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HOME ECONOMICS BUILDING AT CORNELL BY ULRICH FRANZEN  
HUD'S NEW HEADQUARTERS BY MARCEL BREUER AND HERBERT BECKHARD  
BUILDING TYPES STUDY: HAWAII SETS STANDARDS IN PLANNING FOR LEISURE  
SEMI-ANNUAL INDEX  
FULL CONTENTS ON PAGES 4 AND 5

# ARCHITECTURAL RECORD

DECEMBER 1968

12

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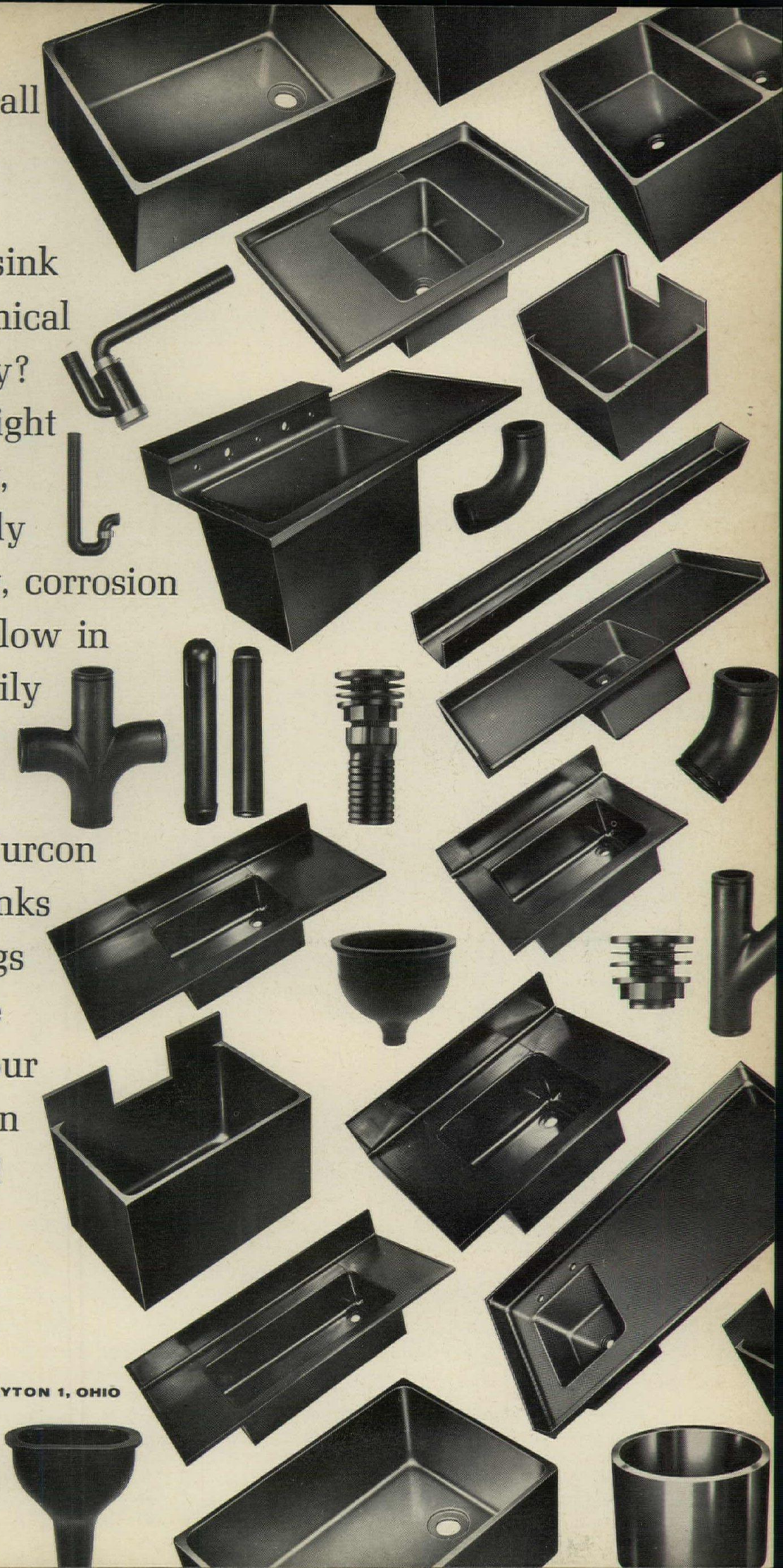
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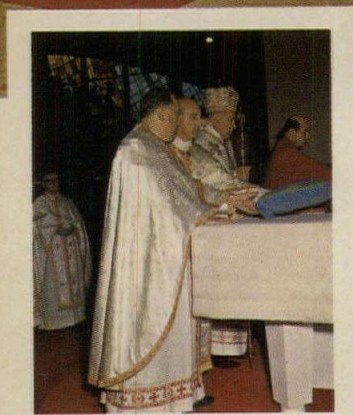
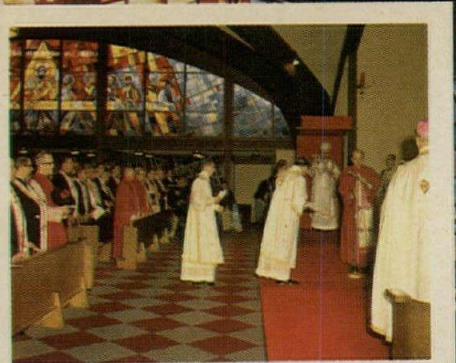
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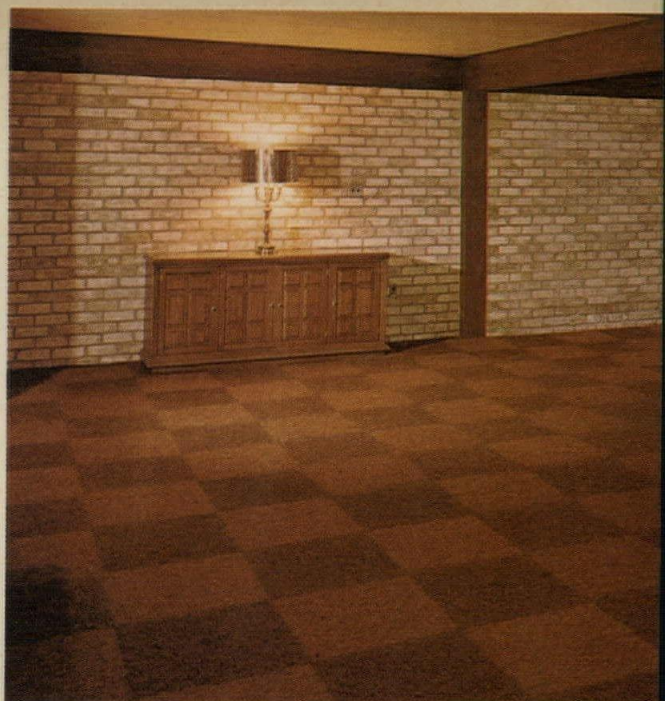


Over the centuries churches have been built with the community's most precious commodities, the labor and sacrifices of the parishioners. The beauty and utility that is seen in church architecture reflects this deep commitment.

St. Thomas the Apostle remains true to this historical concept. J. Edward Luders, designer of the Rahway church and one of the participating architects for the New York World's Fair Vatican Pavillion noted that St. Thomas is in harmony with Byzantine architectural tradition while serving the utilitarian needs of the parish as they are interpreted by Father Mihalik, pastor of the church.

The interior of the church, with its three massive stained glass windows pictorially telling the story of St. Thomas the Apostle, is a structural understatement that dramatizes the sanctuary area with its free standing altar uniting the celebrants and the congregation.

The dedication ceremonies on October 6th were a celebration of the faith that had sustained the humble since the parish was founded in 1912. Leading them in the liturgy of the colorful Byzantine Rite was the Most Reverend Stephen J. Kocisko, assisted by priests from many neighboring Catholic parishes. For Father Mihalik this was a triumph of prayer and courage through which the parishioners took a collapsing parish and nurtured it back to health. In the modern community the church stands as a tribute to the faith that had bound together the oppressed and alien of all lands.



When Harrison Willar, Jr., the interior decorator representing "1770 Design Techniques Company" first discovered Heugatile, other carpeting had already been installed in St. Thomas'. In a short time it had begun to show signs of wear. Mr. Willar, aware that the formal church dedication date had been set for October 6th, boldly recommended a test installation of Heugatile, starting with the small entrance area shown top right. This area was covered with Heugafelt, one of three Heugatile products. The warmth, durability and the obvious increase in acoustical values soon resulted in the decision to install Heugatile throughout the church. In addition to the existing Heugafelt, all the main corridors and the entire church floor were to be covered with Heugaflor. Because of its brilliant red, luxurious Heugalaine, a rare virgin wool product, was selected for the altar.

Since all the Heugatile products, Heugafelt, Heugaflor and Heugalaine are installed without adhesives, the entire installation was made in several days by only two men easily meeting the deadline for the church dedication date.

Although this is the first major church installation in America, Heugatiles have, for many years, given beauty and service to churches on the Continent.



Top — Down every aisle, under every pew goes Heugatile . . . the silencer. Heugatile builds a sound barrier to reduce extraneous noises that often shatter the contemplation so important to churches, schools and libraries.

Middle — Red and beige Heugatile carpet squares are easily cut and set tight against the floor beam and around a heating vent. This dramatically shows how Heugatile can speed up the installation process because Heugatile eliminates tacking, sewing, underpadding and adhesives. No waxing, scrubbing or polishing and Heugatile can be vacuumed and shampooed in place, will not shift or curl. Heugatile reduces the bulky installers kit to . . . a knife!

Bottom — Radiant red Heugalaine carpet squares are quickly and snugly installed on the altar as seen, left. Again loose-laid without adhesives, a seamless wall-to-wall effect is achieved on the altar crowning the St. Thomas installation as seen completed top left. Notice how soft Heugalaine is easily molded to the round edges of the altar stage.

Like all Heugatile, Heugalaine carpet squares can be interchanged before traffic paths have a chance to develop.

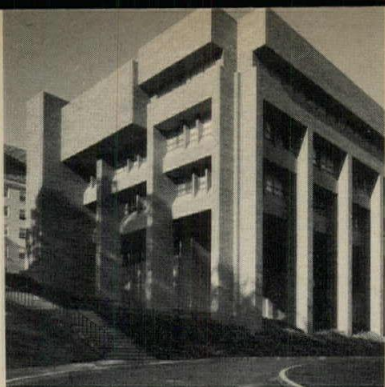


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Cover: New Wing, Martha Van Rensselaer Hall  
 State University of New York College of Home Economics at Cornell  
 Architects: Ulrich Franzen & Associates  
 Photographer: George Cserna

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Ben Schnall

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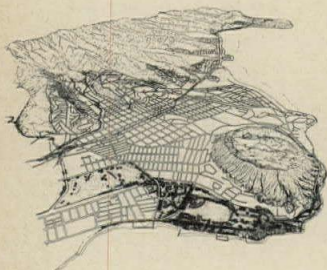
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ARCHITECTURAL RECORD, December 1968, Vol. 144, No. 6. Published monthly, except May, when semi-monthly, by McGraw-Hill, Inc., 330 West 42nd Street, New York, New York 10036. CORPORATE OFFICERS: Shelton Fisher, President and Chief Executive Officer; John L. McGraw, Chairman; John J. Cooke, Vice President and Secretary; Gordon W. McKinley, Vice President and Treasurer. SUBSCRIPTION RATE: for individuals in the fields served \$6.60 per year in U.S., U.S. possessions and Canada; single copies \$2.00; further details on page 6. THIS ISSUE is published in national and separate editions. Additional pages of separate edition numbered or allowed for as follows: Western Section 32-1, through 32-4. PUBLICATION OFFICE: 1500 Eckington Place, N.E., Washington, D.C. 20002. Second-class postage paid at Washington, D.C. POSTMASTER: Please send form 3579 to Fulfillment Manager, ARCHITECTURAL RECORD, P.O. Box 430, Hightstown, N.J. 08520.

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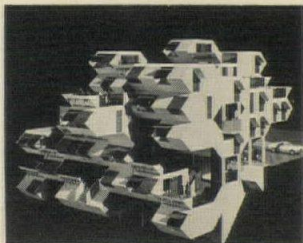
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## COMING IN THE RECORD

### BENJAMIN THOMPSON'S MUSIC BUILDING FOR AMHERST COLLEGE

A handsome and well planned solution for a specialized campus facility which includes a 450-seat recital hall, large rehearsal rooms for both vocal and instrumental musicians, a music library, and small group and individual practice and listening rooms. Also included are classrooms and faculty office studios.

### BUILDING TYPES STUDY: URBAN HOUSING

Five projects resulting from the all-out effort of New York City's Housing and Development Administration to raise the quality of urban middle-income housing will be shown in January. Also included: four land-use proposals—conceived by HDA both as development proposals and broad guidelines to architects—that suggest approaches to planning in cities everywhere.



McGraw-Hill



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EXECUTIVE, EDITORIAL, CIRCULATION AND ADVERTISING OFFICES: 330 West 42nd Street, New York, New York 10036. Western Editorial Office: 255 California Street, San Francisco, California 94111. PUBLICATION OFFICE: 1500 Eckington Place, N.E., Washington, D.C. 20002; second-class postage paid at Washington, D.C.

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# Freedom to plan imaginatively . . . with versatile Southern Pine



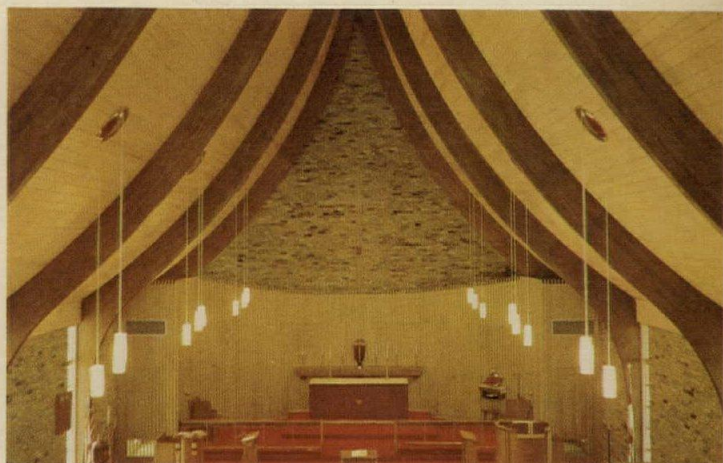
Architects: Desmond Miremont & Associates, Inc., A.I.A.

The modern applications of Southern Pine laminated beams, decking, siding and paneling open new dimensions for design creativity. Here, in this striking library foyer one immediately senses a promise of tranquility and permanence. The inspiring sweep of maximum spans achieved by the high stress value of Southern Pine affords unique and economical planning latitude.



Architects: Marshall M. Burton & Associates

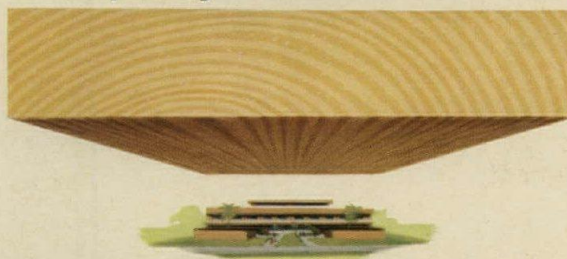
Pre-shrunk to full American Lumber Standard sizes, Southern Pine provides stability and precision essential to engineered construction, as in this country club. Standard grades can be utilized for cantilevered and continuous members without special grading.



Architects: Roberts & Barksdale, A.I.A.

In this church, you see how the warmth and beauty of Southern Pine create a truly spiritual feeling in contemporary setting. Its enduring qualities provide economy for today's modern construction programs, with extremely low maintenance cost assured through the years.

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the analyzing, costing and comparing. With an assist from our home office computer.

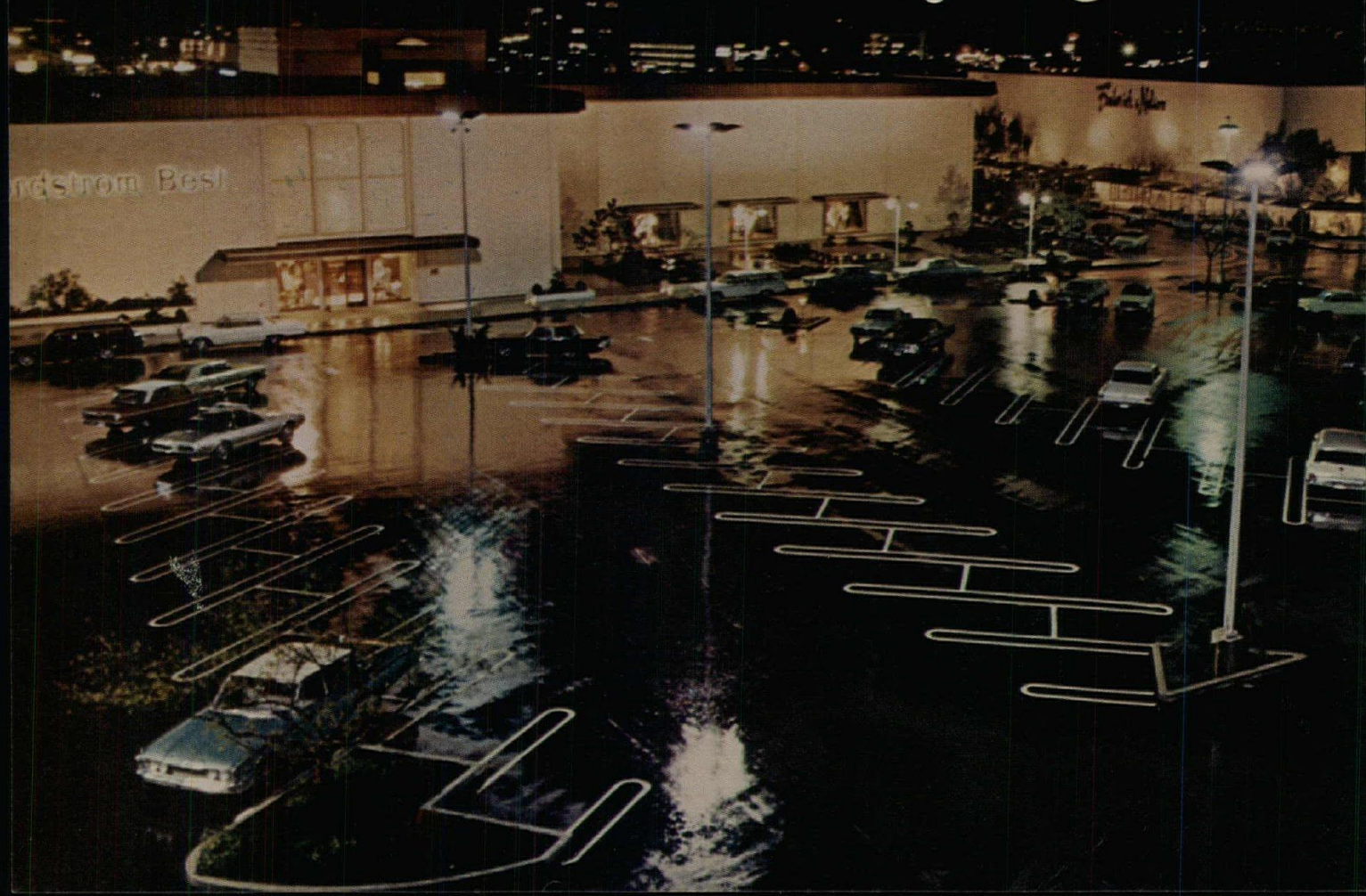
We'd like to hear from you.

Outdoor Lighting Dept., Crouse-Hinds Co., Syracuse, N.Y. 13201.



**CROUSE-HINDS**

Light is to be  
warm and friendly by,  
even on a cold, rainy night.



## From talent to tax structure: We can't let up anywhere

All good architects have a dream—a dream of cities where people of all economic levels can live and work with comfort and convenience and safety and dignity and some sense of personal identification. They dream of cities where the transportation systems work, where there are schools where teachers can really teach, and where there is space for leisure time activities. They dream of cities that are beautiful—full of the elements of good environment that really can make the difference between existing and enjoying life.

Can such a dream really come true? It can if there is a big enough demand for it—if we as a nation want it enough, and therefore commit enough money to make it happen.

Each year we buy eight million automobiles at an average price of just over \$3000. Multiply those two figures, and Mayor Lindsay's remark that there is nothing wrong with New York City that \$50 billion couldn't fix doesn't seem so impossible. We could spend that kind of money on a better environment—if that were important enough to us.

We have made a national commitment and—with a few exceptions—are doing very well with the job of providing every child in America with a free education. We manage to raise between \$75 billion and \$80 billion for defense each year, and so far we have spent over \$60 billion in Vietnam. We are now budgeting \$5 billion a year to reach the moon. What we need to decide is whether we want a good environment enough to make some substitutions in our national and private priorities and how hard we are willing to work to accomplish those priorities.

Architects are busier now than they have ever been and—as George Kassabaum put it in his speech to the Building Products Executive Conference—"there is nothing that gives anyone a greater feeling of being essential and a greater assurance of a guaranteed future. We say to ourselves that we are busy because we are necessary. . . . All's right with the world." And that, as Kassabaum points out "Sounds like something the railroads might have said not too many years ago"—before the airplane, the truck, and the interstate highway.

Architects—individually and as a profession—must continue to give their highest priority to traditional striving for quality in design and construction. But they must also give high priority to other continuing concerns.

No matter how busy they are, architects must continue to struggle with building costs. It is important to remember that a man whose savings and income qualify him for an \$18,000 townhouse cannot afford a \$20,000 townhouse no matter how much he wants it or whatever the reasons that the house costs \$20,000. It is important to remember that the borrowing power of towns and cities is fixed, and most are close to their limits; and that responsibility to stockholders can limit—in these days of tighter budgets—the quality of building done by more and more corporations. Thus, the emphasis on cutting costs while minimizing loss of quality becomes ever more important—for a saving in building cost accomplished on the drawing board is multiplied by savings in fees, in financing charges, and in taxes. Further, the profession can and should support efforts to reduce or reallocate the costs not

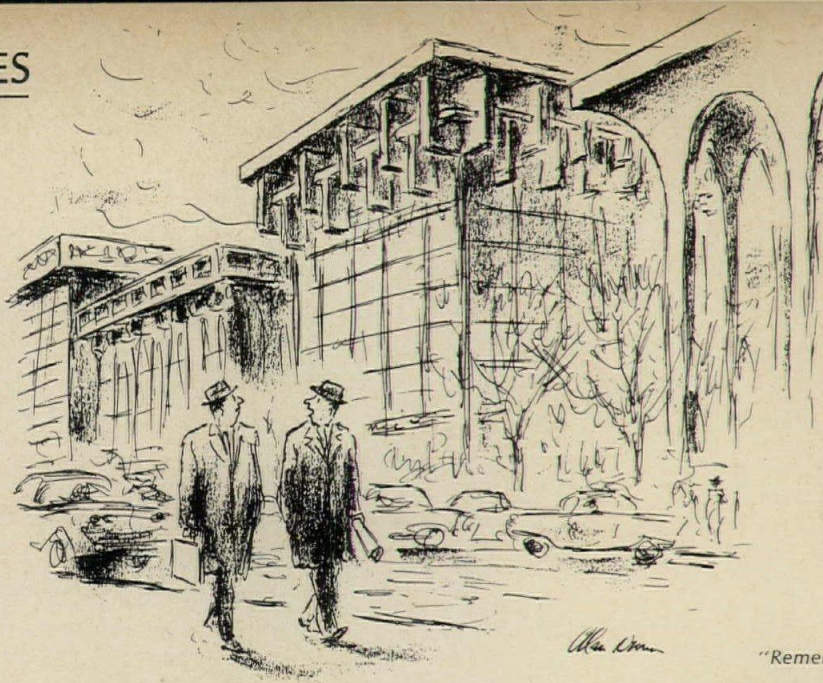
controllable by the architect: site improvement costs, financing costs, real estate taxes, and operating expenses.

No matter how busy they are, architects must continue to be concerned with the problems of the contractors. At the volume of building projected in this country in the next few years, we seem to be in for some real trouble. One example: it is estimated that building Atlanta's new \$200-million airport within the desired time limit could require 25 to 30 percent of the construction labor force in the whole metropolitan Atlanta labor market. Which leads to more questions about who is going to build the schools and office buildings in that booming city, and what that labor shortage could do to costs.

No matter how busy they are, architects must continue to be concerned with educating the public to the values of good environmental design. A beginning has been made with the work of the A.I.A.'s Task Force on Elementary and Secondary Education (RECORD, November, page 10) and its newly-announced nationwide television and radio public-service campaign. Individually, of course, each architect can do much in each contact with each client to raise the client's sights towards the level of quality so important to our environment.

Finally, no matter how busy they are, architects must do more than they have ever done to support the public and private efforts to implement meaningful government programs in this area—which is the place a national commitment to better cities is funded. If you believe that the Model Cities Program can be a big step towards establishing a new level of environment, fight for it in your area. If you believe that the new Housing and Urban Development Act contains the tools needed to get on with the city rebuilding job, go to work—through your local politicians—to see that it is adequately funded, or at least gets its fair share of the tax money that the next Congress will be allocating.

—Walter F. Wagner Jr.



Drawn for the RECORD by Alan Dunn

**Every architect should give himself a Christmas present**

... and what it should be is a copy of "A Portfolio of Social Cartoons by Alan Dunn" which Simon and Schuster (Rockefeller Center, 630 Fifth Avenue, New York, N.Y. 10020) have just published and are willing to sell for \$5.95.

If you insist on knowing in advance how much enjoyment you'll get from this book, just look at the cartoon above—and multiply by 147.

Alan Dunn's cartoons are one of the high points of our life here at the RECORD offices. Every two months or so, an envelope arrives with four or five or six rough pencil versions of cartoons for the RECORD. What we do is laugh our heads off at all of them—except once in a while when "we don't get it" and are then filled with great anxiety that there's something happening in architecture that we don't understand. Then—like all editors—we get super-critical and make the impossible choice of which Dunn cartoons you readers are going to get to enjoy—and which ones are going to have to remain in our private stock. Alan Dunn has developed, in the 32 years his work has been published in the RECORD, a very special place in architecture. His insight into architectural trends and architectural folly is flawless. To have a building commented on in a Dunn cartoon gives any architect a special sense of "arrival"—and it has been my observation that any architect who has arrived has "his" Dunn cartoon in a prominent position in his office.

Dunn's unique ability to comment on what is happening in the world is broader, of course, than architecture. Indeed, the marvelous collection in his new book includes only a smattering of architectural content amidst the topical social comment that Dunn offers in the

pages of *The New Yorker*. I'm tempted to try and describe my favorite—but that wouldn't be fair to you or Dunn. You'll have to pick your own.

**The architect, the manufacturer, and the matter of responsibility**

Speaking to an audience of manufacturers and materials producers at the Building Products Executive Conference (page 81), A.I.A. President George Kassabaum said: "As long as our system permits an owner to sweat in his building while I say the system was designed properly, you say it was manufactured properly, and the contractor says it was installed properly, something is badly wrong with the process of construction we now have."

**A small gesture—but why not**

The New Jersey Society of Architects has a postage meter which imprints not just information that your letter came from East Orange, N.J. at a cost of 12¢, but urges you to "Consult an architect. He's your best investment." And why not? You could have a different slogan each month—like "Think Beauty" or "Down with High-Rise Apartments" or "Save the Pan Am Building."

**Instant rehab gets its final report card: E for effort**

The Institute of Public Administration—a private, non-profit education corporation assigned the job of evaluating the so-called "Instant Rehab" project in New York City—has turned in its report to HUD Secretary Weaver. This project (see RECORD, December 1967)

involved the fast installation of service cores—kitchen and bathroom units—preassembled off-site and dropped into place by crane through holes cut in roof and floors. One paragraph on page three of the report tells it: "The hope that the techniques and materials employed would reduce costs was not borne out by this demonstration. Usable square foot construction costs were in the neighborhood of \$45, or two and one-half to three times the cost of conventional rehabilitation or new construction. . . . High costs might be reduced by extending the time of rehabilitation sufficiently to eliminate the necessity for overtime, and to get maximum productivity from workers and supervisors. Productivity might also be enhanced by repetition. No data have yet emerged, however, to indicate that costs per usable square foot can be lowered to make them competitive with conventional rehabilitation or new construction."

**Nicest compliment yet: a "Wish you were here" award**

Every year, since 1916, the Fifth Avenue Association, in cooperation with the New York Chapter of A.I.A., has presented awards "to those people whose talent and imagination have contributed most to the architectural beauty of Fifth Avenue and its environs." This year the architectural awards committee—which included three architects, a bank president, a major store president, and an advertising executive—gave a special "Wish you were here" award to the Ford Foundation Building, which is between First and Second Avenues—well beyond the "environs" of Fifth Avenue.

And that is a gesture which—as they say of most things along Fifth Avenue—has class. —W.W.

"Remember when we eliminated the cornice?"



**inner  
strength**  
ROOFS

A preview of the Convention Center, Ft. Worth, Texas, now nearing completion. Seating capacity 20,000.  
Architects: Associated Convention Center Architects, Ft. Worth.  
Structural Engineering: By architects.  
General Contractors: Childs Construction Co. and Cadenhead Construction Co., Ft. Worth.  
Roofing Contractor: Lydick Roofing Co., Ft. Worth.  
Roof Construction: Flat deck at perimeter is cast-in-place gypsum with Keydeck Truss-T subpurlins and Keydeck wire mesh reinforcement. Dome section constructed of insulation boards supported by Keydeck Truss-T subpurlins.

# New, two-hour fire rating for deck reinforced with Keydeck Truss-T subpurlins



Keydeck mesh reinforcement is the other component of the Keystone roof deck reinforcement system. It has proved to be a superior reinforcement under great stress, maintaining the integrity of decks subjected to hurricanes, tornadoes and earthquakes.

The webs are open. The cast in place material flows through. This single design improvement—from solid subpurlin to the open webs of the Keydeck Truss-T—provides many advantages.

One advantage is the new two-hour fire rating for a deck utilizing Keydeck wire mesh reinforcement and Keydeck Truss-T subpurlins.

Other advantages are: Lighter subpurlins; reduced thermal conductivity; electrical conduits can be hidden in poured slabs over exposed form-boards; composite resistance to shear, uplift, cracking and deflection because embedment is complete.

The Keydeck Truss-T subpurlin is another example of Keystone's Inner Strength products for roofs, walls and floors.

For help with reinforcement problems, call your Keystone Representative. Or write, Keystone Building Products Department, Peoria, Illinois 61607.

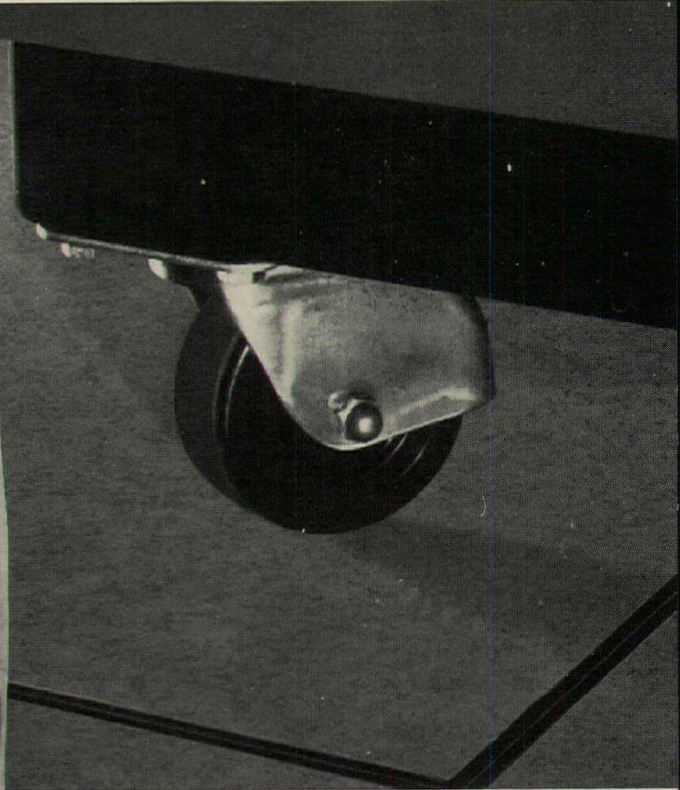




**inner  
strength**  
ROOFS • WALLS • FLOORS

from **Keystone** Steel & Wire Company  
Peoria, Illinois 61607

*For more data, circle 7 on inquiry card*



**some dimples  
are cute ...  
but not in a  
floor surface!**

## **So We Guarantee WacoPlate Floors Against Dimples!**

One raised floor looks just like another. Very deceptive. Fact is, WacoPlate alone has extra strength built in to save you problems. Like deflection. Or costly changes a few years from now to meet unforeseen requirements. Fact is, WacoFloors give you total accessibility without sacrificing either strength or rigidity. The secret is the patented Snap-Lok Rigid Grid System. Stringers may be quickly, easily removed or replaced; yet they provide essential stability. Don't let looks deceive you.

*WacoFloors are installed with panels of steel or wood core.  
For complete details, dial direct or write.*

### **WACOFLOORS**

**WASHINGTON ALUMINUM CO., INC.**

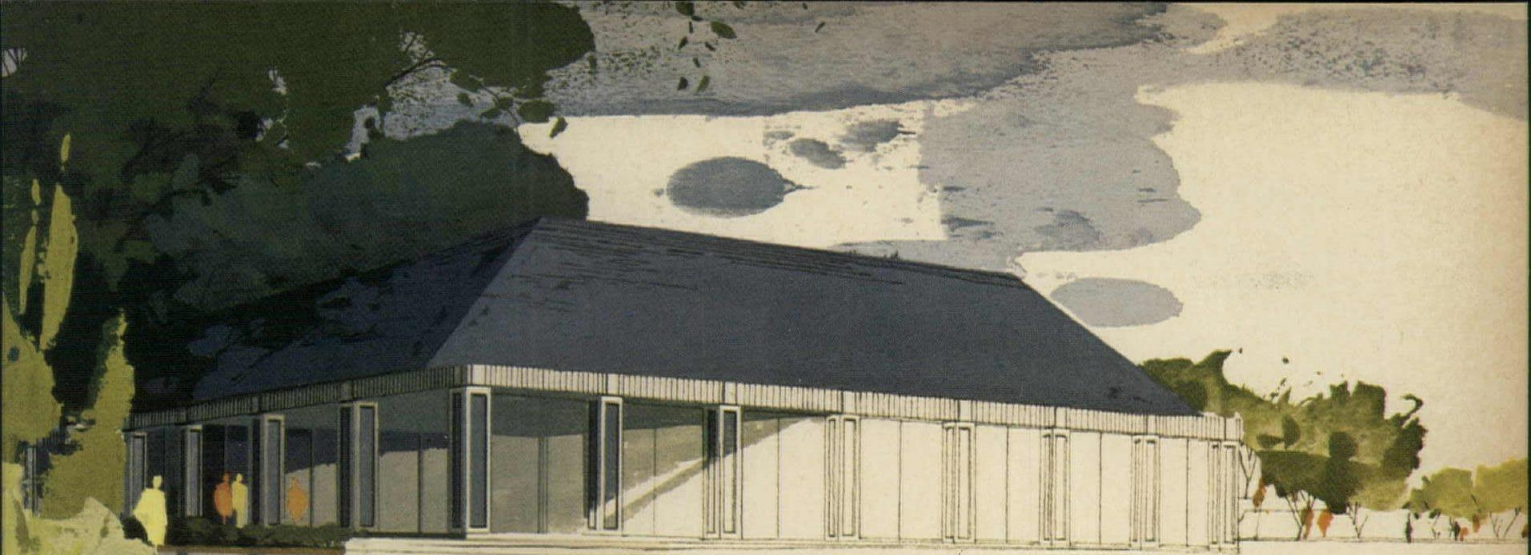
Knecht Ave. at Penna. R.R. • Baltimore, Maryland 21229 • 301 / 242-1000  
*There is no equal to a WacoFloor*



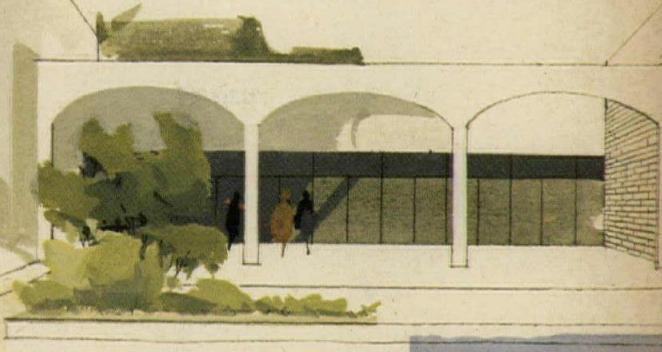
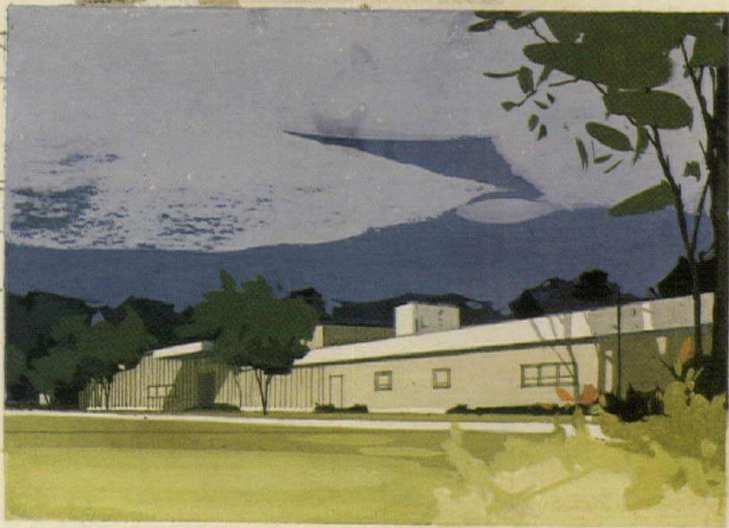
Stringers are easily removed from the exclusive Snap-Lok Rigid Grid System.

