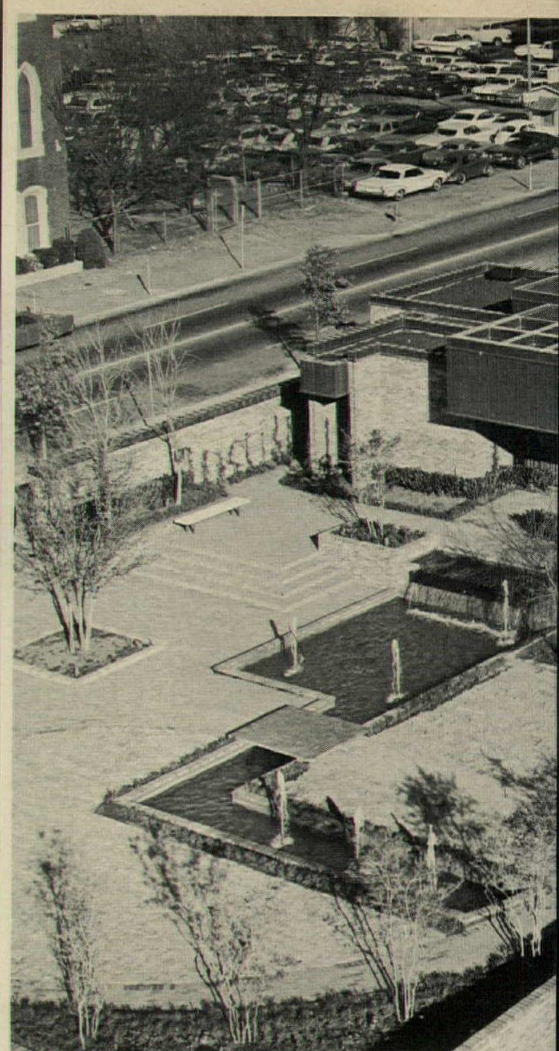
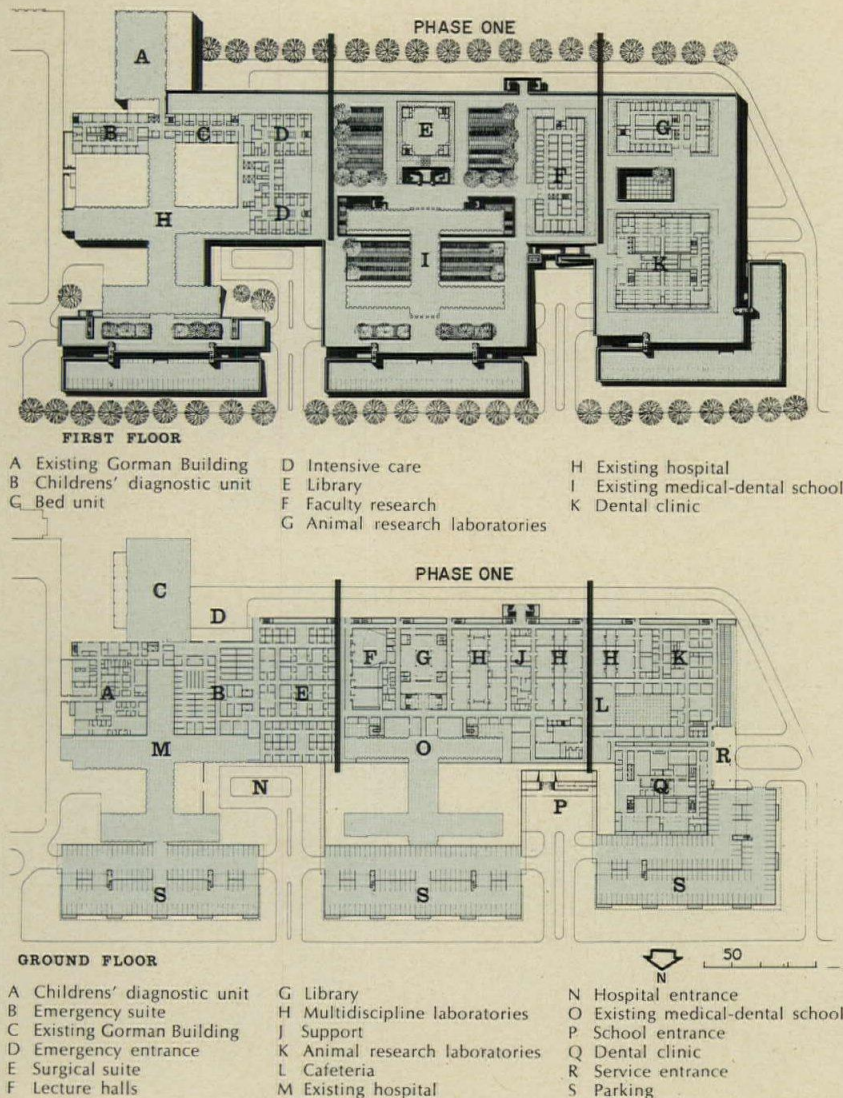




**Georgetown University Medical Center, Washington, D. C. by Reginald Cude, John Brince, Joseph Matthews, Jr. (Mariani & Associates, Washington, D. C.).**

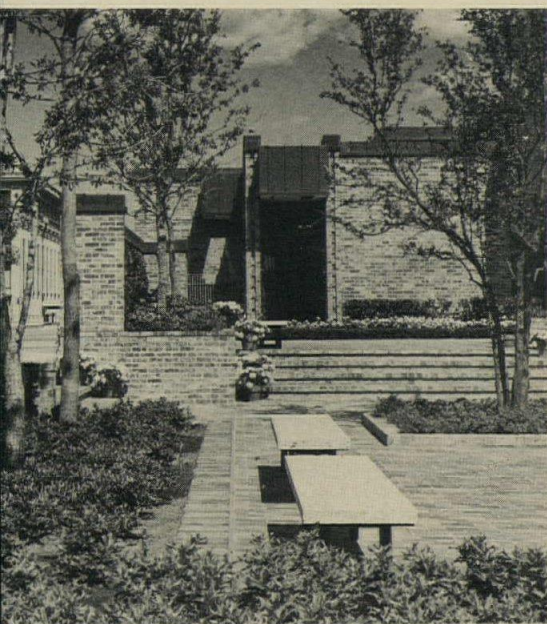
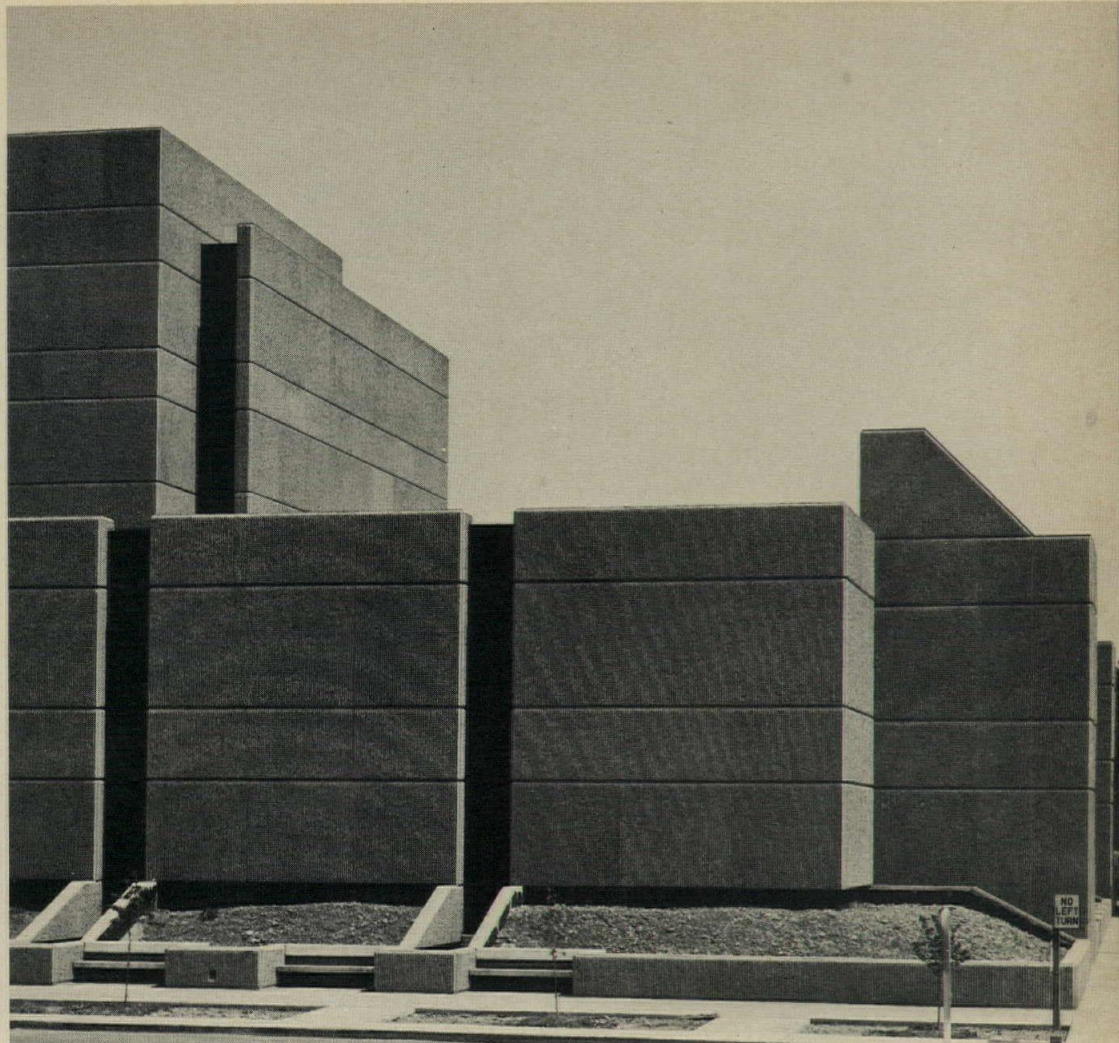
The program called for tripling the space of this urban medical center. Phase I consisted of laboratories, medical library, auditorium, student lecture halls and faculty offices. The designers began by creating a podium structure to house laboratories and lecture halls. The roof of the podium became a plaza at the level of the existing medical school. Above the plaza, the library and faculty spaces

are defined by blocks of building mass. The school can grow outward at the podium and upward into towers. The walls are buff-colored brick; the floors are two-way rib slabs. What is most appealing about this new facility is the strength and conviction its designers brought to the complex task of relating new and old in a confined urban setting. It might have been tempting in so large an addition to let the old school get lost in the shuffle. That did not happen. The relationships seem well studied and the execution self-assured.

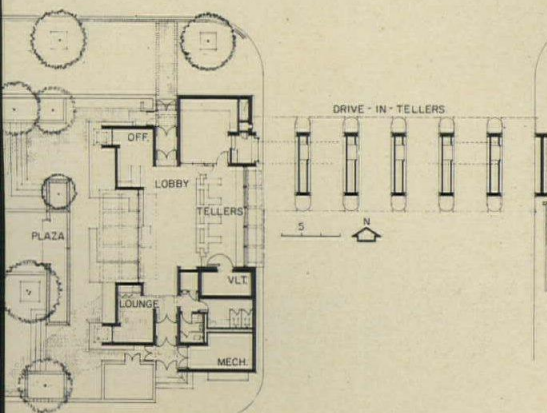


**Fidelity Express Bank, Oklahoma City by Stan W. Gralla (Benham-Blair Associates, Oklahoma City).**

This site was one of the few remaining open spaces in the center of the city. The owners wanted their bank to make a socially significant contribution to the city—a desire that Gralla translated into a handsomely landscaped vest pocket park in which the bank is the centerpiece. The park is privately owned but intended for public use. The building is intelligently planned and sensitively scaled. More important, perhaps, it serves as a model for clients everywhere who wish to have some part in the task of upgrading our urban environments.

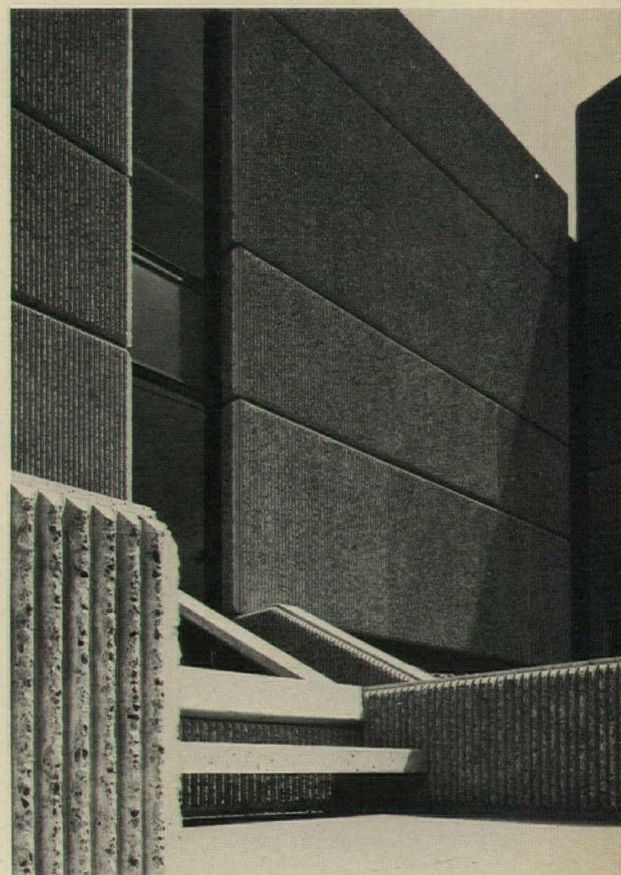


Thomas Robert

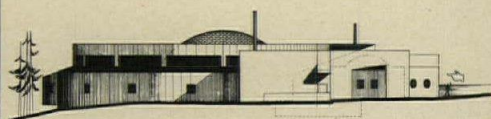
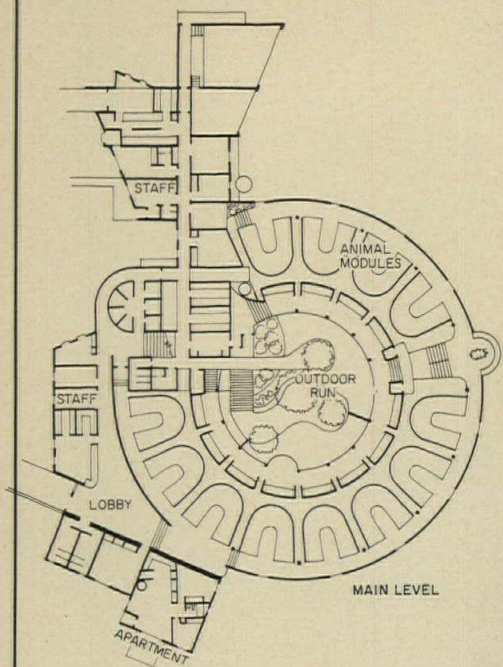


□ Pacific Northwest Bell's Telephone Equipment Building, Salem, Oregon by David McMillen (Wilsem, Endicott, Greene, Bernhard & Associates, Portland). It was apparent from the start that the program would generate a building of very considerable mass—a mass almost unrelieved by windows or other scale-giving devices. McMillen's efforts to humanize the structure by reducing its mass began with a planted berm at sidewalk level. He gave the building a precise volumetric expression and ribbed the precast panels into corduroy for the same reason. Horizontal reveals also break up the planar surface and simplify the matching problems when the increased demand for customer service requires the building to be vertically expanded.

What most impressed the editors was the clarity McMillen attained in a building type that too often results in a non-differentiated box of blurred intention.



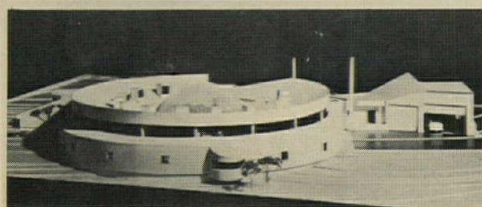
Hershberger photos



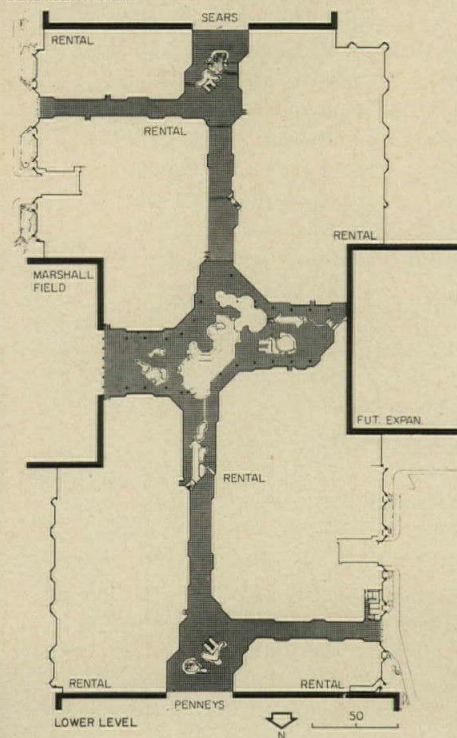
**Animal Shelter, Denver, Colorado**  
**Phil Tabb (RNL, Inc., Denver).**

For pets awaiting adoption, Tabb has created a canine and feline world of curves and arcs that functions well for public and veterinary staff. The spine (see plan) stretches from the garage to the pet holding areas and is used by both staff and public. Animals are kept in the modules off the spine. The central circle is an outdoor run for anxious or long-term dogs. A plastic dome covers the adoption area and marks it as the symbolic heart of the structure. From here, dogs and owners make their way, in a straight line path, back to the Euclidian world.

The building design seems particularly humane (not always the case in structures of this type) and well worked out.



Balthazar Korab

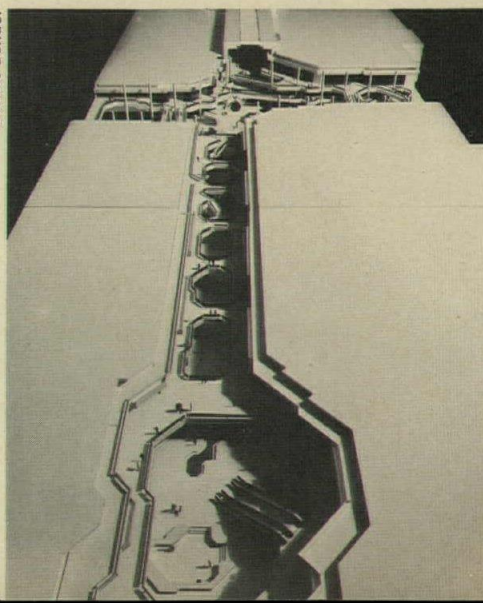


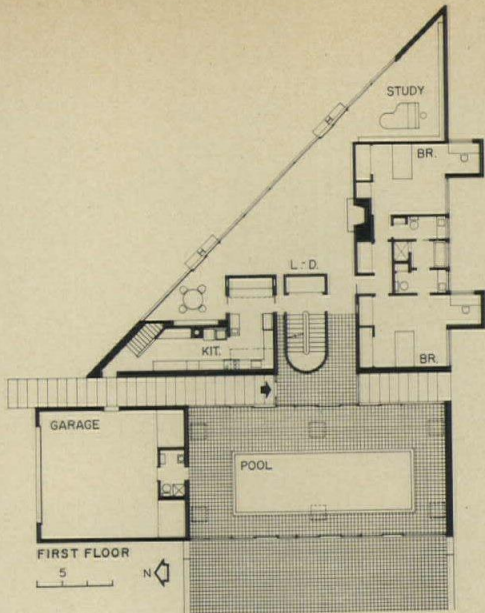
**Woodfield Shopping Center,**  
**Shaumburg, Illinois, by Robert Powell**  
**(Jickling & Lyman, Birmingham, Michigan).**

The problem here was to connect three large department stores with a multi-level shopping arcade that included large areas of rental space. Powell accomplished this with a linear scheme of special strength and invention. The main circulation route (photo above) has spurs in both directions that invite casual window shopping. Sculpture and planting reinforce pedestrian routes and provide a visual change of pace.

Powell's other large scale work includes a student union building, an historical museum and student housing.

Dennis Bender

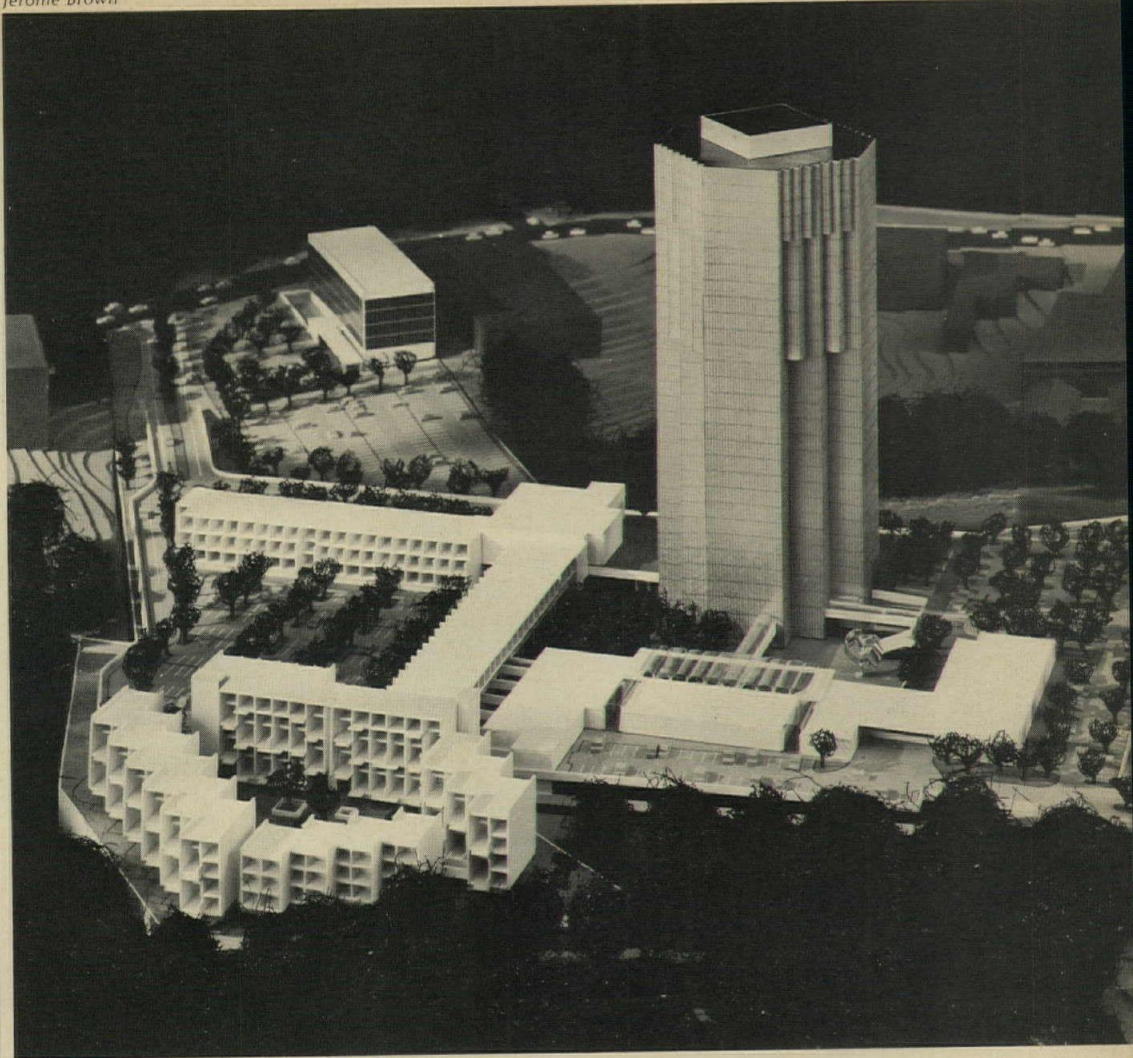




Private residence, Milwaukee, Wisconsin, by David Kahler (Office of Fitzhugh Scott, Inc., Milwaukee).

Built on a high bluff overlooking Lake Michigan, this handsome house opens to a broad view of the Lake and closes, in a triangular plan, to the west. All the main spaces are contained on the first floor—the upper level being reserved for guests.

Steel channels and brick veneer are combined with wood on the exterior to create strong visual interest and to recall an earlier house of those materials on the same site.

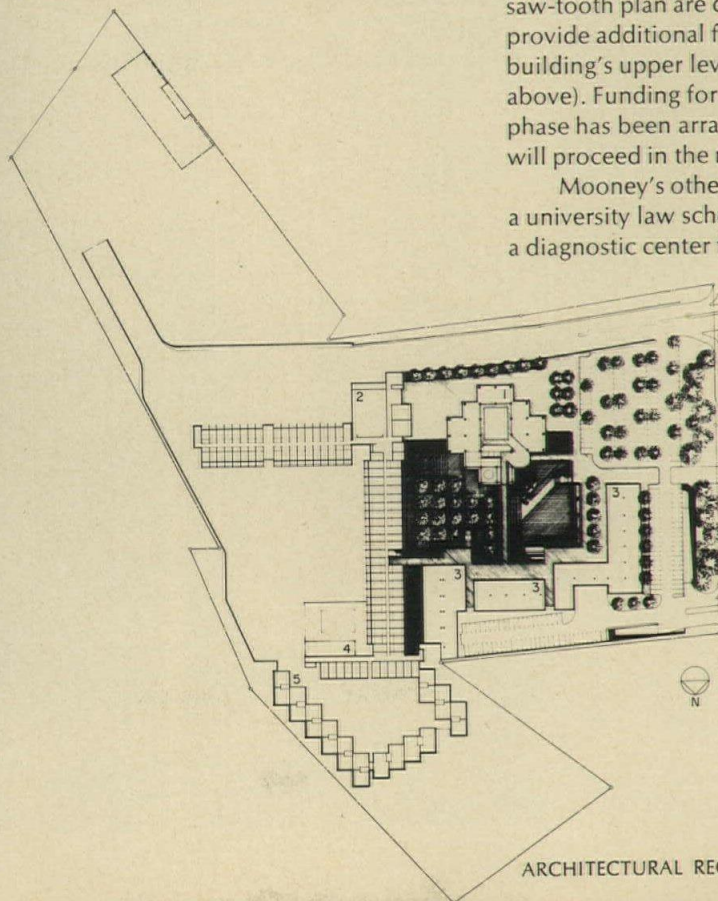


Peachtree-Piedmont Complex, Atlanta, Georgia, by Kemp Mooney (Stevens & Wilkinson, Atlanta). A combined, high- and low-rise complex, planned for suburban Atlanta, will include a 30-story office tower, a 250-room convention hotel, 900,000 square feet of rentable retail space, 80 middle-

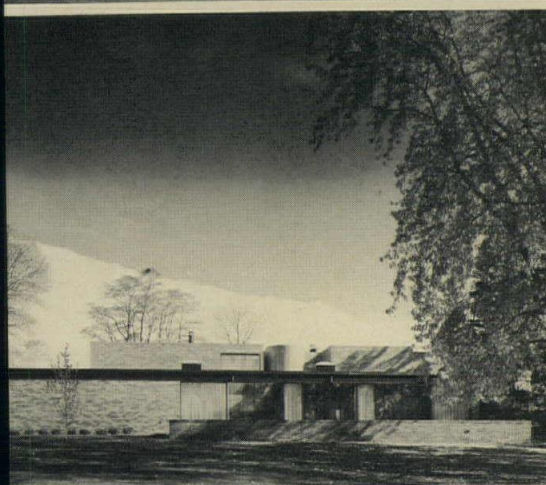
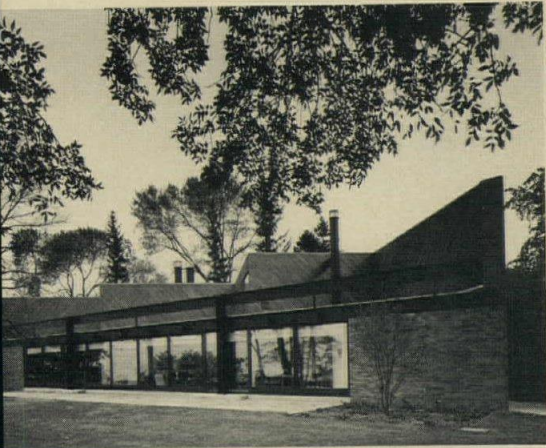
and upper-income apartments, and decked parking for 2500 automobiles.

The character of the neighborhood lent itself to this kind of mixed-use planning and the irregular shape of the property dictated an informal, asymmetrical plan arrangement. The office tower's prismatic elevations and saw-tooth plan are designed to provide additional floor area on the building's upper levels (see photo above). Funding for the first phase has been arranged and construction will proceed in the near future.

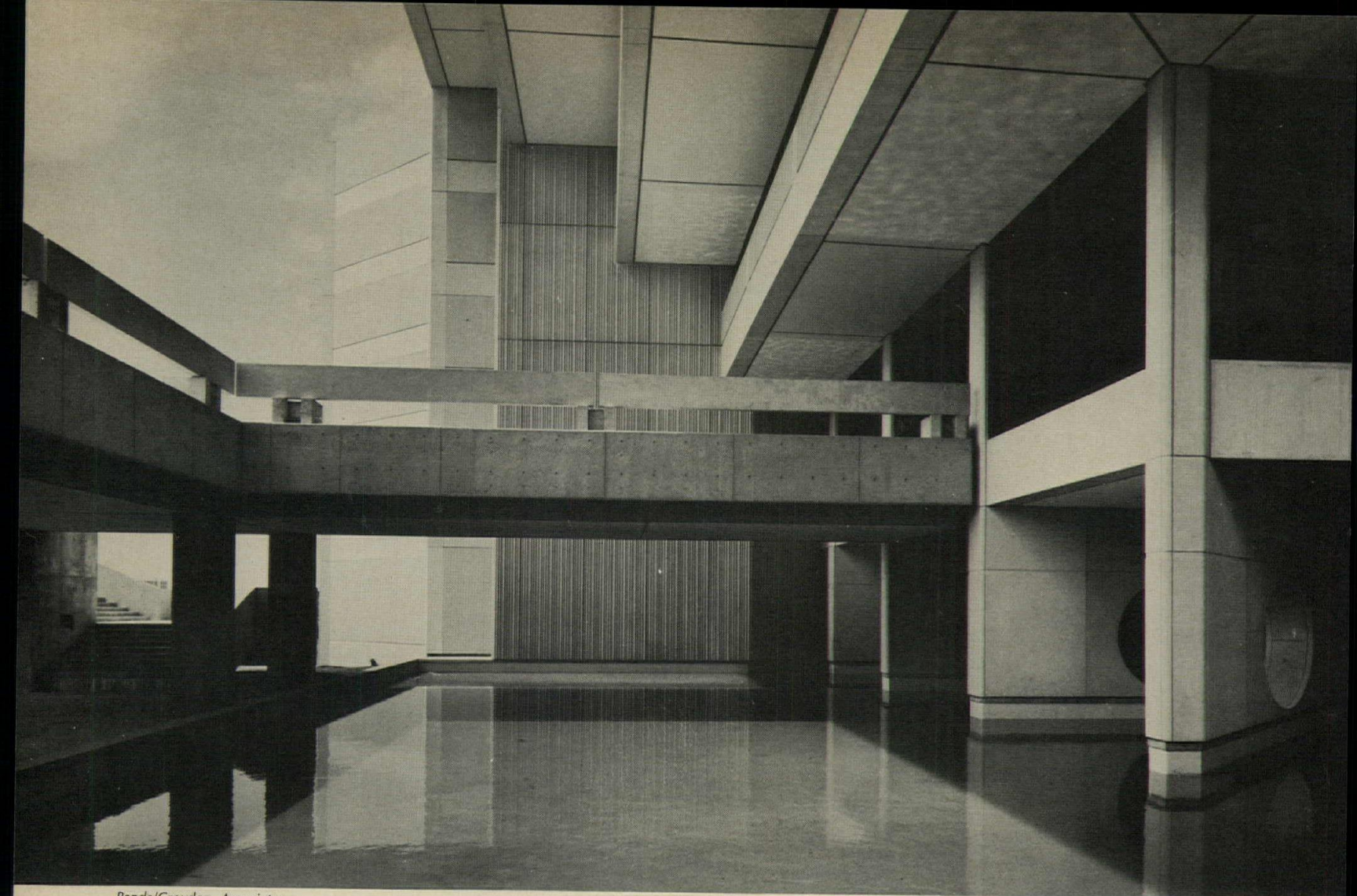
Mooney's other design work includes a university law school, a high school, and a diagnostic center for retarded children.



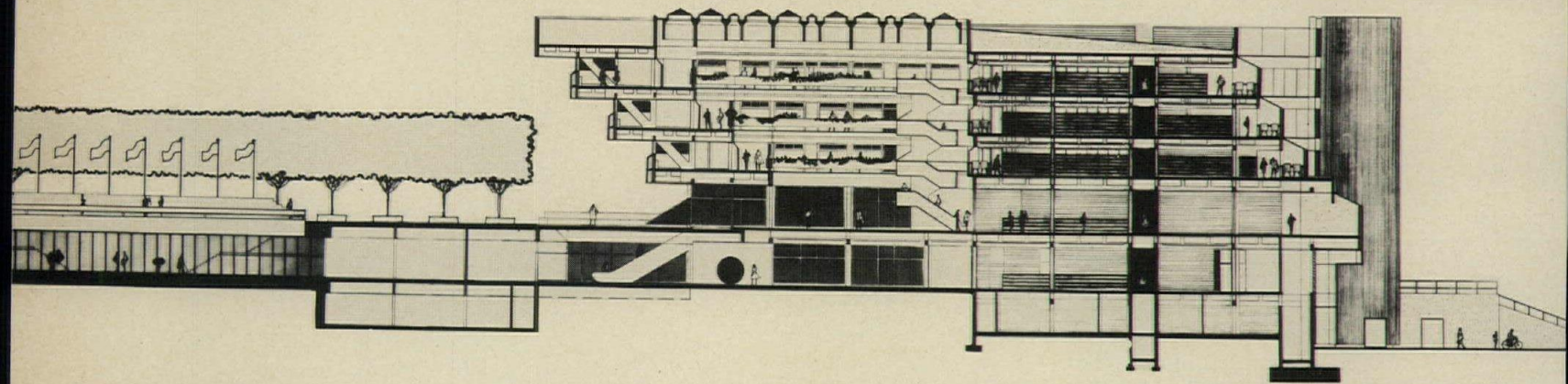
- 1. Office building
- 2. Motel
- 3. Retail shops
- 4. Health club
- 5. Apartments



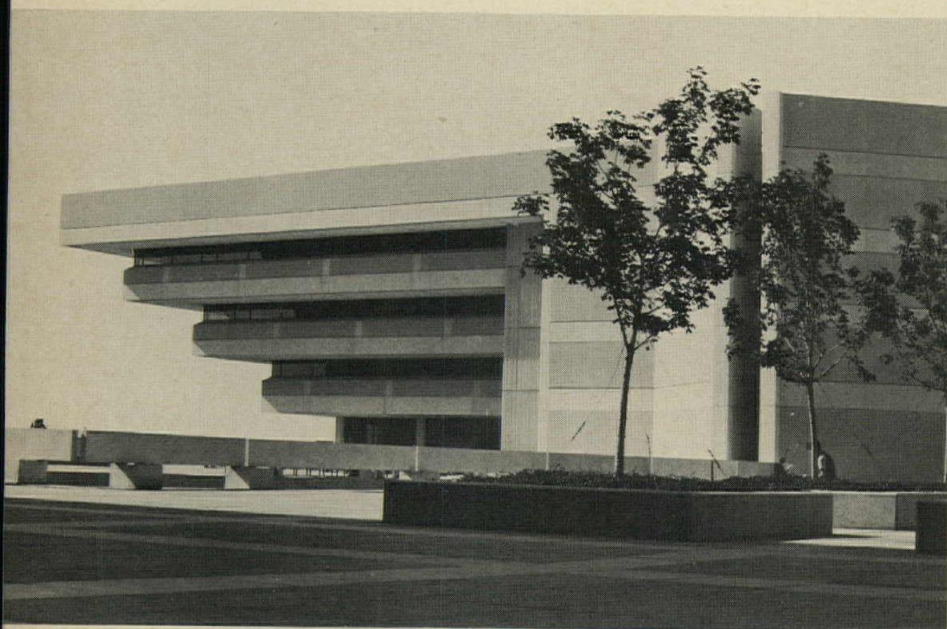
Hedrich-Blessing photos



Panda/Croydon Associates



Panda/Croydon Associates





□ Scott Library, York University, Toronto, Ontario by Stephen Irwin (Shore, Tilbe, Henschel, Irwin, Toronto, formerly Shore & Moffat and Partners).

The main space (photo above) in this university library rises from the entry at plaza level to the roof in a spatial composition of extraordinary drama and sculptural interest. The space is contained on two sides by stacks and on the remaining two sides by cantilevered reading terraces that project irregularly into the space at superimposed levels. The space is

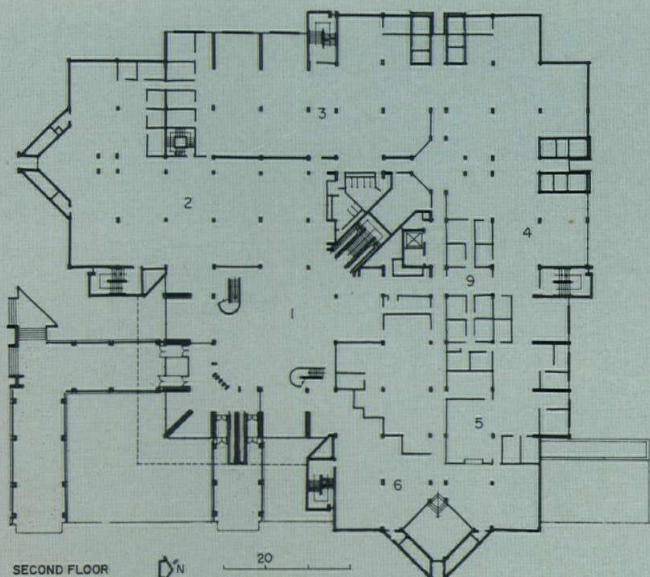
covered by a glazed and louvered roof in order to establish a controlled environment in this severe climate.