*For more data, circle 8 on inquiry card*



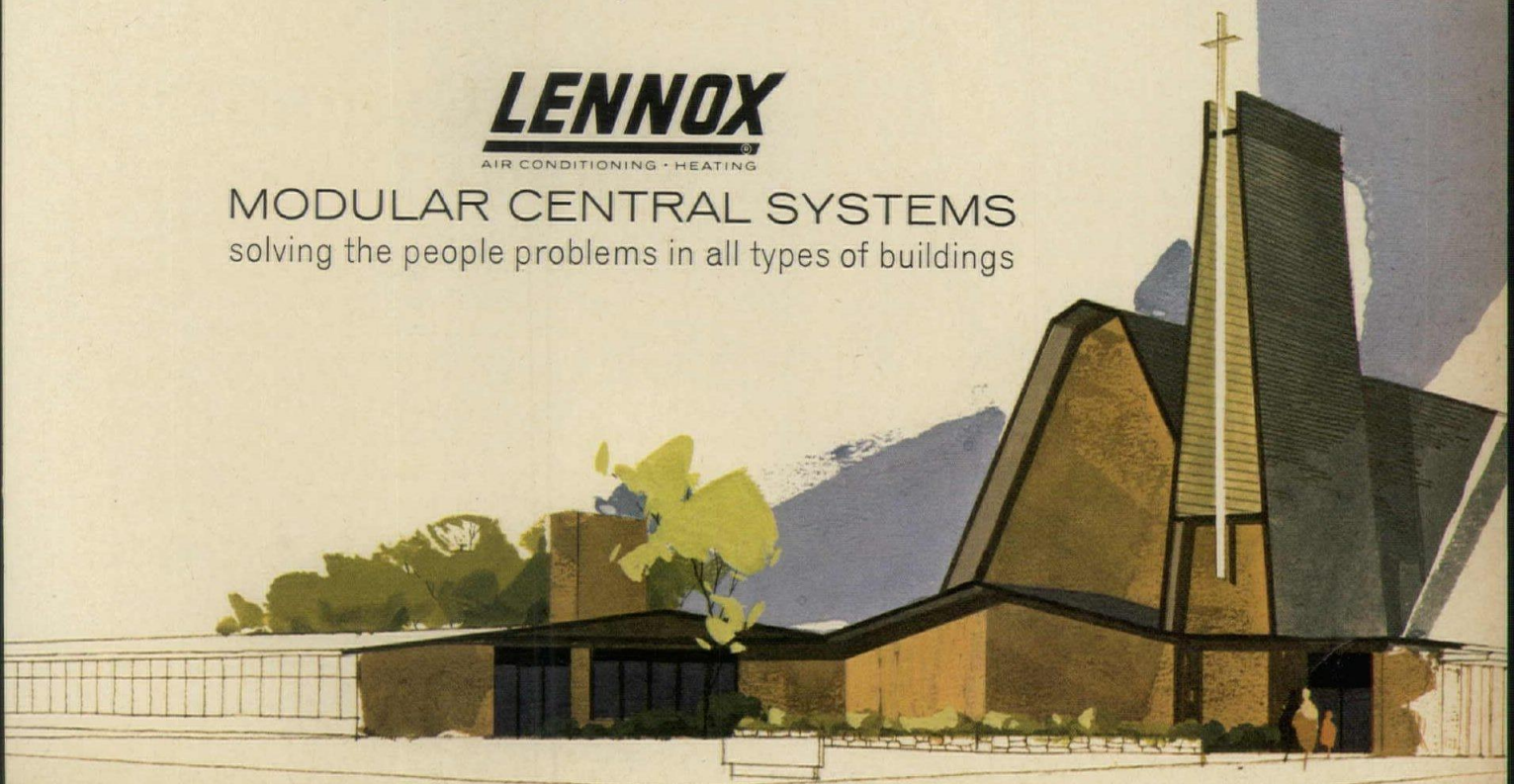


The "micro-climates"  
are here...there...  
everywhere!



**LENNOX**  
AIR CONDITIONING • HEATING

MODULAR CENTRAL SYSTEMS  
solving the people problems in all types of buildings



For more data, circle 9 on inquiry card

The unique flexibility of Lennox systems weds economy, freedom of design and people comfort. For example, we create comfort to match the different problems of different people. All types of people. In all manner of activity. In the same building. At the same time. Whatever the weather. (And for any type of building – school, office, motel, apartment, plant, clinic, shopping center.)

The toughest problems soften up when you specify Lennox modular central systems. Here is the sophistication of control and the flexibility to provide an almost infinite variety of “micro-climates”—individual comfort zones. And there’s a system—or systems combination—to match any demand.

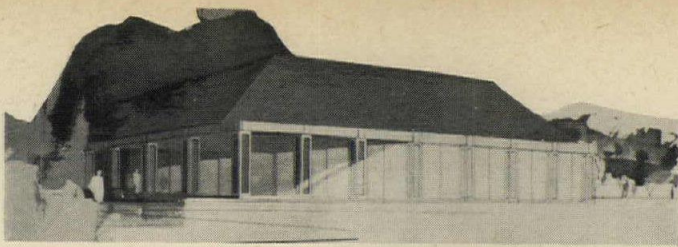
The single-zone Lennox combination system, for example, heats with gas, electricity or oil; cools electrically; rooftop or grade mounted. Or take the Lennox Direct Multizone Systems (DMS), for single or multistory installation, serving up to a dozen comfort zones per unit; or DMS with dual ducts and mixing dampers. Or unitary systems with a broad range of coil-blower units.

*For details, see Sweet’s—or write Lennox Industries Inc.,  
335 S. 12th Avenue, Marshalltown, Iowa 50158.*

*For more data, circle 9 on inquiry card*

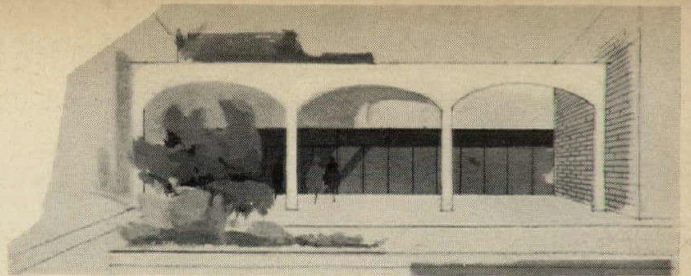
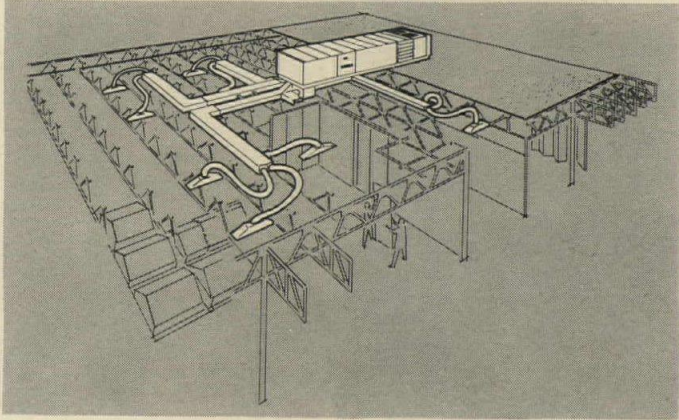


**Lennox systems'  
flexibility combines people  
comfort, economy & designability.**



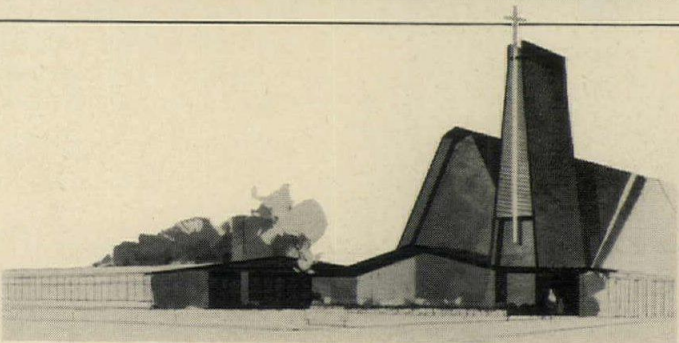
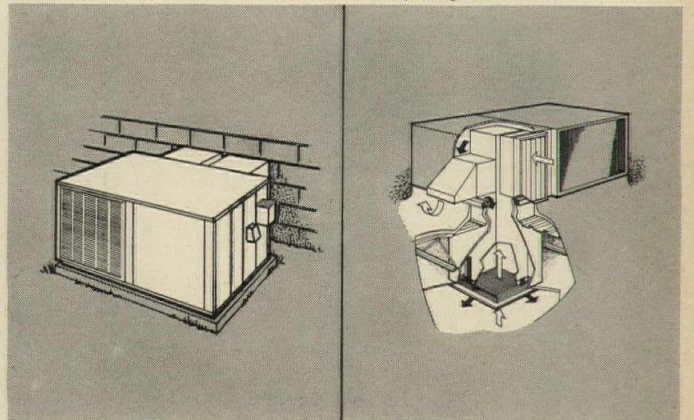
Spacious, beautiful country club provides members' indoor comfort with "micro-climates" from concealed rooftop installations of Lennox unitary central systems. Four individually-controlled comfort zones come from one DMS1 unit of 22 tons cooling capacity and 500,000 Btuh gas heating. A Lennox GCS3 furnishes heating, cooling and ventilating for the large single-zone area (capacity: 8 tons cooling, 250,000 Btuh gas heating). Kitchen and locker rooms are heated and ventilated by another unitary system.

*Direct Multizone units on roof serve many comfort zones through flexible duct which can be moved as zone boundaries change.*



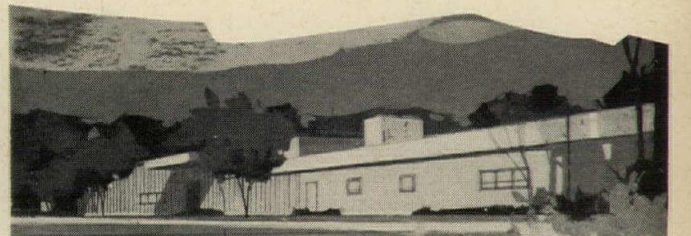
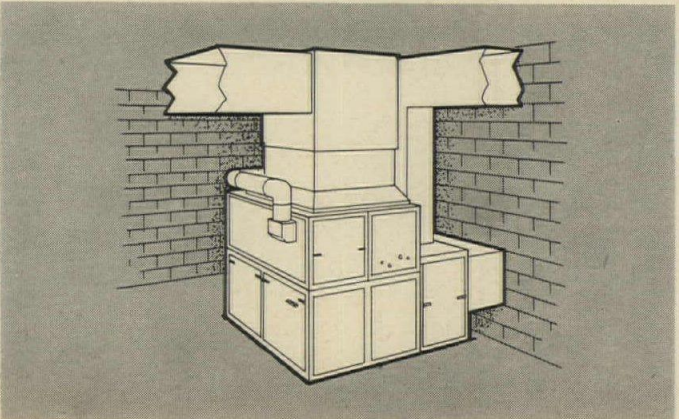
Patrons and employees of the 80 stores and theatre in this colorful, exciting shopping center will find the comfort right! Some 800 tons of cooling will come from a variety of Lennox equipment atop the center's 18-plus acres of buildings. Among the Lennox equipment supplying this large volume are: GCS single-zone combination gas heating/electric cooling units for large, undivided spaces; DMS units for the many individually-controlled comfort zones; condensing units coupled with coil/fan units; and other modular central systems.

*Lennox GCS3 all-weather combination gas heating/electric cooling unit serves single-zone areas from rooftop or grade level.*



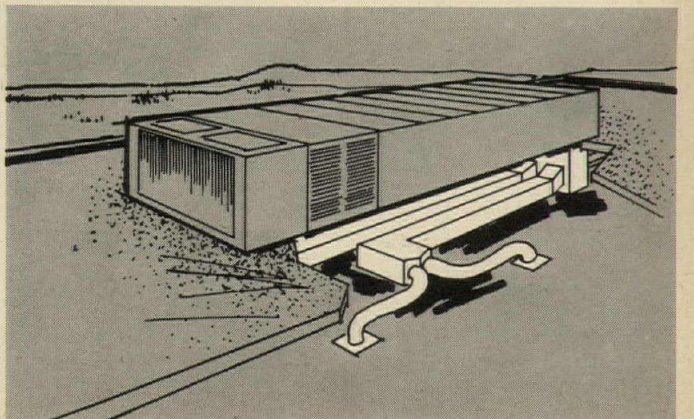
Comfort flexibility keynotes the gas heating/ventilating system of this striking new church building. To supply both upper and lower floors economically and efficiently, two new DMS2 units are installed in the equipment room. One unit serves multiple zones of the lower floor (Sunday School classrooms, etc.), the other serves the upper floor entrance hall, sanctuary and choir room. Provision is made for easy add-on cooling in future.

*A new Direct Multizone System now adds flexibility in multiple zone applications for single and multistory buildings.*

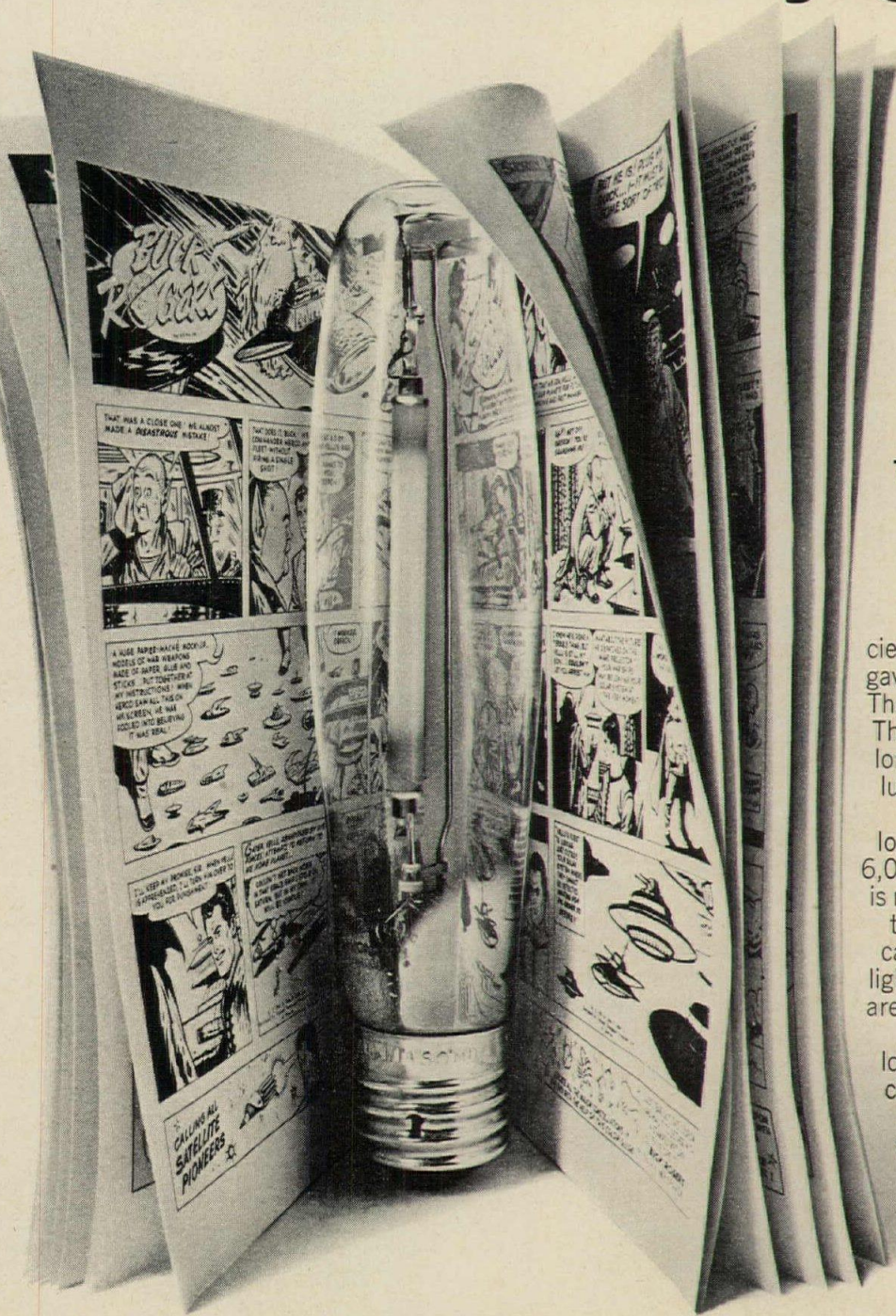


These new quarters of a leading—and growing—surgical instrument manufacturer have "room-to-grow" air conditioning and heating, in a "room-to-grow" building. Six Lennox DMS units provide the comfort for a 30,000-plus sq. ft. production area divided into six zones. Two other units take care of the 15,000 sq. ft. office area, in 12 separate comfort zones. Rooftop mounting conserves inside space; and, with flexible ducts, helps make possible easy expansion for growth.

*Clean, low-silhouette DMS1 units sit unobtrusively on rooftop, help maintain design freedom.*



# This lamp has just narrowed the incredibility gap.



**The General Electric Lucalox® lamp has beaten its own incredible world record as the most efficient general light source ever made.**

Just forget all the fantastic efficiency figures that General Electric gave you about this space-age lamp. They've all changed—for the better. The GE Lucalox 400-watt lamp no longer gives you an incredible 105 lumens of light per watt—it's now 110. And its long life-span is no longer conservatively estimated at 6,000 hours—it's now 8,000. There is no other lamp lighting America's towns, highways or factories that can give a more efficient, brighter light than the GE Lucalox. So what are you waiting for? General Electric has already got a lamp that belongs in the Buck Rogers® era. You can belong to it, too, by contacting your GE Large Lamp Agent. Or write: General Electric Co., Large Lamp Dept., C-827, Nela Park, Cleveland, Ohio 44112. Buck Rogers, here we come.

**GENERAL  ELECTRIC**  
See more for your dollar with GE lamps.

For more data, circle 10 on inquiry card

**Elastomers in Industry/Engineered Construction.**

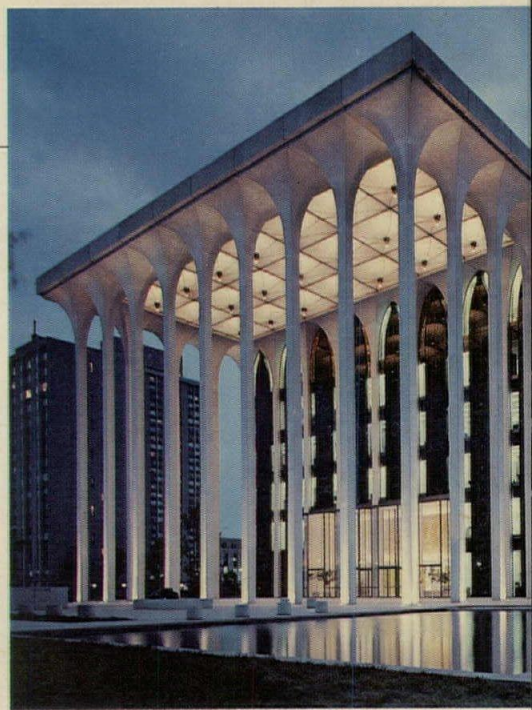


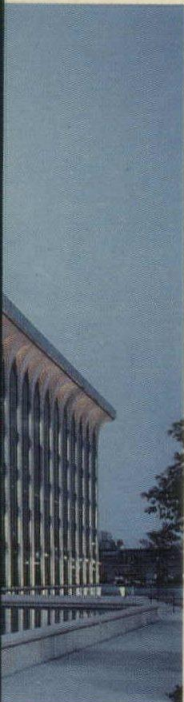
## **Butyl rubber sheeting forms seep-proof barrier between rooftop gardens and apartments below.**

Think of a sandwich—an upper and sub-surface layer of concrete with a membrane of Butyl rubber as the “ham” in between.

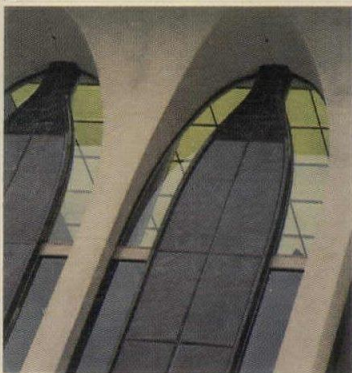
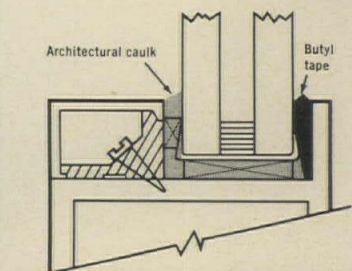
That’s the way the roofs of the luxurious Watergate East apartments in Washington, D.C. were constructed. Tough, long-lasting sheeting made of Enjay Butyl rubber makes a practical, impermeable barrier against moisture. It can withstand wide extremes of winter and summer temperatures as well as resist attack by fertilizer and other corrosive soil-borne elements.

Sponsor: Watergate Improvement Associates  
Architects: Luigi Moretti (HFAIA), Milton Fiscger (AIA)  
General Contractor: Magazine Brothers Construction Corp.  
Sheeting Subcontractor: Washington Plyrite Company  
Sheeting Fabricator: Goodyear Tire and Rubber Co.,  
New Bedford, Mass.





**From 30° below to 100° above...  
Butyl tape keeps insulated  
windows leak-free.**



Flexible, non-hardening Butyl tape makes an effective seal against the extremes of weather on these tall dual-pane windows of the Northwestern National Life Insurance Building in Minneapolis.

The preformed tape of Enjay Butyl and polyisobutylene has 100% non-oxidizing solids... provides a strong bond between glass and external stop... gives practically permanent sealing. And it resists shrinking, hardening, cracking and ultraviolet rays.

On sashes with interior stops, glazing with Butyl tape can be done from the inside, with no scaffolding or external clean-up. Butyl tapes are also widely used for sealing mullions and exterior panels. They are available in many shapes and colors, and with internal reinforcing to prevent distortion.

Architect: Minoru Yamasaki Associates, Birmingham, Michigan.  
General Contractor: George Fuller, Chicago, Illinois.  
Glazing Contractor: Larry's Glass & Mirror Company, St. Paul, Minnesota.  
Tape Manufacturer: Tremco Manufacturing Company, Cleveland, Ohio.



**Structural gaskets of VISTALON®  
ethylene-propylene rubber  
have excellent weather resistance  
and low temperature flexibility.**

More and more modern buildings are utilizing structural gasketing of VISTALON to maintain long-term resiliency under all weather conditions. These pre-formed seals allow glass or panels to float freely without strain. They permit speedy and easy installation of glazing and panels, as well as a simple means of removal or replacement of broken glass.



Architects: Cartmell and Rossman, Phoenix, Ariz.  
 Glazing Contractor: Standard Glass Co., Phoenix, Ariz.  
 Caulk: DAP Inc., Dayton, Ohio

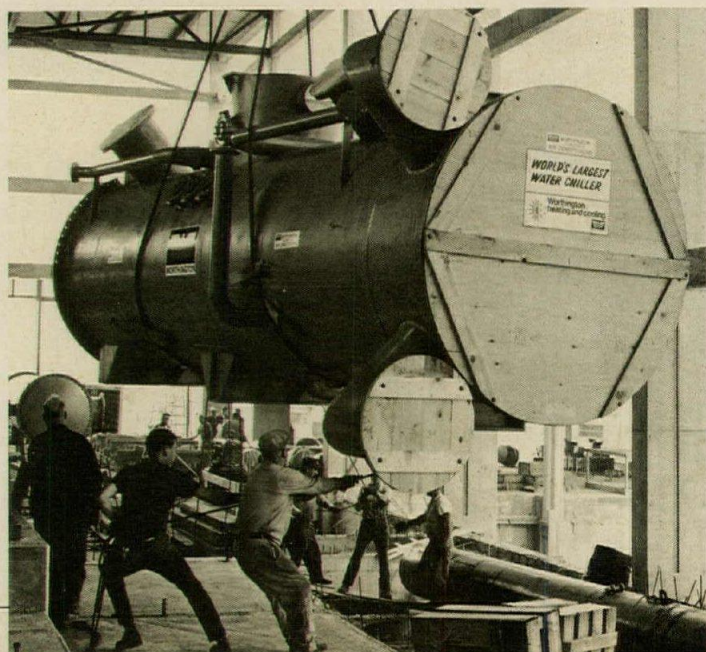
**Unusual window design uses Butyl rubber caulk for sealing.**

The new co-ed residence, Manzanita Hall, at Arizona State University has hexagonal and triangular windows that contribute both to aesthetics and to the building's strength. All the windows were shop glazed, complete with hardware. They feature aluminum frames with operable lower sections. Butyl rubber caulk as a sealant between the glass and frame was chosen for its permanent flexibility and excellent weatherability. Butyl-based caulks last up to 5 times longer than conventional caulk over a wide range of temperatures. Butyl caulks can be applied with conventional tools without elaborate joint preparation. They can be colored to match mullions of panels.

**Butyl pads damp noise and vibration**

Enjoy Butyl is the ideal material for use under such environmental control systems as air conditioners, generators, etc.

Butyl mounting pads are unequalled for vibration and noise damping characteristics.



Enjoy Chemical Company  
 Synthetic Rubber Division  
 60 West 49th Street  
 New York, N.Y. 10020

VISTALON is a registered trademark used by Enjoy Chemical Company

For more data, circle 11 on inquiry card



You don't have to specify **JAMISON**

but if you value VALUE, you will

There is a subtle value about Jamison cold storage doors that goes beyond quality materials, superior design and expert workmanship. Naturally, you expect these—the best from the oldest and most experienced company in the business.

But this subtle value we're talking about—it's the invaluable technical assistance and engineering help we are able to give you.

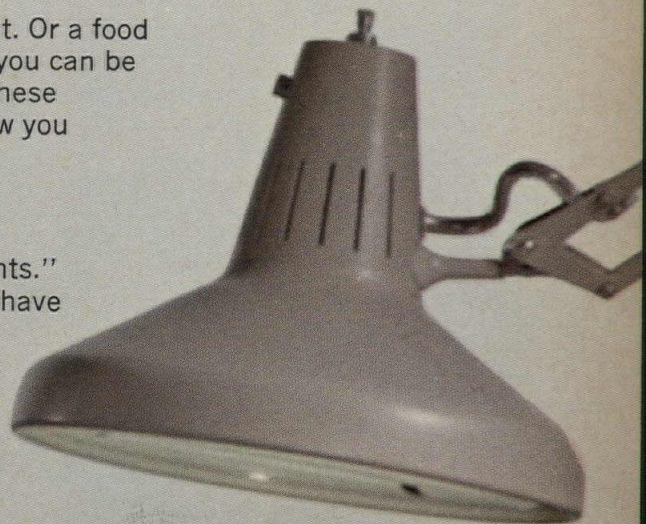
For example. Suppose you are designing a meat packing plant. Or a food distribution center. Or a bakery. Think of the time and effort you can be spared by using our layout sheets for typical installations of these kinds. Typical examples clearly marked out and coded to show you exactly the right cooler and freezer doors for the given circumstances.

We have for you a valuable book "How to Select and Specify Doors for Cold Storage Warehouses and Food Processing Plants." After you send for, and receive your free copy, you still don't have to specify JAMISON. But if you value VALUE, you will.

COLD STORAGE DOORS BY  
**JAMISON**

JAMISON DOOR COMPANY • HAGERSTOWN, MD.

For more data, circle 12 on inquiry card





INTERNATIONAL  
CONFERENCE OF  
BUILDING OFFICIALS  
(ICBO)



# Testimonial to your good judgement and our reputation.

## These Code Approvals.

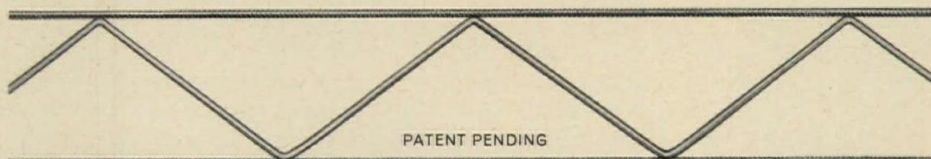
The three significant code approvals shown say a lot for both of us.

When you specify Dur-O-wal truss masonry wall reinforcement your clients get the assurance that a quality product protects the distinctive beauty and adds longer life to masonry walls.

When the Building Officials Conference of America (BOCA), International Conference of Building Officials (ICBO), Southern Building Code Congress (SBCC) and local codes give their materials approvals to Dur-O-wal, your good judgement and our reputation both benefit.

Dur-O-wal truss in your specifications means you have selected the original, the most available and the most widely used masonry wall reinforcement. And we think, the best.

We do a lot more than just make and sell the best. We can help you on how best to use our product. For a look at the evidence, write us for a copy of our Installation Details Bulletin No. 64-1. Dur-O-wal, P. O. Box 368, Cedar Rapids, Iowa 52406.

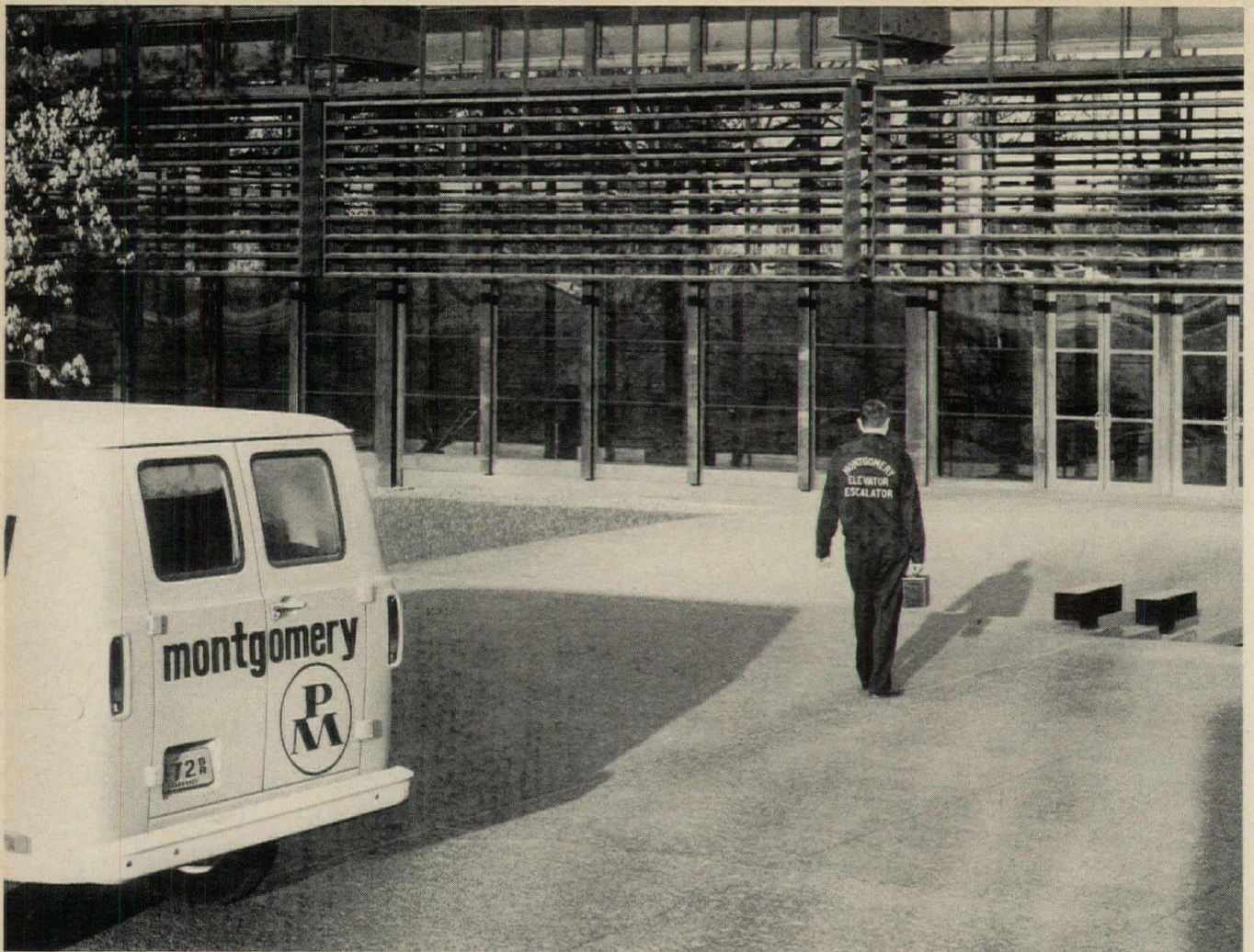


# **DUR-O-WAL**®

THE ORIGINAL MASONRY WALL REINFORCEMENT WITH THE TRUSS DESIGN

**DUR-O-WAL MANUFACTURING PLANTS** • Cedar Rapids, Iowa, P.O. Box 368 • Syracuse, N. Y., P.O. Box 628 • Baltimore, Md., 4500 E. Lombard St. • Birmingham, Ala., P.O. Box 5446 • Aurora, Ill., 625 Crane St. • Pueblo, Colo., 29th and Court St. • Toledo, Ohio, 1678 Norwood Ave. • Mesa, Ariz., 213 So. Alma School Rd. • Seattle, Wash., 3310 Wallingford Ave. • Minneapolis, Minn., 2653 37th Ave. So. • Also manufactured in Canada.

For more data, circle 13 on inquiry card



Montgomery Elevators at Deere & Company Administrative Center, Moline, receive periodic Montgomery Preventive Maintenance Service.

## PM\* ARRIVES HERE AT 6:40 A.M.

The Montgomery \*Preventive Maintenance service truck usually arrives early. However, a regular schedule can be set at anytime which reasonably coordinates with lowest traffic flow in your building.

Dependability and safety are critical to satisfactory elevator and escalator operation. Constant, top-notch performance by these units is best safeguarded by systematic preventive maintenance. This



prevents emergency breakdowns, unscheduled repairs and tenant complaints.