Vertical circulation is placed off axis, creating a powerful diagonal thrust. On either side of the escalators on the entry level, the library's major functions—cataloging, reference, periodicals—occur. A hub develops on each of the five levels at every intersection of horizontal and vertical circulation (see plan). Because the library is sited at the end of a broad plaza,

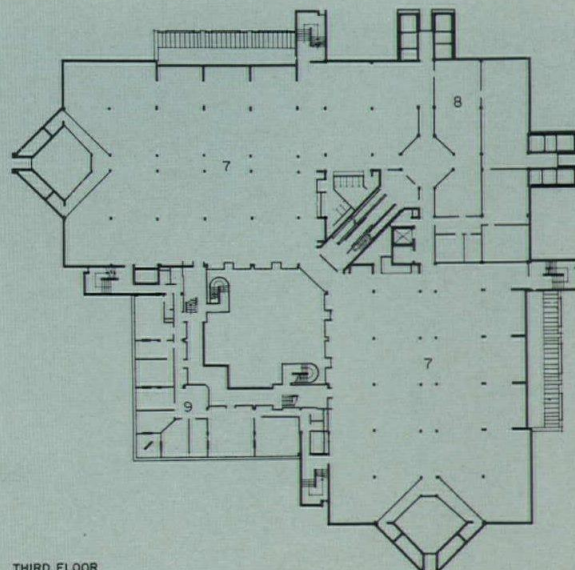
the main entry is across a pair of bridges under the stepping corner of the plaza elevation.

The structure is reinforced concrete using a system of castellated beams which creates a horizontal service distribution area on each floor. The entire structure has been isolated from the exterior facing of precast panels as a protection against the transfer of excessive moisture.

Now about a third of its anticipated capacity, the library houses over 700,000 volumes, and 2800 double stacks.



1. Court
2. Reference
3. Cataloguing
4. Acquisitions
5. Serials
6. Periodicals
7. Stacks
8. Rare books
9. Offices



# EDUCATION: A LOOK AHEAD

In the wake of the activism of the sixties, today's students are realizing that they need the skills of the field if they are to accomplish their goals in making the physical world better, more beautiful.

There is a noticeable change on campus today, and in the architectural schools that, so short a time ago, seemed not to be very architectural anymore, the change is powerful indeed. There is, in fact, a "resurgence to the practice of architecture, to what an architect is, to a broadening of the definition of architect," to quote Richard Peters, chairman of the Department of Architecture at the University of California, Berkeley. "The design of buildings has re-emerged and is redefining itself," he adds.

Instead of the radical shouts and the hysterical violence of the late sixties and even the early seventies, there is a growing realization that to achieve what they want in the world, whether it is change or success in a traditional sense, graduates will have to have the skills required in the profession in which they intend to work.

"Students today realize that the problems of the physical world are primary in the minds of people," Mr. Peters continues. "They have set their priorities. Their social concerns may be different from those of previous generations, and rightly so, but they are saying that the world must be a better, a more beautiful place in which to live. And they know that if they are to have a part in making it more beautiful, they have to have the skills to make it so."

Dean Robert Harris of Oregon's College of Architecture and Allied Arts, currently president of the Association of Collegiate Schools of Architecture, confirms the revival of student interest in "nuts and bolts" courses—how to design and put buildings together—but adds that at Oregon there is a simultaneous revival of interest in history courses.

Two years ago in Berkeley, at the Forum of the Associated Student Chapters of AIA, it was clear that students wanted their professional education to be worthwhile and purposeful—which many made clear that they did not feel it had been—and that "relevant" to them in this context meant practical experience with community problems, practice-oriented courses, some form of experience in the mechanics of getting a program through and a project built. One wonders, reviewing the list as reported in Record Reports (ARCHITECTURAL RECORD, January 1971), what seemed revolutionary to anyone about these requests. Yet to many at that time, they were but one more indication of "the length young people go to nowadays."

Fortunately for architecture, what the students were saying was listened to by some educators at some schools. And fortunately for the schools, the end of the draft not only cut enrollments but allowed those who were in college only, or mostly, for the immunity it provided, to drop out. Not to be discounted either, is the fact that there were changes in heads of departments of the major schools of architecture.

The top leadership in architectural education today is a good 10 to 15 years younger than top leadership used to be. A look around the major schools of architecture today turns up the interesting fact that these department chairmen, ranging in age from 39 to, say 48, are the architectural students and graduates of the fifties. They were part of the so-called "apathetic generation," non-activist, thoughtful, conscientious, pursuing their education with quiet seriousness and with a sense of humbleness that, in retrospect, seems of a different world.

It was to this younger group on the faculties that students turned during the controversies of the sixties. Their understanding of student wants, needs and aspirations has been an effective part of the changes noted in many schools.

Out of the turmoil, confusion, and permissiveness of the sixties, out of that era's over-intellectualization of architecture and over-socialization of the concept of the architect's role—and perhaps because of such turmoil, and even because of the violence—a new rapport between curriculum means and student goals has begun to be provided, not everywhere, and not by everyone in architectural education. But it is a large beginning.

Reassuring the practitioner is, however, not a simple matter. He has been through too much—the arrogant graduates, capable in new and, to him, unintelligible ways but incapable of the simplest basic tasks; the schools' reliance on his assumption of a major part of the young architect's training (which his memory tells him he got in school)—and his experiences, gathering bitterness as they gather dust, have not endeared the schools to him.

And in truth, the schools have rarely ventured toward including him in their planning. Where he should have been at least an equal partner, he has been the forgotten man. It is one thing to promise training "in practice"; it is quite another to have the practitioner ready and able to provide that training. Too often faculties have scornfully dismissed practitioners' protests that they "cannot afford either the time or the money that is involved in 'finishing the schools' jobs," when for the majority of practicing architects, the protest was based on painful truth.

Equally thorny is the schools' relationship to the National Council of Architectural Registration Boards. Always tense, this relationship has only partially eased with the advent of the new licensing exam. In California, where both qualifying and professional exams will be required, the tension between state board and schools is even greater.

So long as credentials are a part of a contemporary society, some form of controversy may be expected between schools and state boards of examiners. The schools will say that their graduates should be licensed



on graduation, the boards will say that their charge from the state requires that they certify licensees in certain respects which they can only do by examining candidates. And both will be right, each in his own way.

To try to effect a mutual exchange among all these organizations within the profession—ACSA, AIA, ASC/AIA, NAAB, NCARB—a five-president council has been set up, with great hope that the overlapping problems can be solved. A difficulty with such a group is the agenda: How to get the talk off the detail and on the underlying issue? It is clear, as Dean Harris of ACSA says, that what needs discussing is not the technicality of licensing procedure, but the meaning of credentials in our society; not the technical details of accreditation but what range of subjects should be available to accomplish the goals of school and students. It may be too much to hope that these needed communications will occur, given the continually changing membership of the group. By the time each president has had his "moment in the sun," little time will be left for the important and essential discussions—unless, of course, the seriousness of the problem substitutes humility for ego.

Meantime, the schools are exploring ways of providing newly-eager students with the education that will make them both skillful in familiar ways and educated in new and, to most practitioners, unfamiliar ways which were nonexistent in the days they were architectural students.

For instance, there are fewer and fewer "set" curricula these days, and more options as to how a student structures his educational progress. This kind of choice does not mean permissiveness, as often was the case in the sixties, but a carefully worked out program based on a clear plan and designed for a stated goal, within which there are electives, sometimes from a recommended list, sometimes without restriction (though with some basis for election).

"Today's school curricula," says Dean Harris, "are trying to define the minimum requirements for becoming an architect and to state them in ways that are liberating, rather than those that set up barriers to thought and to action."

There have been some bad mistakes, Four/Two for instance, termed "disastrous" by Dean Harris. At Berkeley, where Four/Two was first used, this controversial program is being evaluated after six years. But at other schools it is just being initiated. Almost from the beginning, students have opposed it, seeing it as a lengthening of their school years (and added expense) without actually giving them as much as they got from the five-year curriculum. (Four/Two is a combination undergraduate/graduate program, with a non-professional Bachelor of Arts at the end of four years and a professional degree Master of Architecture in two additional years.)

The new student clamor is for a four-

year Bachelor of Architecture degree. Berkeley used to have such a degree, and it is now considering offering a concentrated four-year program which would cover what the old program did (plus, of course, new material as well) as an alternative to its other options.

Carnegie-Mellon has a four-year program and will graduate its first four-year class this year, having given them a program unusual for these days but whose parts are, as Del Highlands, Department of Architecture head, says "not especially unique":

"We have a design sequence with entrance requirements for each of its three levels. Ancillary to this sequence are design electives in which special subjects are singled out and studied. A three-year lecture-and-project course has as its core design of things requiring precise performance. Students are required to take courses to improve their abilities to design ways of com-

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**Students today realize that the problems of the physical world are primary in the minds of people. They have set their priorities. Their social concerns may be different from those of previous generations, and rightly so, but they are saying that the world must be a better, a more beautiful, place in which to live. And they know that if they are to have a part in making it more beautiful, they have to have the skills to make it so.**

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municating ideas, getting information and managing both design and execution of designs. And a major part of our curriculum is devoted to the history of buildings and artifacts.

"We are interested in the design of surroundings—this requires a love of the history, theory and practice of taking things apart and putting them together . . . dissecting, . . . analysis and interpretation of both part and whole, and the cutting; knowing where to begin, how to end, what to reject . . . knowing something about fitness."

In the RECORD questionnaire mentioned elsewhere in this issue, one question asked what the young architects whose work is represented in this issue would have included in their architectural education had they had a chance. Overwhelmingly, the majority said that a work/school program would be the most valuable addition. They would be heartened to know—if they do

not already—that a number of schools have such programs, and that the likelihood is that more will institute them.

Among the most unusual of such programs is that at Virginia Polytechnic Institute and State University where the College of Architecture has had for several years an off-campus center for community involvement, and a community work shop "where advanced students in architecture may spend a year or more of work/study in lieu of study on the campus," says Charles Burchard, dean of the College: "The workshop is a consortium effort, administered by our college but involving two other schools of architecture in the state.

"The off-campus concept now permits academic credit for off-campus involvements in industry, laboratories, other schools, offices, construction sites, etc. By the fourth year in our professional curricula, students are able to assume considerable responsibility for their nonprofessional posture and we expect them to be able to identify the resources for their development in the area of their interest. The off-campus involvement is therefore an extension of their orbit of investigation beyond the campus."

It sounds made to order for those graduates of the fifties and sixties who found their education so deficient in the exposure to architectural practice, into which they plunged upon graduation. Indeed, some form of work experience does seem essential—for the students' sake and for the sake of those who will be their employers.

Another area mentioned in responses to the questionnaire, occasionally by name, occasionally by oblique reference, is the studio method of learning—or teaching—design. For some educators, the studio is obsolete. Jonathan Barnett, then director of Urban Design for the New York City Planning Commission, writing in the October 1970 issue of ARCHITECTURAL RECORD, stated unequivocally, "studio teaching is out of date," and made a good case for his views. As if to back them up, he has instituted a different method of learning at the graduate level, now that he is director of the graduate program in urban design at the City College of the City University of New York.

"Of course," says Mr. Barnett, "Our students all hold degrees in architecture, so they have had the studio experience. But schools of architecture have to learn to distinguish between what is teachable in an academic context and what it will take a student a lifetime to learn if he is lucky.

"In our graduate program in urban design at the City College of New York we do not have a design studio at all", he says, "offering instead a half-time job with a city agency for which the student (who is already a graduate of a school of architecture) is paid, and for which he receives four points of academic credit each semester. In addition, we provide intensive courses in

the working context of urban design: law, public administration and real-estate economics.

"We then try to balance this rather technical experience with an introduction to the great issues of urban design, the historical development of various concepts about cities, case studies of design in New York and other places, introductions to environmental psychology and urban sociology. Each student also completes a research project of his own.

"We believe that an understanding of the ways in which conflicting demands for government resources are resolved, or of what makes a project profitable for a real-estate developer represents the medium of urban design as essential to the designer of cities as paint is to a painter; but the designer must also know what he wishes to do with his medium. We think our program gives the designer a good basis for putting these two things together; but we know that this task represents his life work; and we don't ask him to pretend that he already knows how to do it."

The thinking behind such a program recognizes in responsive form the problems of architectural practice today, and the factors that have to be considered in almost any project and that underlie and determine so much of the character and quality of urban design.

But the studio concept is not dead. Indeed, at Berkeley, it is very much on the way back. However, it is not the studio of old. The mechanics may look the same, says Richard Peters, but the actual experience of it is different. "Our studios are full," says Mr. Peters, "of students with professors, each loving every minute of it. Whatever else it may be, it is a part of the learning experience in architecture, and it is still design." Plainly, it was not the concept of the studio that was at fault during the days of student revolt, but the way it was used—or misused. What is true of the studio concept is true of other parts of architectural education: it is what you make of the means that counts.

Instead of catalog-oriented curricula—whether for old schools or new ones—many educators are asking that whatever curricula are offered be based on goals, as Dean Harris suggests (and is applying at Oregon):

"To profession- and task-oriented goals I propose we add student-oriented goals . . . These are not necessarily contradictory but they are not identical either. We should ask ourselves how we can assist students to recognize frames of reference; see things in many ways; use all their capacities without inhibition, liberate all their mental powers and also allow and encourage development of productive skills; develop the ability to share information, ideas and images.

"We should also seek programs that

will reintegrate architectural studies into the stream of all studies. When we make it possible for students to partake intensively of a rich context of ideas, we can expect them to develop insights and skills that will assure them of roles in the diversity of future architectural practice."

The schools want to work out their own curricula, and the words "core curriculum," bandied last year in discussions of the new licensing exam, strike cold sweat from the brows of educators. At this moment, however, no core curriculum requirement seems to be in the offing.

"The National Council of Architectural Registration Boards," says its president Thomas Sedgewick, "does not desire to attempt to interfere in any way with the schools' determination of curriculum. The (new) exam somewhat defines areas of

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knowledge that should be presented to the students such as structures, etc. This can be read out of the exam itself and in this respect (it) parallels the existing exams. It does not tell the schools what they should be doing."

NCARB is one of the sponsors of a three-year study of professional certification in architectural education being conducted in the School of Architecture at the University of Illinois under NCARB treasurer Jack Swing, who heads the school. One aspect of the study will establish an Illinois academic prototype which would "test the integration of certification of academic attainment and professional certification of basic competence." Another will "explore the role of professional certification in a profession of broad scope."

It is impossible to predict the outcome of such a study, as it is impossible to pre-

dict the future of architectural education. But some things seem clear. The parts of the profession are not separate and independent. Education and training, the assurance of high standards in schools of architecture, students, educators, practitioners, licensing boards (a fact of life, inescapable whether approved of or not)—are all part of the whole we call architecture. The human elements—students, faculties, practitioners—are so inter-related that their existence is, in effect, mutually supportive, and they are therefore mutually responsible.

In researching this article it was clear that too seldom have the parts talked together of the whole, and that this kind of communication is desperately needed, now. In one state, the board of examiners refused outright when invited to hold a meeting at a major school of architecture. Again and again, students have wished that practicing architects in their area would participate more in their educational process, not as faculty members but as visitors. Yet invitations to visit a school seldom if ever materialize. What an opportunity to know first hand what students do and think, what new facets of architecture are developing; what a way of initiating the architect-to-be into some of what seem to him the mysteries of practice; what a way to give the reality of application to the theories which the student properly studies in school.

It almost seems as if the sixties were a bad dream—a dream in which loud voices proclaimed that architecture is systems, that computers make architecture, that math is architecture, that environment and ecology are the most important things in the world, that architecture is unnecessary, that social change is the only wave of the future, that skills are of little consequence if social inequities are not corrected. The grain of truth in each wild statement made it impossible for thinking people to turn away, and yet the stridency and the illogic made it just as impossible to turn toward. The refreshing look of today's schools may not be Utopian as far as most practitioners are concerned, but in the wake of the sixties, it is heartening indeed, for it appears that the new generation of architects, product of what Richard Peters envisions as "the richest decades in education we may ever know," will indeed be architects, capable of all we knew and much of today we will never know.

The important thing about the future is that it will be good, if all of the profession works together to make it so. Educators who expect practitioners to find places in practice for graduates with special attributes must work with them to find ways to make this feasible. A one-way street leads only to a dead end—and as long as people need buildings and buildings make the man-made environment, a dead end is no place for architecture or architects.

—Elisabeth Kendall Thompson

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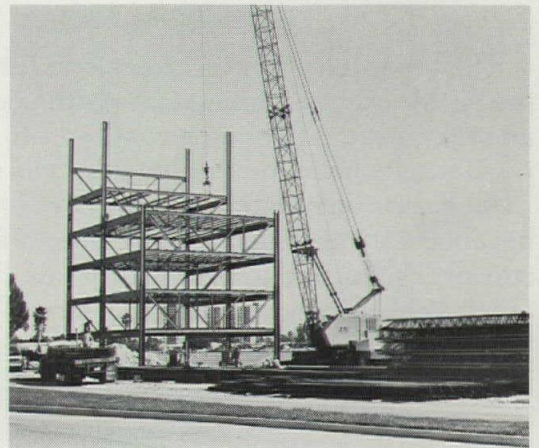
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## Treasure Island, Florida: another builder cuts costs in today's competitive market with Staggered Steel Truss.

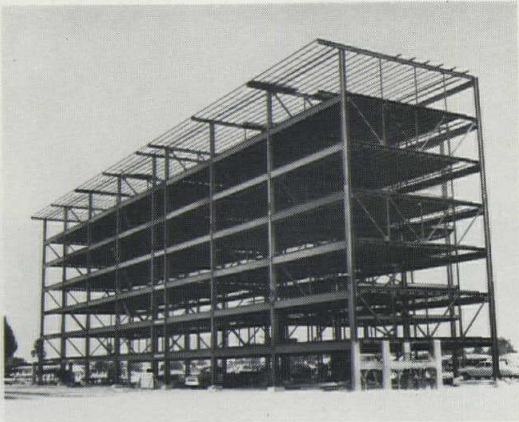
Staggered Steel Truss is a new structural design concept for multi-story structures. It's been proven across the country to compete with and often beat other framing systems. And it can compete on a number of counts.

For instance, Green Feathers, Inc., owner and builder of St. James Apartments, Treasure Island, Florida, chose Staggered Truss for construction speed. They wanted faster occupancy for a quicker return on their investment. The main body of the building, which utilizes the Staggered Truss design is a rectangle, 207 ft. x 40 ft. and 7 stories high. It was erected in just 5 working days. (a 68 ft. x 46 ft. wing in the rear of the structure was erected with the conventional braced steel frame method.)