Montgomery's PM service men (†) are factory trained specialists on all types of elevators and escalators. To get them working for you, call the Montgomery Service Office in your area (yellow pages of phone book) or write to:

Montgomery Elevator Company, Moline, Illinois 61265

Montgomery Elevator, Ltd., Canada

Offices in principal cities of North America

# montgomery

**ELEVATORS/ESCALATORS  
POWER WALKS & RAMPS**

(†) Radio dispatched in most of Montgomery's service areas.

For more data, circle 14 on inquiry card



 **SARGENT**®

complete line of advanced architectural hardware, including the Sargent Maximum Security System  
New Haven, Connecticut • Peterborough, Ontario

# The all-purpose metal ceiling pan. It's at home anywhere.

Caterpillar Tractor Company, Peoria, Illinois

Architects: Smith, Haines, Lundberg and Waehler, New York City

General Contractor: Huber, Hunt and Nichols, Indianapolis, Ind.

Acoustical Contractor: Acoustical Engineering, Omaha, Nebraska



It's at home in the Caterpillar Tractor Company. It was used in the executive dining room where every detail of the decor was carefully worked out. It was also used in executive offices, general offices and hallways.

Gold Bond Acoustimetal makes a handsome ceiling you can use almost anywhere — in kitchens, natatoriums, classrooms. It is resistant to moisture, easily cleaned, paintable and almost indestructible.

These baked-enameled metal pans

have lots of other advantages, too. Like easy accessibility to utilities above. NRC ratings of .80-.95. Sound attenuation ratings up to STC 44. High light reflectivity. Choice of fire-rated assemblies and patterns (needle-point, square and two diagonal perforations). Sizes in increments of 12" from 12"x12" to 12"x48".

With all this going for it, it is no wonder the Caterpillar Tractor Company chose Gold Bond® Acoustimetal for most of the ceilings in their world headquarters building in Peoria.

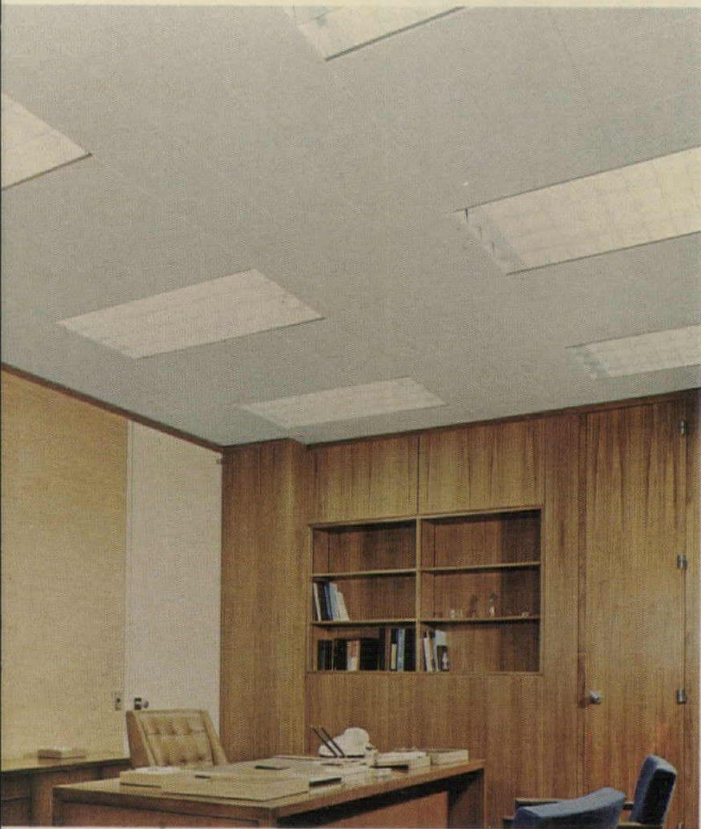


The name Gold Bond identifies fine building products from the National Gypsum Company. For more information on Acoustimetal, write Dept. AR-128C, Buffalo, New York 14225.

**Keeping up appearances is a National responsibility.**

**Gypsum Company**

*For more data, circle 16 on inquiry card*



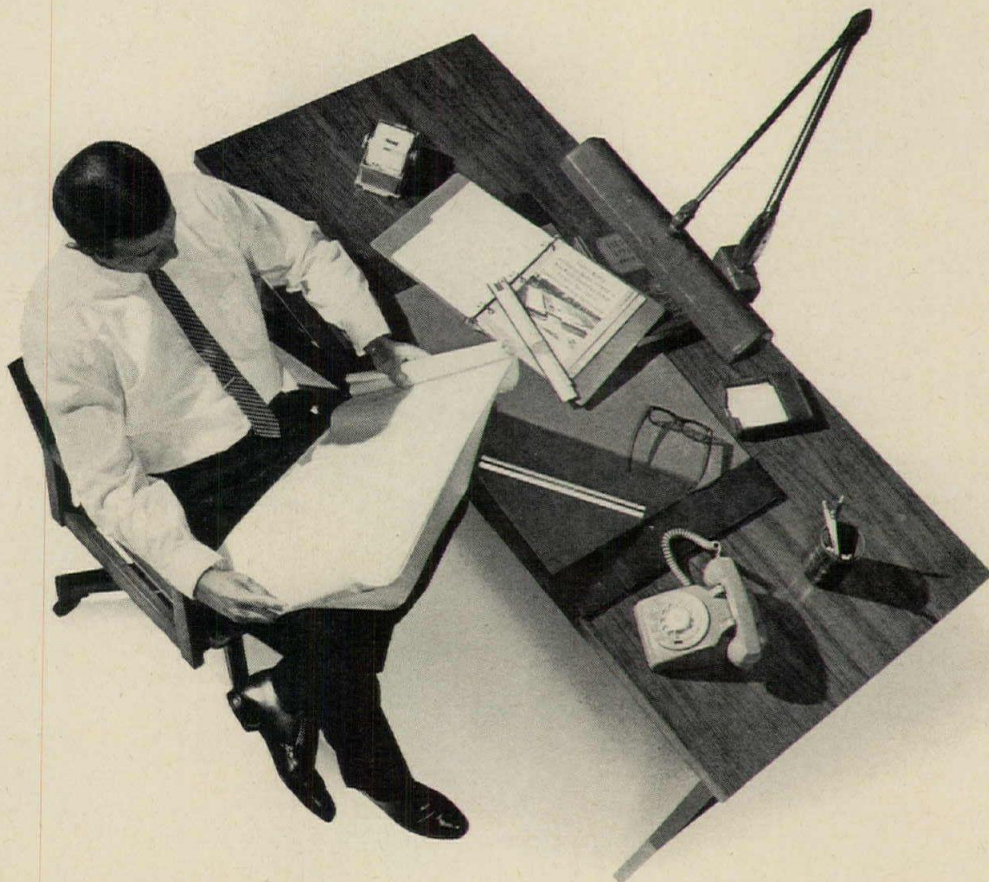
# OK. You've made the move to electric heat...

# Now make the most of it. Choose an electrical contractor to install it.

Electric heat is an electrical function and should be installed by a qualified electrical contractor. That way, you've got the one man who can see the job through from plans to permit to operating guarantee.

How can you be sure a qualified electrical contractor will install your next electric heating system? That's easy.

Put the heating specs into the electrical section of your building plan.



## Your Qualified Electrical Contractor

NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION, 610 Ring Building, Washington, D.C. 20036







*FMC Corporation, Packaging Machinery Division, Philadelphia Plant, Horsham, Pa.; Architects & Engineers: Alexander Ewing & Associates, Philadelphia, Pa.; General Contractor: Irwin & Leighton Inc., Philadelphia, Pa.*

## These **SMITH WALLS** show architectural ingenuity

The contrasting colors . . . the different panel profiles . . . are tastefully combined with each other. And with other building components of masonry and glass. The result shows architectural ingenuity. It also shows the design freedom you can exercise with Smith Walls.

So let your imagination be your guide. We'll custom-engineer Smith Metal Walls to your design . . . and

your exacting specifications.

But custom-engineering is only the beginning of our Single Responsibility concept. Smith Walls are fabricated, delivered and erected by our own people . . . on a firm schedule . . . under rigid experience-established procedures that assure customer satisfaction. We control every sequence of the operation. This guarantees a smooth, efficient installation. Cuts

erection time and holds down costs.

Smith Walls can fit into your plans.

Specify Smith Walls in place for your next project . . . whether it's a single building or complete complex . . . new construction or remodeling.

For complete information, including specifications, check Sweets' File or write to:



**ELWIN G. SMITH & COMPANY, INC.** Pittsburgh, Pa. 15202 / Atlanta • Boston  
Chicago • Cleveland • Cincinnati • Dallas • Detroit • Philadelphia • Toledo • New York

*For more data, circle 17 on inquiry card*





**THE CRISP,  
CLEAN,  
CONTOURED  
LOOK IS**

*Halsey Taylor®*

There is a touch of elegance in this new sculptured design from Halsey Taylor. The RC 8A fully recessed electric water cooler features a one-piece contour-formed receptor and basin. Corners are gracefully rounded instead of square-welded—for easy cleaning. Receptor and louvered access panel are of type 304 stainless steel, polished to a subdued satin finish. Push button control and exclusive 2-stream projector are matching satin finish.

The fountain and cooling unit can be flush mounted in any type wall — requires only 12" back recess.

Recommended for hospitals, schools and other public lobby or applications where uninterrupted corridor space is required.

**THE HALSEY W. TAYLOR CO.,  
1560 THOMAS RD. • WARREN, O.**

**SUBMITTAL INFORMATION KIT**

Information on the Halsey Taylor RC 8A fully recessed electric water cooler is not contained in Sweet's or the Halsey Taylor product information catalog. If you need specification sheets, roughing-in drawings, full product description, and photographs for a current job, please fill in this coupon and mail.

I am submitting a proposal on \_\_\_\_\_ (please describe)

When would you require delivery?  1-3 months  3-6 months  over six months

What quantity do you anticipate using? \_\_\_\_\_

Comments \_\_\_\_\_

NAME \_\_\_\_\_ TITLE \_\_\_\_\_

COMPANY or INSTITUTION \_\_\_\_\_

ADDRESS \_\_\_\_\_

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

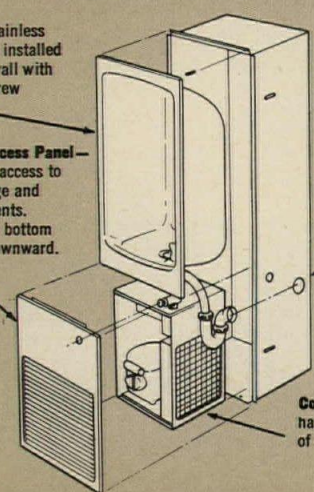
*For more data, circle 18 on inquiry card*

**NEW FULLY-RECESSED ELECTRIC WATER COOLER  
COMPLETE PACKAGED UNIT IS EASY TO INSTALL**

**Receptor** — Stainless steel — can be installed flush against wall with no exposed screw heads.

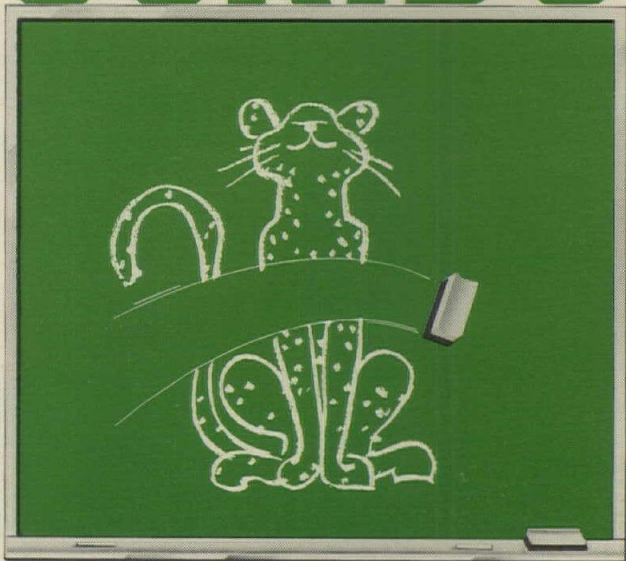
**Removable Access Panel** — provides easy access to cooling package and inner components. Louvers are at bottom and slanted downward.

**Mounting Box** — Sturdy steel box can be quickly secured in any type wall. Permits roughing-in of electric and plumbing connections prior to mounting of receptor fountain and cooling unit.



**Cooling Unit Package** — has capacity of 8 GPH of 50° F. water.

# SCRIBO CHALKBOARDS

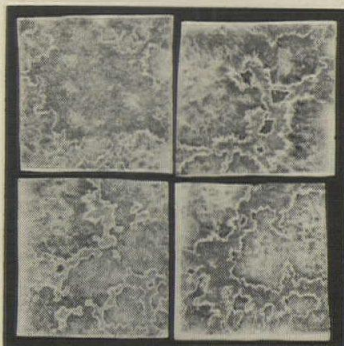


**EASY ON - EASY OFF.** Scribo Chalkboards have a baked alkyd amine enamel surface for clear writing, ghost-free erasing and damp cloth cleaning. Your choice of three types — ¼" Hardboard — ½" Particleboard — 24 ga. Steel — in five standard colors. Write for samples and specifications.

**Bestile MANUFACTURING COMPANY**  
P.O. BOX 71, ONTARIO, CALIFORNIA 91764  
For more data, circle 19 on inquiry card

A LATCO EXCLUSIVE

shades  
of  
old Venice



**VENEZICO®**

VENETIAN-CUT MOSAIC TILE

Lavish shades, subtly depicting the glory of Renaissance Venice, have inspired Latco's "Venezico" collection.

Vitreous, hand-crafted tiles in 20 decorator colors, including gold, silver and brass.

Designed for interior and exterior application, it weathers all seasons and time itself!

Mesh mounted on 12" x 12" sheets with complete trimmers, for easy installation at low cost. For further information, write to:

**Latco®**  
PRODUCTS

3371 GLENDALE BOULEVARD • LOS ANGELES, CALIF. 90039  
TELEPHONE: (213) 664-1171

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For the West's  
most distinguished  
libraries...



The Texas A & M University Library  
at College Station, Texas

...practical beauty  
in Ames modern  
library shelving



"A place set apart for study, reference and reading." This apt description of the new Texas A & M University Library sums up the concept of designing, planning and manufacturing library shelving and equipment at Ames. Complete flexibility of product line plus experienced engineering assistance are the ingredients of practical as well as inviting book display and storage. Plan with Ames for today's modern libraries.

THE TEXAS A & M  
UNIVERSITY LIBRARY,  
COLLEGE STATION, TEXAS.

Director of Libraries: James Dyke  
Architects: Jarvis, Putty and Jarvis, Dallas, Texas  
Ames Products: 2,470 custom-designed shelving units without X-bracing and with plastic laminate end panels.

**AMES**

Since 1910

**W. R. AMES COMPANY**  
SHELVING DIVISION

1001 Dempsey Road • Milpitas, California 95035  
SPECIALISTS IN STEEL LIBRARY SHELVING

For more data, circle 21 on inquiry card

# Another big one goes all-electric.

The all-electric concept proves itself again, this time in the design and operation of Sears' Santa Barbara

store in the La Cumbre Shopping Center, Santa Barbara, California.

This big new "super-department

store" is one more important addition to the list of all-electric building projects in Edison's 65,000 square mile service area.

Electric space conditioning systems can save builders 30% to 50% in first cost installation. In most cases, expensive flues, stacks and vents are eliminated, often saving the equiva-



lent in space of whole floors. There's more freedom of design in an all-electric building. Less room is required for the main space-conditioning plant. The result is a low first cost, low maintenance building with very competitive per square foot operating costs. Add up all the advantages and savings. The all-

electric building almost always has the lowest total annual cost.

Architectural credit for Sears, Santa Barbara, goes to Robert Clements and Associates. Ernest W. Hahn, Inc. was general contractor. This building now goes into our files as one of the hundreds of case histories of all-electric buildings in our

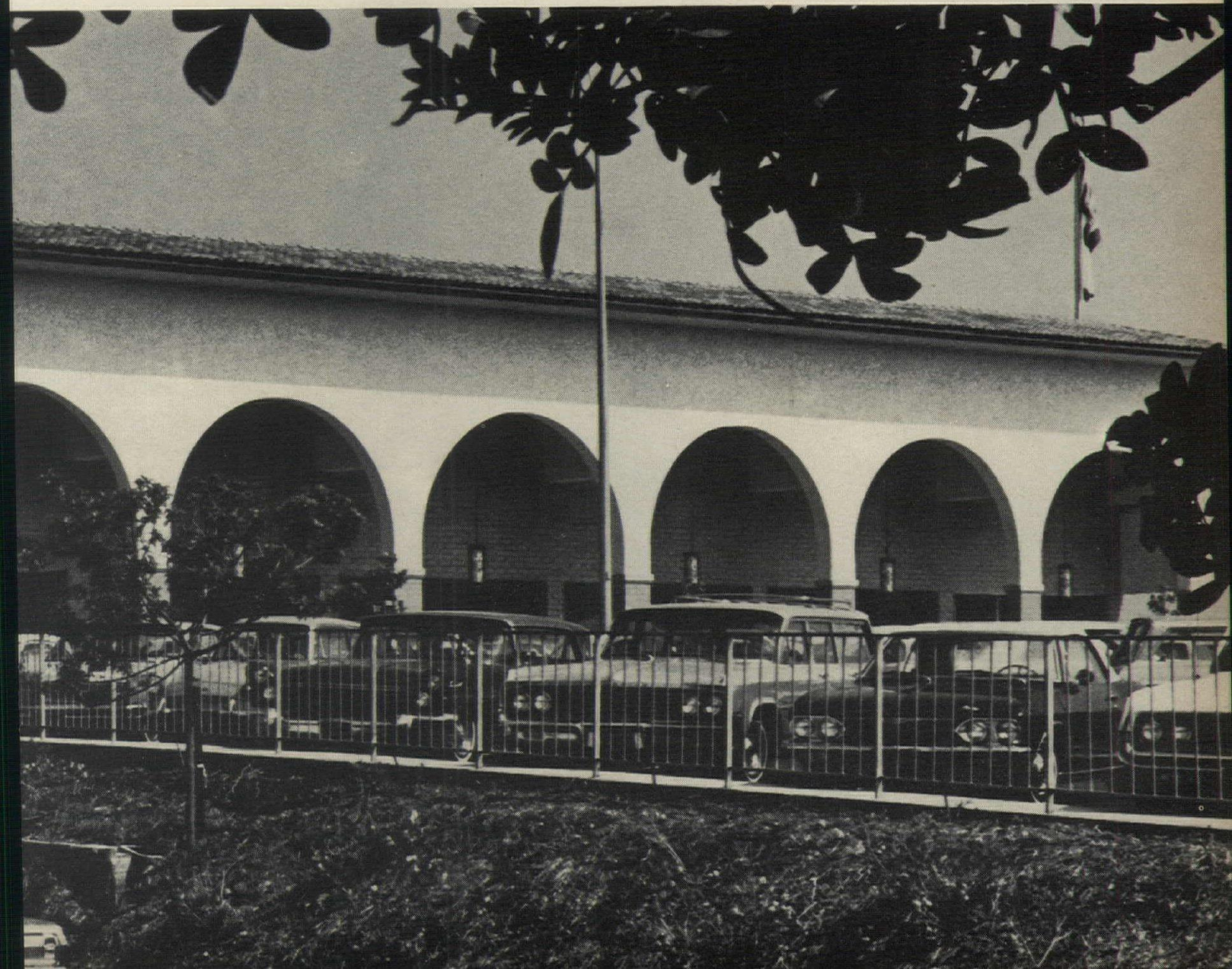
fourteen-county service area.

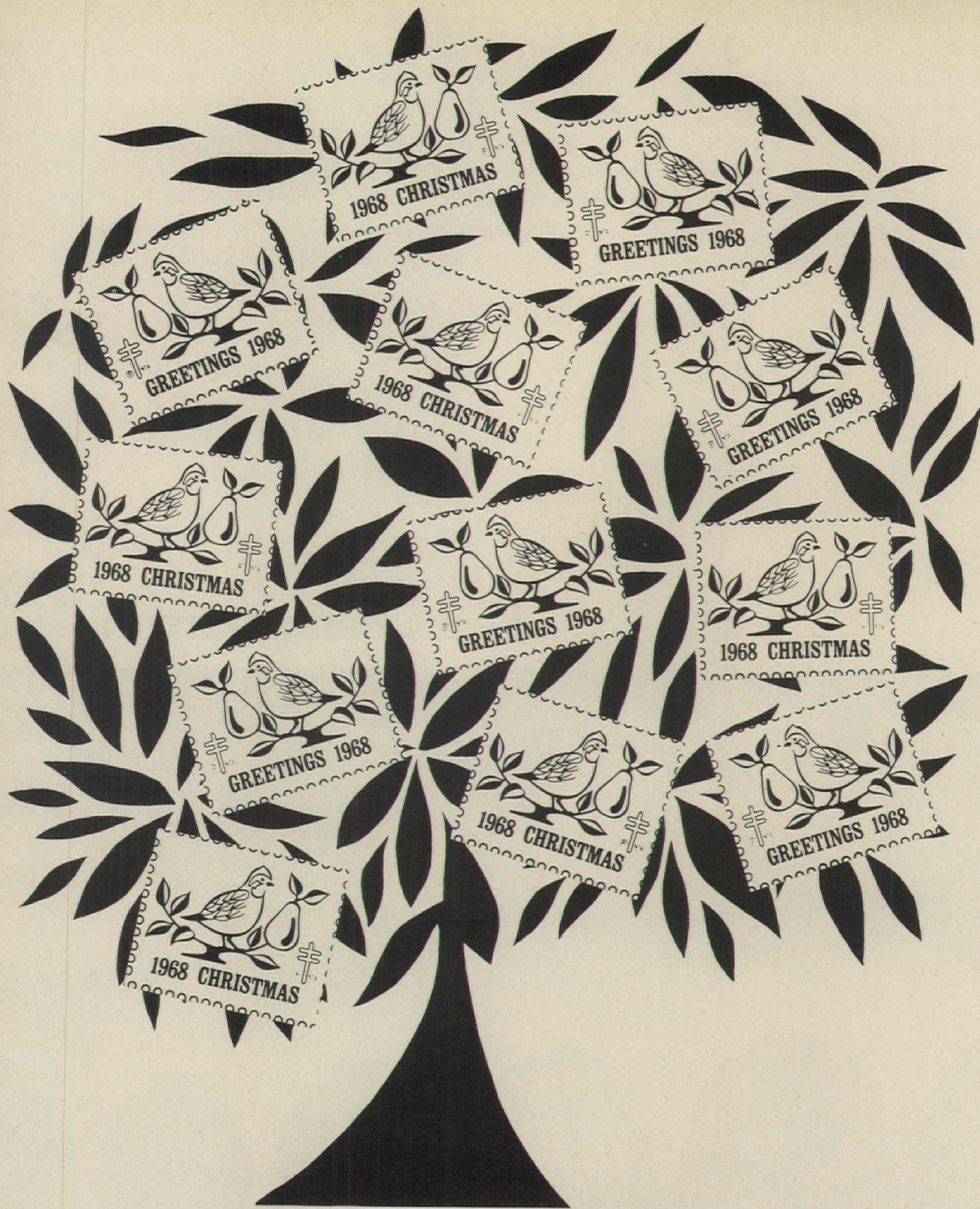
Southern California Edison Marketing Engineering Department will be glad to show you how to apply the all-electric concept to your project for remarkable savings. Write: Marketing Engineering Department, Post Office Box 62, Terminal Annex, Los Angeles, California 90051.

**SCE**

*Southern California Edison*

**Sears, Santa Barbara.**





## Free magazine ads. 1968 Christmas Seal Campaign

The line-cut ads can be reproduced directly from this booklet. But, when needed, electros or glossy prints will be supplied promptly on any ad shown. Just indicate requirements on the enclosed order card and drop it in the mail. By giving generous space to these ads during the Christmas Seal Campaign—November 12 to December 31—you help in the fight against tuberculosis, emphysema and air pollution. Thank you!



**National Tuberculosis and Respiratory Disease Association**  
1740 Broadway, New York, New York 10019

# Good news in a noisy world

## the quiet, sound-absorbing Patcraft carpet of Zefkrome® acrylic

Because the modern environment is up to its ears in noise, more and more thinking in business circles is toward anti-noise, quiet carpet. Nothing softens surroundings like carpeting, and no carpet does it more handsomely than "Entwine" by Patcraft made with Zefkrome acrylic, good to the eye and the ear. Richly resilient, in handsome

multi-chrome colorings that decorate with great versatility, "Entwine" mutes the sounds of office machinery and provides a productive quiet where people think better, feel better, work better. And it adds other advantages unique to Zefkrome. Unusual durability, a capacity for looking fresh no matter how heavy the traffic, and an impressive advance in maintenance. Because Zefkrome is a round, cross-section acrylic that withstands soil entrapment, "Entwine" cleans with remarkable ease. You'll like the way it fits into any kind of setting from a suite of offices to an elegant lobby and works a kind of quiet magic, reducing a hubub to a civilized hum.

Patcraft Mills, Inc.  
Dalton, Georgia 30720

Gentlemen:

Please send me specifications, color and price information on "Entwine" carpet of Zefkrome acrylic.

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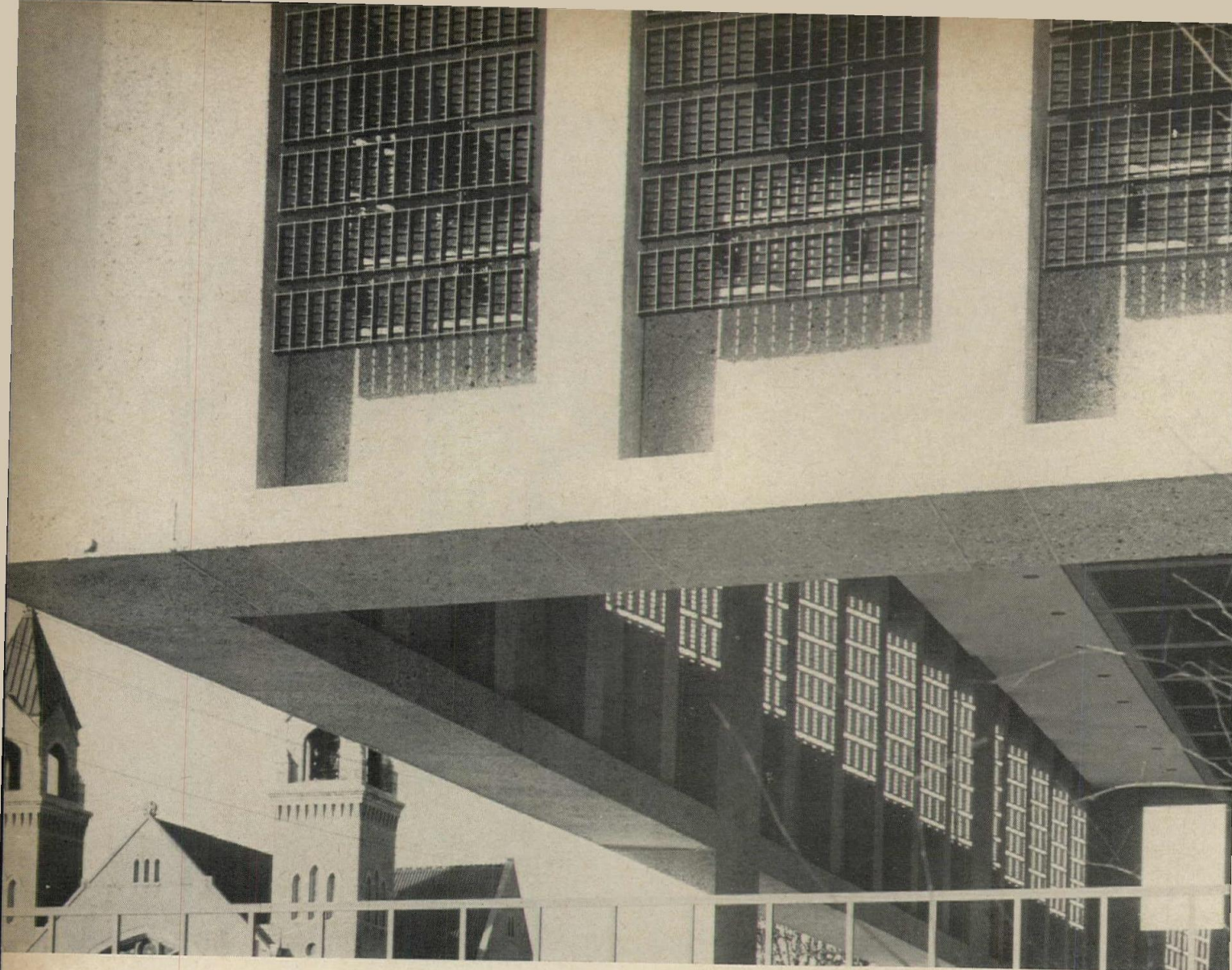
City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_



Zefkrome is a trademark of Dow Badische Company

Carpet shown is 70% Zefkrome® acrylic. 30% modacrylic.

For more data, circle 22 on inquiry card



## **BORDEN DECOR PANEL: Custom Design Screening**

The North Carolina Mutual Life Insurance Co. building in Durham, North Carolina, is shown here. Designed by Welton Becket, F.A.I.A., Architect, of New York City, this multi-story structure utilizes custom designed screening of Borden Decor Panel in rich Kalcolor Bronze finish.

Created to complement and enhance the character of the building, the Decor Panel screens were custom designed and specified, individually fabricated, and tailored for special erection methods—all within a fixed budget. The savings effected by Borden's fabrication

and erection techniques made it possible for the architect to use the handsome bronze finish as well—still within the initial budget.

Sturdy, lightweight aluminum Borden Decor Panel, in both custom and standard designs, is a versatile architectural medium, widely used for facades, screening, sunshades, dividers, partitions, grilles, etc. It is particularly valuable for refacing of existing buildings. For more detailed information on custom and standard Borden Decor Panel:

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*For more data, circle 23 on inquiry card*



## Nixon's first appointments give little hint of his stand on architecture and urban problems

The victory is won, and now it is up to President-elect Richard M. Nixon to choose the advisers who will help shape Federal policy for the next four years.

Before the election, many professionals involved with rectifying cities' ills were concerned about Richard Nixon because they had little idea how he felt on issues dealing with urban problems. To learn both Nixon's and Humphrey's stand on issues germane to environmental problems, the A.I.A. sent each candidate a list of 13 questions with a request for answers. The Vice President supplied answers on October 30, but President-elect Nixon has not yet answered.

In his pre-election speeches Mr. Nixon seemed to emphasize the need "to bring tax incentives to bear upon America's unsolved problems," and the government's role "... to provide leadership—marshalling the ideas, the intelligence, the vision, and the will that can get the job done." In a post-election

comment, outgoing HUD Secretary Robert C. Weaver disagreed. He argued tax incentives would cost the government money just as an outright appropriation would and it "really amounts to fiddling around with arithmetic."

The first word on Presidential advisers came on November 21, when Mr. Nixon announced that ten groups of experts were at work on reports in ten crucial areas of concern to him. Of these ten, the two closest to architects and architecture are Russell E. Train, to report on problems in the environment, and James Gaynor, to report on housing and urban renewal.

Train has been very active in worldwide conservation matters and as president of the Conservation Foundation, he has been concerned with the total, ecological effect of conservation.

In the past, James Gaynor, Commissioner, New York State Division of Housing and Community Renewal has taken

a dim view of architects, architecture, and advocacy planning. His recent speeches include such statements as, "... the insistence upon creation of developments which satisfy their [i.e., municipal officials'] esthetic idiosyncrasies, and their interference with decisions concerning site layout, design and concept hamper, hamstring, and often lead to abortion of the proposed development," and, "The concept of planning by those within the neighborhood has been exaggerated to the extent that fundamental responsibilities are ignored. The City has relied upon the neighborhood to determine the type of housing and redevelopment to be effected, and the community, in turn, unable to speak with one voice, has been fractionalized and subjected to its own internal division. The result has been that group opposes group, minority opposes minority, planner opposes consultant, and stalemate opposes progress."



### Bucky Fuller designs a city to float

As many as 30,000 urban dwellers could be housed in cities floating in bays and rivers near large metropolitan areas, according to the designer of the "floating cities," R. Buckminster Fuller.

The Fuller design is the result of a study conducted by the Triton Founda-

tion with HUD funds. HUD's Assistant Secretary for Metropolitan Development, Charles M. Haar (to the left of Mr. Fuller in the photo left), says that the floating cities offer the possibility for permanently relocating people, facilities, and services when city core area renewal is in progress, since 80 per cent of metropolitan areas with over one million population are near bodies of water with adequate depth for shipping.

The floating cities would be constructed in shipyards on steel or concrete platforms, on which prefabricated components would be stacked to form tetrahedrons. Completed, the whole city could be towed to its site and anchored.

The Triton Foundation suggests that these floating cities be built at high densities to support an efficient mass transportation system in which wheeled vehicles would be confined to the first level. Upper levels of the 20-story structures would be restricted to pedestrians.

The report estimates that in cost "floating cities" would be comparable to present urban renewal projects.



### Pittsburgh tries to save arches by Burnham

The Baroque rotunda of the Pennsylvania Railroad Station in Pittsburgh is in jeopardy. The Pittsburgh History and Landmarks Foundation has three years to find a use for the unique structure or it will be demolished by the Penn-Central Railroad to make way for Penn Park, an office building complex.

Designed by D. H. Burnham in 1898 as a circle in a square, the magnificent four arches and elegant turrets of the Rotunda are especially distinguished.

"Very nearly related to the Exposition architecture of the time, it has at once a bright festival gaiety and, in the interior, a mysterious cave-like air," said James D. Van Trump, architectural historian. Present ideas for use of the rotunda include its conversion to an outdoor restaurant, an ice skating rink or a merchandising showroom.

## Architects find an untapped source of drafting talent

Seventeen weeks of tough work by eight young on-the-job trainees has paid off for the underprivileged youths involved, as well as for the architectural profession as a whole. The eight were graduated November 20 as junior draftsmen from a training program conducted at the firm of Eggers and Higgins (October, page 82).

The program was geared to create more career opportunities in architecture for those whose much needed drafting talents would otherwise be lost to the profession. Since a shortage of draftsmen exists, along with an abundance of untrained, disadvantaged youths, the training seems a natural bridge between two problems, resulting in eight drafting jobs filled by eight talented youths. Eggers and Higgins had jobs for five of the youths and the others were employed by the firms of Alfred Easton Poor, Kahn & Jacobs, and Emery Roth & Sons.

Speaking at the graduation, Whitney M. Young, Jr., executive director of the Urban League, expressed gratification that his famous speech—"architects have not particularly distinguished themselves in the field of social and civic contributions"—at the A.I.A. convention (August,

pages 10 and 35) had been an initiating force in formulating the Eggers and Higgins program. Mr. Young said to the graduates, "Chance will not see us through; luck will not see us through. The only thing that will see us through is hard work." He emphasized that the graduates were now at a first plateau from which their possibilities in architecture expanded.

Although the Whitney Young speech at the convention in June started Eggers and Higgins thinking about the possibilities of an on-the-job training program, it was the firm's alliance with the Vocational Foundation, Inc. (which specializes in setting up such programs) which made the program possible. The Vocational Foundation chose the trainees, and Eggers and Higgins, with financial backing from the United States Department of Labor, agreed to pay each youth \$80 a week. Eggers and Higgins' second training program will begin in a few weeks.

## New Briefs

**December 1: An international competition** for the planning of a tourist village in the town of Side on Turkey's Mediterranean coast is open to architects and town planners until June 16. Information may be obtained by applying to: Turizm ve Tanitma Bakanligi, Fiziksel Planlama Dairesi, Gazi Mustafa Kemal Bulvari No. 33, Kat 8, Ankara, Turkey.

**David Rockefeller received the Medal of Honor for City Planning**, presented by the New York A.I.A., the American Society of Civil Engineers, and the American Society of Landscape Architects. A jury selected Mr. Rockefeller as

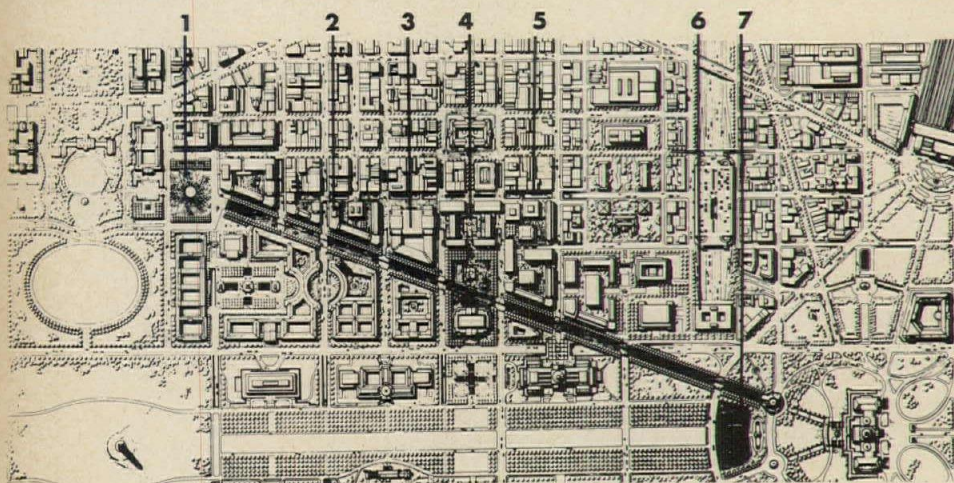
the sixth recipient of the award, which was initiated in 1938, "for his distinguished contribution to the plan of the City of New York."

**The Environmental Research Foundation**, Topeka, Kansas, is engaged in studying people's behavior in relation to their architectural setting. They feel accurate scientific studies are needed before we can know which types of architectural designs best meet the needs of our society. Currently, the Foundation's operations are financed by grants and contracts, but they are now seeking financial support for general development, as well as endowments for the future.

**The controversy** surrounding the proposed six-lane Interstate Expressway along the historic riverfront of the New Orleans French Quarter has now reached the point where the Department of Transportation must make its final decisions on funding. The project's opponents contend that the proposed grade-level segment along Jackson Square will do serious harm, forming a positive barrier between the Square and the Mississippi. Also, they insist that it will usurp land vital to a future, more enlightened, riverfront development.

**The Federal Aviation Administration** says the U.S. must build more than 800 new airports and improve almost 3000 existing ones within the next five years, at an estimated cost of \$2.16 billion. Recommendations include development of miniature airports for VTOL and STOL craft.

**The National Aeronautics and Space Administration** has authorized the Jet Propulsion Laboratory, Pasadena, California, to proceed with two spacecraft to orbit Mars in 1971.



## Washington's Pennsylvania Avenue Plan progresses

The formal dedication of the Presidential Building last month marked the completion of the first private project in the Pennsylvania Avenue Plan to reclaim and

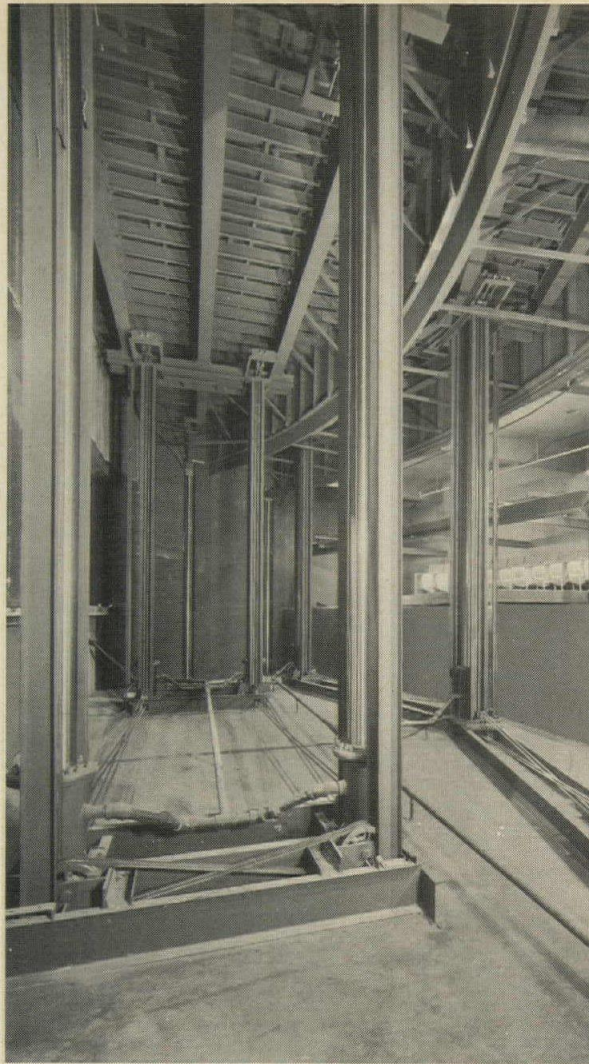
develop the Avenue as a unified whole (July, 1964, page 23).

With Nathaniel A. Owings, chairman, The President's Temporary Com-

mission on Pennsylvania Avenue has been the energetic implementor of the plan since 1965. Much has been accomplished even though Congress has not made the Commission permanent, with desired broader powers.

The following progress has been made: 1) National Square, in negotiation with private investors; 2) Presidential Building, complete; 3) FBI Building, under construction; 6) Labor Building, under construction; 7) Capitol Reflecting Pool, complete; 4) Woodrow Wilson Memorial Center, legislation approved.

Federal agencies have cooperated with the Commission; what remains to be done along the North side of the Avenue will require the cooperation of private investors. But crucial to the plan, with no solution in the offing because of a lack of funds, is the E Street; 5) renewal which will control the total circulation pattern of the area.



Below-stage view shows part of the lifting equipment designed and built by Dover for the Jesse H. Jones Hall for the Performing Arts, Houston, Texas.

## Dover plays the best supporting role in the theater

**Dover Stage Lifts** win recognition for dependable performance through precision engineering. Quality manufacture of hydraulic jacks, equalizing devices, bridge-type platform supports, quiet Oildraulic® power supply and controls help get Dover in the specification cast wherever stage lifts are used, from the simplest auditorium to the fabulous "Met." Call us to help engineer your next stage lift project. Dover Corporation, Elevator Division, Dept. P-6, P. O. Box 2177, Memphis, Tenn. 38102.

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National Theatre Bangkok, Thailand	Brigham Young University Provo, Utah	Xavier University Cincinnati, Ohio
Loeb Drama Center Harvard University, Cambridge, Mass.	Americana Hotel New York City	East-West Center Honolulu, Hawaii
University of California Los Angeles, Calif.	Clowes Memorial Hall Indianapolis, Ind.	University of New Mexico Albuquerque, N.M.

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# The fast ones.

**How Republic structural bolts sped completion of a gigantic new pulp and board complex.**

Engineers wanted predictable strength. Fast installation. That's why more than 100 tons of Republic high strength structural bolts were used at St. Regis Paper Company's huge new plant in Monticello, Mississippi.

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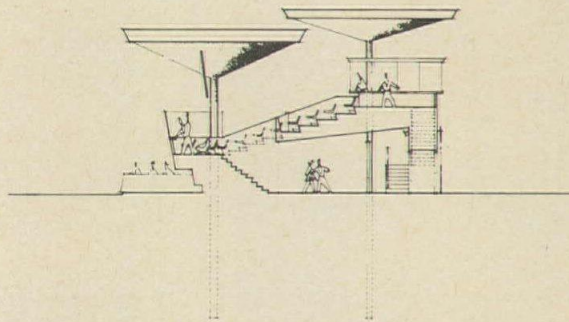
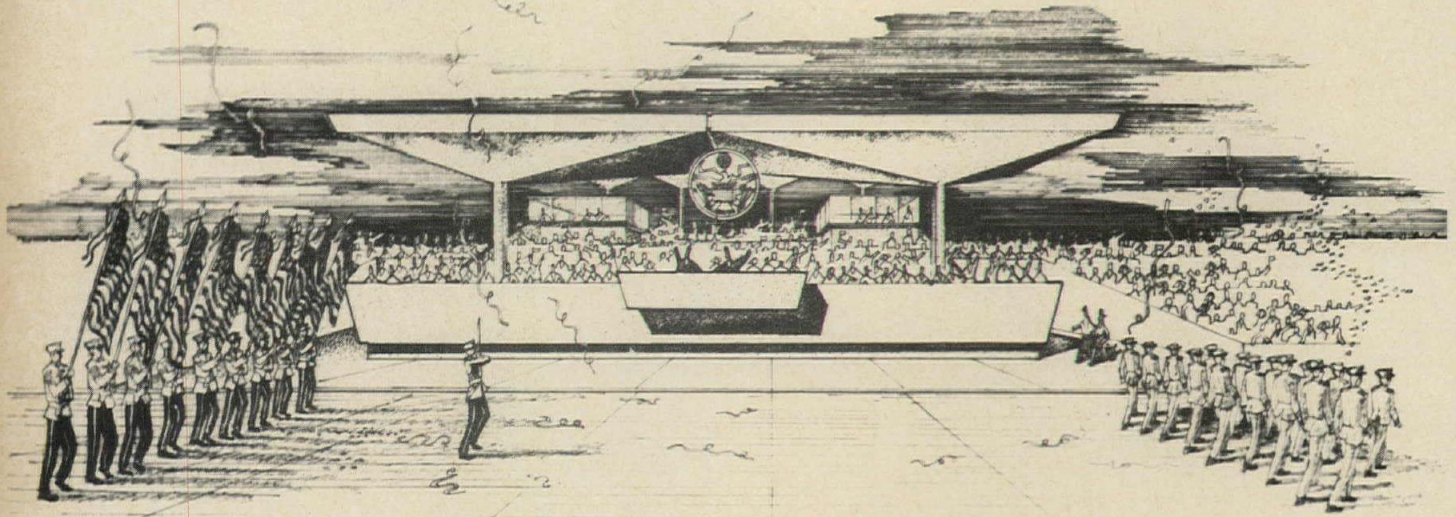
## **REPUBLIC STEEL**

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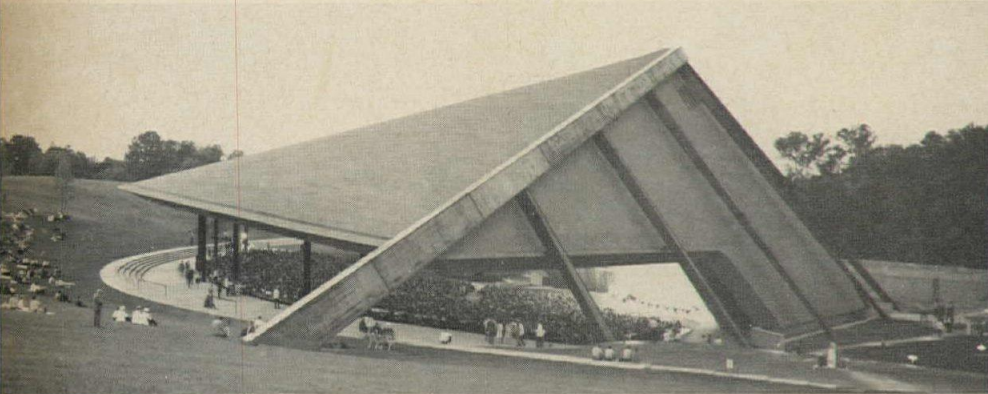


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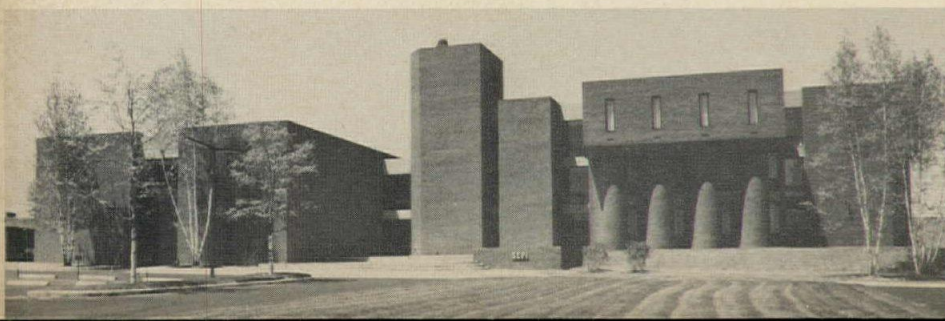


Jim Cross

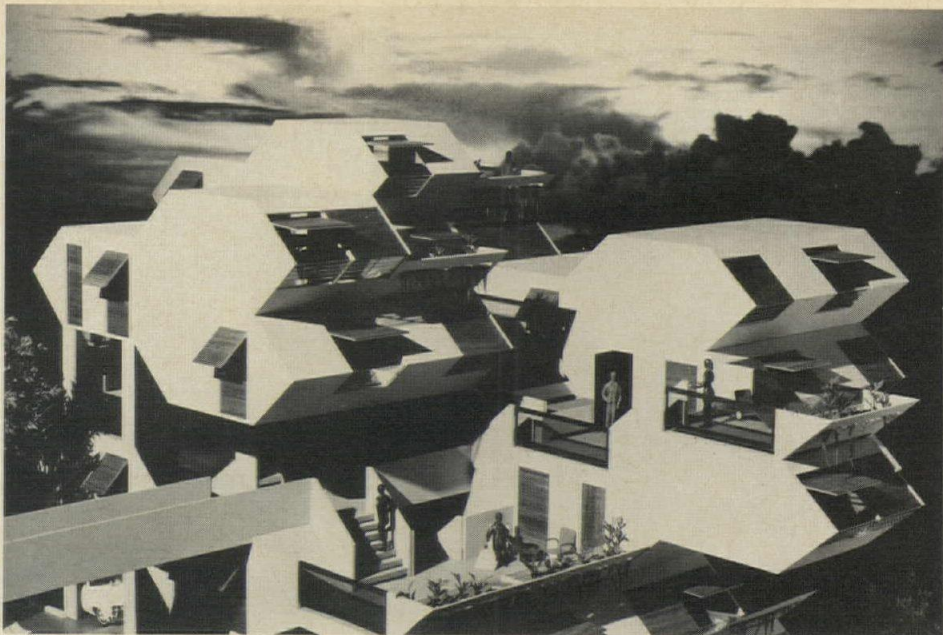
**Presidential Reviewing Pavilion** for the 1969 Inaugural Parade, winner of a Washington Metropolitan Chapter A.I.A. competition, was designed by architect William Crandall Suite, with associates John A. White and Ronald L. Johnson. The design uses soaring cantilevered umbrellas in two rows and two heights to achieve "simplicity, dignity and a feeling of loftiness." The 80-foot by 45-foot structure includes a reception room on the lower level, the Presidential box seating 30, additional seating for 250 and press rooms on both sides of the gallery.



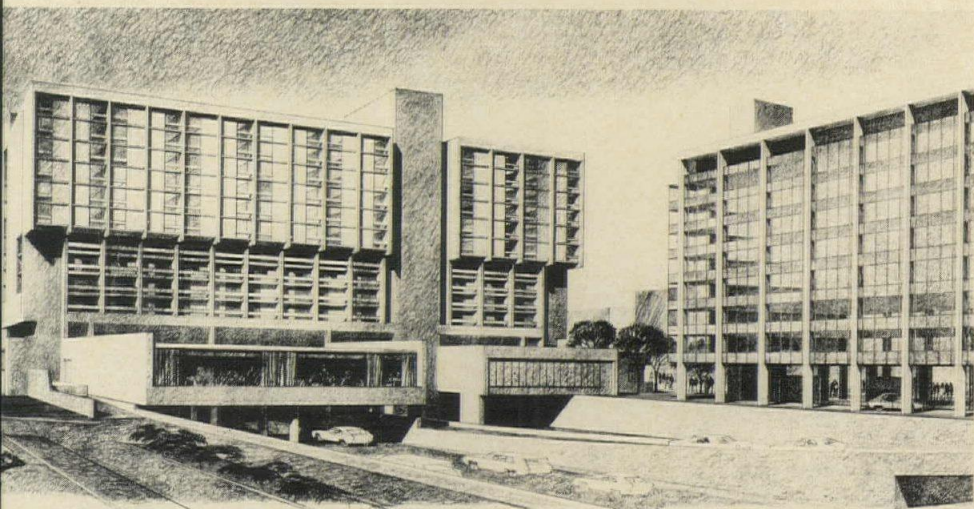
**Blossom Music Center**, Northampton Township, Ohio, is designed so that 15,000 people are arranged in a 90-degree fan-shaped segment of a bowl focusing on the stage. There are 4642 seats within the pavilion with the rest of the seating on the lawn. Schafer, Flynn, van Dijk are the architects, with Pietro Belluschi the architectural advisor to the owners, the Musical Arts Association.



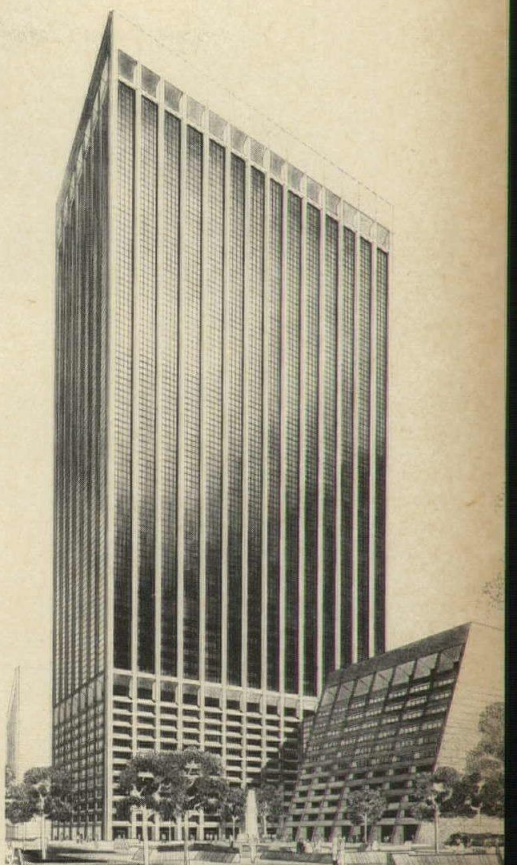
**Structural Clay Products Institute** headquarters, McLean, Virginia, is a fortress-like structure designed by architect Charles M. Goodman as "an essay on the ancient art of brick construction." The walnut-brown administration building and laboratory are built almost entirely of clay products, including 422,544 brick of various sizes, at a cost of \$735,000.



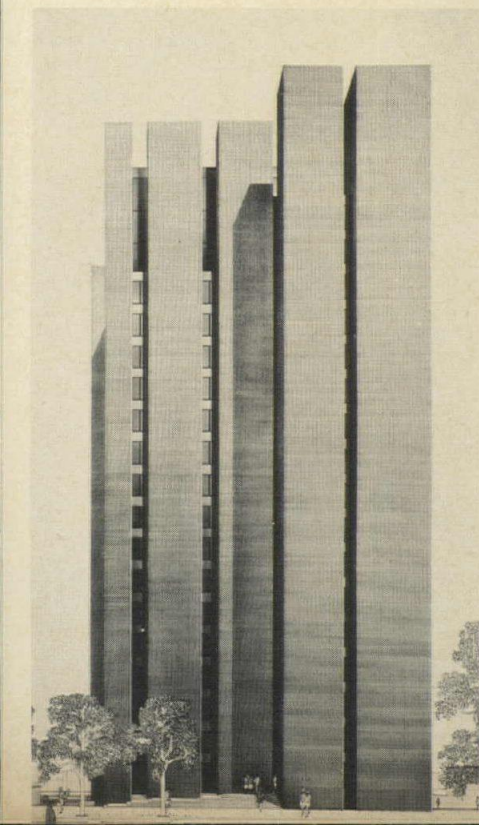
**Habitat Puerto Rico** was designed to further develop Montreal's Habitat 67 in the context of Puerto Rico's climate and at a moderate price—the first application is under 221 (d) (3). The concrete prefabricated, pre-finished housing modules, designed by Moshe Safdie, will have bathrooms, kitchens, windows and mechanical and electrical systems. A total unit will have up to three modules that can be grouped to form a variety of housing types. Modules will be manufactured at central plants and shipped to steep sites, which previously had to be leveled for conventional construction.



**Gateway Center**, air rights development at Newton Interchange on Massachusetts Turnpike outside Boston, includes in the first of three phases, a 12-story hotel spanning the road, a nine-story office building (right) and a six-story garage. The six and one-half acre site is within minutes of 3.2 million people spread throughout the Greater Boston area. Parking facilities will be at extreme ends of the site, enabling expansion both vertically and horizontally, while the phased construction plan, developed by the architects Davies & Wolf, allows specific buildings to be designed as their requirements become known.



**Largest privately-sponsored office building** in the world is to be erected in lower Manhattan by Uris Buildings Corporation. The complex, designed by Emery Roth & Sons, will consist of a 53-story tower and a 15-story wing containing a total of approximately 3.5-million square feet of space, and a 40,000-square-foot raised plaza, beneath which will be parking and loading facilities.



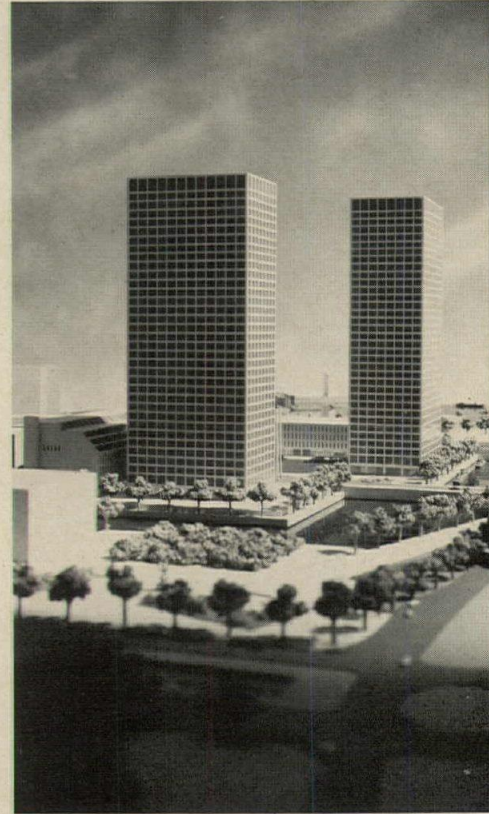
**Belfer Graduate School of Science**, New York City, housing lecture halls, laboratories, and large and small classrooms, is an interspersal of tall shafts of brick separated by narrow continuous shafts of anodized aluminum windows and spandrels. Architects Armand Bartos & Associates designed towers for ductwork and stairwells outside the central core of waffle slab concrete.



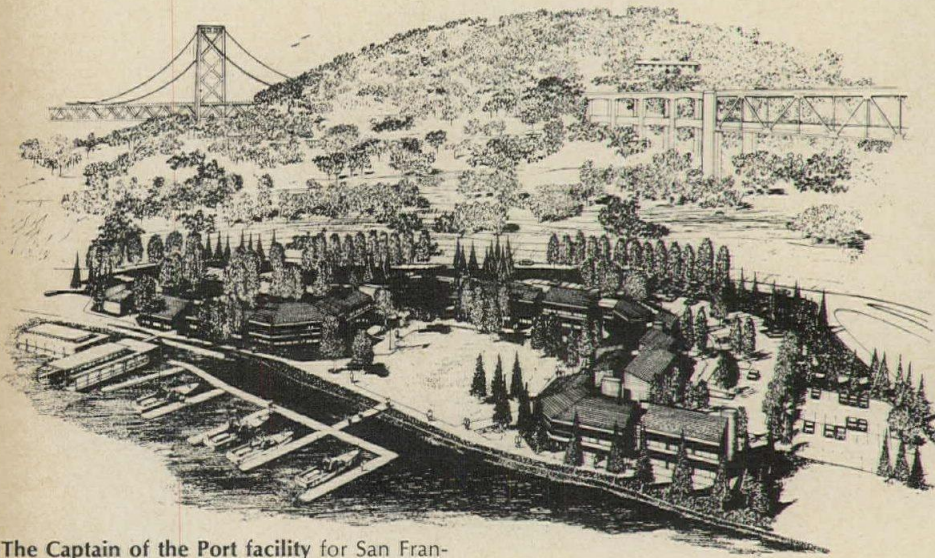
Randolph Laugenbach

**New Boston City Hall**, the 1962 competition winner by Kallman, McKinnell and Knowles, will be dedicated in week-long ceremonies beginning February 8. Architects and engineers of the \$26.3-million building were a joint venture of the designers with Campbell, Aldrich & Nulty, architects and LeMessurier Associates, Inc., structural engineers. Said Boston's Mayor White, "The new City Hall symbolizes a new type of accessibility of government to people and people to government, and is built to respond to the interaction between the two, which makes a successful government."

© Ezra Stoller (ESTO)

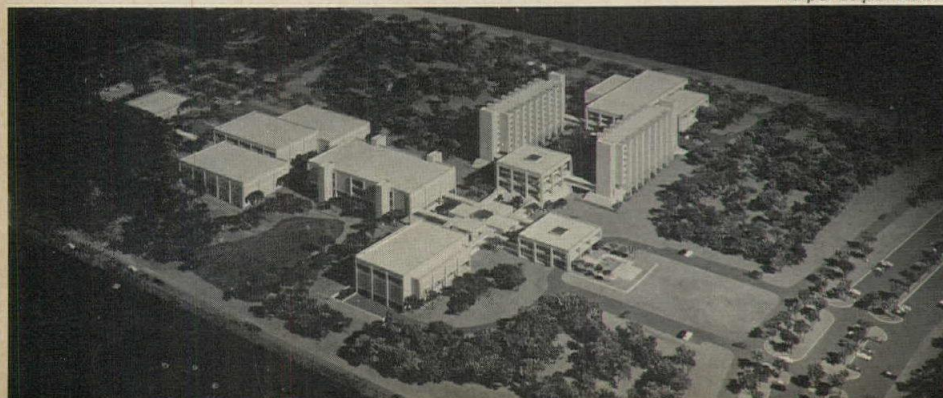


**Europe's first World Trade Center**, Rotterdam, The Netherlands, will occupy ten acres overlooking the world's busiest port. Skidmore, Owings & Merrill have designed the \$60-million complex whose five buildings will provide office and display facilities for importers, exporters and other foreign-trade business, a 300-room hotel, and an office pavilion for the Rotterdam Port Authority. The two dominant 35-story towers will offer a total of 1,230,000 square feet of rentable space.



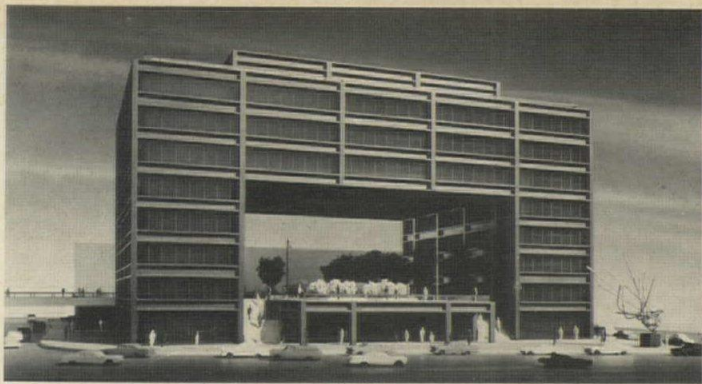
**The Captain of the Port facility** for San Francisco, Yerba Buena Island, which controls shipping and boating activity in the San Francisco-Oakland Bay area, will house all U.S. Coast Guard search and rescue operations, administrative functions and living areas. Rockrise and Watson have designed the complex in a residential scale.

Harper Leiper Studios



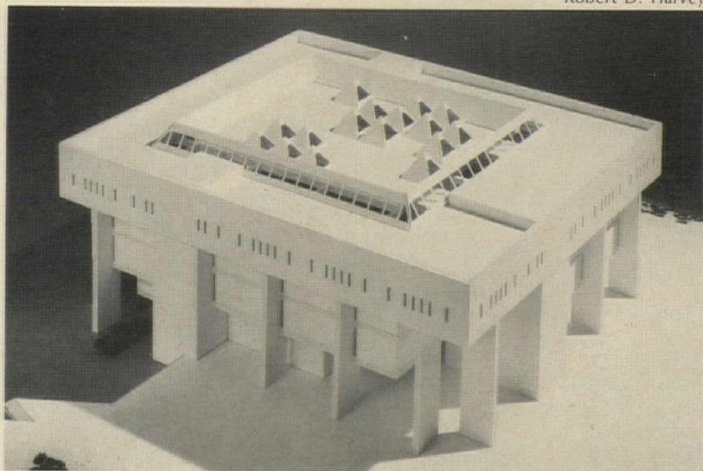
**FBI Academy**, Quantico, Virginia, is designed for housing and training 1200 students. A multiple-unit system of buildings expresses each activity separately and adapts to the steeply sloping site. Architects Golemon & Rolfe grouped the evening functions of library study, recreation and sleep in one area, daytime activities of class, physical training and drill in another, and the public administration and auditorium facilities in still another. Glass-enclosed concourses will connect all of the buildings.





A branch for Marine Midland Trust Company of Southern New York, Binghamton, New York, was designed—at an extra construction cost of about \$500,000—so that it will not obstruct the view of the Civic Center just behind. A raised plaza with parking beneath extends from the bank towards the Center. Architects: Charles Luckman Associates.

Robert D. Harvey

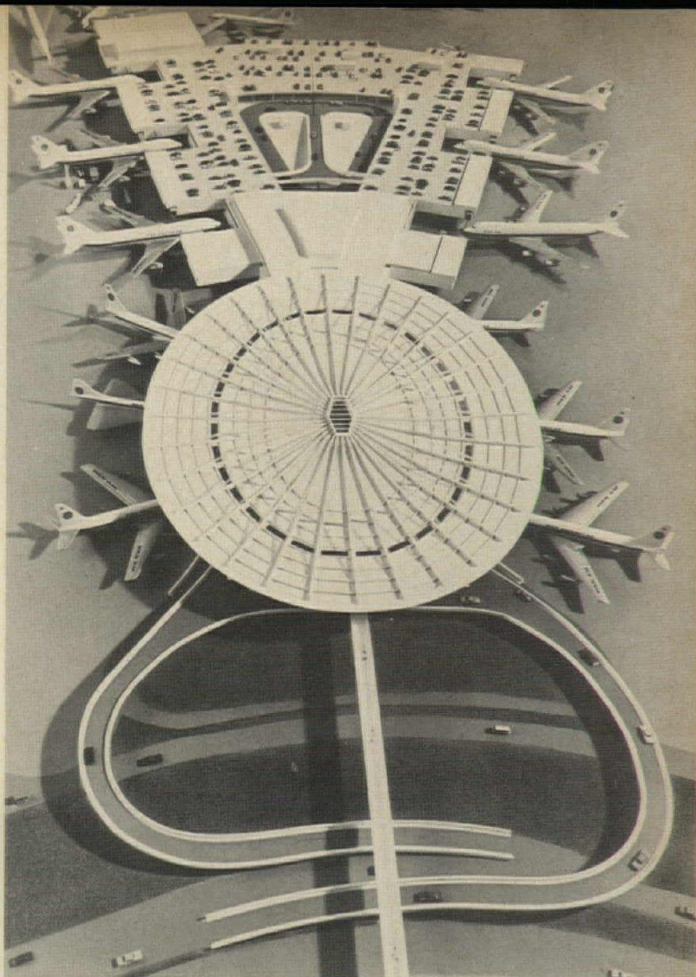


Kuwait Fund for Arab Economic Development headquarters, Kuwait, is designed against severe heat. The Architects Collaborative oriented all office spaces to an air-conditioned interior court, and designed exterior walls that are basically solid with windows at ground level only for glimpses of the court. Construction estimate: \$1.5 million.

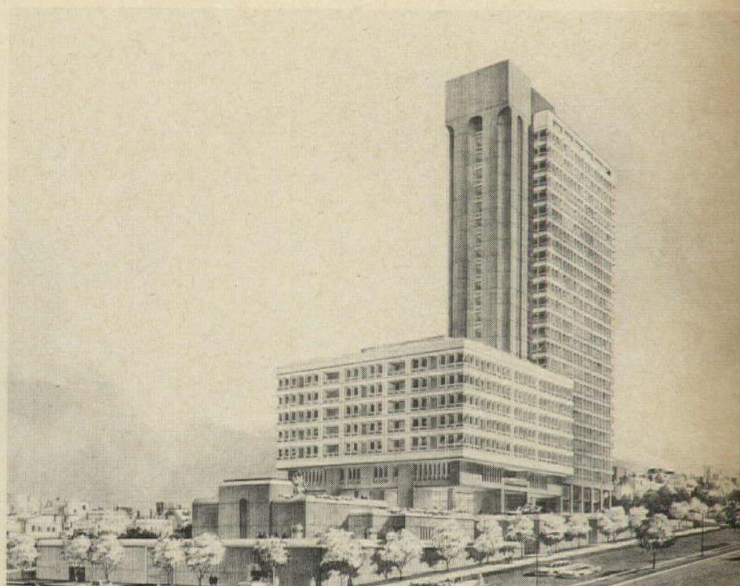
Louis Checkman



Police Station House, Bronx, New York is low and compact, in keeping with the neighborhood of two-story row house and apartment buildings. The entire exterior of the structure is encased in face brick, which architect Lewis Davis of Davis, Brody & Associates hopes will "dispel the forbidding qualities common to so many civic structures."



Pan American World Airways expansion at New York's Kennedy Airport will result in the largest passenger terminal in the world operated by one company. The new structure extending from the existing circular building (RECORD, September, 1961) will enable the entire terminal to handle some 3000 passengers during a peak traffic hour. Architects Tippetts-Abbett-McCarthy-Stratton designed the original and the expansion.

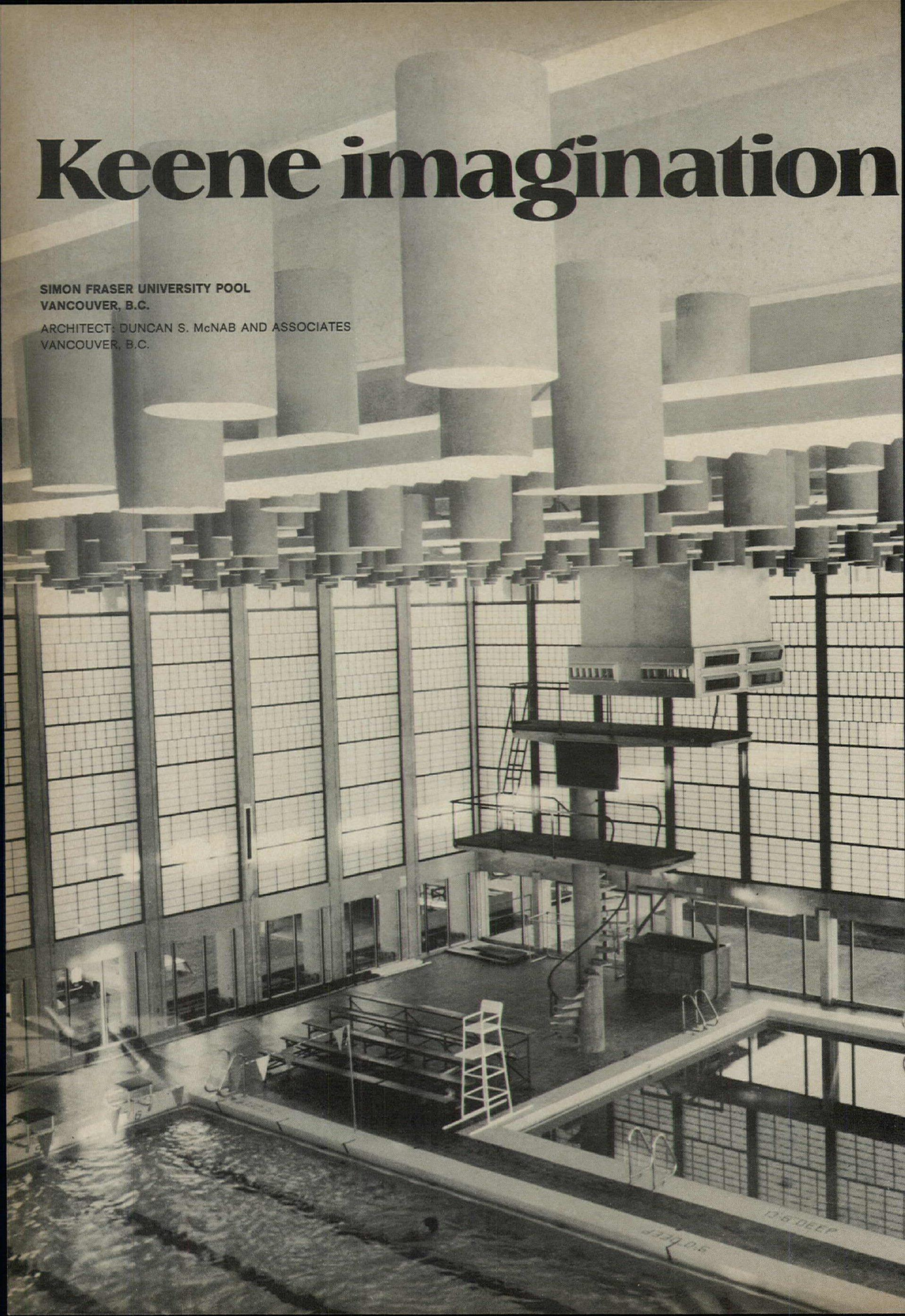


The Sequoias-San Francisco, sponsored by Northern California Presbyterian Homes, Inc., aims to provide personal, social and medical needs for residents 62 years old and over. Stone, Marraccini and Patterson designed the 26-story high-rise and seven-story low-rise structure with an eight-level garden court and dining, lounge and recreation areas.