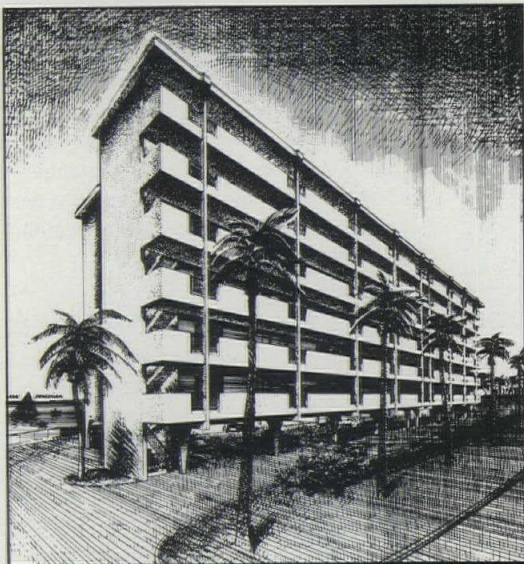


The Staggered Truss design also provided an ideal solution to off-street parking requirements by making possible a column-free 207 ft. x 40 ft. ground level parking area under the building. Additional benefits were realized in a relatively light weight steel frame and less costly foundations.

Essentially, the Staggered Steel Truss system is made up of one-story high trusses that span transversely between exterior steel columns and occur in a staggered pattern from floor to floor. Trusses at a given floor are placed midway between those of the floors below and above. Each floor rests on the top chord of the trusses below and is supported, alternately, from the bottom chord of the adjacent trusses.



Staggered Truss concept was developed for U. S. Steel by the Massachusetts Institute of Technology. The St. James Apartments is just the latest of many buildings around the country to use it effectively — and profitably.



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### Construction Details

**Description:** A 7-story apartment building with penthouse atop. The main unit is a rectangle 207 ft. x 40 ft., to which a short wing 68 ft. x 46 ft. is appended. The latter is conventionally steel framed and cross-braced. 53 apartments, of which 8 are one-bedroom, 40 two-bedroom, and 5 three-bedroom. The entire main unit is set on pedestals, providing a 207 ft. x 40 ft. column-free parking space on the ground floor.  
**Design live loads:** 40# psf in apartments/100# psf in corridors/20# psf on roof/Wind loading as per code.

**Applicable Code:** Southern Standard Building Code, Coastal Region.

**Structural Steel:** Total steel frame weight, 206 tons. Weight of other structural steel, 121 tons. Field connections are high-strength bolts.

**Floor System:** 16" joists on 2'6" centers. 5/8" formed metal deck with 2 1/2" poured concrete.

**Roof Construction:** 28 gage galvanized steel formed decking; 3" lightweight concrete slab; built-up roofing with tar and gravel.

**Foundations:** augered caissons.

**Interior Walls and Partitions:** Partitions 1/2" drywall on 3 5/8" metal studs. Party walls without truss: 5/8" Fireguard X Gypsum wallboard on each side of 8" lightweight concrete blocks. Party walls with truss: 5/8" Fireguard X Gypsum wallboard plus 1" soundboard on 3 5/8" steel studs.

**Exterior Wall:** 8" concrete block, sprayed with stucco.

**Elevators:** 1 bank, 2 elevators.

**Fire Resistance:** 1 hour for floor/ceiling. 2 hours for columns, spandrels & trusses (dry-wall).

**Steel Erection Time:** For the main unit of the building, 5 working days. Total steel erection time: 12 working days.

**Gross Area:** 90,098

**Floor-to-Floor Height:** 9'8"

**Floor-to-Ceiling Height:** 8' (7' in bathrooms and corridors).

*Owner:* Green Feathers, Inc., Treasure Island, Florida

*Architects:* Edward W. Hanson, Architect, Inc., Clearwater, Florida

*Structural Engineers:* O. E. Olsen & Associates, St. Petersburg, Florida

*General Contractor:* Green Feathers, Inc., Treasure Island, Florida

*Structural Fabricator:* Musselman Steel Fabricators, Inc., Tampa, Florida

*Structural Erector:* West Coast Steel Erectors, Inc., Tampa, Florida

United States Steel

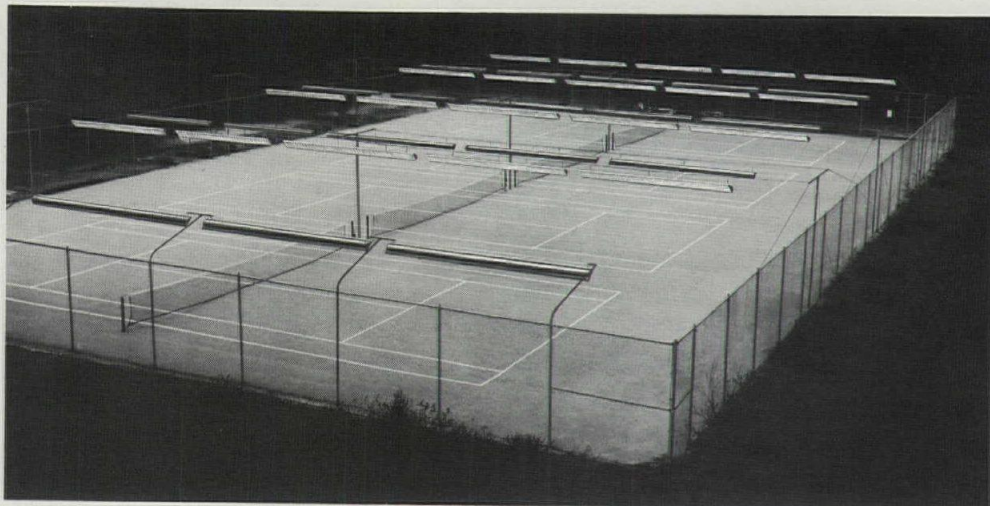


## PRODUCT REPORTS

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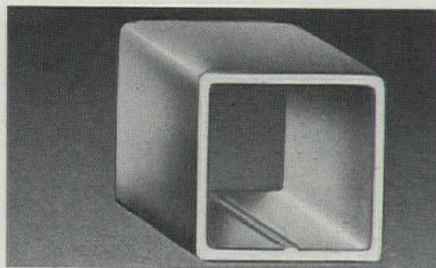
**TENNIS LIGHTING** / This low-mount, unobtrusive lighting system is installed 15 ft high, and features glareless lighting ranging from ground to 45 ft high. The system can be mounted on existing fence posts and consumes 15 KW, compared to other systems using up to 25 KW to deliver half the footcandles. This system delivers over 55 footcandles. ■ Devoe Tennis Systems, Carlstadt, N.J.

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**INDOOR-OUTDOOR CEILING** / This planar aluminum ceiling consists of baked enamel panels available in any increment in a lineal effect. A wide choice of colors is offered. The system is suited to structures where outdoor-indoor relationship is important. Panels are 35/8 in. wide and 5/8 in. deep. They are secured to carriers and can be easily removed for access to lighting and utilities. ■ Alcan Building Products, Warren, O.

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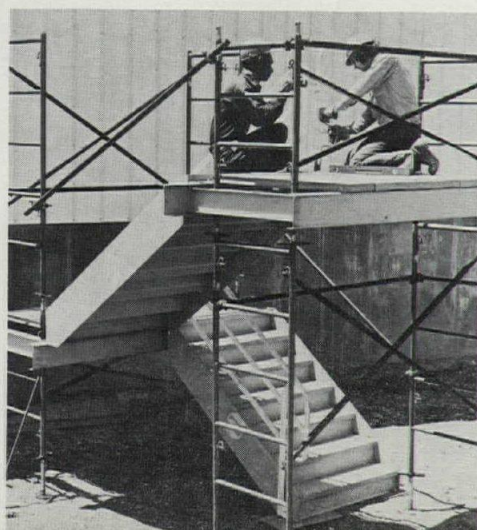
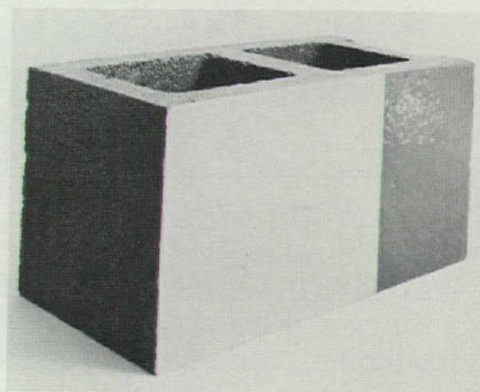


**STRUCTURAL STEEL TUBING** / Designed to satisfy ASTM A500, Grade B specifications, this structural tubing is available in squares up to 16 by 16 by 1/2 in., and rectangles up to 12 by 20 by 1/2 in. Continuous weld-free lengths are offered up to 80 ft. ■ Welded Tube Co. of America, Philadelphia, Pa.

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**ERECTION TOWER SYSTEM** / Three flights of concrete-filled steel stairs, complete with dry landings and railings can be installed by two men in less than a day, according to the company. Called *Speedstair Erection Tower*, the components are modules suited to standard scaffolding and so positioned that they do not obstruct masonry. The system eliminates costly tower column structures. ■ American Stair Corp., McCook, Ill.

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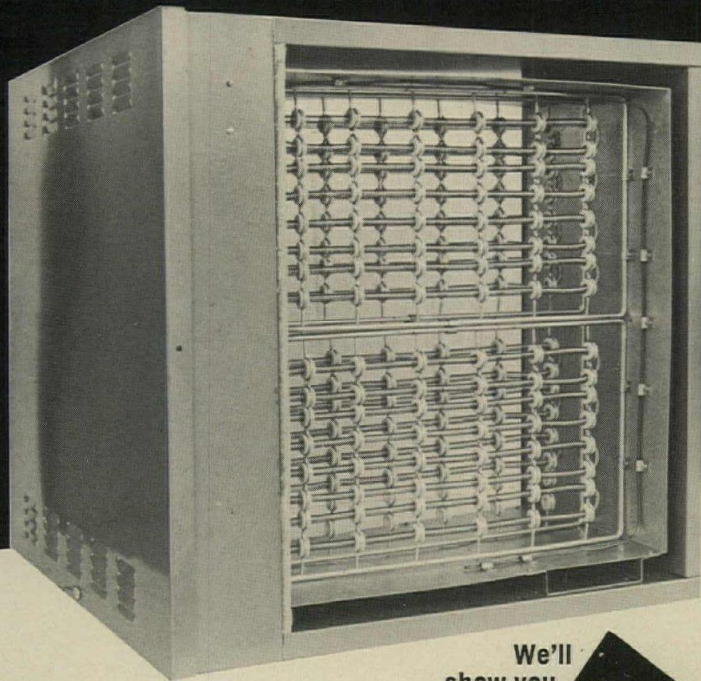
# show 'em a better way: raywall duct heaters

Raywall duct heaters are custom designed for a better way to heat in all types of industrial, commercial and public buildings.

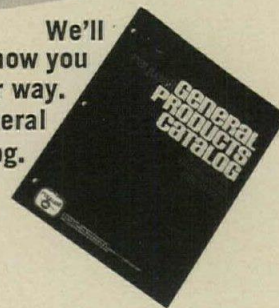
Ranging in size from 1/2 KW to 1,000 KW, and featuring zero clearance to combustible surfaces, Raywall duct heaters can solve a wide variety of space problems.

Ease of installation is also a Raywall feature. Blast coils fit spaces designed for other types of heating coils with no re-design or alteration of existing equipment.

Raywall duct heaters are engineered with safety in mind: each unit contains a grounding lug and is tested for 2,000 volts dielectric before shipping. Consider a better way for prime or auxiliary heating needs—Raywall duct heating.



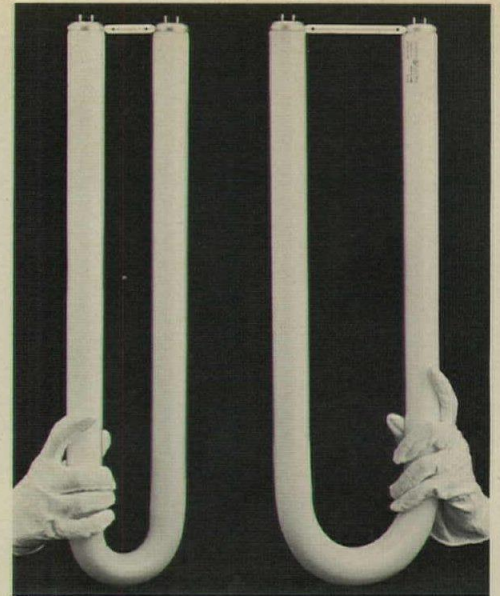
We'll  
show you  
a better way.  
Write for our General  
Products Catalog.



**THE  
ELECTICOLOGY  
COMPANY**

A Division of Tennessee Plastics, Inc.  
P.O. Box T, C R S Johnson City, Tn 37601 Phone 615/928-8101 Telex 55-3442

For more data, circle 60 on inquiry card



**U-SHAPED FLUORESCENT LAMP** / This 40-watt lamp has a leg-center spacing of 6 in. as compared with 3 3/8 in. for the original lamp introduced by the company. *Mod-U-Line* lamps in this new size permit installation of two or three lamps in the commonly used 2 by 2 fixtures, depending on the desired lighting level. ■ General Electric Co., Cleveland, O.

Circle 305 on inquiry card



**METAL SHELVING** / Adjustable metal shelving with reversible non-handed wall supports, punched for standard and non-standard framing, is offered. Parts are constructed of heavy steel, with an oyster-white, low-sheen enamel finish. Lengths are available up to 96 in. ■ Stanley Hardware, New Britain, Conn.

Circle 306 on inquiry card



**EMERGENCY EXIT SIGN** / This system incorporates a battery pack and charger arrangement which meets NEC specifications of 1 1/2 hours operation. The sign does not have to be recessed, due to its shallow dimensions. ■ Day-Brite Lighting, Emerson Electric Co., St. Louis, Mo.

Circle 307 on inquiry card

more products on page 168

# Why would anyone specify this sound control system.

## When this gypsum sound control system does the same thing for \$36 per thousand sq. ft. less.

You could specify a wood fiber sound control system and get a one-hour fire rating (Test T-3006) and an STC of 46. But it doesn't make sense when Georgia-Pacific's gypsum sound control system has a one-hour fire rating (U.L. Design #30), an STC of 45 and the total wall costs \$36 per thousand sq. ft. less.

G-P's gypsum sound control system saves installation costs, too. The 1/4" incombustible gypsum sound deadening board is applied over a wood framing system (2" x 4" studs, 16" O.C.). Then 1/2" G-P Firestop® gypsumboard or Firestop® Eterna-wall™ vinyl surfaced gypsumboard is applied to the sound deadening board. And that's it. Wall thickness is reduced by 3/4". And you've specified a system that costs \$36 per thousand sq. ft. less than a wood fiber sound control system. So call your G-P representative today!

1/2" wood fiber sound deadening board

5/8" Firestop® gypsumboard

1/4" incombustible gypsum sound deadening board

1/2" Firestop® gypsumboard

### Georgia-Pacific



Gypsum Division  
Portland, Oregon 97204

For more data, circle 61 on inquiry card



# Introducing a beautiful side of

We don't have to tell you about GAF's existing roofing, flooring and siding products. Judging from the way you've accepted them, we know they've done a good job.

That's why we think you'll be pleased to hear that GAF is now in the vinyl siding business.

The name of our vinyl siding is Vanguard™. And that means leader.

Unlike non-vinyl sidings, Vanguard keeps its good looks all by itself.

That's because the colors, (there are 4 of them) go clear through the vinyl. So Vanguard won't show scratches, and never needs painting or finishing.

And since it's weather resistant, it won't rot or corrode either. Which means it'll last as long as the house you put it on.



# GAF you've never seen before.

What's more, Vanguard's lightweight panels are much quicker and easier to install than most other types of siding. They can be cut and worked with ordinary tools. Special nailing flanges and preformed nailing slots help you put it up quickly and neatly. And, of course, there's no on-site painting or finishing for you either.

Finally this great new siding comes

with GAF's 20 year warranty against manufacturing defects.

Vanguard Vinyl from GAF. We think you'll be glad to have us on your side.

For further details, call your GAF Building Products distributor or write: GAF Corporation, Building Products Division, Dept. AR-12, 140 West 51 St., New York, New York . 10020





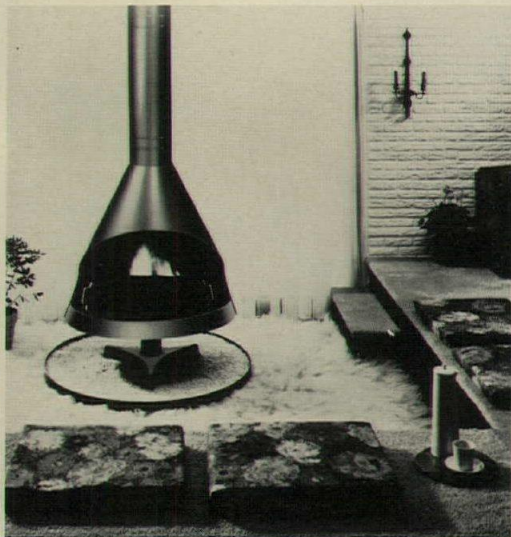
Mark 123 woodburning fireplace available in variety of styles.



Dramatic wall-hung Mark 5880 gas fireplace.



Mark 2028 gas fireplace combines the charm of wood with the convenience of pushbutton gas.



Sophisticated free-standing woodburning fireplace, Mark 4606.

## Heatilator apartment fireplacing... the low-cost way to charm renters

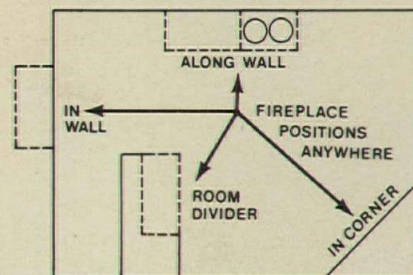
You've got profitable new reasons to include wood or gas fireplacing in your apartment plans—just as for single homes. Heatilator fireplacing simplified now makes it practical with...

**Factory-built components** at surprisingly low initial cost—apartment-engineered systems that are fully compatible with standard construction methods, reducing installation costs to the lowest ever. Place a Heatilator wood or gas fireplace anywhere, right on a wooden floor, against combustible wall materials—without using masonry. Woodburning models are complete systems, hearth to roof termination. Gas units use standard B-vent for both single and multi-level venting. And, all models offer unlimited decorative trim options—leave fireplace surround as is, paint as desired, or conceal with brick, marble, etc.

**Charms renters into paying premium rent.** Heatilator fireplacing not only gives you more competitive rental appeal, it is making renters glad to pay up to \$15 more per month—giving you more profit, more cash flow, more loan and sales value.

**Long, dependable service.** Mark 123 woodburning fireplaces feature a 20-year written warranty and smoke-free guarantee—U.L. listed! Heatilator gas fireplaces feature realistic Oak logs and flame, convenient pushbutton control—use natural or L.P. gas. A.G.A. design certified and tested.

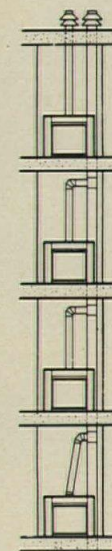
**Send for FREE Heatilator Architectural File.** Write Heatilator Fireplace, A Division of Vega Industries, Inc., 33122 W. Saunders St., Mt. Pleasant, Iowa 52641. Also available in Canada.



SEE US IN BOOTH #2531 AT NAHB, HOUSTON

Multi-level venting for wood or gas systems.