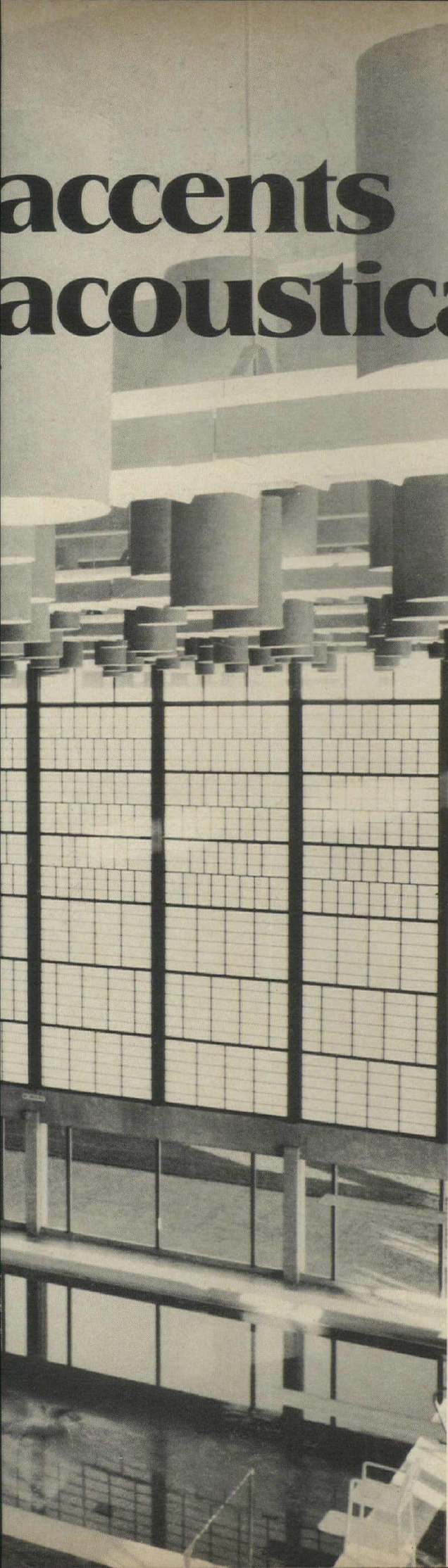
# Keene imagination

SIMON FRASER UNIVERSITY POOL  
VANCOUVER, B.C.

ARCHITECT: DUNCAN S. McNAB AND ASSOCIATES  
VANCOUVER, B.C.



# accents acoustical products.



If you've ever tried to make yourself heard around a huge indoor swimming pool, you'll appreciate Keene's solution to a tough acoustical problem at Simon Fraser University, Vancouver. The highly reflective surfaces make speech and hearing practically impossible. That's why those Keene Sonosorbers are hanging from the ceiling. More than 100% sound absorption is obtained from each square foot of their surface area.

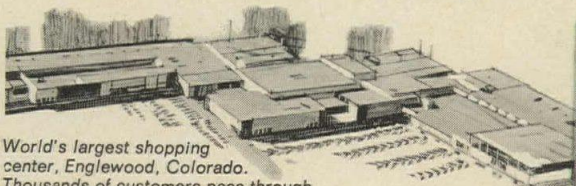
Whatever acoustical problem comes up, chances are Keene has come up with the product to solve it. Sonosorbers are just part of the biggest specialty line in the business.



*Atomic Energy Commission's Brookhaven Laboratory. Speed-Steel structural framing was used throughout.*

The most versatile structural framing line in the business is Keene Speed-Steel™ chosen for the Atomic Energy

Commission's Brookhaven Laboratory shown here. The only flat surface in the building is the floor, since all of the walls are sloping. In



*World's largest shopping center, Englewood, Colorado. Thousands of customers pass through Keene's metal doors here.*

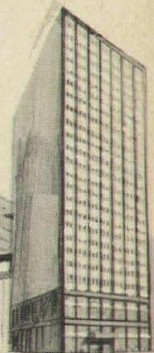
combination with precast concrete, Speed-Steel helped an imaginative concept take shape.

If you open doors, chances are you've handled some of Keene's door products. Keene metal doors, both fire-rated and non-rated, are in thousands of America's schools and colleges, offices and factories.

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For complete information on Keene acoustical products and a general catalog of Keene building products, write to Dept. A-12, Keene B-E-H, 500 Breunig Avenue, Trenton, New Jersey 08602.

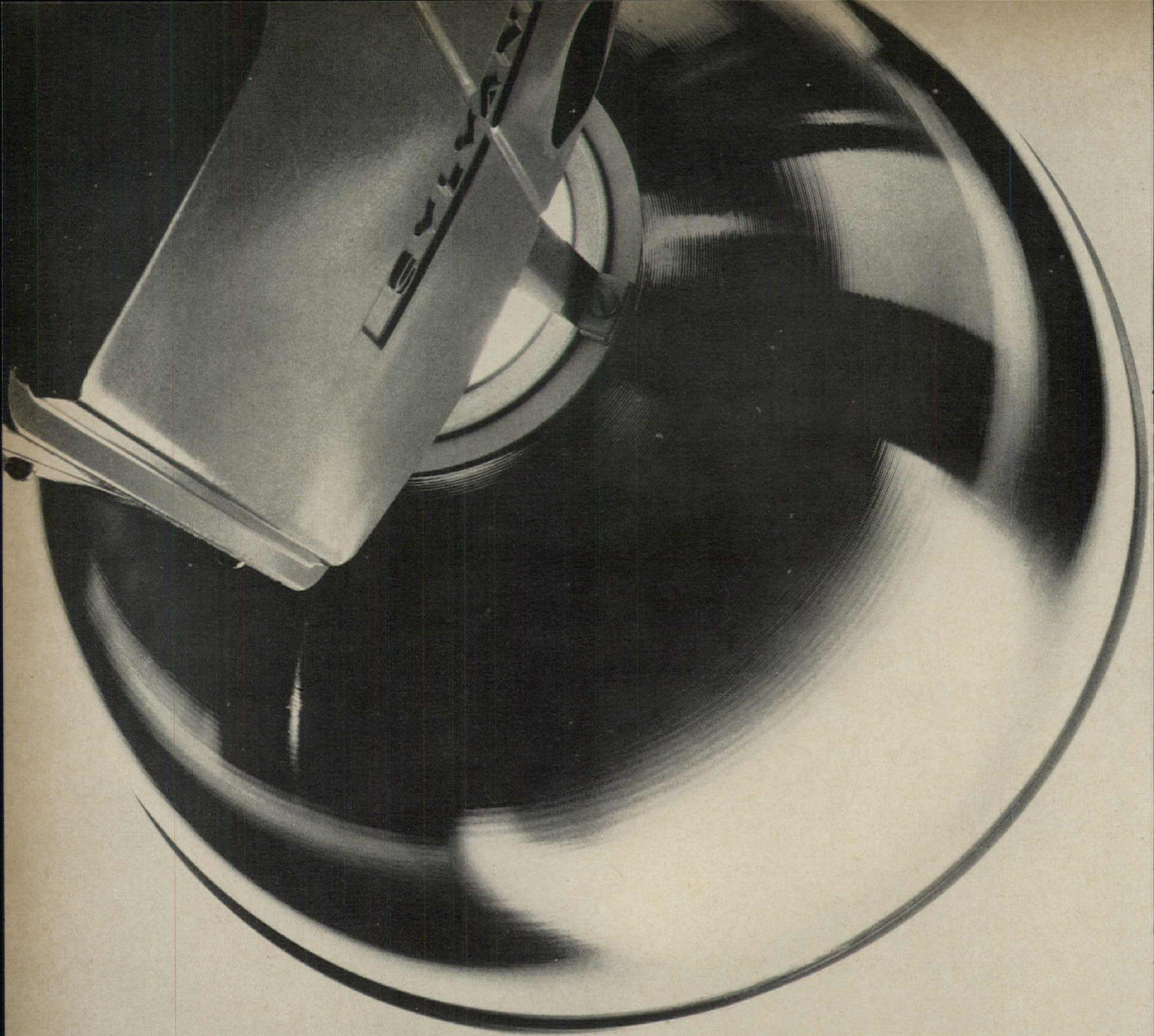


*North American Rockwell Building, Pittsburgh. Keene movable wall systems were chosen for interior design flexibility.*

**KEENE**  
CORPORATION

**We've just begun to grow.**

For more data, circle 26 on inquiry card



# If you want to know how bright the light is, don't look up. Look around.

If you look up, you won't see much.

We designed our Vanguard fixture to brighten work areas below, and that's just what it does.



Its exclusive reflector design provides extremely low surface brightness in the field of view—lower than all others.

Low surface brightness and balanced upright combine to create an ideal environment of light. Light that eliminates harsh brightness contrasts between the fixture and its surroundings. Light that's well-diffused—spread around so it's even, natural and kind to colors.

(When equipped with a Metalarc lamp, the Vanguard provides a continuum of color throughout the visible spectrum.)

Using single or dual 400-watt and single 1000-watt Mercury (or Metalarc) lamps, the Vanguard is a sturdy fixture for both high and low bay installations.

In fact, our design is compatible with earthquake-proof mounting. (You may not find this feature a necessity, but it does provide a certain sense of security, doesn't it?)

When the unit is totally enclosed with our impact-resistant accessory glass door cover, glass drip cover and ceramic filter, dirt is kept out but air gets in. The fixture "breathes."

Other accessories include a wire guard and externally accessible fuses.

This entire system is designed and produced by Sylvania. So if you want to know where to find it, don't look around. Look us up.

The Vanguard Fixture by

**SYLVANIA**

A DIVISION OF  
GENERAL TELEPHONE & ELECTRONICS

Sylvania Lighting Center, Danvers, Massachusetts

*For more data, circle 27 on inquiry card*



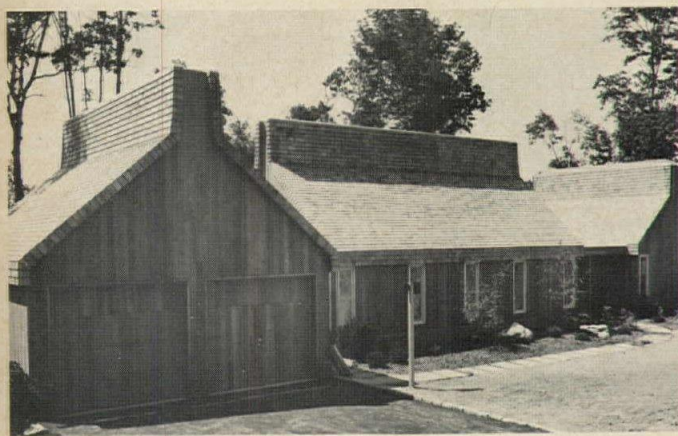


Architect: Delnoce Whitney Goubert Builder: Frank H. Taylor and Son, Inc.

## POWER OF ATTRACTION.....

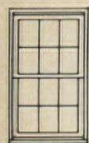
# CARADCO

## WOOD PATIO DOORS and C200' CASEMENTS



CARADCO Patio Doors and C 200' Casements are powerfully attractive because their wood construction appeals to sight and touch, insulates best, decorates beautifully. More C 200' Casement attractions are: double weatherstripping; insulating glass with maintenance-free, leak-proof, vinyl glazing; removable vinyl grilles for easy cleaning.

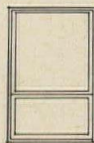
CARADCO Patio Doors feature  $\frac{7}{8}$ " insulating glass; nylon rollers for quiet, easy operation; thermal barrier sills; complete weatherstripping including dense, woven pile weatherstrip at sill and hidden reinforcers for great strength. For good looks, for comfort, for client satisfaction . . . specify CARADCO: the best in windows and doors.



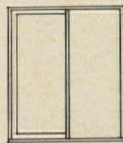
Double-Hung  
Windows



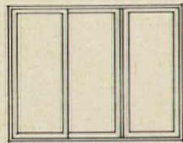
Casement  
Windows



Awning  
Windows



Slider Windows



Patio Doors

# CARADCO

DIVISION

Dubuque, Iowa 52001

Subsidiary: Caradco Eastern, Inc. Pemberton, New Jersey

**SCOVILL**

Caradco Windows and Patio Door products are further detailed in Sweets Light Construction  $\frac{6B}{Ca}$ , Arch. File  $\frac{19c}{Ca}$  or write direct to factory

For more data, circle 28 on inquiry card

Underwriters Laboratories Inc.  
UL LISTED  
PARTITION PANEL UNITS  
NOT OVER 50 SQ. FT.  
NO. 0000  
Fire Resistance Classification  
Wall and Partition Design No. 1-1 1/2 hr.  
AllianceWall Corporation

# Specify the world's only UL listed 1½ hour fire rated porcelain steel building panel

The amazing AllianceWall 1500 2" building panel recently was subjected to a most punishing fire test by the Underwriters' Laboratories in Chicago. For 107 minutes it was exposed to the searing flames of a furnace with temperatures ranging up to 1840° F. And it came through undamaged even after standard hose stream tests.

AllianceWall 1500 panels give the protection of a six-inch cinder block wall. And they provide unmatched flexibility, beauty and creativity in curtain walls as well as for interior or exterior paneling.

For more data, circle 29 on inquiry card

**AllianceWall**  
AllianceWall Corporation  
P. O. Box 247, Alliance, Ohio 44601

**Sounds interesting. Send complete information.**


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Firm \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_



## NO EQUAL

Von Duprin 66 series. The *original* stainless steel devices. And still unequalled in design, quality and engineering. Rim, mortise lock and vertical rod type. See your Von

Duprin representative or write for detailed catalog material today. Compare the Von Duprin 66 series devices for value by any standards. There is no equal.

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*For more data, circle 30 on inquiry card*





**A Bally Walk-In . . . center of the growing change in the modern kitchen.** A most important change is taking place in mass feeding kitchens across the country. It's a vigorous move to meet the challenging need for . . . more food prepared faster . . . better use of available space . . . greater operating efficiency.

Bally, one of the world's leaders in commercial refrigeration has pioneered a remarkable new design concept of prefab walk-ins. In the broadest measure it fully meets the urgency presented by this challenging need.

A Bally Walk-In Cooler or Freezer can be assembled from modular panels in any size or shape to fit existing kitchen space. It can be converted from cooler to

freezer or vice versa with a simple refrigeration change. Insulated superlatively by 4-inch urethane "foamed-in-place", Bally prefab walk-ins combine customized features with technological and economical benefits of mass production methods.

Establish maximum efficiency in kitchen refrigeration with Bally prefabs, the accepted industry standard of high quality. In food serving centers the kitchen evolution gets a big thrust forward the day Bally Walk-Ins are installed.

Send to Bally Case and Cooler, Inc., Bally, Pa. 19503 for free 32-page catalog and urethane wall sample.

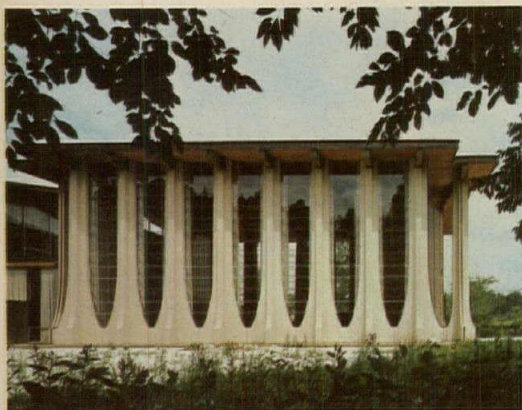
# There's an evolution in the kitchen



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Address all correspondence to Dept. AR-12

*For more data, circle 31 on inquiry card*



Temple Beth Shalom, Livingston, New Jersey  
Architect: C. J. Wisniewski


## ASG's Lustracrystal helps set the mood for worship

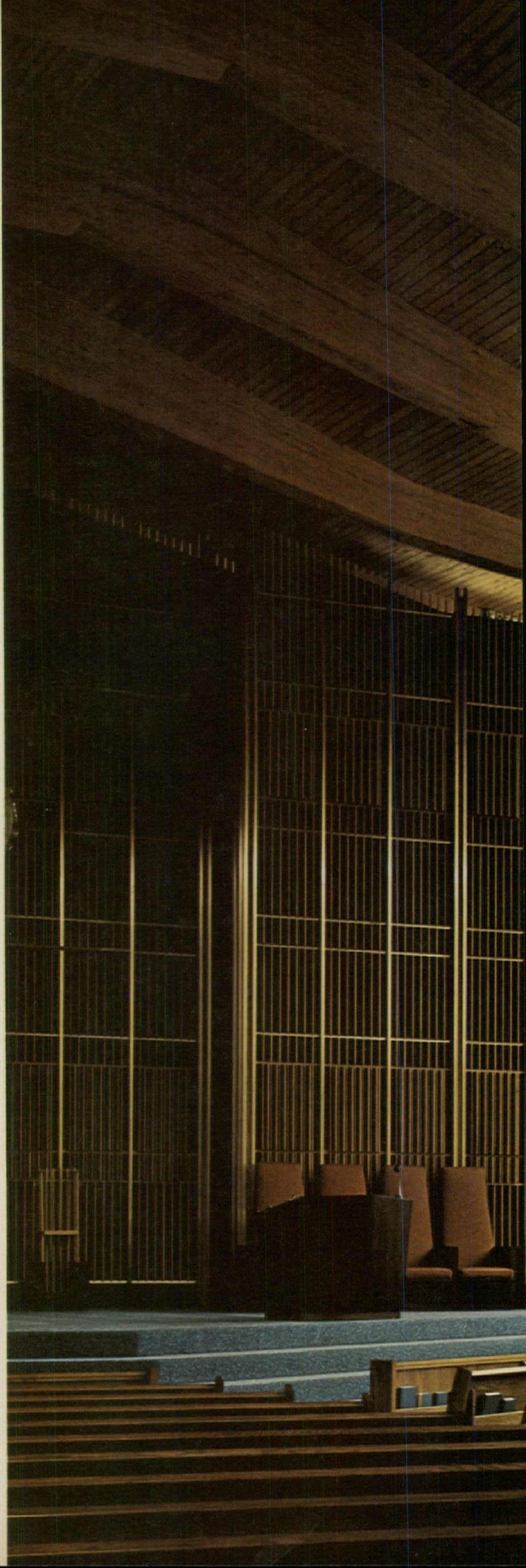
Bathed in the mellow light of afternoon, this synagogue sanctuary has an atmosphere of total serenity. It is the product of warm wood, gently curved. Of concrete columns, softly tapered. Of airy expanses of clear glass framed in soaring windows.

These graceful windows, set in slender bays, are glazed with ASG's Lustracrystal® sheet glass. Through them the congregation looks out to the temple's wooded site. And through them comes the tree-softened light that gives the sanctuary its peaceful and reflective atmosphere.

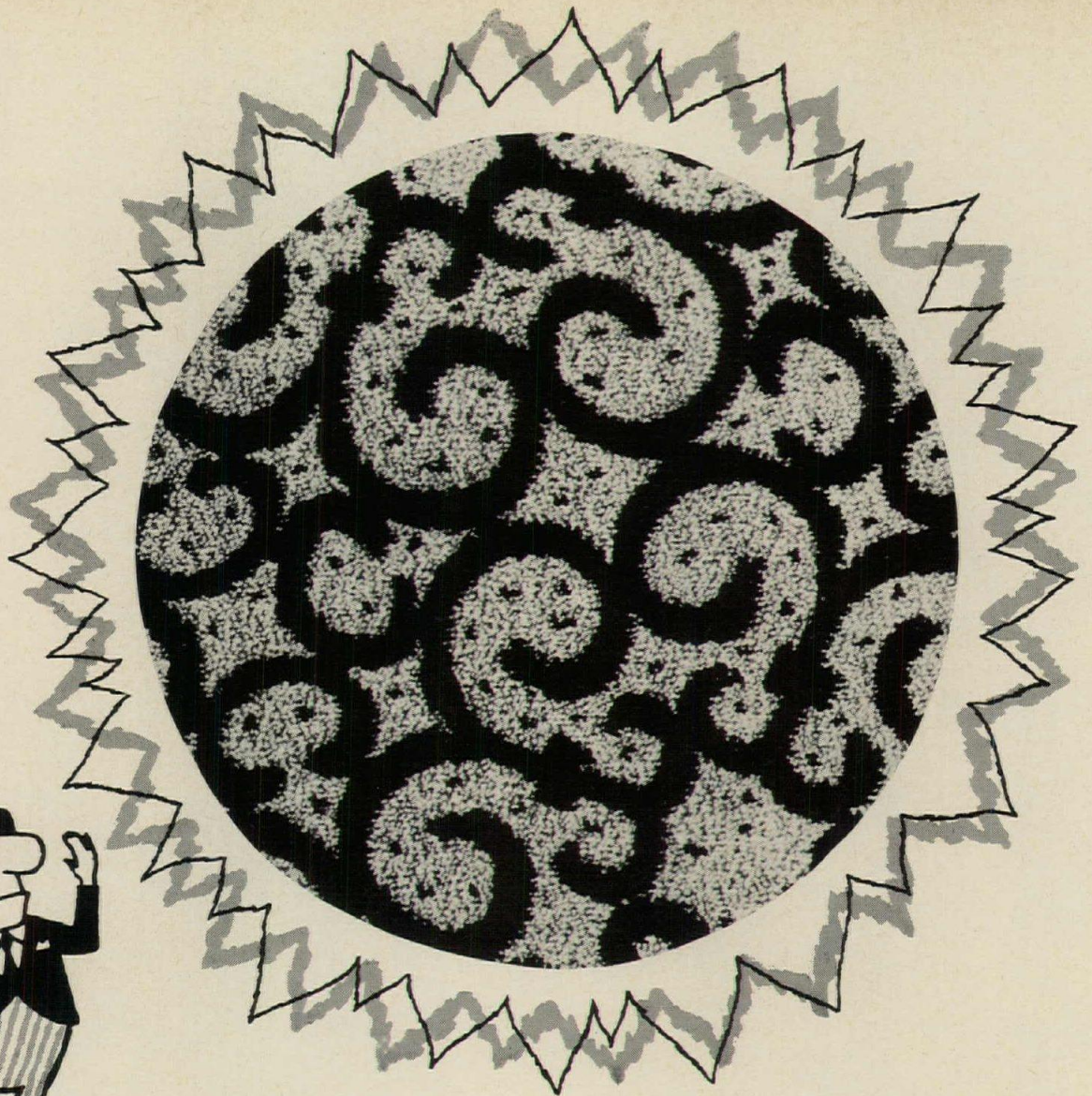
Helping create a mood is just one of the things glass by ASG can do. In the broad ASG family you'll find glasses that cut heat and glare, that protect privacy, that diffuse light, even glasses that soak up sound. You'll find an ASG glass, in fact, for just about every architectural purpose under the sun. See for yourself. Look us up in Sweet's, or write for more information. Dept. D-12, American Saint Gobain Corp., Box 929, Kingsport, Tennessee 37662.

© American Saint Gobain 1968

Glass by...   
CREATIVE IDEAS IN GLASS







**Contract carpet does not  
have to be dull  
Example: take  
HARDWICK'S Escoral  
100% Acrilan® Acrylic Pile  
CARPET**

"Escoral", 100% Acrilan® acrylic pile Wilton features a Spanish grillwork design over a richly woven moresque ground.

Presented as the first print in Hardwick's Mediterranean collection, Escoral captures the feeling of old world Spanish influence. The moresque which gives a three-dimensional shading to its background color is tightly packed to add distinctive elegance and durability!

Available in a choice of Maderia red, Espanol blue, Spanish gold and Vineyard green, all with black grillwork. In stock in 12 foot widths.



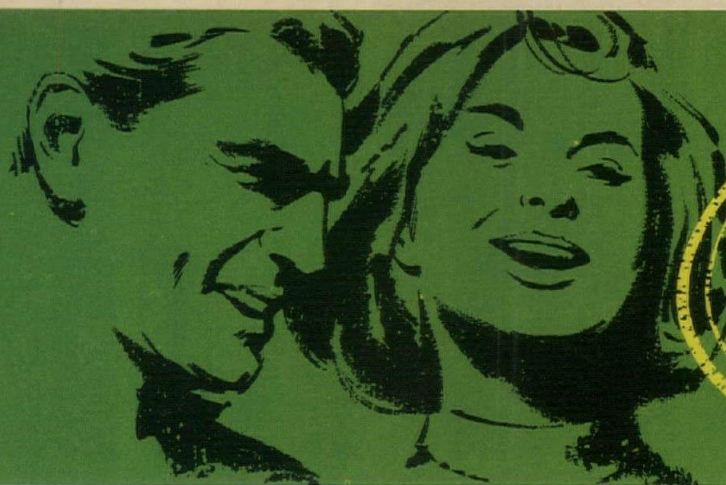
*Write for free color literature on Hardwick's in stock contract carpet lines.*

**HARDWICK & MAGEE COMPANY . . . the compact mill**

Lehigh Ave. at 7th St., Phila., Pa. 19133 □ Chicago □ Dallas □ Denver □ Detroit □ Louisville □ New York □ San Francisco □ Los Angeles

808

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**FOR CUSTOMER  
SATISFACTION**



The "Concord": Pembroke Greens, Naperville, Ill.; as built by Harris Home Builders (land developers and home builders in Chicago area); Mr. William F. Harris, Pres.

## **NICHOLS ALUMINUM BUILDING PRODUCTS**

### **Long-Lasting • MAINTENANCE-FREE • ATTRACTIVE**

Whether you are architect, contractor or home-developer, always specify or use top-quality Nichols Aluminum Building Products on your construction projects. Nichols offers a complete line of care-free Building Products that add beauty to any home or commercial building . . . with the added feature of virtually no maintenance costs.

Rustproof aluminum will not stain, warp, rot or otherwise deteriorate. Many Nichols' Building Products are pre-painted with baked-on enamel. Others never require painting because of the beauty of natural aluminum. Precision-engineered for quality, dependable installation.

### **INCLUDE THE COMPLETE LINE OF NICHOLS PRODUCTS**

Begin with the basics—Hy-Tensil Aluminum Alloy Nails, with

greater strength, prevent rust-spotting or staining on siding . . . and eliminate the need for repainting due to rusty nails.

Continue with Aluminum Building Trim, Valley & Flashing to assure weather-tight, long-lasting finish. Add Gutter Spikes, Ferrules and Gutter Cover for Rain-Carrying Systems.

Complete the attractive homesite appearance with Aluminum Privacy Panels (with installation flexibility), Aluminum Chain Link Fence and modernistic Contempra Gate. Hy-Tensil Roofing & Siding Sheet is ideal for carports and patio covers . . . or for roofing or siding on commercial buildings.

Also available are aluminum Building Corners, Rain-Carrying Equipment, Soffit System.

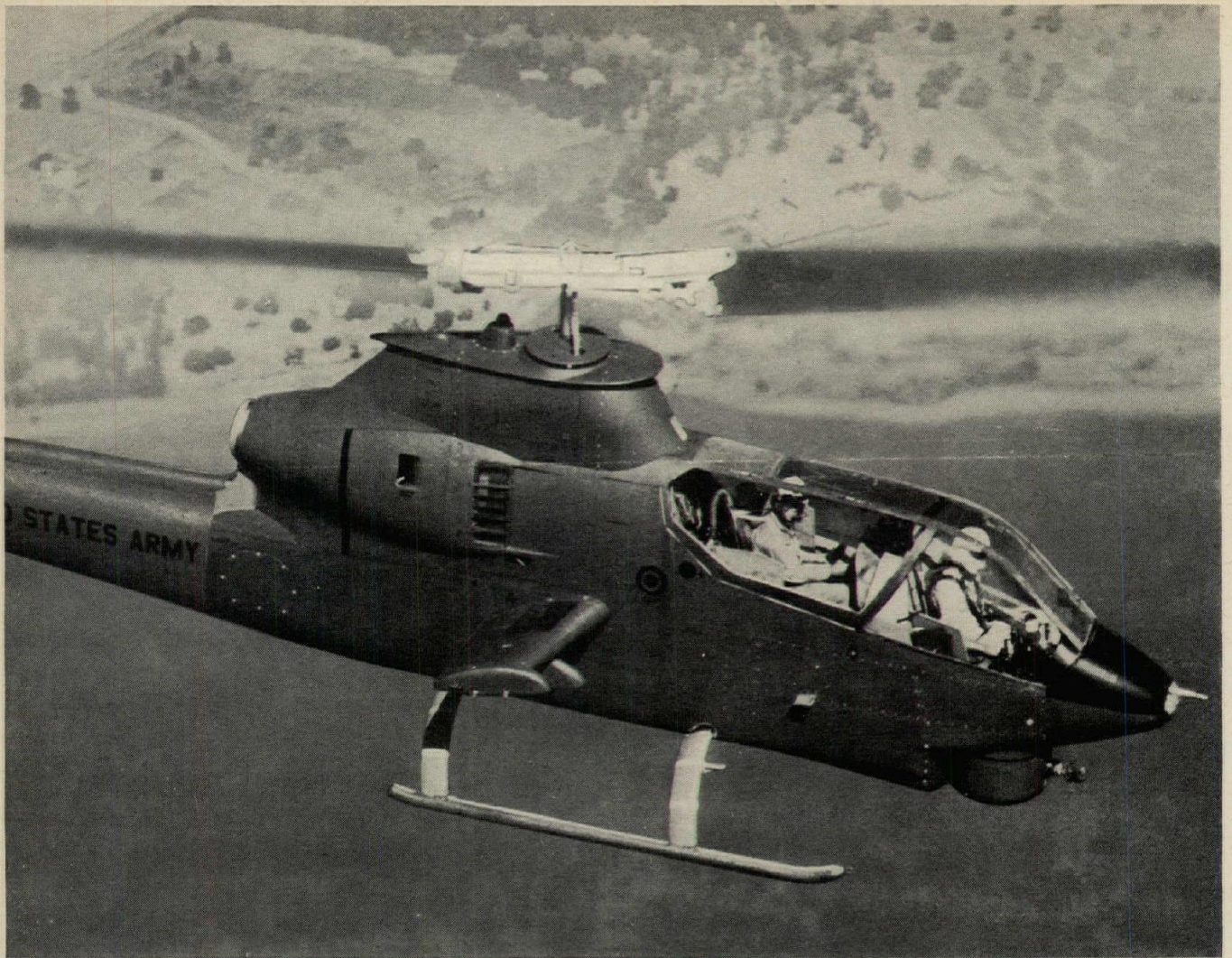
Be sure to specify the complete line of Nichols Aluminum Building Products. It will pay off in customer satisfaction!

WRITE FOR THIS FREE ALUMINUM ASSOCIATION NAIL BROCHURE.

They don't rust or stain. That's the big advantage of using aluminum nails. And, that's the story this new fact-filled, full-color brochure tells.



**NICHOLS ALUMINUM COMPANY**  
15 Spinning Wheel Road, Hinsdale, Illinois 60521



## New design for flight—new design for vision.

A new kind of whirlybird—the Textron Bell Helicopter Company's HueyCobra—is designed for low-level shoot and scoot action and is capable of diving runs at speeds of over 200 miles per hour. Its tandem cockpit is covered by a specially designed canopy made with treated acrylic panels cast from Du Pont LUCITE®.

These sleek, curved panels provide more than flawless wrap-around visibility. After casting, the acrylic panels are physically stretched in the presence of

heat to give them extra toughness and resilience so that the transparencies resist cracking and crazing and are highly shatter-resistant.

Even when design requirements are not so exotic, the remarkable properties of LUCITE are proving their value in use: In brilliant, colorful signs and displays that defy time and weather. In millions of automotive taillight lenses. In non-yellowing, optically precise lighting shields. In tough, shatter-resistant skylights and industrial glazing. In vandal-resistant windows for modern schools. In decorative medallions and in durable, highly styled building faces.

In all these applications, LUCITE

makes an instant appeal to the eye. But equally important is the value it offers through year after year of use. It cuts the cost of upkeep and replacement. It endures.

If your area of responsibility includes any light-handling applications, send for the booklets Du Pont has prepared on LUCITE for (1) Signs, (2) Lighting, (3) Glazing and (4) Building Faces. Write: Du Pont Company, Room 6733-B, Wilmington, Delaware 19898.

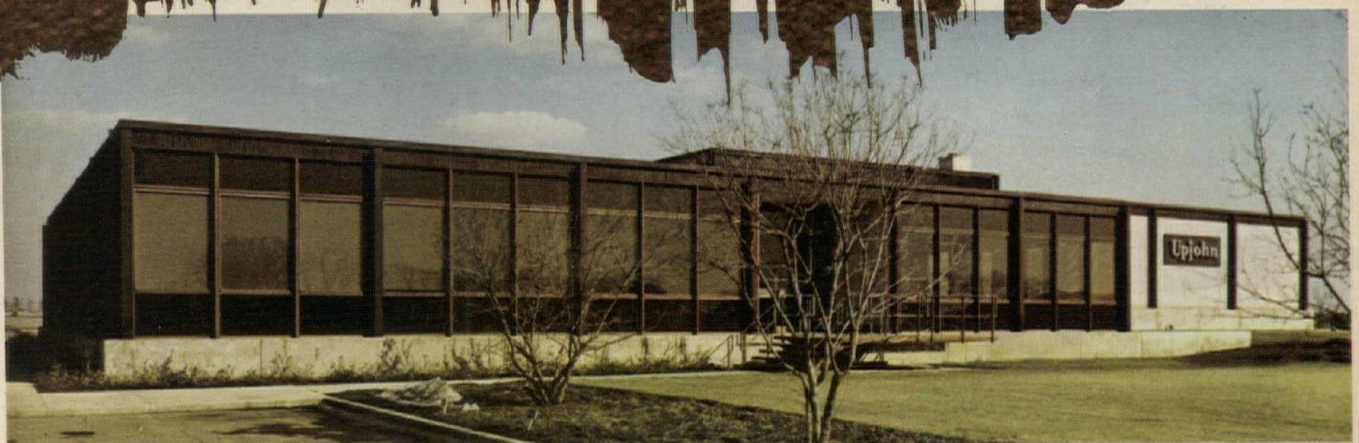


Better things for better living  
... through chemistry

**Paying dividends  
of durability  
for over 30 years**  
**LUCITE®**  
ACRYLIC RESINS

For more data, circle 34 on inquiry card

## This warehouse-office building is "painting" itself



The Upjohn Company warehouse-office building photographed 30 months after erection.

The exposed steelwork on The Upjohn Company's combination warehouse-office building in Oak Brook, Illinois, will never need paint. It is bare, unpainted USS COR-TEN Steel. As COR-TEN Steel weathers, it "paints" itself with a tight, dense oxide coating that seals out corrosion. If the coating is scratched, it heals itself. All exposed columns and beams are bare COR-TEN Steel.

Bare USS COR-TEN Steel is a natural for maintenance-free good looks, and for structural use. It is about 40% stronger than regular

structural carbon steel, so members can be lighter and more graceful. USS COR-TEN Steel is available in a full range of structural shapes, plates, bars, sheets, and structural tubing. For full details on the suggested use of COR-TEN in architectural applications, contact a USS Construction Marketing Representative through our nearest sales office. U. S. Steel, P. O. Box 86, Pittsburgh, Pa. 15230.

USS and COR-TEN are registered trademarks of United States Steel.

 **Cor-Ten**  
High-Strength  
Low-Alloy Steel

**"We might have  
eliminated  
an elevator  
if we had  
known about  
this in time!"**

The world's most sophisticated elevating system, VIP, could well make a difference in the number of elevators your building needs. That's why we think it's worth your consideration—early in the game.

**Oti**  
ELEVATOR CO.





# The number is Corbin 4726

Your number for security. Corbin exit devices operate at a finger's touch. Dependable, safe and whisper-quiet. This is only one of many designs. It displays the style, quality and security built into the complete Corbin line of door closers, locksets and exit devices.

Your Corbin distributor can furnish you with complete data on this design, or write P. & F. Corbin, Division of Emhart Corporation, New Britain, Connecticut 06050. In Canada—Corbin Lock Division.



For more data circle 36 on inquiry card



# the Stylon·Mosaic merger

## It's filled with good things for you

We've just joined two fine old names in the tile business to bring you some exclusive new benefits. Like . . .

**12 Plants** — strategically located throughout the U.S. to give you a unique combination of local product preference and faster service.

**More than 40 Regional Branches** — carrying complete tile inventories plus all the necessary tools, grouts, adhesives and other materials for complete "one-stop" ceramic tile shopping service.

**Over 150 Independent Distributors** — with tile stock on hand and ready to supply you with "instant service."

**Complete Design Service** — a large staff of professional design people to help you create murals or complete installations.

## The Broadest Ceramic Tile Line in the Industry

— Now you can choose from a wider variety of conventional and designer tiles: colors, shapes, sizes and textures . . . than ever before.

## Service Representatives in Every Major

**Marketing Center** — available for help and consultation on anything that has to do with tile.

We hope you'll call us soon . . . by our new name: The Mosaic Tile Company

Division of Stylon Corporation

Post Office Box 341

Milford, Mass. 01757.

**MOSAIC** ® **MOSAIC TILE COMPANY**  
A DIVISION OF STYLON CORPORATION



## How to plan a computer room that's flexible enough to handle the next generation (and the next and the next and...)

Design with Liskey computer room support materials. Start with Liskey Elaflor, the only elevated flooring offering the total design flexibility of three grid systems, four panel types. No need to substitute or compromise, Liskey gives you free choice to solve your problems best. ■ Then add Data-Aire air conditioning, the modular system designed expressly for computer

rooms. Use Liskey Spacemaker *movable* partitioning and get ultimate flexibility for enlargement, rearrangement, and modification. And modern Liskey aluminum railing is the finishing touch for platform edges, ramps, or to define work and traffic areas. ■ A complete Liskey support system means complete flexibility to handle growing systems, next-generation computers, and

all the changes that are bound to come in this dynamic area. See our section in SWEET'S or write for our AIA file of detailed specifications.



**LISKEY ALUMINUM, INC.**

Box 580, Glen Burnie, Md. 21061  
740 W. 190th St., Gardena, Calif. 90247



Frame Division Plant. Owner: Midland-Ross Corporation, Maumee, Ohio.  
Contractors: Lathrop Company, Toledo, Ohio. Engineers and Architects: Rossi & Nickerson, Toledo, Ohio.  
Finish: Metal walls finished with Fluropon† made with Kynar 500.

## Metal walls cost less... and last longer when coated with finishes containing Kynar 500\*

Metal walls cost only  $\frac{1}{3}$  to  $\frac{1}{2}$  as much per square foot as brick or stone walls. They go up faster. And they can be disassembled more easily for expansion or for access to equipment.

And now, metal walls have a new dimension. Long-lasting beauty.

What's the secret? Revolutionary finishes containing Pennsalt's Kynar 500\* fluoroplastic. They come in a wide selection of colors, assure perfect color match from panel to panel. They're durable, won't crack or craze. Resist

abrasion, sunlight and corrosive atmospheres.

Field and laboratory tests by Pennsalt project 30 years of maintenance-free life!

For your next building, consider metal walls and finishes containing Kynar 500. It's the combination that adds up to lower cost, faster construction, greater convenience, and longer-lasting beauty.

For further information, write or call Plastics Department, Pennsalt Chemicals Corporation, 3 Penn Center, Philadelphia, Pa. 19102.

\*Registered trademark of Pennsalt Chemicals Corporation for its polyvinylidene fluoride

**Make your base specification a finish containing Kynar 500!**

†Fluropon is a trademark of DeSoto, Inc.



For more data, circle 39 on inquiry card



**Nobody pays much attention to OASIS® water coolers,**

**not even the maintenance man.**

We make more water coolers than anyone, yet you probably never noticed an OASIS. They just aren't designed to get attention.

OASIS water coolers never stick a stream of water in your ear. They never dribble out of the spout or splash on the floor.

And the decorator-styled cabinet hides a reliable, heavy-duty cooling system—frees the maintenance man to concentrate on more pressing matters.

It's satisfying to know we make a quality product, but a little recognition is nice once in a while, too. So do your part. Send for our informative booklet which shows the features of all 29 OASIS water coolers. Pass it around to your friends.

**Quality you take for granted.**

**OASIS® WATER COOLERS · HUMIDIFIERS · DEHUMIDIFIERS**

See Sweet's, or write  
Dept. AR-15, 265 North Hamilton Road  
Columbus, Ohio 43213

*For more data, circle 40 on inquiry card*



TenMain Center Office Building and Parking Facility, Kansas City, Mo.  
Monolithic reinforced concrete design/Robert P. Ingram, developer/  
Charles Luckman Associates, architects/Marshall & Brown,  
associate architects/Howard, Needles, Tammen & Bergendoff,  
engineers/Winn-Senter Construction Company, general  
contractor/506,354 sq ft of standard Ceco steelform services/  
2,900 tons of fabricated reinforcing bars by Ceco.

Use Ceco's Steelform

# experience

for your next monolithic concrete floor system

There's a practical way to design buildings that have two wanted attributes: visual variety and built-in rigidity. First, choose monolithic concrete construction, just now being rediscovered by architects for its versatility. Then design fluidly. As you sculpt and mold, call in Ceco to carry out your floor framing ideas with dependable Steelform Service.

Ceco offers cooperation by analyzing equipment requirements, furnishing cost data and coordinating form work on the project. All developed through more than fifty-six years of *specialized*

*experience* . . . kept current for your benefit.

Ceco's trained crews and knowledgeable supervision can make your building come alive promptly. Ceco steelform service is nationwide. It is backed by vast experience, making Ceco the No. 1 supplier of steelform floor framing. Construction is fast. Forming equipment, rebars and concrete are available nearby—no long waits. Construction is economical—often \$1.00/sq. ft. less than other types. The Ceco Corporation, general offices: 5601 West 26th Street, Chicago, Illinois 60650.



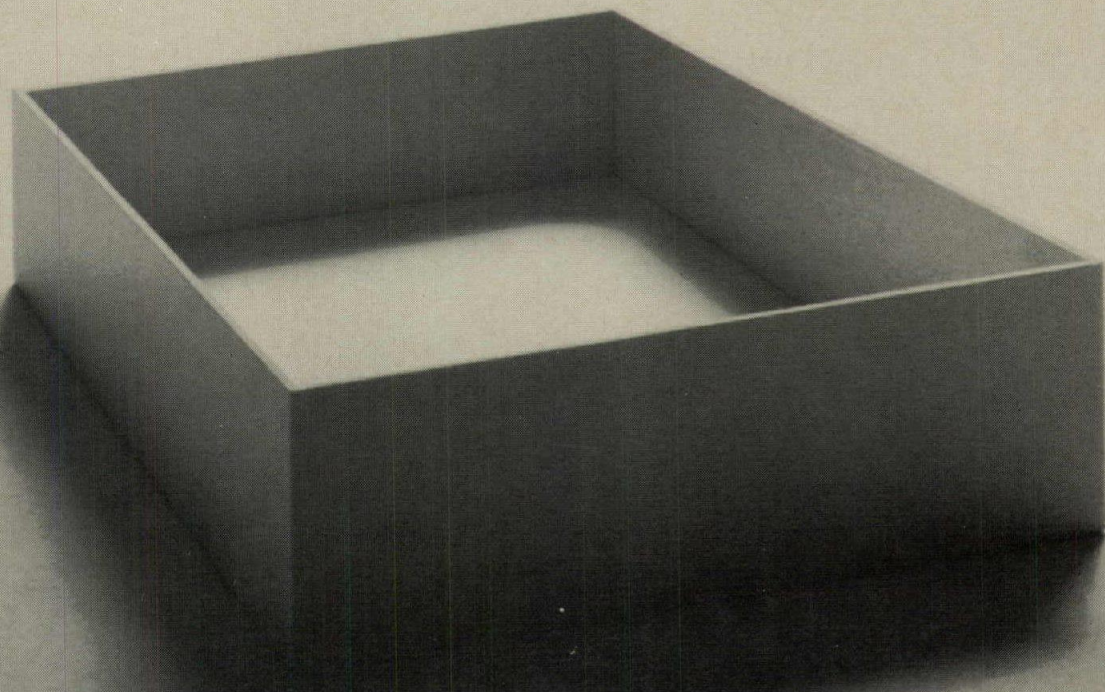
# Add sprinklers, and add extra stories.

Most building codes permit the addition of extra stories (or heights) if "Automatic" sprinklers are installed.

This alternative may be the answer when you are confronted with a limitation of land area, and when you want to reduce "per square foot" construction cost.

And there's more. By designing-in an "Automatic" Sprinkler system, you can get:

1. Increased building area.
2. Increased exit distance.
3. Wider range of interior finishing materials.
4. Savings with light roof framing.
5. Savings with metal roof decking.
6. Savings with fewer fire walls.
7. Increased fire wall openings.
8. Decreased exit widths.





Check your local building codes for the many specific advantages you can gain for various types of structures when you design-in an "Automatic" Sprinkler system. To help, we have compiled some of the permissive clauses from the

four major building codes, and put them into a booklet called, "The Code Book."

For a copy, simply mail your request to Mr. R. L. Pardee, Manager of Marketing Services, "Automatic" Sprinkler Division,

Dept. E-968, Box, 180,  
Cleveland, Ohio 44141.



Here are quotations from the four major building codes regarding "increased building height":

**The Uniform Building Code:** (SEC. 507) "The limits set forth in Table No. 5-D may be increased by one story if the building is provided with an automatic fire extinguishing system throughout . . ."

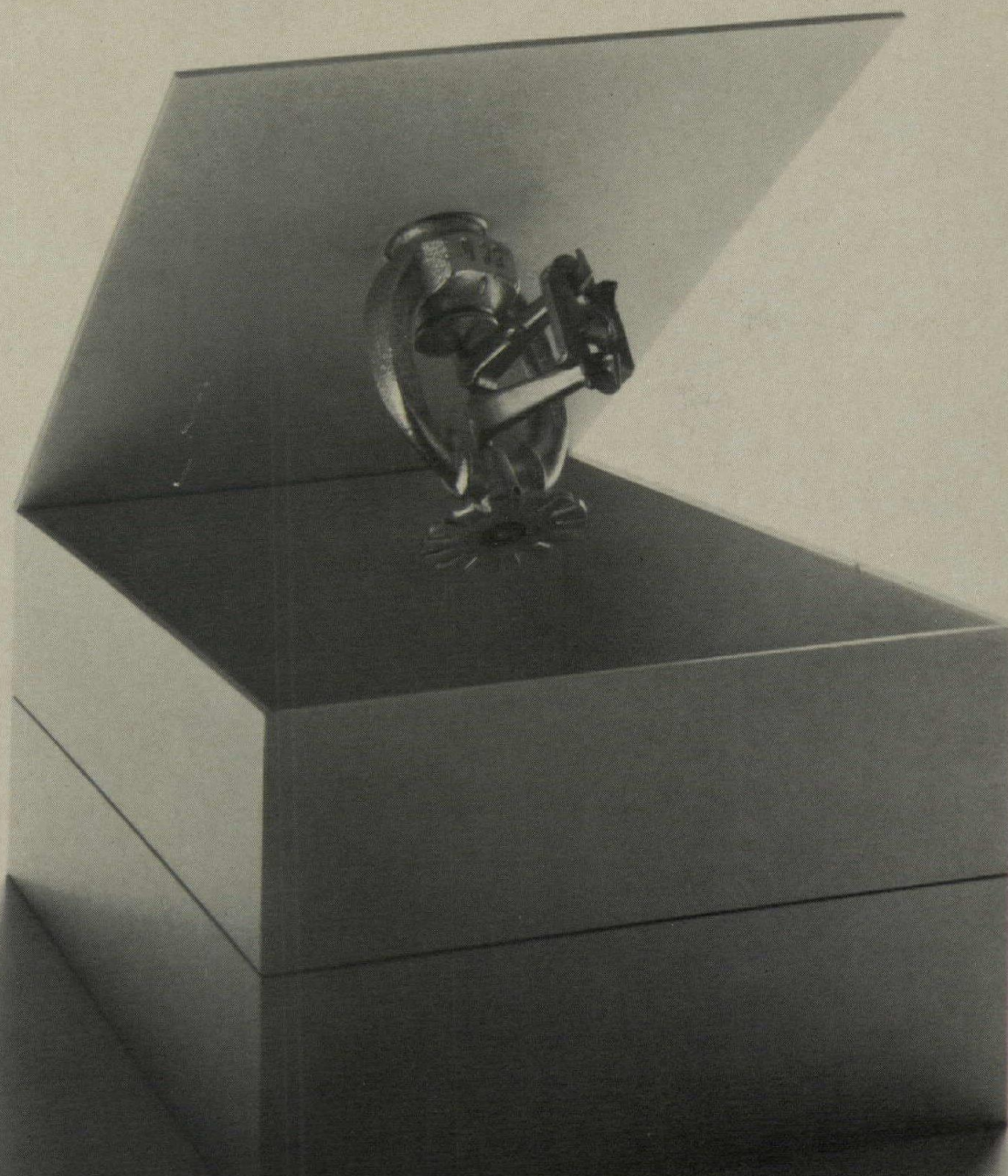
**The National Building Code:** (SEC. 812.2) "Approved automatic sprinkler

systems shall be installed in buildings that are: (1) Occupied as bowling lanes, restaurants, or for the manufacture, sale or storage of combustible goods or merchandise, and exceeding the areas (and heights) in Table 812.2."

**The Southern Standard Building Code:** (SEC. 402.6) "The maximum allowable number of stories may be increased by one story if the building is provided with automatic sprinklers throughout."

**The Basic Building Code:** (SEC. 310.2) "Except in buildings where automatic sprinkler equipment is a requirement of article 4 or article 12 for special uses or occupancies, all structures of fireproof, non-combustible, and exterior masonry wall construction, designed for business, industrial, mercantile, low or moderate hazard storage uses may be erected one (1) story or twenty (20) feet higher than specified in table 6 when equipped with an approved one-source automatic sprinkler system."

For more data, circle 42 on inquiry card



Another example of AAF environmental control

# 100 stories of clean air in Chicago's John Hancock Center

## ...All by AAF

Chicago's John Hancock Center—now under construction—will be the second largest building in the world.

Two types of air filters have been selected to meet the multi-million cfm needs of Chicago's newest landmark. Engineers and architects determined that the specific, yet varying clean air requirements of this giant skyscraper could most efficiently be met with AAF Roll-O-Matics and Roll-O-Paks.

AAF makes *all types* of filters to meet the diversified needs of the nation's largest and most complex buildings. AAF's full line solves the problem of getting optimum correlation of filter performance, cost, efficiency and maintenance requirements.

Contact your local AAF representative for additional information. Or write: Robert Moore, American Air Filter Company, Inc., 389 Central Avenue, Louisville, Kentucky 40208.

**AAF** American Air Filter  
BETTER AIR IS OUR BUSINESS

Architects & Engineers: Skidmore, Owings & Merrill, Chicago.  
Contractors: R. B. Hayward Co. and Universal Sheet Metal Corporation. Owner-Developer: John Hancock Mutual Life Insurance Company.

For more data, circle 43 on inquiry card

## Kassabaum asks industry for unity and change

Design, manufacturing, and construction sectors of the building industry should now take united action in such matters as liability insurance, more clear-cut legislation, performance specifications and systems development—or face the possibility that “any or all of us can wither like the railroads.” So said A.I.A. president George Kassabaum to the Building Products Executives Conference hosted by McGraw-Hill Information Systems Company in Washington, D.C.

Kassabaum cited an economic study which held that: 1) the petroleum industry grew because of a lucky series of outside pressures and inventions (oil heat, internal-combustion engines) rather than by any inventive drive of its own; and 2) the railroad industry is in much of the trouble that it is in today because it failed to see that it was really just one part of a larger thing—the transportation industry. There are valuable lessons here for architects, manufacturers, contractors and all those in the building industry, he said. Following is a condensation of his remarks:

Right now we are as lucky as the petroleum industry—for no one has replaced us yet. But it is possible that any or all of us can wither like the railroads. This possibility should be enough challenge, yet it doesn't seem to be doing much to make us take the first essential step: to realize that there are no separate, isolated design professions—no separate, unrelated manufacturers of building products, no separate, isolated group that puts things together at the site, no separate labor group. We are all parts of one industry, and our future depends upon each other's doing a better job.

None of us can much longer afford to think and act as if we are an independent and automatically essential group. It is time to stop responding only

to changes forced on us from the outside lest our clients begin to look to others for our present skills and services because we really just don't want to change our 1920 way of doing things.

Suggesting solutions is difficult. Since the dramatic and complete solution of suddenly unifying requires an unselfishness probably beyond any of us today, it would be meaningless blue-sky thinking to ask for Utopia. But I do have some beginnings to suggest.

### First step: unify insurance

### Second: clarify legal responsibilities

The simplest first step is to remove one source of friction that threatens to divide us more and more each day. This requires that we combine efforts to seek a single insurance program that protects the public, the owner and all of us from exposure to financial losses due to the physical hazards connected with building anything. The present system, with everyone carrying separate protection, increases the over-all cost of insurance and hence the construction. Also, it leads to our fighting each other, which creates barriers that slow down construction. To unify insurance is a simple step, but one that the insurance companies will not initiate. The A.I.A. is working on this, but we would gladly support a joint effort by the whole industry.

My second suggestion is of a similar

nature but more far-reaching, and, therefore, will take more time, more money and more work. It is, however, more essential. This is the establishment of a system of laws that specifically define the rules and responsibilities of all parts of the construction industry. We are at present governed by commercial codes established for others. Very few lawyers or judges understand that we operate in our loose way because we must if we are going to get anything done. The lack of such definitions again increases the friction that fragments us even further.

A movement toward clarification is underway. Largely through the individual efforts of Robert G. Cerny of Minneapolis, the A.I.A. in June established the machinery of the Construction Industry Foundation to accomplish this goal [see item on C.I.F. below]. Individual architects have pledged approximately one hundred thousand dollars a year for 10 years toward this goal, but 10 million dollars will probably be needed; so the support of all members of the industry will be necessary.

### Third step: performance specs

### Fourth: the systems approach

A substantial step in the direction of uniting the industry and combining responsibilities is through the increasing use of performance specifications and its partner—today's so-called “system.” This approach is not a universal solution to all of our building problems, but its principles are sound. It rewards those who, first, are willing to try and do things better or in a more efficient way and, second, are willing to take the full responsibility for the performance of their product.

I am sure building-systems development will take a different direction soon. Rather than produce a product that will

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fit with practically anything anyone else can make, I predict that a specific team of manufacturing skills and design talents will go together in order to provide a unique combination of products that will do a better job for less cost.

Systems may be a little different tomorrow, but they will not go away. The idea's appeal is that it at least partially does what must be done—it reduces the fragmentation by combining responsibilities into one. It has to be. As long as our system allows an owner to sweat in his building while I, or my engineer, say the system was designed properly, the producer says it was manufactured

properly, and the contractor says it was installed properly, something is badly wrong with the process of construction we now have. Change is necessary.

Eventually manufacturers are going to have to assume responsibility for the use and installation of their products. So why not now, before new companies volunteer to do it? Present companies may elect to put their products in place or they may do it through some sort of a closely-watched licensing, but this additional burden is not far off. Past experiences and frustrations have created the need for a change in the way it has always been done.

We exist today only because we are getting by with giving the world a 1920 degree of usefulness, but we offer it to a world that expects a 1969 degree of speed and convenience. Others are beginning to wonder if there aren't better ways.

There are many eyes upon us. Some are covetous and some filled with hope—but we are being watched and what our watchers are beginning to see is that our 1920 thinking can never hope to meet the need. The challenge to each of us is to combine our efforts in such a way that no one can do it better. I hope that's not a long way off.

## Liability crisis gives urgency to Cerny's aims for Construction Industry Foundation

The one insurance company still underwriting liability for architects, engineers and contractors (Continental Casualty) lost about \$9 million last year on that portion of their business, according to panelists at the South Atlantic Regional Convention of A.I.A. in Atlanta, October 10. Premium rates are bound to increase as much as 50 to 70 per cent, and even then the total cost of soaring liability compensations is not likely to be either predictable or contained.

To stem this rising tide, the Construction Industry Foundation, (for which the A.I.A. national board in June authorized launching funds and an advisory task force) was cited as a hopeful and unifying development. Brain-child of Robert G. Cerny of Minneapolis, C.I.F. is envisioned as a membership-funded repository of both money and talent from all segments of the industry authorized to commission research by outside authorities on such matters as clarifying legal language, and taking practical steps to cope with liability and other problems.

According to Cerny's original proposal to A.I.A. after some five years of study, the Foundation would be governed

by a small board composed of architects, engineers, general contractors, subcontractors, manufacturers, suppliers, etc. The board would also have client representation by a staff member of the U.S. Department of Justice, a member of the legal staff of the General Services Administration, and, possibly, a vice president in charge of construction for a large corporation. The board would hire a director and a staff to organize the program, to finance its operations; to contract with law schools for research projects, and, to employ legal counsel for advice and direction.

Cerny outlined the steps he believes should be taken by the proposed Construction Industry Foundation.

First, each component of the construction industry would be asked to list its trouble areas, areas of confusion, and procedures involving waste and loss.

Having assembled the list of problems, each component should prepare a position paper in regard to correcting them.

A period of negotiation would follow between the various components of the industry.

"Concurrently, it would be appropriate," Cerny believes, "for a law school or a law foundation to assemble precedents and organize existing legal data for reference.

"The law research faculty together with specialized legal counsel would review the problems within the industry, analyze the position papers, suggest alternative solutions, and finally evaluate and recommend solutions to the industry," Cerny continues.

Once agreement on division of responsibilities is reached, it would be adopted by all associations representing the construction industry. Construction documents would be redrafted to reflect the agreements, which would be recorded in legal treatises and—Cerny foresees—tested in the courts.

There has been universal response in support of the objectives of the Foundation, according to Cerny. The national associations of all segments of the construction industries, including architects, engineers, contractors and financial interests, held formative meetings early this month and arrived at a basis for agreement on approaches.

## Speed and discipline urged to slow upward trend in hospital construction costs

The cost of delaying construction of a \$15-million hospital for a year is \$1.2-million, Milton Musicus, executive director of the New York State Health and Mental Hygiene Facilities Improvement Corporation, told a health facilities conference sponsored by the New York Chapter of A.I.A. Such a delay, he continued, would add \$72,000 a year in debt service for 30 years, if that were the term of the bonds that financed the project. And such charges, he said, would mean a total loss of \$2.2-million.

Musicus—whose agency has one of the largest hospital construction programs in the country—said that the \$1.2-million loss would occur because of the

rate at which construction costs are escalating in today's economy. It would represent the additional cost of building the project a year later.

Because of the continuing rise in construction costs, he said, it can be more costly today to take the time required to plan health facilities with absolute precision than to take the calculated risk of reducing the amount of cross-checking and review of plans. "When we consider the rising costs of construction, it becomes clear that the seemingly endless discussions that take place before construction often exceed the cost of the building item being debated."

The Health and Mental Hygiene

Facilities Improvement Corporation now has legislative authorization for a total construction program amounting to \$1.7 billion. Of this, \$1 billion is the present goal for the agency's construction program for State mental hospitals and schools for the retarded, and treatment centers for the State's new narcotics addiction control program.

Another factor that reduces the need for precision in designing a hospital to serve its various functions, Musicus said, is new uses for rooms and other changes made by administrators who must adapt the building to different programs and personnel after it has been constructed and put into operation.

CURRENT TRENDS IN CONSTRUCTION

Robert M. Young  
Senior Economist  
McGraw-Hill Information Systems Company

# Office building: the sky is no limit

A decade ago, the nation had just completed an office building boom that many observers felt would never be repeated. Judging from what had taken place in the ten years following the end of World War II, they had good reason to believe this. The nation's office work force—professional people, managers, and clerical employees—had jumped by 50 per cent. The seven and a half million additional office workers had accounted for almost 90 per cent of the growth in the total work force. Floor space included in office building contracts had jumped from the 25- to 30-million square feet level in the early 1950's to over 75-million square feet in 1957. Certainly, it was reasoned, neither the employment rate of growth nor the high level of office construction could continue indefinitely. High vacancy rates in a number of cities signalled some possible overbuilding.

This attitude was justified during the four years between 1957 and 1961. The increases in white collar employment dropped to an annual rate of about 600,000, and office building contracting levelled off at about 70-million square feet a year. This seemed to be where it would stay, for there were no

immediate prospects for an upsurge in employment.

Then, something unforeseen happened. Urban renewal activity had cleared thousands of acres of downtown property in cities across the nation. Businesses found that they could get prime locations near expressways and public transportation at considerably less cost than the favored central city locations. At the same time, many companies found their existing quarters inadequate to handle new types of office machinery and changing concepts of office layout. So the rush was on to locate facilities in these new areas. The level of office building contracting jumped to over 90-million square feet in 1962, and appeared ready to settle down to that rate for the next several years.

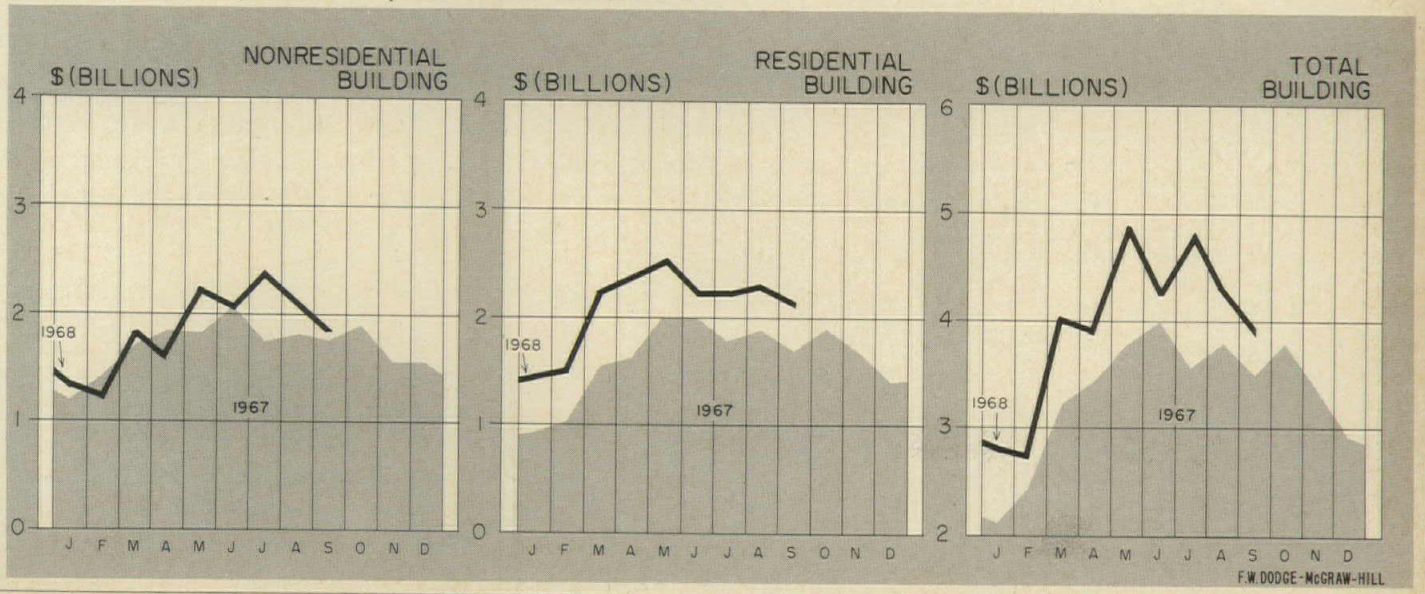
Office employment continued to increase at a 600,000 annual rate through 1965. Then, two important factors began to come into play. First, automation, which has reduced the need for manufacturing workers in many industries and the need for some clerical workers in banking and insurance, and vastly increased the need for office machine operators, programmers, managers and most other types of office workers.

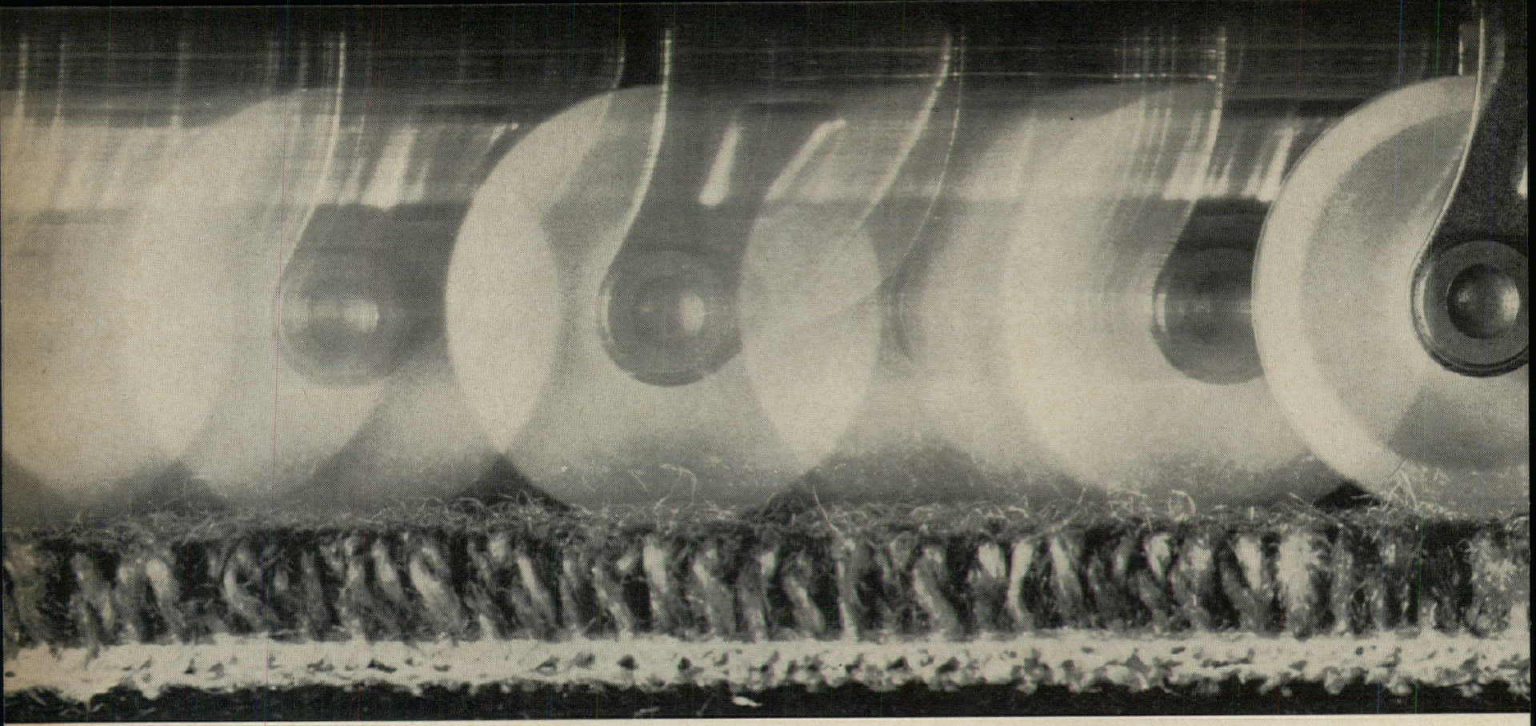
Just as this need was beginning to be felt most acutely, the labor force started to swell with the entry of the 1940's baby boom come of age. The result? The white collar labor force leaped upward by 1.5 million a year since 1965.

Contracting for new office space quickly responded to this new surge of employment. From a level of 95-million square feet in 1964, the volume of new buildings contracted for jumped to 120-million square feet in 1967, while valuation soared from \$1.9 billion to over \$2.8 billion. With new projects coming off the drawing boards every day, it is estimated that contracts will be let for new office building totaling 140-million square feet in 1968, costing about \$3.4 billion. This is just about double the amount of office space that was built at the peak of the boom ten years ago.

What is the outlook? For 1969, there doesn't appear to be any letup in sight. Major new developments in Los Angeles, Chicago and New York, among others, should help push the volume of building ahead of 1968's record. A new surge beyond, say, the 150-million square feet level, appears unlikely, however, as future gains in office employment fall back to one million a year.