SEE CATALOG IN SWEET'S LIGHT CONSTRUCTION FILE



**heatilator**<sup>®</sup>  
AMERICA'S LEADING FIREPLACE SYSTEMS

For more data, circle 63 on inquiry card



CLIENTS COMPLAINING ABOUT THEIR NEW CARPETS? Spots are what they are most concerned about... and methods of spotting that require the selection of individual spotters went out with Argosheen® users 18 years ago. Write for information including tests which prove that cleaners cannot mix with soil and dry to a powder which can be vacuumed away, how to avoid rapid re-soiling and special instructions for cleaning some of the new carpets with extreme soil release problems. Argosheen®, P.O. Drawer 2747, Spartanburg, S.C. 29302

For more data, circle 73 on inquiry card

NEW DURASOTE® PREFINISHED LAP SIDING. Brand new Durasote® clapboards designed for concealed nailing are surface-finished with satin smooth, solid white Korad® 100% acrylic film and back-sealed with clear acrylic.

The clapboard substrate is new, high density, extra rigid, weather-proof Homasote Insulation Board. The tough, 3 mil thick acrylic film surface is U/V stable and guaranteed for 10 years against chipping, fading, peeling, crazing and chalking.

Durasote Lap Siding consists of all prefinished components including 1/2" thick clapboards 12' long, designed for a lap exposure of 10" or less, Korad clad inside, outside corners, trim moulding and nailing strips. Homasote Co., P.O. Box 240, West Trenton, N.J. 08628

For more data, circle 74 on inquiry card

RUST AND CORROSION PROBLEMS are virtually eliminated by Maytag's unique method of finishing Maytag Commercial Washers and single load Dryers. All cabinets get four coats—zinc, base, primer, and finally, acrylic enamel. Washer top covers, lids, tub covers, and washbaskets have a special two-coat finish that resists alkali and corrosion. Single load dryer tops and drums get a two-coat finish that withstands heat as well as corrosion. This helps keep Maytag Commercial Washers and single load Dryers looking better, working better, in self-service laundry facilities of every type. For more information, write to The Maytag Company, Commercial Laundry Division, Dept. AR-12-72, Newton, Iowa 50208

For more data, circle 75 on inquiry card

MASTERPIECES OF TEXTURED POETRY... Modern architecture cries out for the warmth and color of tapestry.

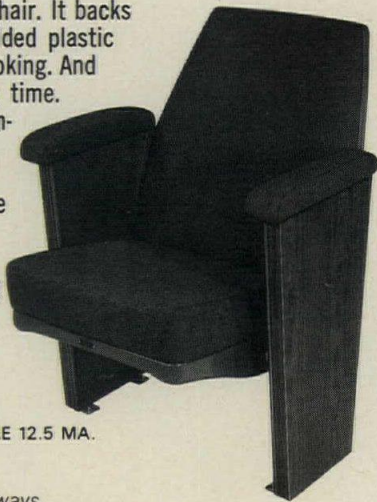
The renaissance of the weaving art is today exemplified in the centuries-old ateliers of Aubusson, France, World Capital of Tapestry. Here traditional tapestries are still woven, but the emphasis is now on designs by top contemporary artists—Calder, De-launay, Le Corbusier, etc. Tapestries can be custom-woven from your own artwork or designed to your specifications. Brochure available. Art Vivant, Inc., 173 Highridge Rd., New Rochelle, N.Y. 10804.



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## Massey | backs you up.

All the way. Take the Polaris chair. It backs you up with a one-piece, moulded plastic back. Strong. Safe. And good looking. And it stays that way. For a long time. Massey backs you up with comfort. Two inches of foam with every back. And a thick foam cushion over the springs of the seat. Then they back you up with a nice little extra. Complete architectural, engineering and design assistance.



FOR REFERENCE SEE SWEET'S ARCHITECTURAL CATALOG FILE 12.5 MA.

You're always  
Sitting Pretty with . . .

**Massey**  
seating co.

NASHVILLE, TENNESSEE 37208

For more data, circle 77 on inquiry card

# Big-Eye



**Emergency lighting that works instantly. Every time.**

BIG-EYE is a major improvement in emergency lighting. Its 2 sealed batteries are automatically kept charged at full rated capacity. They last about 8 years (up to 4 times life of wet cell batteries) without filling or maintenance. When power fails, the two 35W incandescent lamps highlight critical areas for 40 minutes (90 min. with single lamp model).

Only 5 1/8" x 6" x 27 3/8". Mounts horizontally, vertically or upside down on its own brackets. (Heads can mount remotely.) Theft and vandal-resistant. Gasketed model for wet areas and outdoors. Recessed model for

lay-in on T-bar ceilings.

It's another of our Holophane Emergency Lighting Products (H.E.L.P.™).

Call your local Holophane sales engineer for details on BIG-EYE or any of our indoor, outdoor and emergency lighting products. Or write Dept. AR-12, Holophane Co., Inc., Woodbro Div., 13500 Saticoy St., Van Nuys, Calif. 91402.

**Holophane®**  
A Johns-Manville Company

For more data, circle 78 on inquiry card

# New Facad is so sculptured, it's almost sculpture.

There's a new way to incorporate sculpture and textural relief in building design. It can be done with Facad®.

This sculptured facing of easy-to-install, thin, molded, reinforced cement panels can be used as a total wall element; as spandrel panels, fascias, balcony panels or soffits.

Sturdy, but lightweight (2

pounds/square foot), Facad is easy to handle. It comes in sizes up to 4' x 10'. No special skills or extra structures are required. Installation is within the competence of carpenters or glazers.

Facad is also very durable. And because it is all mineral, it is completely incombustible.

Facad comes in a series of standard panel surfaces, one of which is shown below. It can also be custom-molded to afford

architectural designers a broad choice of texture, color and pattern.

For complete information, call your local U.S. Plywood Branch Office.



**U.S. Plywood**

A Division of Champion International  
777 Third Avenue, New York, N.Y. 10017







This smart cocktail lounge demonstrates the design freedom as well as the flexibility and mobility of Tex-Tiles.

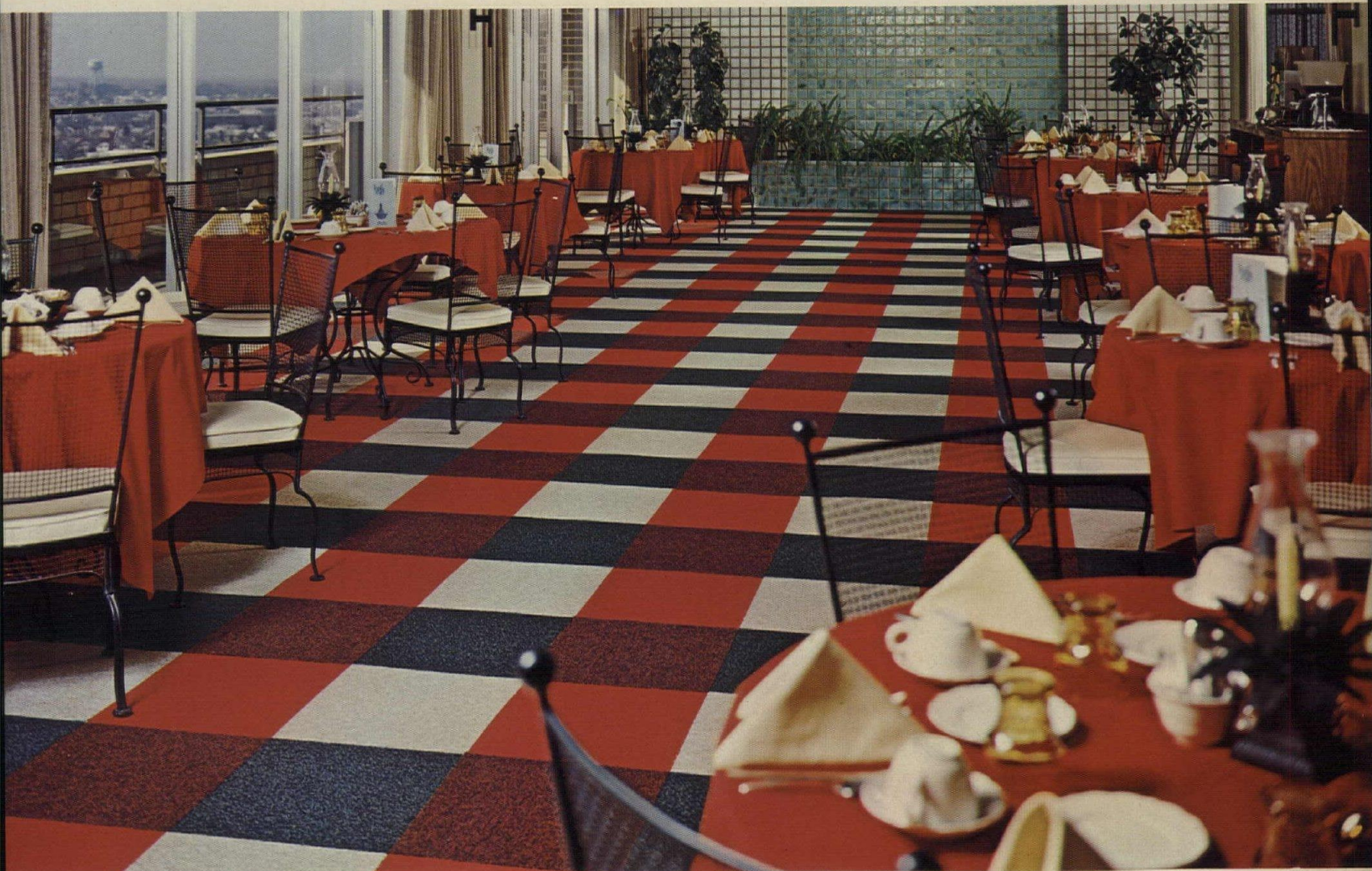
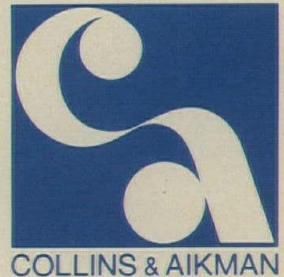
## Specify a permanent floor without making a permanent decision.

Collins & Aikman has developed a group of bi-component vinyl backing systems, each integrated with a super dense, man-made commercial fiber surface. They're called Tex-Tiles.

These unique 18" squares are simple to install securely... yet can be arranged and rearranged with ease for maximum good looks, maximum wear. Wherever you want outstanding beauty with minimal care.

Choose from a full range of styles, textures and colors.

For more information, write or call Collins & Aikman, 919 Third Ave., New York, N.Y. 10022. Tel. (212) 371-4455



Tex-Tiles are ideal for restaurants because they're soil-resistant, easy to maintain and truly portable/interchangeable.

# Collins & Aikman makes the Tex-Tiles™ that make things happen.

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RESIDENTIAL DEVELOPMENT CORPORATION  
DUNSMUIR COLLEGE CORPORATION

# Fits Glazing Functions Eight Ways



Names to remember for specific performance . . . whatever the light, heat, glare, sound or safety control you want to build into structural walls:

**POLARPANE®** Insulating glass units with 20-year warranted moisture-free construction.

**POLARPANE®** Reflective insulating units with pure gold mirror-like coating. Choice of insulating and visible light values.

**ARM-R-BRITE®** Insulated spandrel panels fully tempered and tailored to your color specifications. Also available heat strengthened as Ceramalite®

**ARM-R-CLAD®** Tempered safety glass. Clear, tinted and textured. All standard thicknesses from 1/8".

**SOUND CONTROL POLARPANE®** Hermetically sealed units designed for maximum sound transmission loss.

**SUN CONTROL POLARPANE®** Hermetically sealed units with rotating venetian blind between glasses.

**MISCO®** Wired glass listed fire retardant by Underwriters' Laboratories, Inc. In seven popular patterns.

**MISSISSIPPI® PATTERNED GLASS** In wide variety of general purpose and decorative patterns.

See our Catalog in Sweet's 8.26/Ce when you want to refresh your memory and consider patterns, colors or specifications.

For additional catalogs or information contact your local C-E Glass representative or write C-E Glass, 825 Hylton Road, Pennsauken, N. J. 08110.



A SUBSIDIARY OF COMBUSTION ENGINEERING, INC.

*For more data, circle 81 on inquiry card*

Owner: Phipps Land Co.  
Architect: Toombs, Amisano & Wells  
Stopray #2016 glazed by PPG, Atlanta



COLUMBIA MEMORIAL HOSPITAL, HUDSON, NEW YORK

# THE ARCHITECT\* OF COLUMBIA MEMORIAL, WAS GOOD TO THE NURSES

He saved the nurses time, steps, and effort. He saw to it that the materials they needed were easily accessible and neatly dispensed. He made sure that drawers and doors wouldn't stick. He specified Watson Hospital Casework.

Functionally designed, and constructed of highest quality materials, all Watson casework is made to meet the demands in today's hospitals. It is made to provide maintenance-free service. It is made to last.

Whenever you are involved in hospital design, be good to the nurses. Specify Watson.

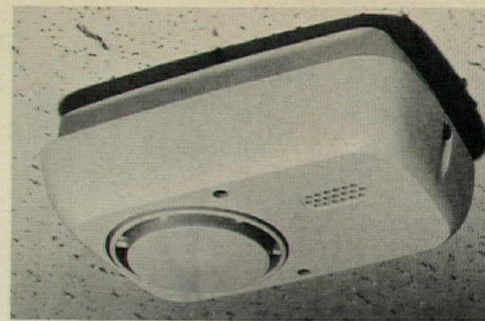
HOSPITAL DIVISION



**WATSON**  
Manufacturing Company, Inc.  
Jamestown, New York 14701

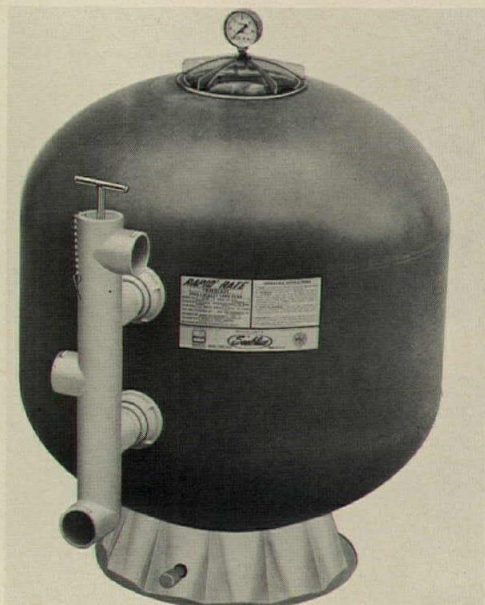
\*THE CANNON PARTNERSHIP, NIAGARA FALLS, N. Y.

For more data, circle 82 on inquiry card



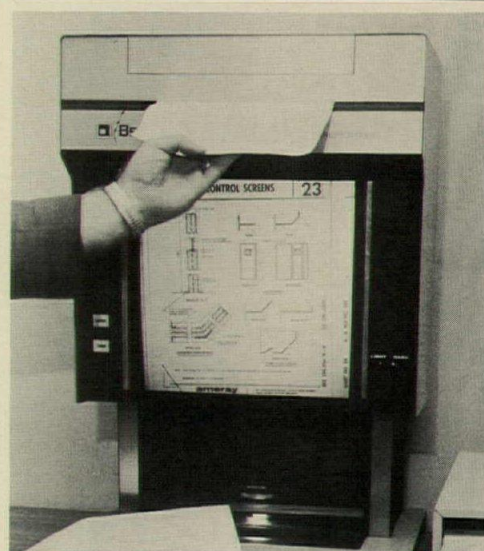
**SMOKE DETECTOR** / A self-contained early warning fire and smoke detector is offered for residential and commercial use. Designed for surface mounting, it offers an audible high-frequency alarm, and is UL-listed. ■ Pyrotronics, Cedar Knolls, N.J.

Circle 308 on inquiry card



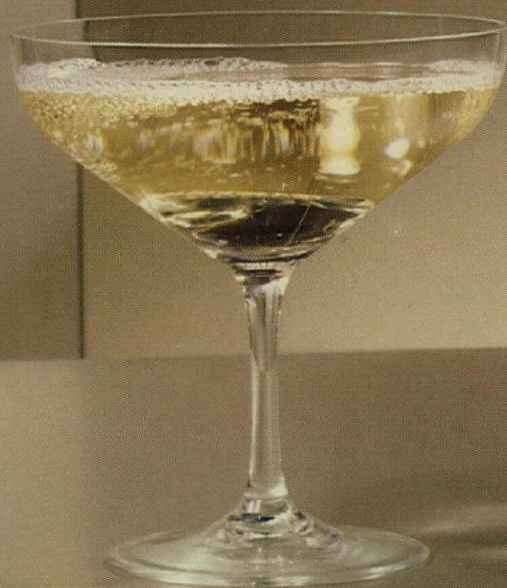
**POOL FILTER** / This filter and fiberglass tank with corrosion-resistant internal overdrain and piping provides from 47 gpm to 98 gpm flow, depending on pump size. All connections are 1½ in. or 2 in. in diameter PVC slip joints, depending on tank size. ■ Seablue Corp., Dallas, Tex.

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**ARCHITECTURAL INVENTORY SERVICE** / A firm's specifications, drafting details and plans for completed projects are microfilmed, indexed and returned ready for instant retrieval on 4 by 6 in. microfilm cards, called fiche. Indexes are updated quarterly. ■ IDAC, New York City.

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Ask for a sample of our "Champagne."

This new shade of Kalcolor architectural aluminum is that rare pivotpoint color—between light-and-dark, coolness-and-warmth—around which daylight can turn. It makes buildings come "alive" with color-change through the bright morning. Warm sunset. Cool evening.

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Kalcolor aluminum has a thick, hard anodic coating of integral color uniquely resistant to outdoor exposure. The exclusive process for producing it—developed, patented and licensed by Kaiser Aluminum—uses no dyes.

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For your sample of new "Cham-

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See our *Aluminum in Architecture* catalog in *Sweet's Architectural File*, Index No. 5.1/Ka.

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**ALUMINUM**

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Your client says, "I just got word we have to change..."  
Now you can do it.**

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Here is an effective office interior using Hauserman floor-to-ceiling Ready Wall dividers and Divider Wall screens.





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solutions to lighting problems...**

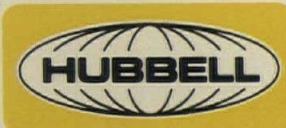
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Involvement in every phase of a lighting system is what you get from the Hubbell Lighting Division. Typical of this involvement is the modern lighting installation at Chicago's Sportsman's Park race track.

This unique, new lighting system features the Hubbell Series 6000 floodlights, which make Sportsman's Park the nation's best lighted track using the metal halide light source.

During the entire planning, installation, aiming and testing, a Hubbell Lighting Specialist assisted engineering and contracting personnel to assure fool-proof performance and the best lighting results. For more details, contact your authorized Hubbell Lighting Distributor or write us direct. All you've got to lose is a lot of darkness.

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**lighting division**

TM

Lighting Division HARVEY HUBBELL INCORPORATED 2700 West Roosevelt Road, Broadview, Illinois 60153

For more data, circle 85 on inquiry card

# "Carpet of Antron® gives us

S. S. Kresge Company, International Headquarters, Troy, Michigan



# a look we know will last."



For the new International Headquarters of S. S. Kresge Company, Smith, Hinchman & Grylls Associates, Inc., architects and engineers, specified carpet made with pile of Antron\* nylon.

Reason for choosing carpet of "Antron": the combination of "looks and life." It has the ability to retain its original appearance longer than carpet of other fibers. And, being nylon, it wears exceptionally well (see simulated stair-edge test results).

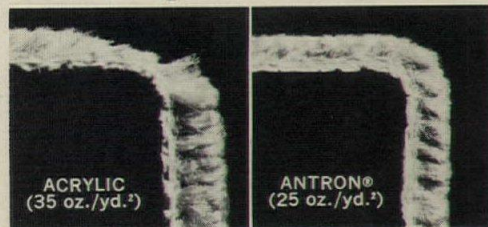
The lightscattering structure of "Antron" minimizes the appearance of soil. Concentrated spots tend to even out and blend with the overall color and texture of the carpet. Maintenance costs are minimized by the need for fewer wet cleanings than with carpet of other fibers. And, even after repeated shampoos, carpet of "Antron" returns remarkably close to its original appearance.

This glue down installation required a crush resistant pile fiber to stand up to heavy, daily traffic. Resilient "Antron" readily meets this test.

Specify "Antron" for high-traffic commercial carpet.

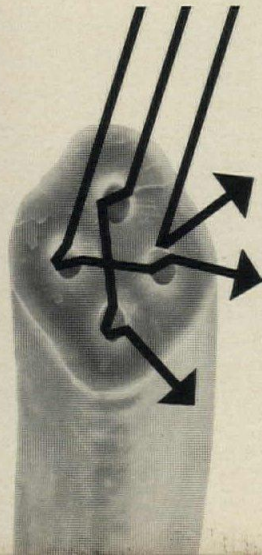
It has no equivalent in long-term appearance retention.

For more details, write Du Pont, Contract Specialist, Room 105AR, Centre Road Building, Wilmington, Delaware 19898.



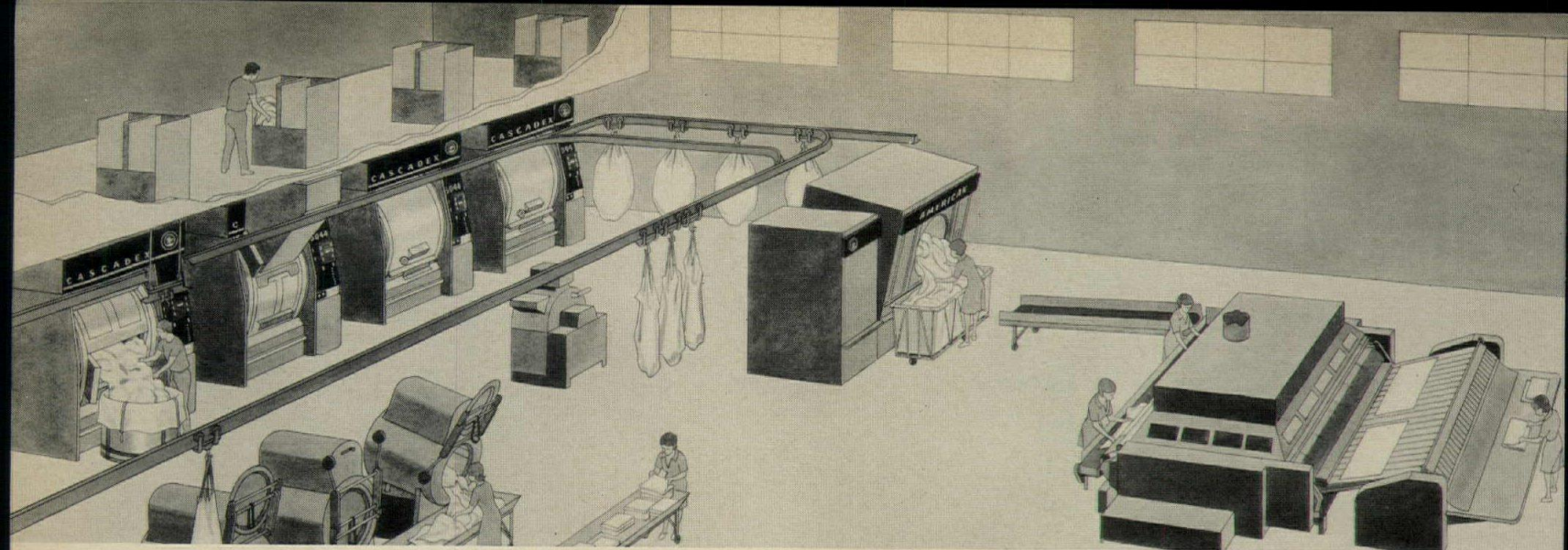
Abrasion test on simulated stair edges shows pile wear in level-loop carpets after equal exposure.

For more data, circle 86 on inquiry card



**How "Antron" hides soil.** This cross-section magnified 1000X shows the four symmetrically located interior voids that run through each filament. They scatter light like the facets of a diamond to minimize the appearance of soil, with little loss of color clarity and luster.

\*Du Pont registered trademark. Du Pont makes fibers, not carpets.



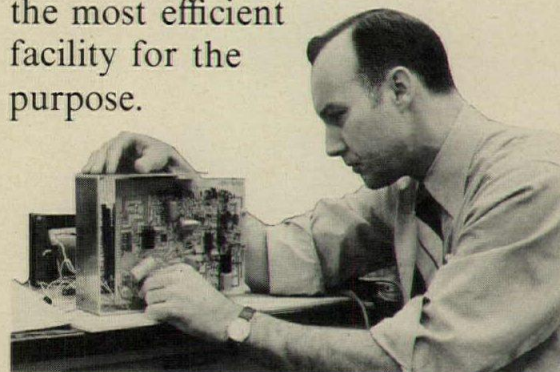
## How to plan an up-to-date laundry that stays up-to-date.

Laundry needs—in terms of type of equipment and provision for flexibility—have changed dramatically. New synthetic fabrics and rising labor costs have called for new kinds of equipment, greater degrees of automation—and the adaptability of both to changes in the size and sort of work loads.

In planning laundries to meet these conditions, you can count on uniquely qualified help from American.

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The Formatic Wet System Finisher



improved process machinery that it has produced—machinery that is now proving itself in the “new”

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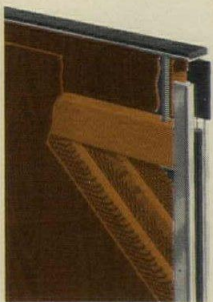
American Laundry Machinery Industries  
5050 Section Avenue, Cincinnati, Ohio 45212

For more data, circle 87 on inquiry card

# Movable Kwik-Wall creates a beautiful look of permanency

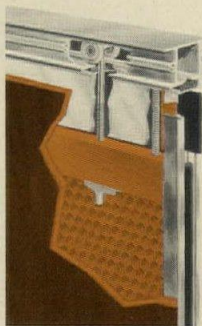


Add flexibility and usability to your room space with Kwik-Wall, the movable wall partitions featuring qualities of a permanent wall...attractiveness, durability, sound control. The solid construction of Kwik-Wall makes each area it divides a separate room in the strictest sense of the word. Impressively designed, Kwik-Wall adapts to blend with any design motif, beautifully.



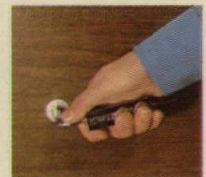
**Portable Kwik-Wall** (left) requires no tracks on ceilings or floors. Free-standing panels can be stored anywhere, easily rolled into position on optional retractable wheels. Select 1-3/4" standard or 2-1/4" deluxe Kwik-Wall.

**Track-Mounted Kwik-Wall** glides with ease on inconspicuous ceiling tracks; needs no floor guides or rollers. Pocket doors provide complete, coordinated concealment of panel storage. 2-1/4" deluxe or 3" master thickness.



**Over 1500 Decorator Facings** to select from to give your decor the look of permanence. Chalkboard, chalk trays, corkboard finishes available, in addition to pass-doors with cylinder locks.

**One-Hand Locking Operation**, insert crank and give a half-turn; spring-loaded top rail expands firmly against ceiling, forming effective sound seals around each panel perimeter.



the permanent look in movable walls



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Free Color  
Brochure

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Robert Friessen, Partner  
Preferred Painters, Inc.  
308 West Lotta Street  
Sioux Falls, S. D.

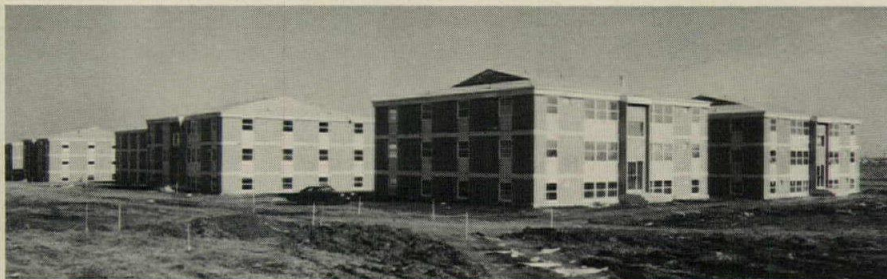
“My two-man painting team covered 12 apartments in 3 hours with *Hide-A-Spray*™”

For Painting Contractor Bob Friessen, and for the Developer and General Contractor, and the Project Owner, *Hide-A-Spray* High Build Interior Flat Latex Paint was the answer at the Meadowland Apartments. According to Mr. Friessen, “The *Hide-A-Spray* Coating covered interior surfaces in one 8-10 mil wet coat at a rate of one to one and a half gallons per minute, without priming, ghosting or sag. Taped and spackled joints in the drywall construction disappeared in one pass of the airless spray gun. And, it dried uniformly to a 4-mil dry coat in just two hours. It would have required 150 hours for two men with brush and roller to do the same 12 apartments, using conventional paint.”

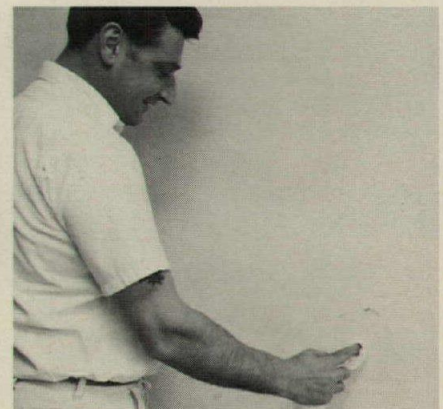
Painting contractors and builders everywhere are turning to *Hide-A-Spray* High Build Interior Flat Latex as the top quality, competitively priced, airless spray paint system that provides maximum coverage, saves time and money, and returns a handsome profit. Cover yourself with the facts by writing PPG Industries, One Gateway Center, 3W, Pittsburgh, Penna. 15222.

PPG: a Concern for the Future

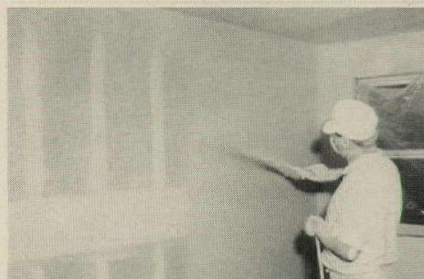
**PITTSBURGH PAINTS**



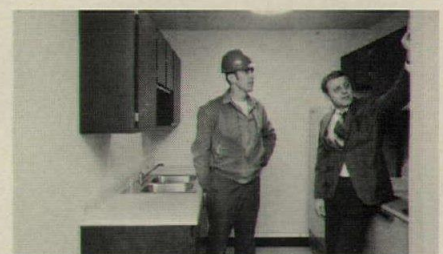
The Project:  
Meadowland Apartments  
Sioux Falls, S. D.  
Ten 12-apartment units.  
Developer & General Contractor:  
Lloyd Construction Co., Mankato, Minn.  
Architects: Koch Hazzard Associates,  
Sioux Falls, S. D.



Incidental marks and dirt came off quickly and easily with a damp cloth.



*Hide-A-Spray* Latex paint completely covered taped and spackled joints in drywall in one pass of the airless gun.

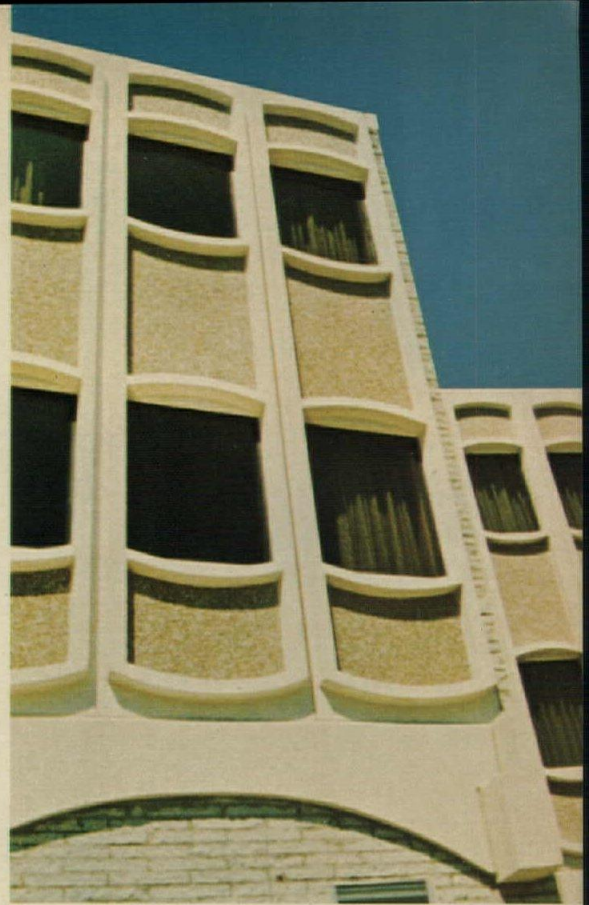


*Hide-A-Spray* paint dried in two hours. Contractor installed cabinets and floor covering the same day. Walter Scharfe, left, Job Superintendent for Lloyd Construction, commented, “Conventional two-coat paints would have meant a week’s time between painting and any such installation.” PPG Paint Center Manager, Eugene Lee, is shown at right.



For more data, circle 89 on inquiry card

# Where ZINC guards the Coast Guard



Design Specifications by Design Branch,  
Civil Engineering Division, U. S. Coast  
Guard. Concrete Panels by Southern  
Block & Pipe Div., Lone Star Industries,  
Inc. General Contractor, Fred C. Gardner  
Co., Inc.

The Coast Guard's own designers took the "drab" out and zinc will keep the rust out of this beautiful new concept in military quarters. □ This handsome building is the new U. S. Coast Guard Barracks at the Elizabeth City, N. C. Air Station. The zinc is on the galvanized steel reinforcing rods below the surface of the 237 precast concrete panels used for both interior and exterior walls. Galvanized steel was specified because of its proven ability to prevent subsurface rust which could cause staining, cracking and spalling of the concrete surface. □ While the use of galvanized re-bar is especially important in marine environments, it is also specified in inland locations to protect against general moisture and other corrosive atmospheres. □ Used in concrete or as a separate material, galvanized steel provides the most practical combination of strength, corrosion-resistance and economy.

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FOR THE RECORD

CHARLES A. LINDBERG  
 comments on Plastic  
 Laminated Cabinetry...  
 what architects  
 should know about it

When ARCHITECTURAL RECORD conducted a survey among architects to learn more about plastic laminate specification practices and preferences, some interesting facts were uncovered. One example: 60.9% of the respondents said they were specifying more plastic laminates than they had five years ago.

The trend toward specification of plastic laminated products for public building interiors became inevitable when laminates proved they could be tough and yet, handsome, as counter top surfaces. Since then, high pressure plastic laminates have earned universal respect as an all encompassing surfacing material par excellence for all types of cabinetry and furniture.

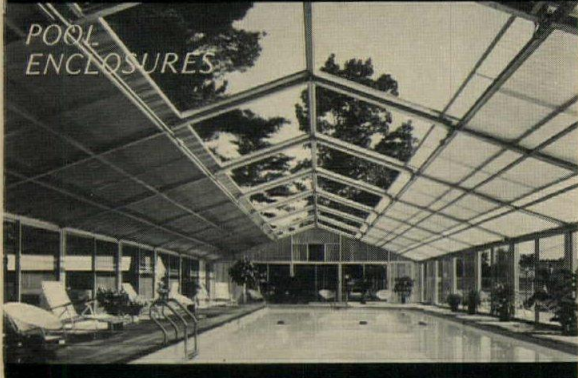
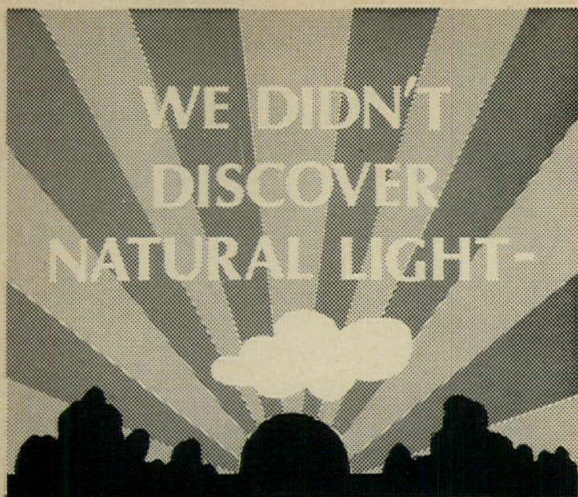
In addition, they provide unlimited design flexibility. Wood grain patterns . . . mind lifting colors . . . quiet colors . . . abstract designs . . . the range is wide open to the imagination and environmental requirements. They have remarkable resistance to stains, heat, moisture, chemicals, and scratches which make them ideal surfaces for cabinetry in health care institutions, schools, apartment kitchens, or in any other buildings that are subjected to hard use.

Unfortunately, the survey indicated that some architects are not being supplied with the type of information to properly specify plastic laminated casework. I refer you to National Industries Division of AVM of Maryland, Inc., at Midway Industrial Park, Odenton, Md. 21113. As pioneers in the art of plastic lamination they are well qualified to answer your questions.

*Charles A. Lindberg*

Vice President — Institutional Sales  
 AVM of Maryland, Inc.

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**MAKE-UP HEATERS** / Type GMA direct-fired gas make-up heaters are available in 21 sizes from 6,000 to 50,000 cfm to deliver air at any temperature rise from 20 to 130 degrees F. Units are packaged with burner, automatic control system, safety devices and protected with a weather-resistant acrylic finish. An 8-page bulletin describes the line. ■ ILG Industries, Inc., Chicago, Ill.

Circle 400 on inquiry card

**PERFORMANCE TESTS FOR STEEL DOORS** / A series of performance tests are available, covering recommended minimum acceptance values for steel doors, frames, anchors, hinge reinforcing and exit device reinforcing. Also included are thermal acoustical water resistance tests ■ Steel Door Institute, Cleveland, O.\*

Circle 401 on inquiry card

**PANEL AND LAP SIDINGS** / Two data sheets on the company's panel and lap sidings are offered, with architectural specifications and detailed information given for hardboard products which duplicate the textured surface of roughsawn natural woods ■ Forest Fiber Products, Forest Grove, Ore.

Circle 402 on inquiry card

**CABINET FAN DATA** / This bulletin includes performance tables, dimensions and typical layout views on two large capacity cabinet fans offered by the company. ■ Penn Ventilator Co., Inc., Philadelphia, Pa.