Building activity: monthly contract tabulations





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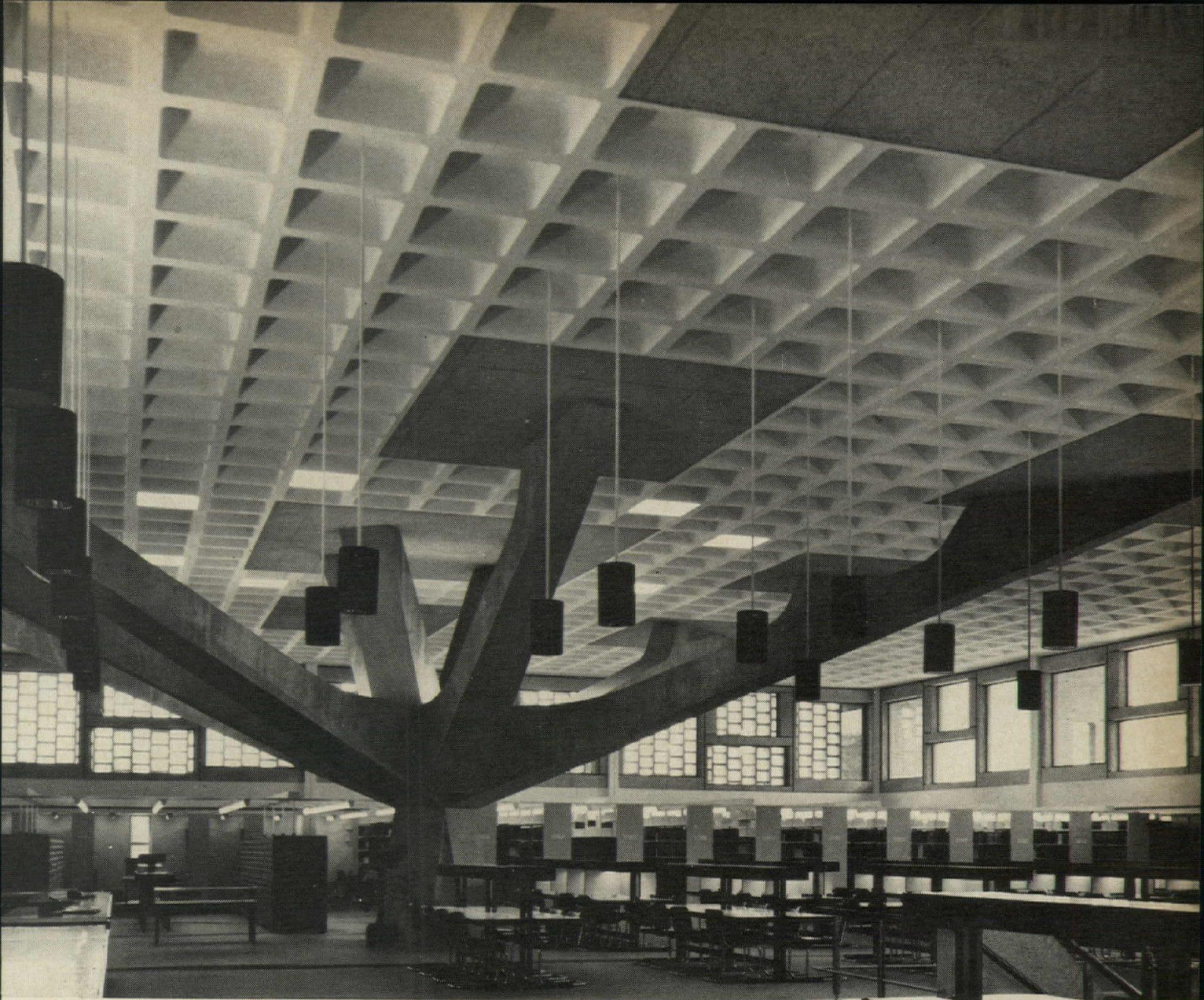
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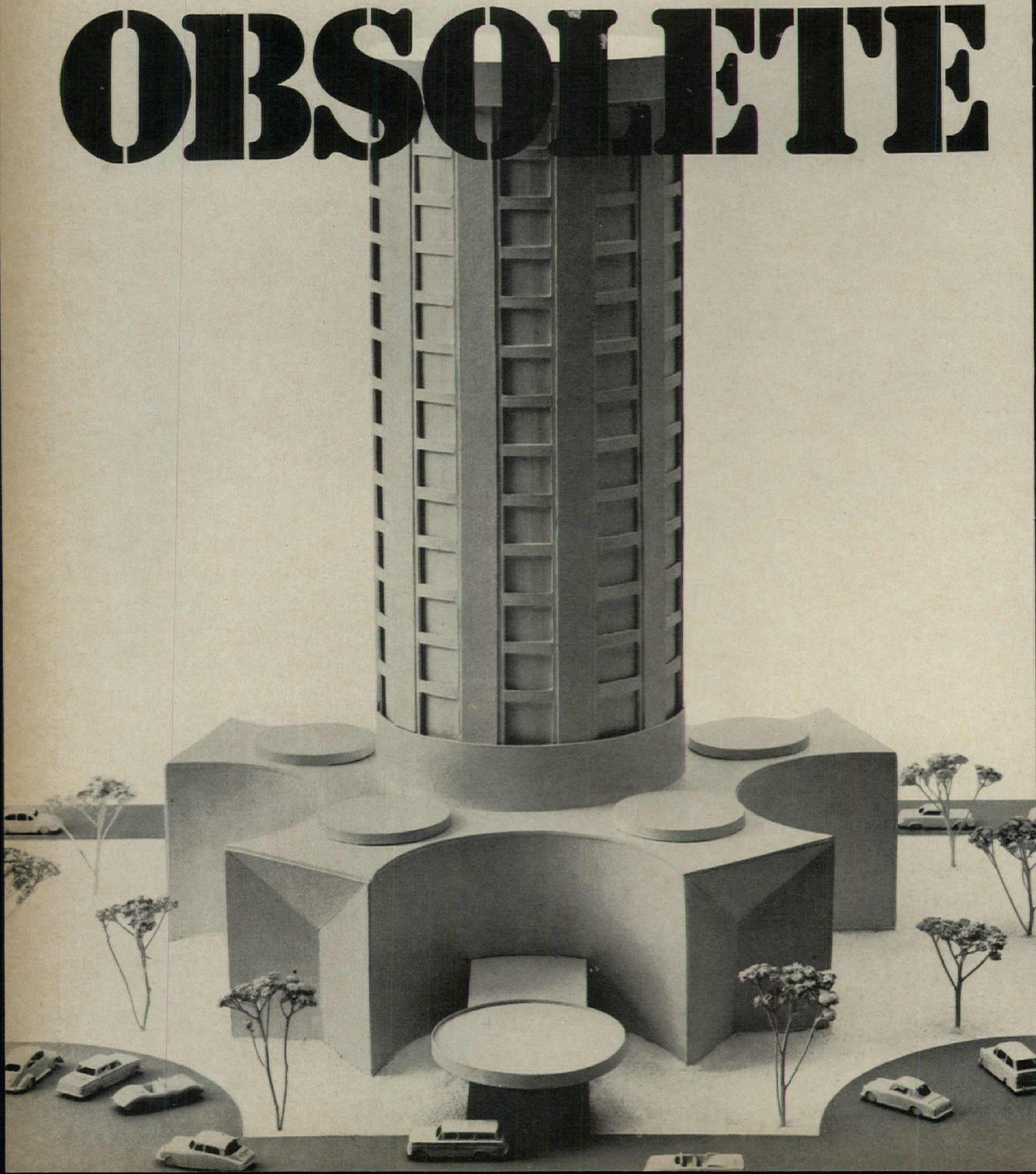
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# OBSOLETE



## Uniting many disciplines is key to giant planning project

The role of the Leo A. Daly Company in putting together a joint venture of U.S. and Brazilian specialists for planning 35 years of redevelopment in Sao Paulo—second largest city in the Western hemisphere—evolved from the firm's planned growth toward interdisciplinary practice.

How does an architectural firm become key member of a joint venture which wins what may be the largest single urban planning contract ever awarded to private consultants? By building its own practice toward diversified talents in planning and management to the point where it can analyze and accept the challenge of an outside opportunity when it arises.

That was one impressive answer underscored when the Leo A. Daly Company, after a decade of planned growth, was able to muster a qualified team of U.S. and Brazilian specialists to draw a comprehensive 35-year redevelopment plan for the city of Sao Paulo.

Sao Paulo is not only the second largest city in the Western Hemisphere and one of the fastest growing cities in the world. Metropolitan area population totals 7,200,000—well over 4,500,000 people live in the central city alone. Its land area is about that of Los Angeles. It has industrial strength comparable to Chicago or Detroit. It is the world's seventh largest producer of autos and has long since passed Rio de Janeiro as the commercial and industrial capital of South America.

The proposed urban planning job had three basic and unusual difficulties. First, the size of the city and scope of the work made it bigger than any other redevelopment project to date. Second, it involved international complications of both funding and execution. Third, the concept was to be a landmark in the career of Sao Paulo's Mayor Jose Vicente Faria Lima, and had to be accomplished before expiration of the mayor's term in April 1969.

The mayor had developed a highly effective, two-phase system to screen ap-

plicants for the 13-month planning commission. In the first submission, interested firms were to demonstrate only their professional qualifications: Whom do you have; what are their backgrounds; what cities have they planned; can they integrate a plan that includes government administration, legislative proposals, long-range budgeting, land use, air and water pollution control, and sociological planning? Applicants were told that if they so much as mentioned fee in this submission, they would be dropped from the list of qualified firms.

The hard part came in the second phase of screening. Mayor Faria Lima had established an Executive Planning Group (GEP) of local government and business leaders to screen the applicants. GEP was to rank all of the firms in order of professional capability. Then it would open negotiations with the number-one firm, allowing 14 days for agreement on fee, reimbursables and other costs. If the number-one firm and GEP could not reach agreement in two weeks, number one would be thanked for its trouble and Sao Paulo officials would start talking to number two for two weeks, and so on down the list until a satisfactory agreement had been reached.

Development toward the kind of interdisciplinary practice that led the Daly company into this project began in 1952, when Leo A. Daly succeeded his late father as president. The 53-year-old Omaha firm had already integrated engineering and limited planning skills into its architectural teams. The new president now began to further diversify by giving management responsibility to men schooled and experienced in urban plan-

ning, economics, finance, law and related fields. In January, 1958, William H. Coibion left his post as planning director of St. Louis to join the Daly team as vice president and director of planning. Since then, the firm has gradually acquired a broad range of planning assignments, including comprehensive plans for a number of cities.



At an organizational seminar of the joint venture in Sao Paulo, June, 1968, left to right are Anthony Downs, executive vice-president of Real Estate Research Corporation; Domingo Alvarez Netto of Asplan, coordinator of the urban structure group; Jose Barreto, director of the Department of Urbanism, Prefecture of Sao Paulo; Benjamin Ribiero, Executive Secretary of GEP; Les Frink of Wilbur Smith, coordinator of the transportation group; Charles Blessing, review panel; Larry Wylie of Leo A. Daly Company, deputy project director; W. H. Coibion, vice-president and director of planning, Leo A. Daly Company. See organization chart next page.

## Firm's growth leads to a foothold in Brazil

Daly's growth program led them to Brazil in 1965 when, as member of a joint venture with a Brazilian firm called ECISA, they were selected by USAID (United States Agency for International Development) to monitor construction of hundreds of schools and medical facilities in the northeastern states of Brazil. In the course of that job, several Daly officials traveled to Recife, Rio de Janeiro and Sao Paulo. On one such trip to Sao Paulo City Hall, they learned that Mayor Faria Lima was preparing to select consultants to draw a 35-year plan for the city.

One of the Brazilian firms to which the mayor would almost automatically turn for preliminary guidance in such a project is called Asplan, a large and well-respected firm of economic planners with which the Daly firm had become more or less familiar. For the qualifying purpose at hand, it turned out that Asplan was amenable to an alliance with a U.S. firm experienced in interdisciplinary planning.

The Asplan firm itself had been developing interdisciplinary capabilities in the areas of economics, sociology, statistics, planning, engineering and architecture. Mr. Coibion and Mario Mendonca, a director of Asplan, met in April 1966 and worked out a proposed agreement. They

decided to invite two other firms to join their team: Montreal, a Brazilian transportation firm which had previously prepared a subway study for Sao Paulo with a German engineering firm; and Wilbur Smith, a U.S. transportation firm which had already been invited to make a submission by the mayor.

Mendonca and a group of Daly men spent two months developing their submission. During that time they decided to make three additions to strengthen the team. Two U.S. firms were called in as subcontractors: Hazen and Sawyer (a well-known firm which had previously studied Sao Paulo's water and sewage problems) and Real Estate Research Corporation, one of the oldest and largest U.S. land economics firms.

A third addition to the team (and one which may well have been the deciding factor in the GEP selection) was a Special Review Panel consisting of four of the most distinguished names in city planning. Serving on the panel are Charles A. Blessing, director of planning for Detroit, Calvin S. Hamilton, director of planning for Los Angeles, Louis B. Wetmore, professor of city planning at the University of Illinois and former director of planning for Chicago, and Francis Voilich, professor of city planning and landscape architecture, U.C.

After the professional screening, the Daly/Asplan/Montreal/Smith joint venture, using the name of PUB/SP (Plano Urbanistico Basico/Sao Paulo), was ranked number one. Daly management representatives flew to Sao Paulo for the expected fortnight of negotiation. As the deadline neared, Coibion recalls, the pressure grew. After ten days, the Sao Paulo negotiators agreed they had really meant 14 working days. That, plus the intervention of a national holiday, stretched the negotiating period by nearly a week. On the 19th calendar day, agreement was reached. The venture team signed a contract to carry out the assignment for a fee of \$2.4 million.

Officials of the Brazilian Federal Government and USAID (which puts up 75 per cent of the money) still had to review the agreement. This stage took nearly six months, appreciably shortening the time available for actual performance of the job since the end date is fixed by the end of the mayor's term of office in April, 1969.

On March 28, 1968, all of the hurdles had been passed. On April 1, the offices of PUB/SP opened, staffed by personnel from the four firms—Asplan, Montreal, Wilbur Smith and Daly. By June 1, the total force exceeded 80 persons and in August the staff peaked at 125—including clerical and support forces.

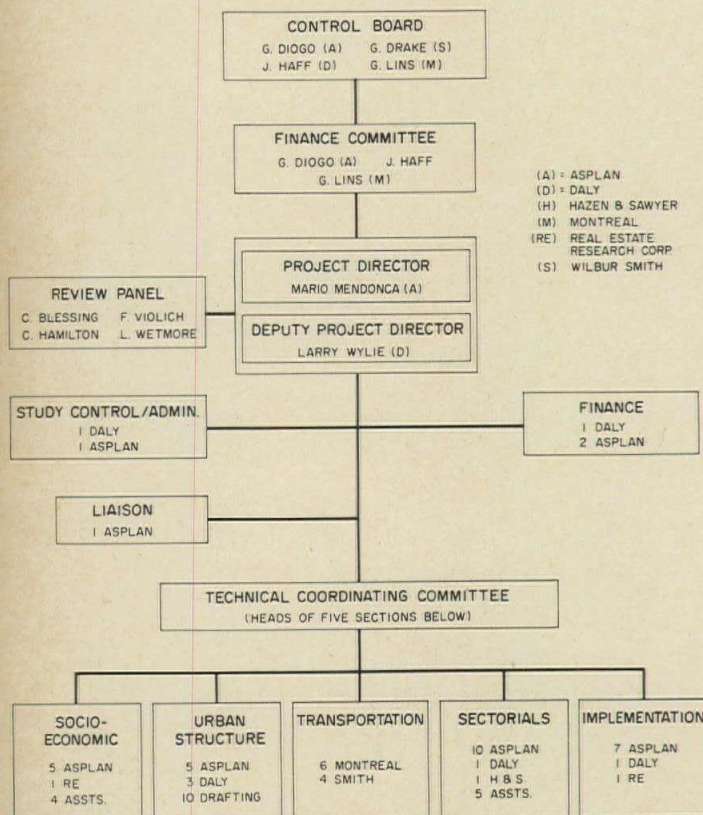
The organization as of June is shown in the chart. It includes professionals in the fields of sociology, political science, economics, civil and sanitary engineering, housing, landscape architecture, law, education, hospital planning, public administration and communications.

A spokesman for the Daly organization (John Haff) summed up the firm's approaches at a September seminar reviewing the Sao Paulo project:

"When we talk about urban planning today, we are talking about activities far broader than just drawing maps of projected land use, transportation lines, school districts, sewage disposal systems, and the like. The new and critical element is the much broader, interdisciplinary approach that is going into the basic research and analysis phases of this job, before any of the designs are even begun.

"I want to touch on some of the specific areas to which I feel all professionals should devote considerable emphasis. First, I think we need to improve the mechanics of the planning process itself. We need to identify much better the many factors that make up the urban formula, and we need to relate these factors to each other. Second, we need to improve communications among the people who are the ultimate consumers of our urban planning efforts."

PUB/SP organization chart as of June, 1968



INDEXES AND INDICATORS

William H. Edgerton  
 Manager Dodge Building Cost Services  
 McGraw-Hill Information Systems Company

DECEMBER 1968 BUILDING COST INDEXES

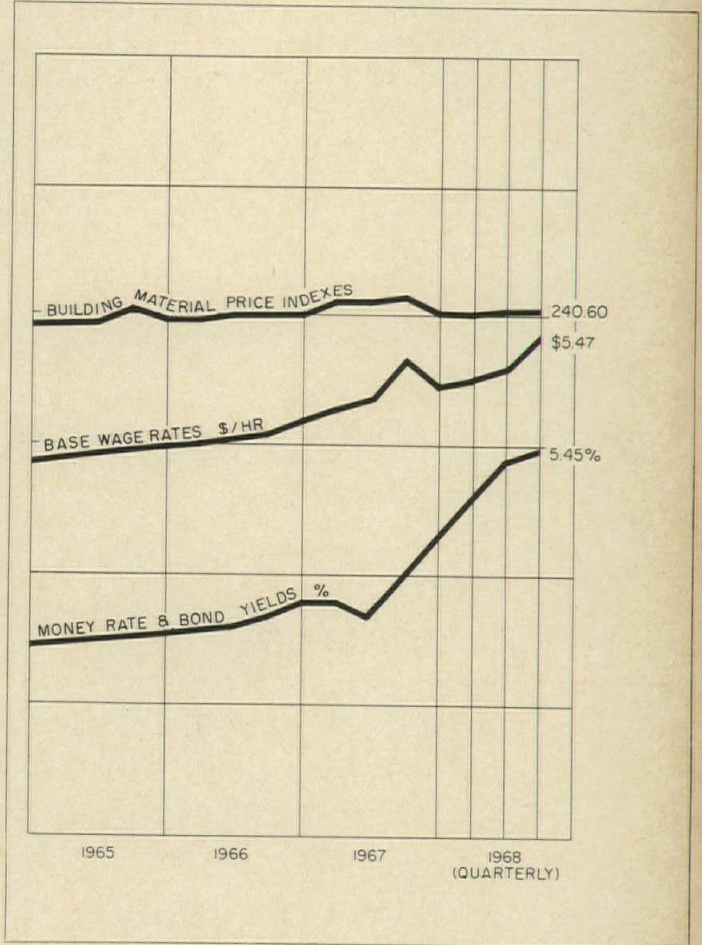
1941 averages for each city = 100.0

Metropolitan area	Cost differential	Current Dow Index		% change year ago
		residential	non-res. res. & non-res.	
U.S. Average	8.6	299.6	314.1	+4.12
Atlanta	7.3	336.4	356.9	+5.07
Baltimore	7.9	294.7	313.4	+4.20
Birmingham	7.3	267.4	287.6	+3.35
Boston	8.5	264.7	280.2	+4.11
Chicago	9.0	326.8	343.8	+3.26
Cincinnati	9.0	287.9	306.0	+4.83
Cleveland	9.8	315.8	335.7	+9.03
Dallas	7.7	274.8	283.8	+4.03
Denver	8.2	296.7	315.4	+2.30
Detroit	9.2	304.1	319.3	+4.89
Kansas City	8.3	265.5	281.1	+5.00
Los Angeles	8.4	298.5	326.6	+3.10
Miami	8.5	293.8	308.4	+6.54
Minneapolis	8.8	294.2	312.7	+3.07
New Orleans	7.8	262.1	277.7	+2.47
New York	10.0	305.2	328.3	+2.36
Philadelphia	8.6	290.1	304.5	+2.56
Pittsburgh	9.2	279.0	296.6	+6.70
St. Louis	9.1	290.5	307.8	+3.65
San Francisco	8.6	375.8	411.1	+2.97
Seattle	8.5	268.0	299.5	+2.97

Differences in costs between two cities may be compared by dividing the cost differential figure of one city by that of a second; if the cost differential of one city (10.0) divided by that of a second (8.0) equals 125%, then costs in the first city are 25% higher than costs in the second. Also, costs in the second city are 80% of those in the first (8.0 ÷ 10.0 = 80%) or they are 20% lower in the second city.

The information presented here indicates trends of building construction costs in 21 leading cities and their suburban areas (with a 25-mile radius). Information is included on past and present costs, and future costs can be projected by analysis of cost trends.

ECONOMIC INDICATORS



HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL BUILDING TYPES, 21 CITIES

1941 average for each city = 100.00

Metropolitan area	1967 (Quarterly)								1968 (Quarterly)						
	1960	1961	1962	1963	1964	1965	1966	1st	2nd	3rd	4th	1st	2nd	3rd	4th
	U.S. Average	213.5	264.6	266.8	273.4	279.3	284.9	286.6	292.7	293.7	295.5	297.5	301.5	302.6	309.3
Atlanta	223.5	294.7	298.2	305.7	313.7	321.5	329.8	332.4	333.4	334.6	335.7	345.6	346.7	352.3	
Baltimore	213.3	269.9	271.8	275.5	280.6	285.7	290.9	290.4	291.5	294.9	295.8	302.9	304.1	307.9	
Birmingham	208.1	249.9	250.0	256.3	260.9	265.6	270.7	272.9	274.0	273.8	274.7	278.5	279.5	283.6	
Boston	199.0	237.5	239.8	244.1	252.1	257.8	262.0	262.9	263.9	264.8	265.7	269.3	270.3	276.3	
Chicago	231.2	289.9	292.0	301.0	306.6	311.7	320.4	320.4	321.3	327.3	328.4	329.4	330.0	338.7	
Cincinnati	207.7	257.6	258.8	263.9	269.5	274.0	278.3	278.7	279.6	287.3	288.2	291.4	292.5	301.8	
Cleveland	220.7	265.7	268.5	275.8	283.0	292.3	300.7	300.0	301.3	302.6	303.7	316.5	318.3	330.7	
Dallas	221.9	244.7	246.9	253.0	256.4	260.8	266.9	267.6	268.5	269.5	270.4	272.3	273.4	281.0	
Denver	211.8	270.9	274.9	282.5	287.3	294.0	297.5	297.6	298.5	304.0	305.1	304.9	306.0	311.7	
Detroit	197.8	264.7	265.9	272.2	277.7	284.7	296.9	298.0	299.1	300.1	301.2	309.2	310.4	315.5	
Kansas City	213.3	237.1	240.1	247.8	250.5	256.4	261.0	260.8	261.9	263.4	264.3	267.5	268.5	277.2	
Los Angeles	210.3	274.3	276.3	282.5	288.2	297.1	302.7	303.6	304.7	309.0	310.1	312.0	313.1	319.3	
Miami	199.4	259.1	260.3	269.3	274.4	277.5	284.0	283.4	284.2	285.2	286.1	293.1	294.3	304.5	
Minneapolis	213.5	267.9	269.0	275.3	282.4	285.0	289.4	292.0	293.1	299.2	300.2	300.0	301.0	309.0	
New Orleans	207.1	244.7	245.1	248.3	249.9	256.3	259.8	262.3	263.4	266.7	267.6	270.6	271.6	273.9	
New York	207.4	270.8	276.0	282.3	289.4	297.1	304.0	309.4	310.6	312.5	313.6	315.9	317.0	320.6	
Philadelphia	228.3	265.4	265.2	271.2	275.2	280.8	286.6	287.1	288.1	292.8	293.7	293.3	294.2	300.9	
Pittsburgh	204.0	250.9	251.8	258.2	263.8	267.0	271.7	272.2	273.1	274.1	275.0	293.0	284.2	293.1	
St. Louis	213.1	256.9	255.4	263.4	272.1	280.9	288.3	290.3	291.3	292.3	293.2	293.7	294.7	303.6	
San Francisco	266.4	337.4	343.3	352.4	365.4	368.6	386.0	388.1	389.2	389.6	390.8	396.4	398.0	401.9	
Seattle	191.8	247.0	252.5	260.6	266.6	268.9	275.0	276.5	277.5	282.6	283.5	286.2	287.2	291.6	

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.

# Here's the great new shape of leak-proof glazing.

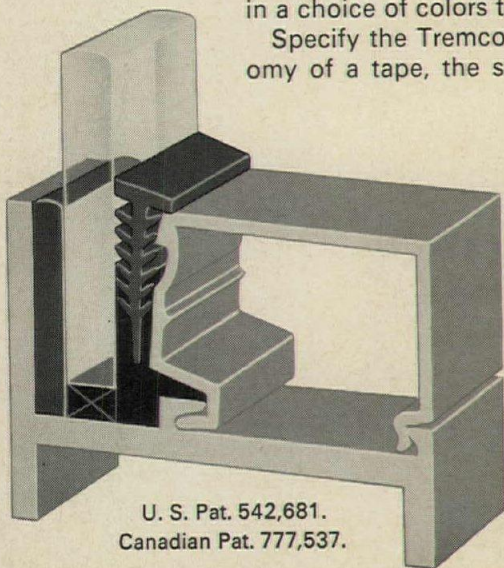
## So unique it's patented.

This exclusive Tremco Vision Strip digs its fins into a layer of Mono Sealant for a secure barrier against moisture. On the outside, Tremco 440 Tape adheres firmly to the glass for another tight seal.

Together, these three components of the Tremco Glazing System give windows 100% leak-proof security for twenty years or more. Besides, they look great. Sight-lines stay clean and uniform with tape and vision strip that come in a choice of colors to match your sash.

Specify the Tremco Glazing System and you've got the economy of a tape, the security of a sealant, and the attractiveness of gasketing for any sash you choose. Your Tremco man can help you add the finishing touches to most sealant specifications. His professional assistance—and Tremco's forty years of sealant experience—can help you design enduring beauty into any application.

Want more information? Ask us to send your Tremco man. He's got a color-sample kit so you can see our great new shape right in your office.



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**Finger tip height control  
with positive safety lock.**

Grant's extraordinary new overhead track feeding support is fully adjustable to multiple high or low gravity feeding positions. Height and lateral adjustment control is always in convenient reach, yet completely off-the-floor and out of the way. The unique 8 hook unit locks securely at the required hydrostatic flow point. Grant's I.V. Support is incomparable for application in surgical, intensive care, X-ray, recovery and related rooms.

Available in 2 sizes; one for under and one for over 9' ceilings.  
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# make it

beautifully...  
when you design with light  
the mcPhilben way...

Got a beautiful theme? Compliment it with mcPhilben's concept of lighting continuity. Our 3 Line exterior luminaires coordinate naturally with plane or curved surfaces, round or flat forms. Beautiful to look at, too, in triple ground, satin finish, anodized for permanence. Unitized cast aluminum construction, unique to mcPhilben... lasts the life of your building. You have a wide selection to assure continuity of theme... from parking area to landscaping to structures. Got a beautiful theme? Design with light... the mcPhilben way.



3 Line luminaires available in Mercury Vapor, Quartz-Halogen and Incandescent with a wide range of wattages and mountings. Write for complete specification data.

make your  
statement specific  
make it... **mcPhilben**



mc PHILBEN LIGHTING  
EMERSON ELECTRIC CO., INC.  
270 LONG ISLAND EXPRESSWAY/MELVILLE, NEW YORK 11741  
Canada: 2275 Midland Ave., Scarborough, Ontario

For more data, circle 50 on inquiry card

## THE TURKISH GOVERNMENT ORGANIZES A CONTEST IN TOURISTIC TOWN PLANNING

The Ministry of Tourism and Information of the Turkish Government has organized an international contest in touristic town planning. The contest will involve the physical planning of a tourist village accommodating 12 thousand people in and around the town of Side on Turkey's Mediterranean coast.

The contest will be open to architects, town planners or firms representing them. It will be judged by an international panel including British, French, German, Italian and Swiss experts in addition to Turkish authorities.

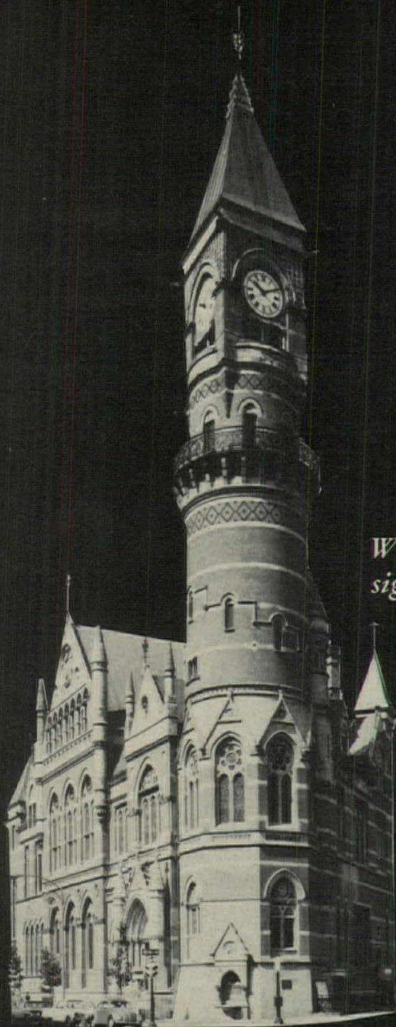
The contest will be open between November 27, 1968 and June 16, 1969 and the first prize will be 100 thousand Turkish Liras, with an additional 913,500-Lira fee for detailed application plans, 50,000 Liras for traveling expenses, and 5,000 Liras per month as advisor's fee. There will be 7 additional prizes for runners-up.

Information and entry blanks may be obtained by applying direct to the Turkish Ministry of Tourism and Information at the address below:

TURİZM VE TANITMA BAKANLIĞI,  
FİZİKSEL PLANLAMA DAİRESİ,  
GAZI MUSTAFA KEMAL BULVARI NO. 33, KAT 8,  
ANKARA,  
TURKEY

For more data, circle 51 on inquiry card

For more data, circle 48 on inquiry card

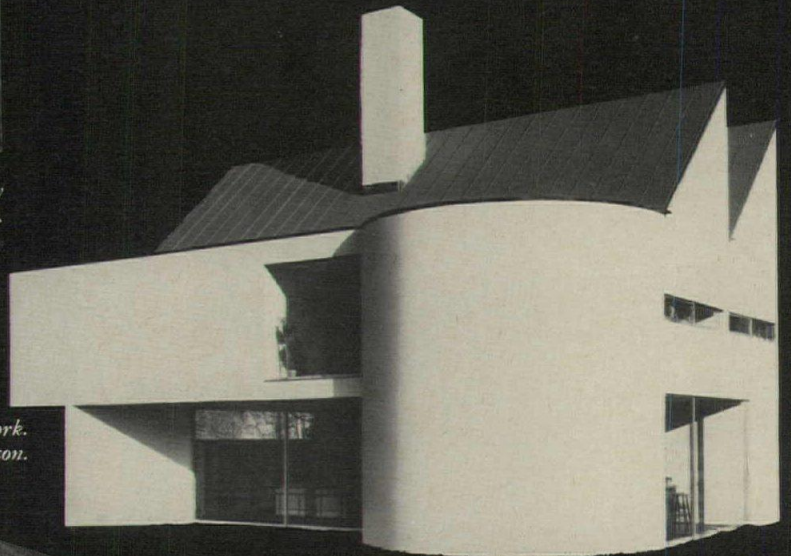


*Jefferson Market Branch Library (Restoration) New York, New York. Architect: Giorgio Cavaglieri, FAIA.*

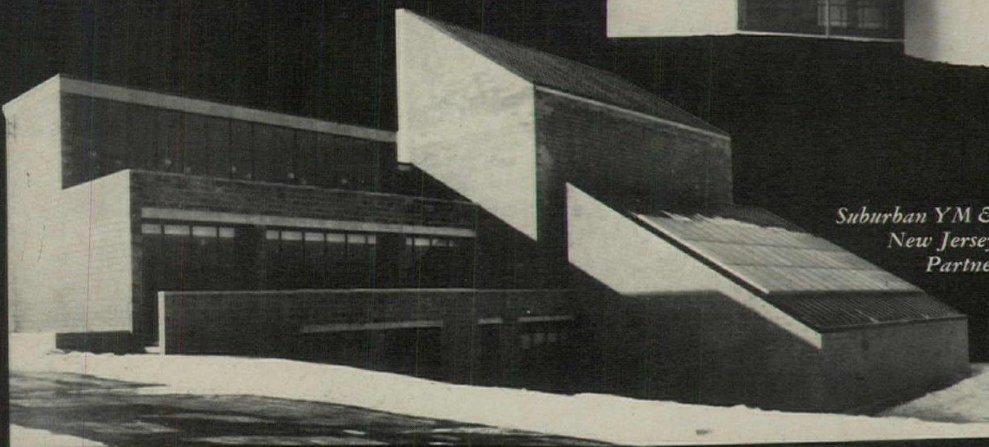
*We are indeed gratified that Follansbee Terne is a major design component in four of the twenty buildings selected by the American Institute of Architects for a 1968 honor award.*

# FOLLANSBEE

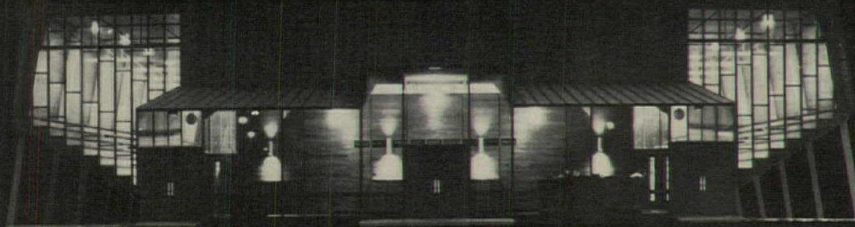
FOLLANSBEE STEEL CORPORATION  
Follansbee, West Virginia



*Residence. Purchase, New York. Architects: Gwathmey & Henderson.*

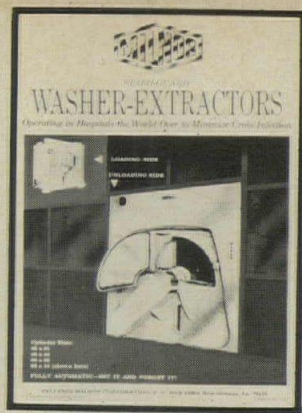


*Suburban YM & YWHA, West Orange, New Jersey. Architects: Gruzen & Partners. Consulting Architect: Abraham W. Geller.*



*Washington and Lee High School Gymnasium, Montross, Virginia. Associated Architects: Stevenson Flemer, Waitsfield, Vt., Eason Cross and Harry Adreon, Washington, D.C.*





## Planning a hospital?

Send for New MILNOR booklet on safe hospital laundry systems

Latest information on system for avoiding cross-infection in hospital laundries. Prepared by America's leading manufacturer of commercial washer-extractors. Outlines essential features of double-door pass-through design, shows STAPH-GUARD® laundry system, lists specifications. For your free copy, write PELLERIN MILNOR CORPORATION, P. O. BOX 19264, NEW ORLEANS, LA. 70119.

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EQUIPMENT

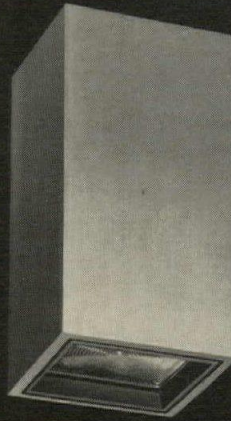


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# escape to the extraordinary

You create with stone. Wood, Masonry. Accent your statement with mcPhilben's concept of lighting continuity. Our 6 Line exterior luminaires enhance bold straight lines, textures and rectangular forms. From building to walkways, landscaping and parking areas you get complete design continuity. mcPhilben beauty is more than skin deep. Unitized construction, anodized, triple ground satin finish... unique to mcPhilben... to last the life of your building. So let yourself go! Design with light... the mcPhilben way...



6 Line luminaires available in Mercury Vapor, Quartz-Halogen and Incandescent with a wide range of wattages and mountings.

Write for complete specification data.

make your statement specific make it... **mcPhilben**



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## Just another Heat Transfer Coil?

## NONSENSE!

Smooth-fin design gets the credit. Its tapered shape puts every inch of transfer surface to work. There's room for more fins—more heat exchange per sq. ft. of compact space—higher air velocities with less turbulence are possible and practical.

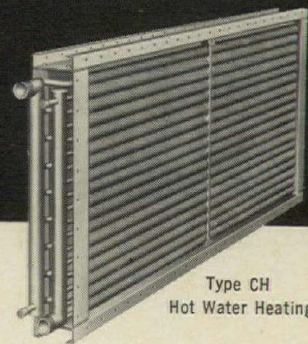
Water coil drainage is positive—heating coil drainage and venting is greatly improved. Aero-fin coils are lighter even though framed in rugged pressed-steel casings.

But there's more. Aero-fin completely engineers coils to fit today's most

sophisticated heating and air conditioning fan-system applications. Complex mechanical and thermal calculations are made. Collateral factors are objectively evaluated: pressure drops—turbulence and velocity variables—stainless steel or copper tubes with correct diameter

and fin-spacing efficiencies—fluid fouling factors—and header designs for easy banking in stacks or connecting to duct work.

Specify dependable, true-rated Aero-fin Coils and get maximum performance. Comfort control of America's showcase structures offers testimony to that promise.



Type CH  
Hot Water Heating Coil

## AEROFIN CORPORATION

Lynchburg, Virginia 24505

Aero-fin is sold only by manufacturers of fan system apparatus. List on request.