Circle 403 on inquiry card

**COFFEE BREWERS** / A 4-page specification guide describes the company's most popular coffee brewers, detailing product features, industry approvals, typical specifications and dimensional drawings. ■ Bunn-o-matic Corp., Springfield, Ill.

Circle 404 on inquiry card

**COMPUTER DESIGN SYSTEM** / The ARK II is a computer-aided design system developed by an architectural firm to work on a full range of architectural design problems from program definition to specifications. The system, described in a detailed brochure, includes programs. ■ Decision Graphics, Boston, Mass.

Circle 405 on inquiry card

**JOINT TREATMENT GUIDE** / An 8-page brochure provides data for use in selecting and specifying gypsum drywall finishing systems. The guide describes various kinds of joint treatment compounds, their compatibility and the merits of hand and machine application. ■ United States Gypsum Co., Chicago, Ill.\*

Circle 406 on inquiry card

**DIRECT-FIRED MAKE-UP HEATERS** / The company's Therm-O-Thrift line is documented in a brochure providing specifications, blower selection charts, standard piping schematics and dimensional data. The line is designed as standardized, limited-option heaters for economical make-up air in many applications where gas capacity is limited. ■ Weather-Rite, Inc., St. Paul, Minn.

Circle 407 on inquiry card

**ROLLFILM DUPLICATOR** / A 4-page brochure on the company's 16/35 rollfilm duplicator focuses on the product's high-speed (up to 80 fpm) and high resolution capabilities. ■ GAF Corp., New York City.

Circle 408 on inquiry card

more literature on page 196

\* Additional product information in Sweet's Architectural File





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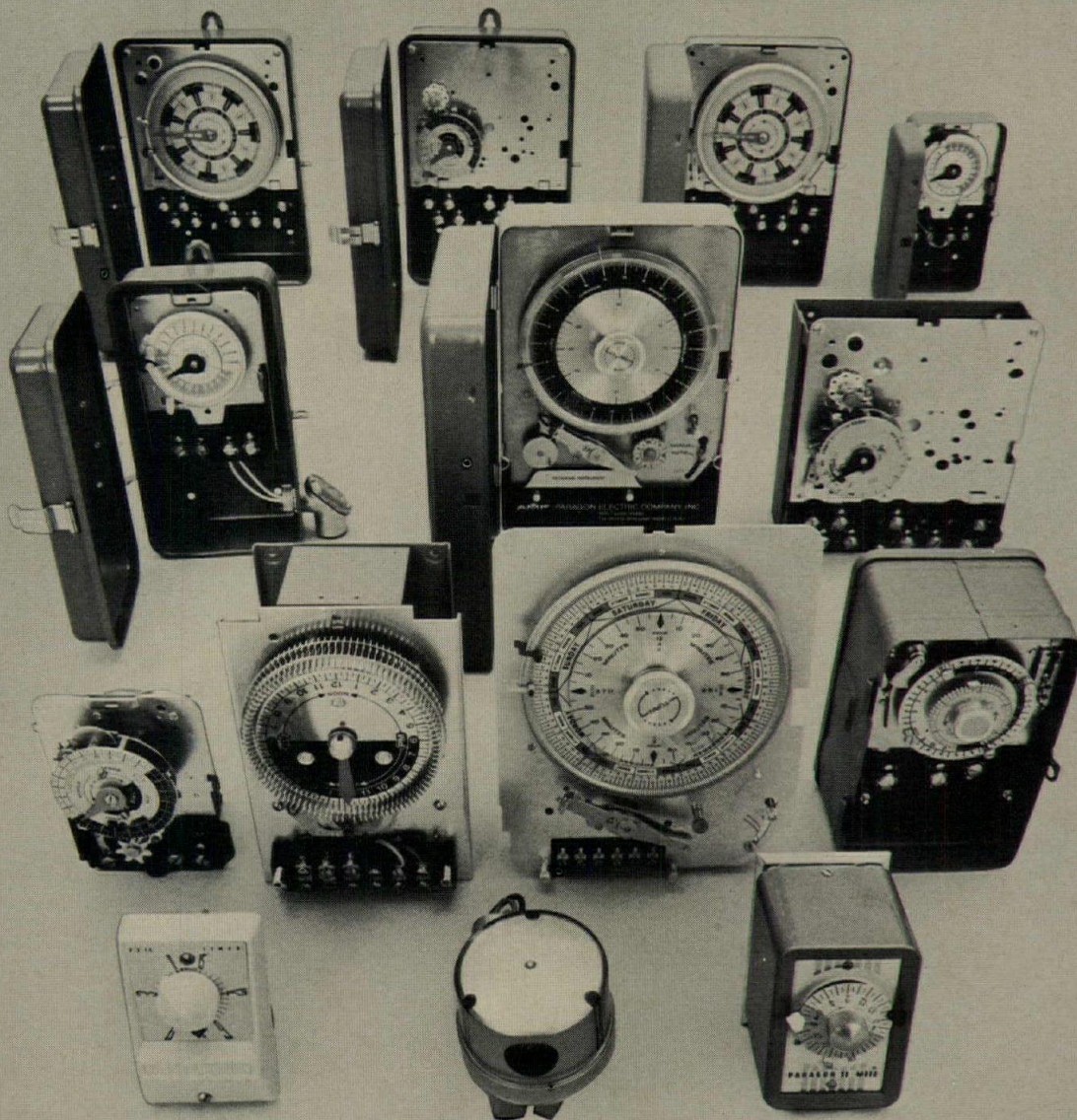
So if you're building, remodeling, or simply concerned about your present dock operation, ask for this free, no obligation consultation service. Just contact the "responsible" dockboard people.



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Corrugated solar control glazing Southwestern Indian Polytechnic Institute, Albuquerque, N.M.  
Architects: W. F. Krueger and Associates

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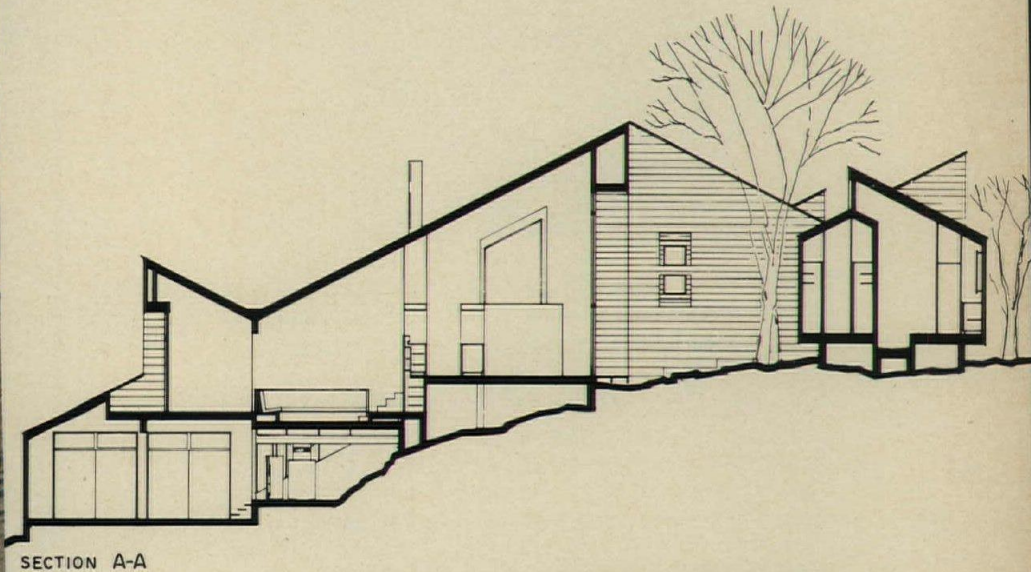


Top: Ocean House Apartments. Architects: Donald Sandy, Jr. and James A. Babcock. Photographer: Thomas A. Abels.

Above: House in Lincoln, Mass. Architects: Joseph Maybank and Arthur Cohen. Photographer: Nick Wheeler.

Left: Meadgate Condominiums. Architects: Allen Moore, Jr., John B. Rogers and James M. McConnell. Photographer: Carol Rankin.

Right: House in Huntington Bay, N.Y. Architect: Richard Henderson. Photographer: William Maris.



SECTION A-A

COMING IN MID-MAY...  
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## RECORD HOUSES AND APARTMENTS OF 1973

According to F. W. Dodge, the years 1971-1975 will be housing's biggest five-year boom since the '50's. During that time more than 11 million housing units will be built.

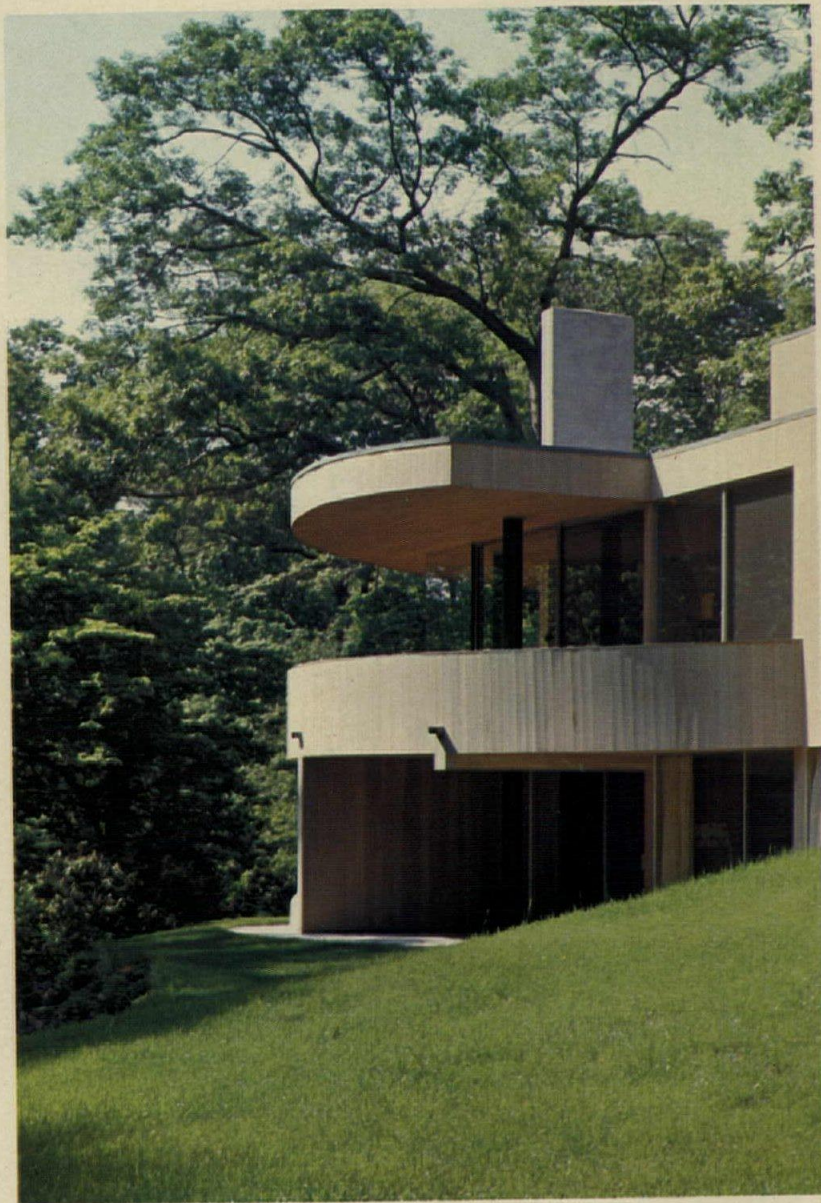
In mid-May Architectural Record's *Record Houses and Apartments of 1973* offers a timely opportunity for manufacturers of quality building products to exert year-in and year-out influence on those architects and builders who are at the forefront of the continuing housing boom. It will reach all major groups of specifiers and buyers in this market:

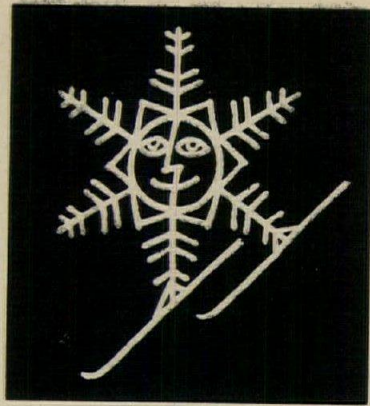
- over 42,000 architects and engineers who are verifiably responsible for 87 per cent of the dollar volume of all architect-planned residential building.
- 20,000 of the nation's foremost builders qualified by Sweet's on the basis of annual building activity to receive the Light Construction File.
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- in addition, bonus bookstore distribution to an influential segment of the house building and buying public.

*Record Houses and Apartments* offers its advertisers a unique advantage:

**The issue has the longest working life of any issue of any architectural magazine! Architects refer to it five, ten, even fifteen years after publication.**

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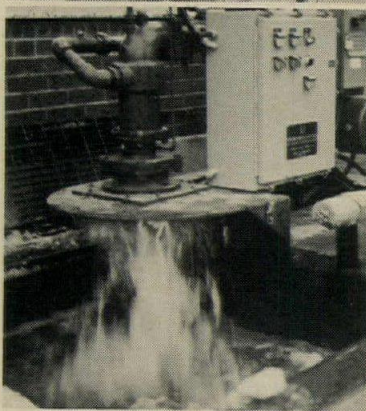


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The Model 8-SG is gas-fired. It is also available as the Model 5-SO with oil-firing.

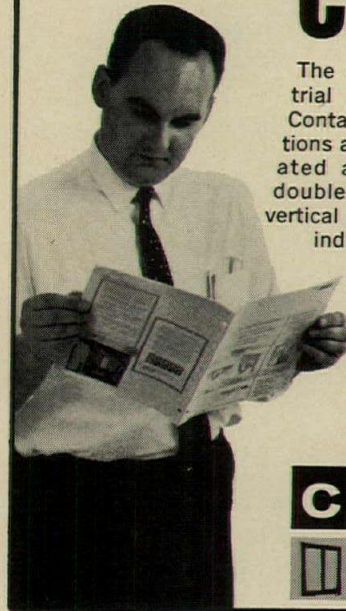
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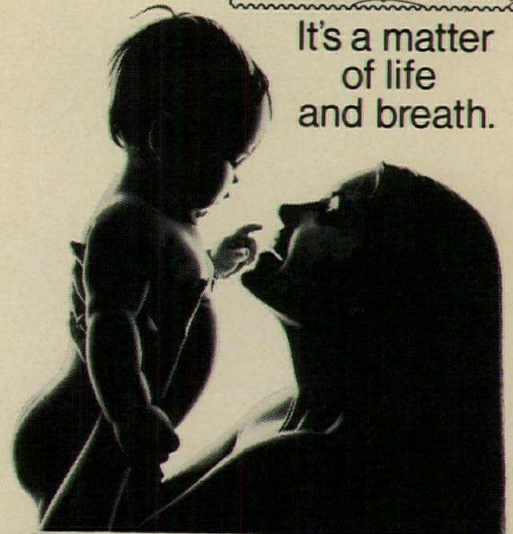
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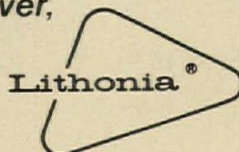


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By **HENRY DREYFUSS**. This handbook, compiled by the world's foremost industrial designer, is the first single reference to graphic symbols used internationally in business, industry, the sciences, and in all walks of life. Valuable in symbol identification, design, and standardization, the book includes symbols used in Architecture, Business, Communications, Engineering, Handling of Goods, Manufacturing, Mathematics, Physics, Safety, Traffic, many other fields.

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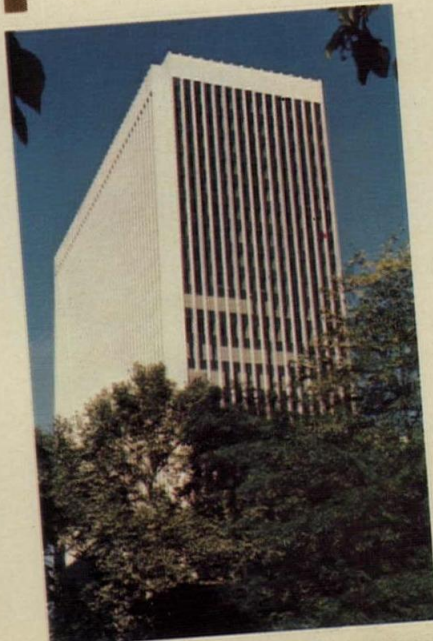
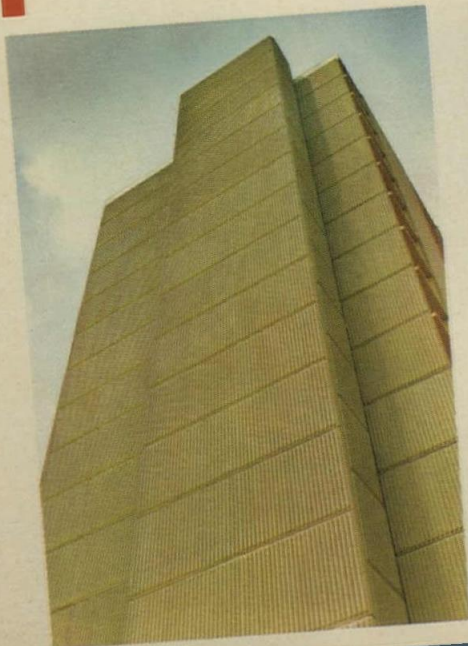
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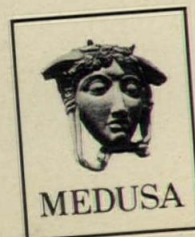
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Cleveland, Ohio. *Architect:* Outcalt Guenther Partners, Cleveland.  
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*Precast Producer:* Marietta Concrete Company, Marietta, Ohio. (Precast  
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■ **MUTUAL BENEFIT LIFE INSURANCE CO.**, Philadelphia, Pa.  
*Architects:* Nowicki and Polillo of Philadelphia. Eggers & Higgins,  
New York City, New York. *Engineers:* David Bloom Associates,  
Philadelphia. Robert Rosenwasser, New York City, New York. *General  
Contractor:* E. Frankel Enterprises, Philadelphia. *Precast Producer:*  
Formigli Corp., Philadelphia, Pa.

■ **ADDISON SQUARE**, Cleveland, Ohio (Building System).  
*Architect:* Barbitta James & Assoc., Akron, Ohio. *Developer and  
Contractor:* Ohio Turnkey Co. (Joint Venture); Tom-Rob Inc., Cleveland;  
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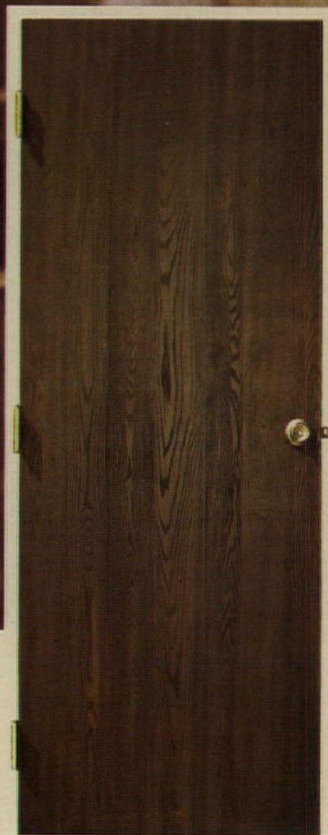
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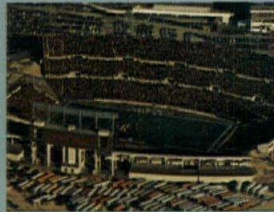
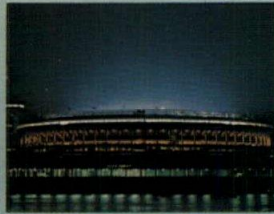


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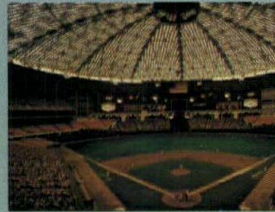
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continued from page 182

**PARKING LOT EQUIPMENT** / A 16-page, illustrated booklet contains tested and proven designs for parking lots, as well as available equipment, including solid-state parking gates, magnetic card-key entry and exit devices and computing ticket equipment. ■ Coin Handling Div., Keene Corp., Chicago, Ill.

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**OUTDOOR LIGHTING** / A 72-page catalog entitled "Outdoor Lighting Systems—Designer's and Buyer's Guide" illustrates many roadway and area lighting systems, using HID, mercury, metal halide and *Lucalox* lamps. The publication takes a consistent, easy-to-use approach to assist in designing applications that use decorative, floodlight, roadway and special area luminaires, poles and brackets. ■ General Electric Co., Hendersonville, N.C.\*

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**ROLLED METAL SHAPES** / An enlarged, second edition 88-page catalog showing rolled metal shapes and welded alloy tubing includes actual-size illustrations that are traceable for drafting and design purposes. In addition to the standard offerings, the company produces custom shapes. ■ Teledyne Forming, Eklhart, Ind.

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**BEARING PLATES** / Long-lasting, inexpensive, self-lubricating bearing plates for structural members are described in a 4-page illustrated bulletin, including a list of applications from bridge supports to roof members. The bearing plates are constructed of a thin sheet of sintered bronze bonded to a heavy steel backing plate for strength. ■ Beeco Products Co., Fort Washington, Pa.

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**SAFETY GRATING** / A revised 64-page catalog of standard and custom safety gratings, mats, stairs, platforms, ladders and other industrial work aids has been issued by the producer. The catalog was prepared to assist in implementing the new OSHA safety requirements. ■ Bustin Industrial Products, Inc., Dover, N.J.

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**FRESH AIR HEATERS** / A line of direct-fired gas fresh air heaters is described in a bulletin including typical applications such as small plants, restaurants, commercial kitchens and prefabricated buildings. Models are available for heating, ventilation and air make-up, for indoor and outdoor applications with capacities from 3,000 to 12,000 cfm. ■ Aerovent Fan Co., Piqua, O.

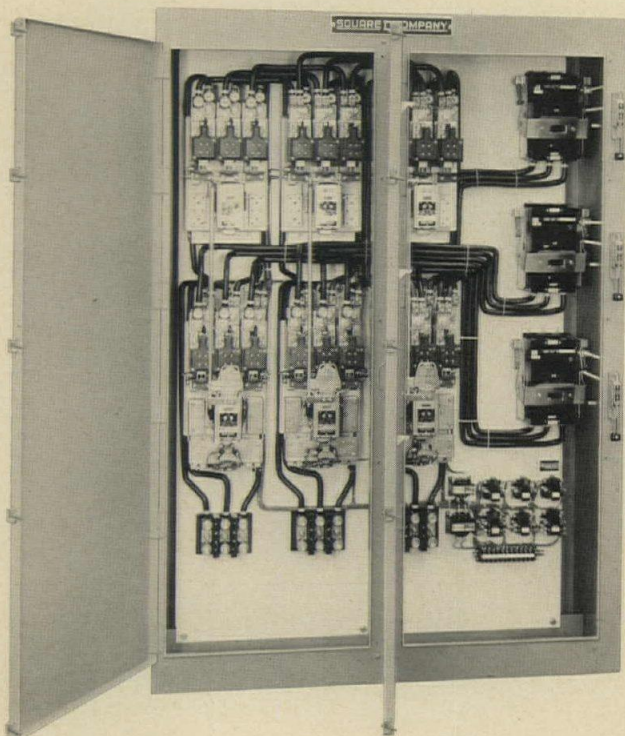
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**COLD-WEATHER CONCRETING** / Some vital tips on cold-weather concreting are contained in an 8½ by 11 in. placard covering such items as the correct temperatures of areas to be concreted and the concrete itself. Also discussed is the length of time needed for protection of various concretes in varying temperatures. ■ Master Builders, Cleveland, O.\*

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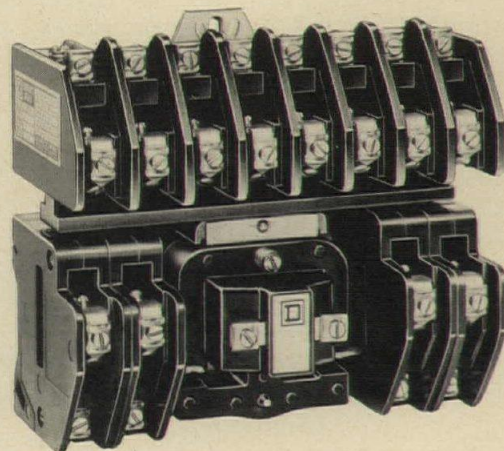
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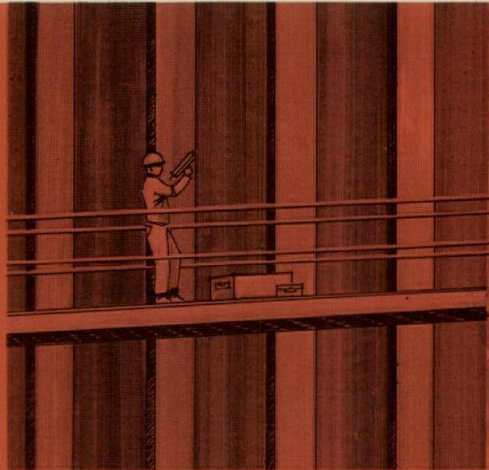


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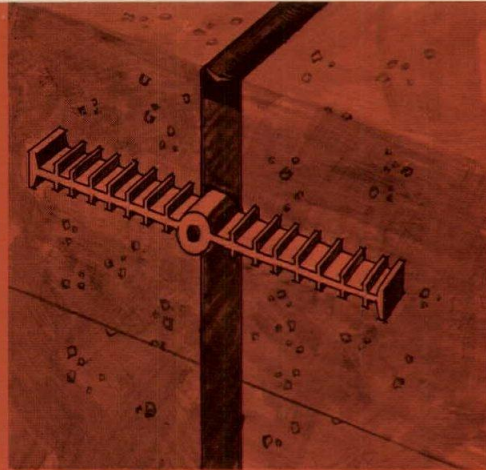


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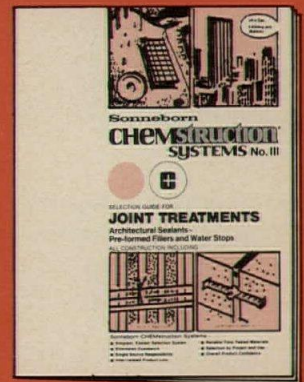
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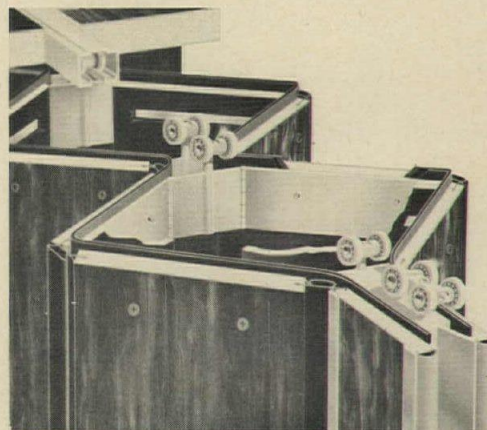
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# “Let’s kill all the lawyers!”

*“The first thing we do, let’s kill all  
the lawyers!”*

*—Henry VI, Part II, Act III*

Jack Cade, in Shakespeare’s play, was leading a rebellion and looking for a scapegoat.

He hit upon a somewhat bloodthirsty, but popular, idea.

There is a new and different kind of rebellion in America today—an angry revolt against the pollution and despoliation of our environment.

And some people, seeking a scapegoat, have also hit upon a popular idea.

Put the blame, and the burden, on business.

**T**o this end, they have publicly indicated U.S. industry as “The major perpetrator of an irresponsible assault on the environment.”

They demand that industry immediately stop all pollution, end all depletion, and forthwith “restore our natural heritage.”

And to enforce their demands, they propose—over and beyond existing legislation—even stricter and more rigid laws and regulations, ask for the imposition of criminal penalties, and advocate an onslaught of “Citizens’ and workers’ suits for environmental damages.”

In the present mood of the American people, the idea has its appeal. It focuses on a convenient, conspicuous and vulnerable target. It offers a release for anger, frustration and guilt. And, most temptingly, it promises a quick, easy and, from the public viewpoint, painless solution to the environmental problem.

The only trouble is, the idea is a delusion, the demands impossible, the promise false.

And the result of pursuing the delusion, pressing the demands, and trusting in the promise could be disaster. Disaster not only for industry and the American economy, but for the environmental cause itself.

It is in the nature of delusions to ignore facts. But the facts must be stated.

**K**illing lawyers does not insure justice. Punishing industry will not save the environment. The sacrifice of scapegoats, however satisfying as an emotional release, solves nothing and gets us nowhere.

Except off the track. It is true that industry

has "perpetrated an irresponsible assault on the environment." Just as it is true that the majority of Americans have conducted a prolonged, devastating *mass* assault on the environment, in overwhelming disregard of the consequences.

But the question for today is not, what has been done? It is, what are we going to do about it?

And that question cannot be answered to any useful purpose until we determine what we can do, and what we cannot do, and acknowledge the difference.

Industry is responsible for the environmental consequences of its own actions, and inactions. But in dealing with a monumental problem there are some things industry can do, and some things it cannot do. Some things that are possible, and some things that are impossible.

The responsibility of industry has been set, at the outer limits of the possible, by the President's Commission on Environmental Quality—in the form of an 8-year program to cleanse the U.S. environment in the 1970's.

The total cost of the program is estimated at \$287-billion. Industry's share of the cost is \$195-billion—\$63.5-billion for capital equipment, the remainder for other costs.

This imposes on industry an additional expense averaging \$24.4-billion a year. And to put this figure into perspective, it should be noted that total *before-tax* profits of U.S. manufacturing in 1971 amounted to \$34.1-billion.

**C**learly, this appointed task and assigned burden will strain the financial, and test the technical and managerial, capacities of industry to the breaking point. And beyond this point, it is neither practicable nor prudent to go.

To the premise that industry can be coerced into exceeding its capacities, and compelled to perform miracles, an unequivocal response is due.

Industry cannot immediately stop all pollution. It is impossible. Financially impossible, technically impossible, economically impossible, morally impossible and physically impossible.

It is financially impossible for industry to immediately buy and install \$63.5-billion worth of pollution control equipment.

It is technically impossible, at any price, to totally eliminate some forms of pollution.

It is economically impossible to bring all U.S. industry to a halt while pollution control is given absolute priority over production.

It is morally impossible to close every offending plant, shut down every faulty operation, and throw thousands of people out of work and whole communities into bankruptcy.

And it is physically impossible, even if everything else could be done, to compress the work of a decade into a day, a month, or a year.

To cite these facts is not to deny the urgent need to do everything that *can* be done to cleanse, conserve and restore our environment.

But it is to deny the delusion that industry can be threatened, harassed and driven to do what it clearly cannot do.

And the greater delusion that a scapegoat can atone for our mutual sins.

And the greatest delusion of all, that there is *any* quick, easy and painless solution to the environmental problem.

It is time to stop squabbling and get on, together, with the long hard and painful job that awaits us.

*All of us.*

---

*We at McGraw-Hill believe in the interdependence of American society. We believe that, particularly among the major groups—business, professions, labor and government—there is too little recognition of our mutual dependence, and of our respective contributions. And we believe that it is the responsibility of the media to improve this recognition.*

*This is the sixth of a series of editorial messages on a variety of significant subjects that we hope will contribute to a broader understanding.*

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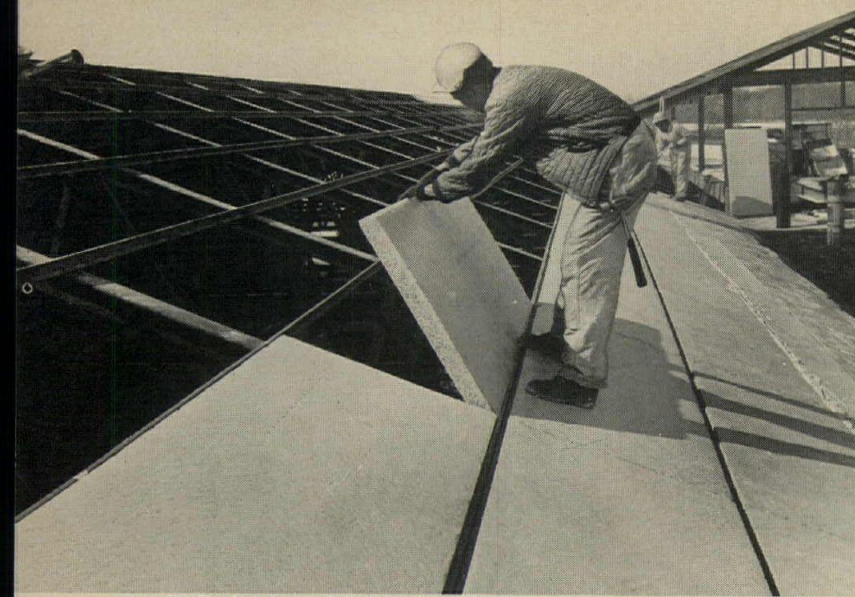
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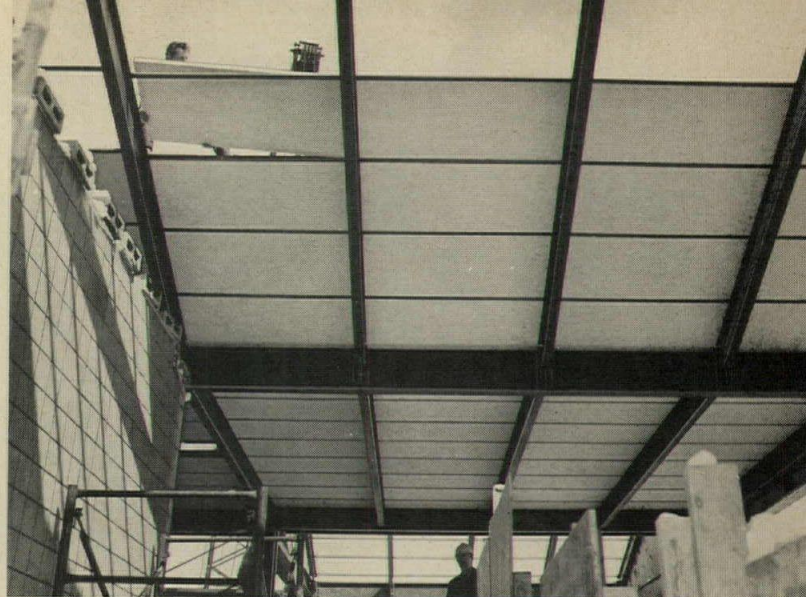
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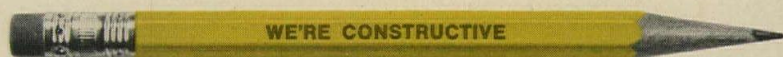
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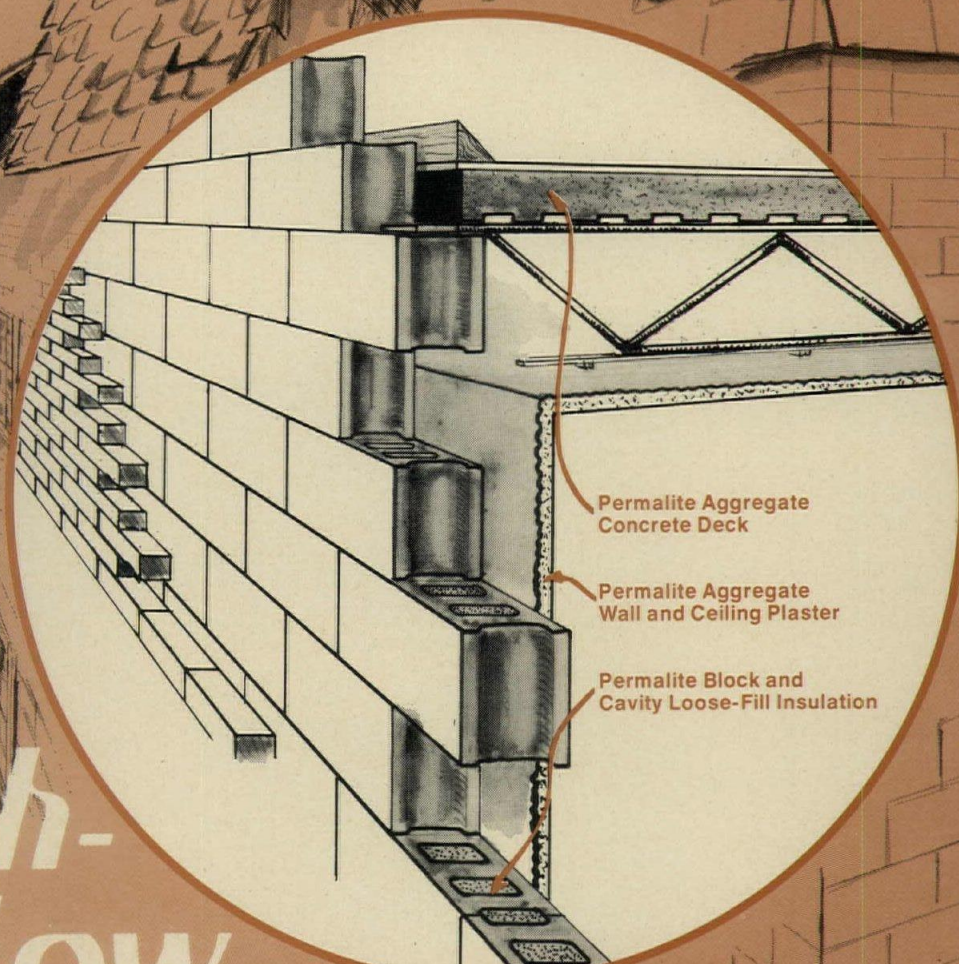
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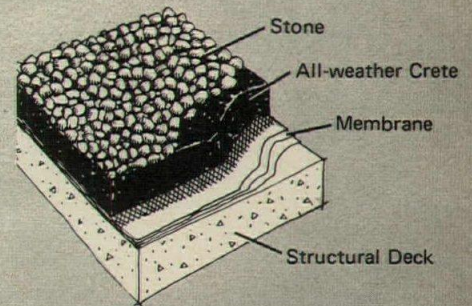
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