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### Noise problems

Your article on noise problems in the September RECORD has been very well received. Everyone agrees you have done an outstanding job of clarifying, with accuracy, a rather complex problem for your architectural readers. Having dealt for some time with the problems of noise transmission in multi-family dwellings, we know the subject is of interest to many people—most important of whom are apartment dwellers themselves—and therefore it is important for architects to understand the dynamics of these problems.

Roger T. Groce  
Armstrong Cork Company

### Glen Oaks College: a correction

We thank you for the generous coverage of our three colleges in the October issue of RECORD. Almost everyone in the office has participated in the projects in one way or another and all are unanimously impressed with the published results, particularly the true color reproductions of our drawings.

Your readers and our client will have to be told that Glen Oaks College cannot be "taken down and re-erected elsewhere." Only the wall components can for expansion; the structure is permanent.

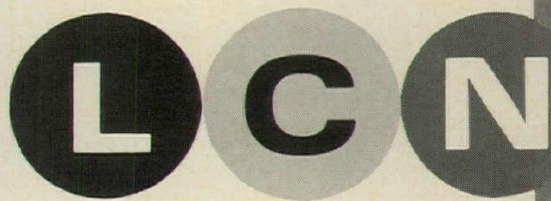
Gunnar Birkerts  
Birmingham, Michigan

### A plea to programmers

In conjunction with Mr. Sim Van der Ryn, Department of Architecture, University of California at Berkeley, I am working on a research project sponsored by the National Institute of Mental Health. The goal of this project is to collect data on theoretical and technical design methodologies as they apply to the architectural planning process. The result of this project will be a book of our findings that will be published by March, 1970. My role is to collect data on existing computer programs relating to all aspects of architectural design.

I need the following information from programmers: Program name, programmer, sponsor, description, program limitations, machine specifications, availability and references. In addition, a copy of the computer output MUST accompany each program submission. Please direct all material to me at the Laboratory for Computer Graphics and Spatial Analysis, Graduate School of Design, Harvard University, Cambridge, Massachusetts 02138.

Eric Teicholz



## door control concealed in the head frame

In this new library building the architects equipped the doors with LCN Overhead Concealed Closers—2010 Series. The mechanism is completely out of sight. Even the Closer arm disappears when the doors are closed. Yet all the necessary control is there—with power to spare.

LCN is a door closer company. That's all they've made for over forty years. Out of this specialization has come a competence that has made LCN the standard of quality in door closers. If you want door closers on your next building that operate at the lowest long-run cost—specify LCN.

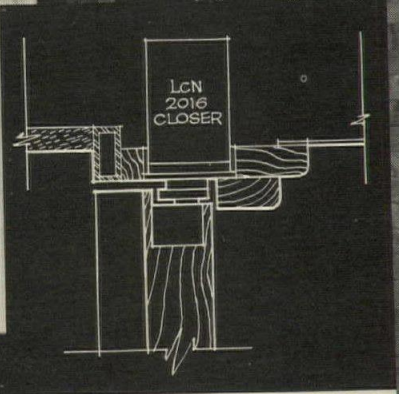
The complete LCN line is described in Sweet's. To supplement that LCN will be happy to send you a catalog for your files.

PHOTO: Bellevue Public Library, Bellevue, Washington;  
Ridenour & Cochran AIA Architects.

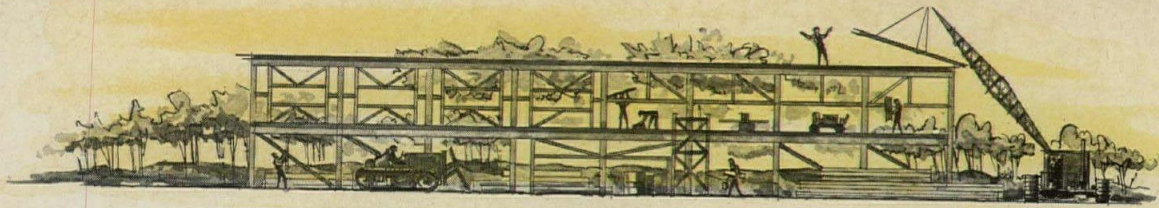
LCN CLOSERS, PRINCETON, ILL. 61356  
A Division of Schlage Lock Company  
In Canada: LCN Closers of Canada, Ltd.

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EXIT



The LCN 2016 Closer is concealed in the head frame above the door. Arm disappears when door is closed.



## GOING UP

Another SCHOOL sealed with Dow Corning 780 building sealant

## COMING UP

30 years of freedom from leaks!



This silicone rubber elastomer is so uniquely weather-resistant, industry sources project 30 years or more of leak-free service when the sealant is properly applied in a well designed joint. That's *ten years longer* than they project for any other class of sealant!

Put Dow Corning® 780 building sealant at the head of your list of *long-life* components. It belongs. Why design for anything less?

See Sweets for Dow Corning 780 building sealant; check into Dow Corning® 781 building sealant for nonporous surfaces. They're both extra long life. Or drop us a line for FREE DEMONSTRATION SAMPLE and full particulars. Address Dow Corning Corporation, Dept. C-8410, Midland, Michigan 48640. Offer good only in U.S.A.

# DOW CORNING

DOW CORNING

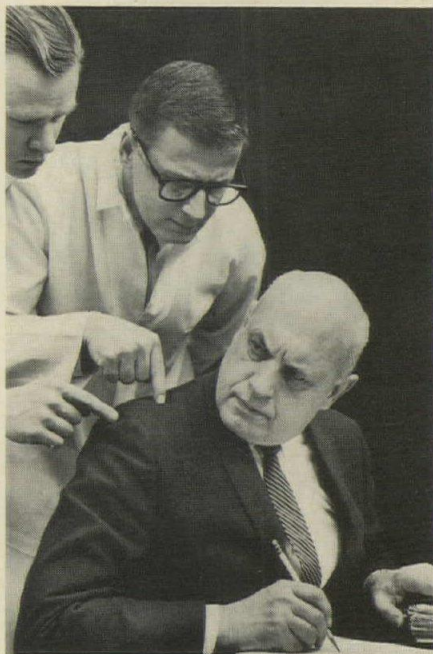
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# The facts of light

*No. 6 in a series  
on plastic  
lighting panels.*

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## Our men in white coats are looking for you right now.



They're a little sore because someone said lighting specifiers aren't interested in the KSH Lighting Panel Laboratory. Maybe so. But you should be.

This is the most complete research and quality control lab maintained by any manufacturer of plastic lighting panels.

**And that's one big reason KSH can guarantee that all K-Lite panels are Specification Quality.\***

The KSH "white coat brigade" is a group of technical people who know lighting and plastics. They keep up with new trends . . . develop new prismatic designs . . . test new materials . . . check all our products at every step from raw material to finished product.

Specify K-Lite by brand name. K-Lite is backed by the company where lighting is a science.

Check with your fixture manufacturer. You'll find that K-Lite quality is a bargain.

\*Only two firms offer a line of Specification Quality panels.

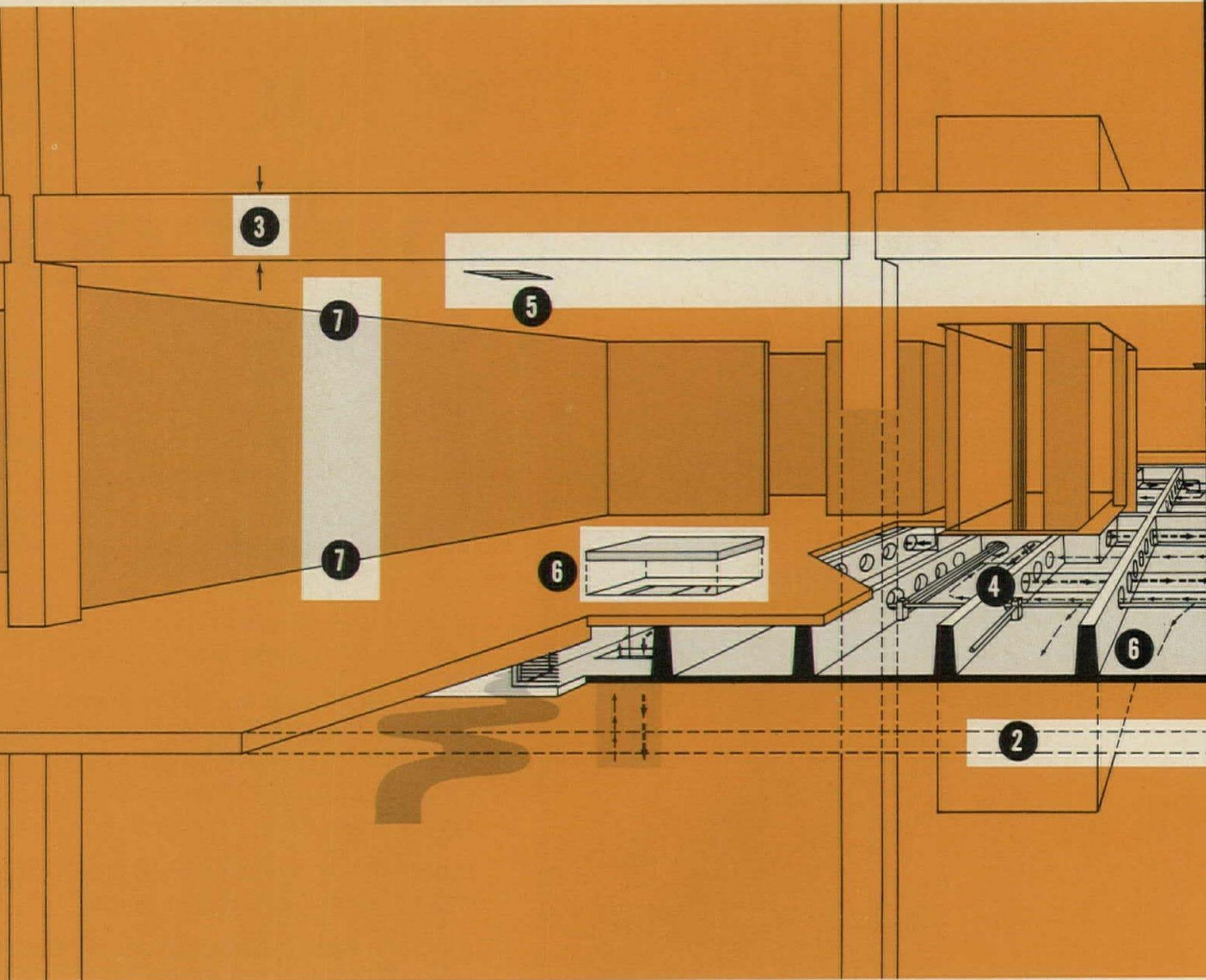
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*For more data, circle 58 on inquiry card*

# PCA introduces design in a new concrete building system.

## Triposite



**1** Spanning members, columns, shear walls and stairs are precast.

**2** Beams, composite acting floor slabs and shear wall connections are cast-in-place, tying all members into a monolithic structure.

**3** Total depth of the floor/ceiling system is reduced. No suspended ceiling. No topping slab needed as surface leveling.

**4** All mechanical and electrical work is done in the floor. Avoids expensive overhead work and hangers. No forming or temporary scaffolding is required.

Cooperation between precast plant and HVAC, electrical, mechanical and communications contractors result in substantial savings. **5** Grills can be easily cast into spanning members. By casting grills in exterior beams, plenum can be used for fresh air supply and exhaust. Depressions for bathrooms can be made without restricting span length.

# freedom

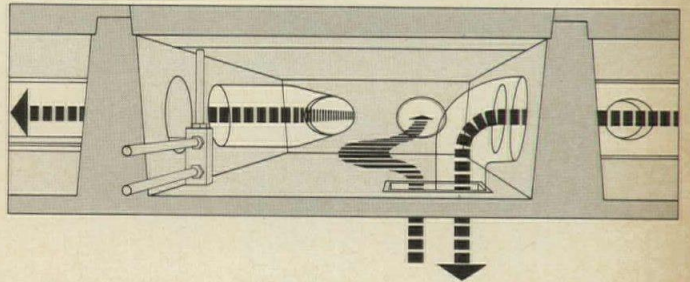
Tri|posite was first conceived by the Portland Cement Association as an industry answer to the needs of educational buildings. Yet the system is applicable to almost all buildings.

Other systems tend to force architects to design buildings in rigid patterns.

Tri|posite does not.

It accommodates to almost any exterior configuration. Spans up to 35 feet with 18-inch depth. There is complete freedom in choosing exterior material. The cast-in-place beams lend themselves easily to an exposed frame. Beams can hold inserts, shelf angles and can receive any architectural treatment.

A composite system of (A) structure, (B) HVAC and (C) partition is the key to Tri|posite, hence the name.



The open horizontal zone makes compatibility possible. The zone can accommodate other subsystems such as plumbing, electrical and communications.

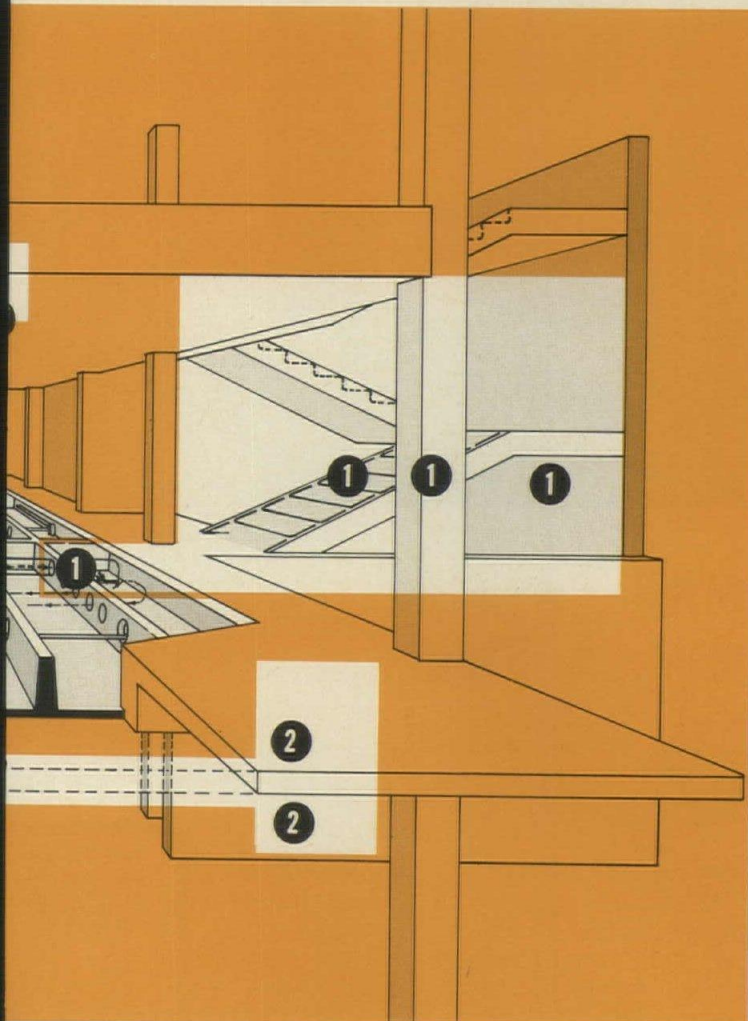
The credentials of Tri|posite are impressive.

Hellmuth, Obata and Kassabaum, St. Louis, were consultants for the detailed design work for the system. It is the structural system to be used for URBS (University Residential Building System) by the University of California.

Interpace Corp. of Pomona, Calif., is the bidder of the system for the URBS project. They (or any other reputable precast firm) can economically produce the system to your specs.

Tri|posite provides a fast, flexible, economical solution to almost any structural problem. Yet it doesn't infringe on your freedom to design.

For complete information, mail the coupon.



**6** Open horizontal zone for HVAC, mechanical, electrical and communication services. Plenum is inside structural spanning system. Bottom and stems are precast. Top is cast-in-place and acts as compression member and diaphragm. Precast slabs over plenum sections for service access.

**7** Partitions are fastened to concrete top and bottom. Fire-rated demountable partitions attach directly to structure. No complicated detailing as with suspended ceilings to provide acoustic barrier.



An organization of cement manufacturers to improve and extend the uses of portland cement and concrete.

Portland Cement Association, Dept. 12-8  
Old Orchard Road, Skokie, Illinois 60076

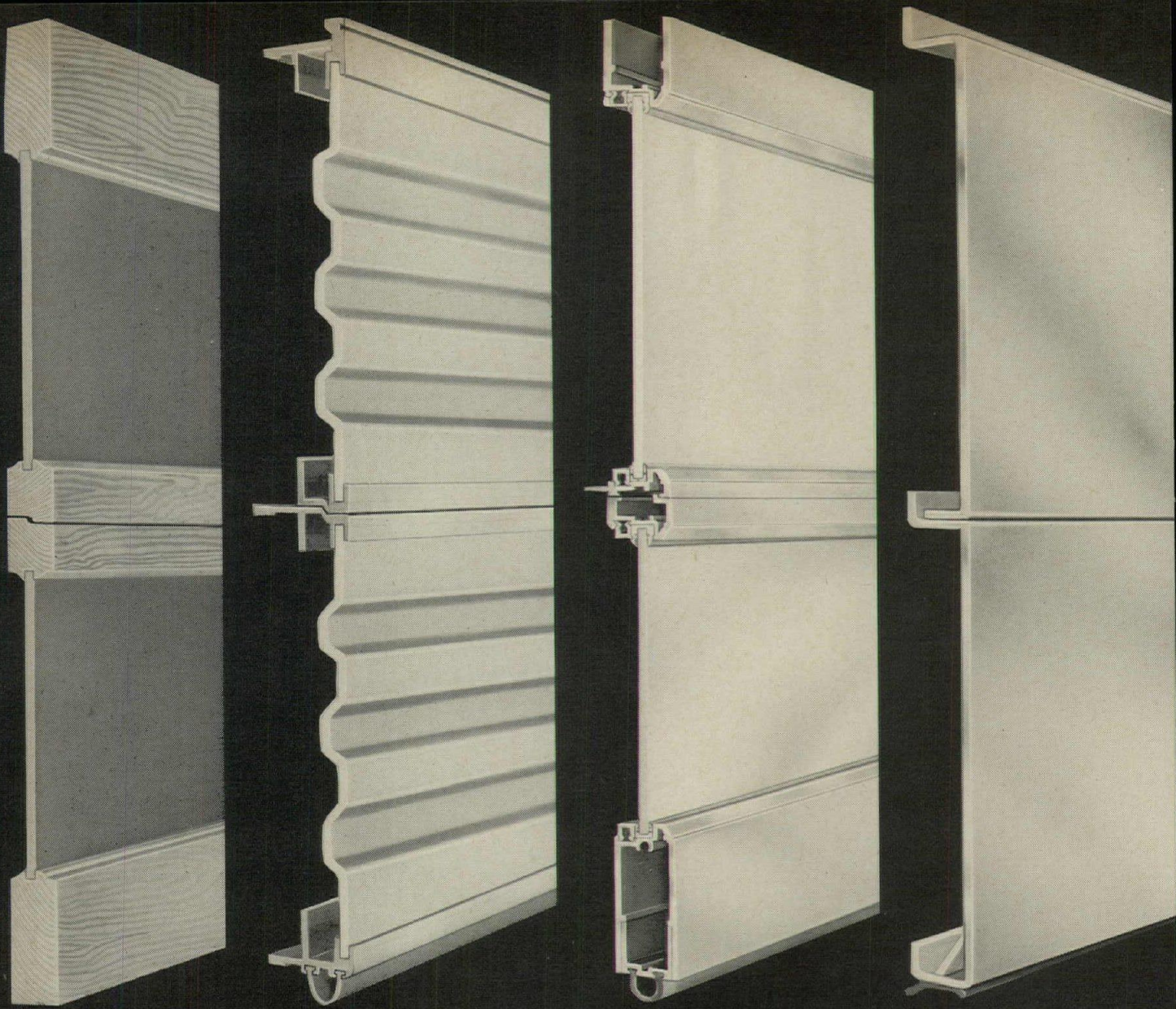
Please send me information about your new Tri|posite building system. (U.S. and Canada only)

NAME \_\_\_\_\_

FIRM NAME \_\_\_\_\_

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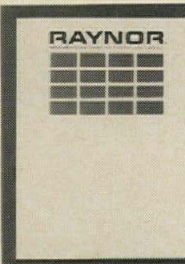
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Commercial. Residential. Industrial.  
Raynor makes them all.**

Raynor builds fine quality garage doors in all four popular materials . . . wood, aluminum, Raylon (fiberglass), and steel. For residential, commercial and industrial uses. All from one source. And what a source! The industry's finest guarantees coupled with such advantages as data film registration for permanent parts-list records.

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**RAYNOR™**

The Brand You Can Depend On

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# CONDEMNED!

USE  
EXISTING  
INCINERATOR  
CHUTES  
AND DROP  
REFUSE  
INTO THE  
POWERMITE

## Here's a \$3,500 replacement !

Here's a low-cost way to replace incinerators and still handle large volumes of trash from high-rise buildings.

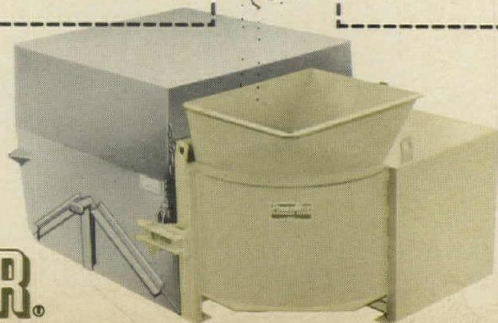
Simply place this small, powerful packer under an existing incinerator chute, attach a container, and drop refuse into PowerMite's charging box.

Over 42,000 pounds of hydraulic pressure crushes waste to a fraction of its former volume inside a detachable container. Bottles, paper, boxes, tin cans, garbage . . . PowerMite handles it all. Waste is reduced as much as four to one, EVEN MORE, depending on the material.

When container is full, a truck-mounted handling unit picks up, hauls, empties, and returns the container to its original packing position.

When a space is tight, PowerMite saves the day. The packer takes up a little over 44 square feet of space and can be fitted with a variety of hoppers and chute connections. Small, detachable containers can fit out through narrow hallways and roll under low ceilings.

Your Dempster Consultant will help you design a refuse disposal system at no obligation. Write today for his name and for more information on the PowerMite!



To: Dempster Brothers, Inc. • Knoxville, Tennessee 37917 • Dept. AR-12

- Send me name of Dempster Refuse Consultant.  
 Send more PowerMite information.

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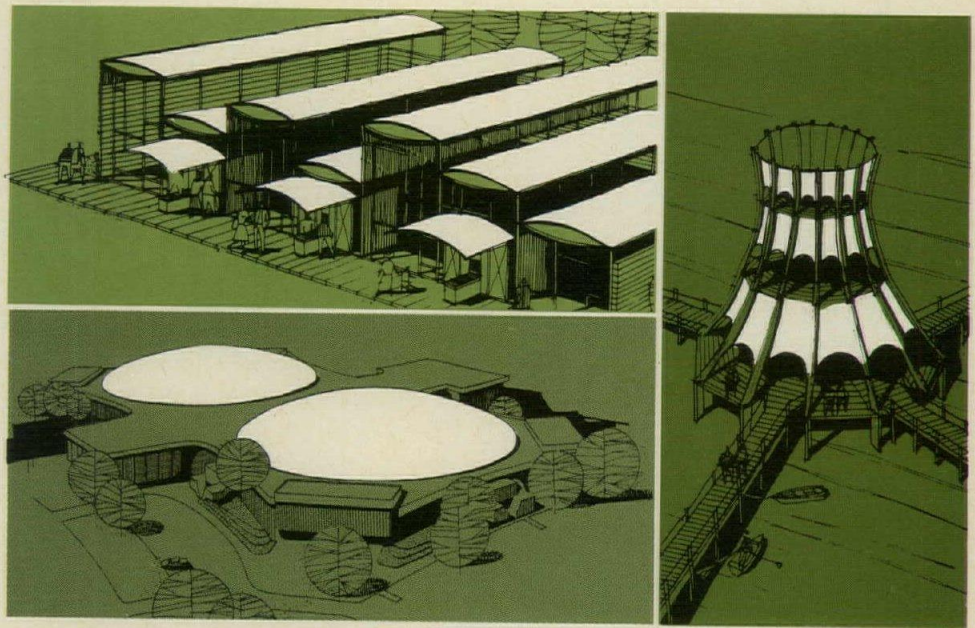
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ONE OF THE  
**DEMPSTER**  
SYSTEMS

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Design a roof that  
can't be covered  
efficiently, durably,  
beautifully ... with



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Design flexibility is inherent in Barrett Chem-Ply — a true one-ply system. The roofing sheet is made of heavy-duty chlorinated polyethylene reinforced with glass fiber and laminated to flexible urethane foam. It follows any line you can draw — can be applied to any roof shape or slope from dead level to vertical.

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Innovations (such as the Chem-Ply-System) are a part of the 114 year old Barrett tradition of leadership. Whether the job calls for the unusual or the conventional, you can't do better than Barrett proven products, total systems, specifications and expert consultation service. Challenge us.



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# Square D E-Z Stack devices

## meet every multi-metering requirement

**High-Rise Apartment** buildings can have smaller electrical closets when you specify Vertical E-Z Stack. This indoor metering system is the most compact available. For example, a completed 24-meter assembly is only 62 inches wide. You can intermix 100, 125 and 150 ampere branch sockets to a maximum of 1,200 ampere mains rated assembly. Minimum on-site assembly reduces cost. Each device is completely internally bussed with plated copper bussing. Load conduits can be installed at the top or bottom of the main and branch breakers. For 120/208 or 120/240 volt service. UL Listed.

**Garden Apartments**, or other two to six dwelling apartments call for Unitized E-Z Stack. Equipment can be installed indoors or outdoors depending on preference or local codes. Installation is a one-man job since enclosures can be mounted with interior removed. This also keeps the interior safe from weather and construction damage until ready for final wiring. Meter sockets are available in 100, 125 and 150 ampere ratings with mains to 600 amperes. For 120/208 V, 3-wire or 120/240 V, 3-wire service. UL Listed.

**Shopping Centers**, commercial buildings and high-rise apartments with special service requirements need Customized E-Z Stack. It uses standard components in free-standing switchboards which can incorporate transformers, fusible switches and other switchboard components as well as the metering devices. Installation costs are minimized because equipment is completely factory-assembled and bussed to specifications. A variety of meter sockets for 1 $\phi$  and 3 $\phi$ , 100 or 200 ampere services is available to meet any requirement. UL Listed.

*Your Square D Field representative or distributor can help you design and select an E-Z Stack system to meet your needs exactly. Call him. Or write us directly for full details. Square D Company, Dept. SA, Lexington, Kentucky 40505.*



**SQUARE D COMPANY**

*Wherever Electricity is Distributed and Controlled*

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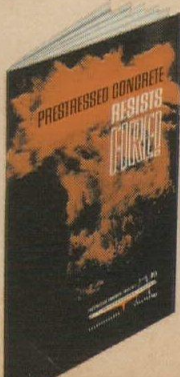
\*Office building, paper-box plant,  
school, and supermarket fire-  
insurance rates on various kinds  
of construction are compared.

Prestressed concrete, inherently resistive  
to fire, provides the benefits of low  
insurance premiums, increased personnel  
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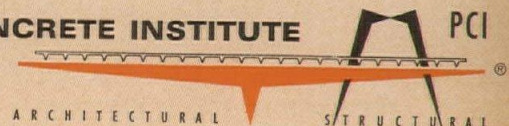
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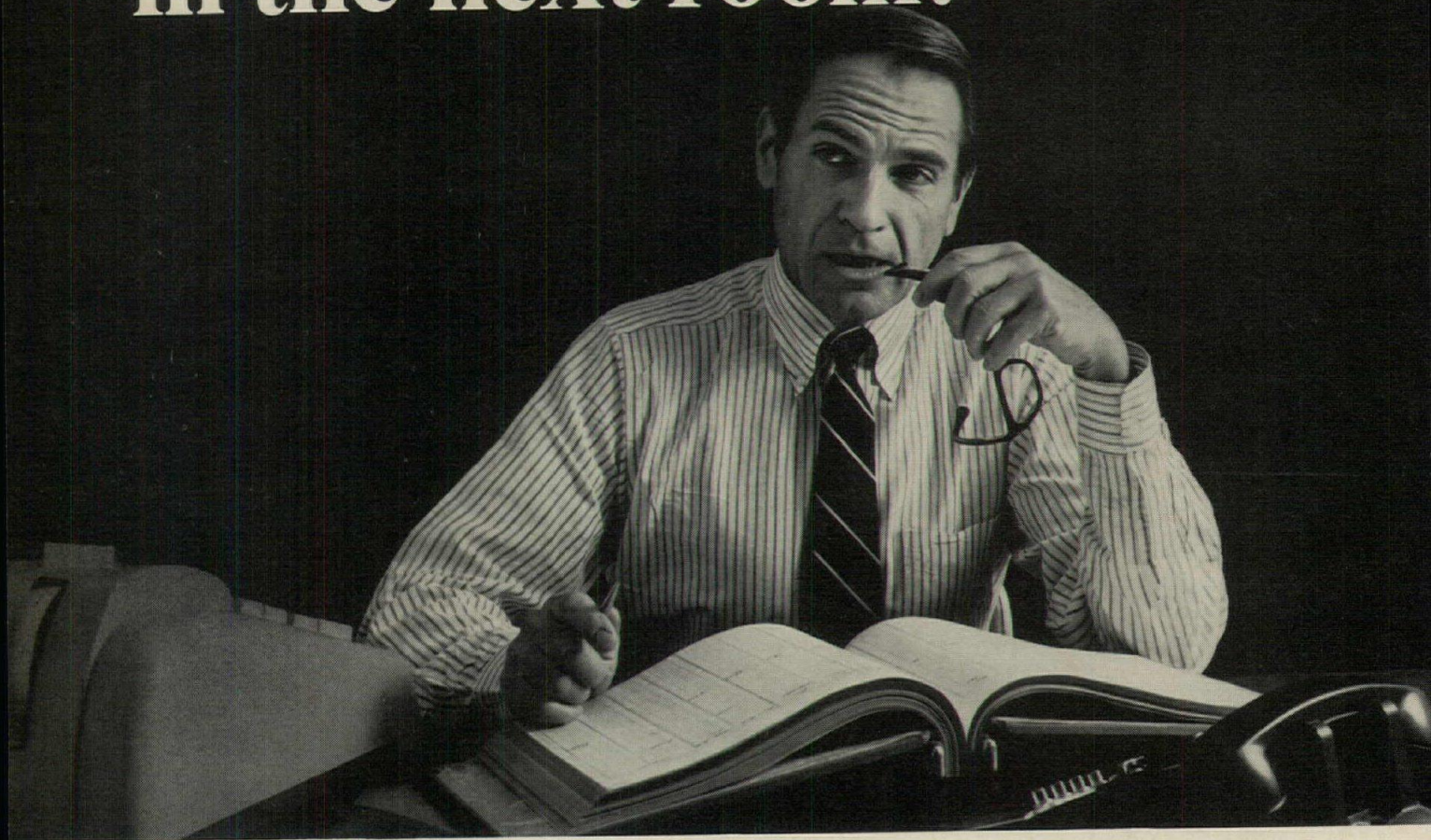
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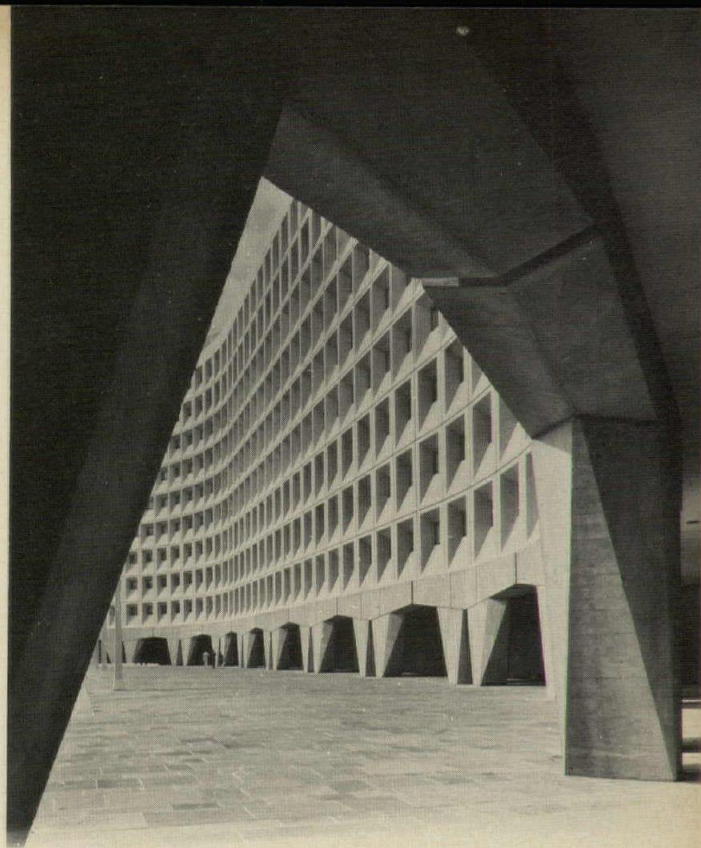
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HEADQUARTERS  
FOR HUD  
BY BREUER  
AND BECKHARD:  
A MAJOR LANDMARK FOR A POLITICAL ERA  
WHICH ASPIRED TO  
A PUBLIC ARCHITECTURE  
OF QUALITY

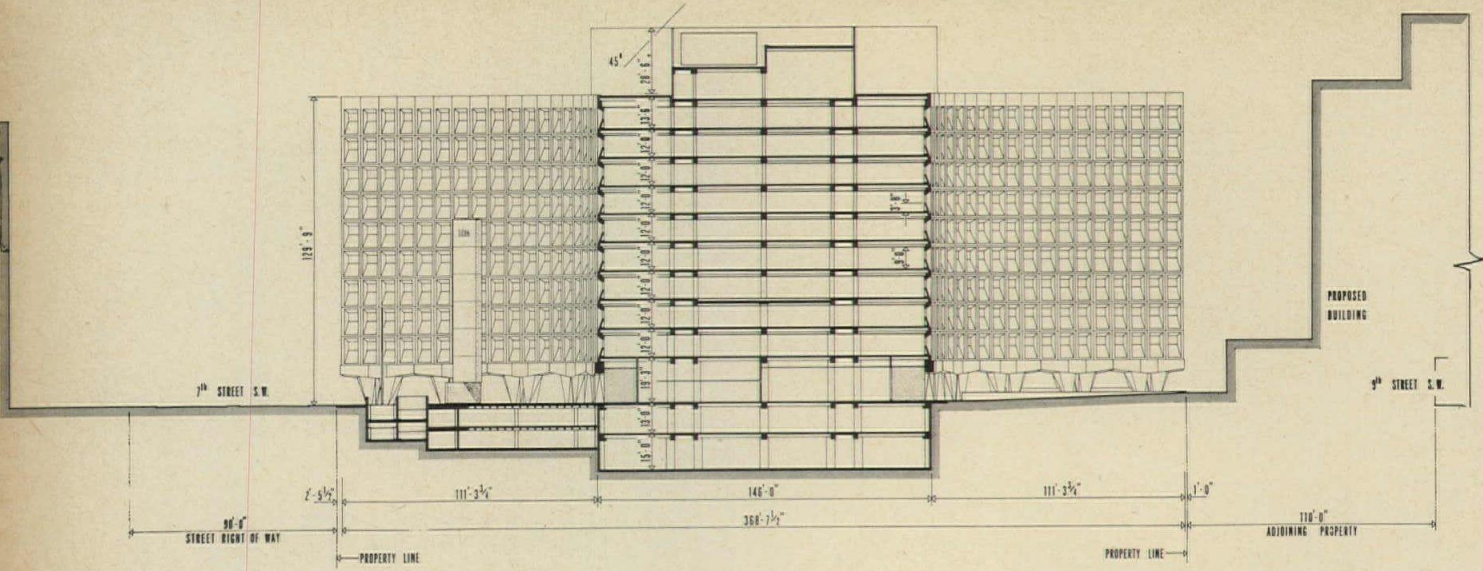


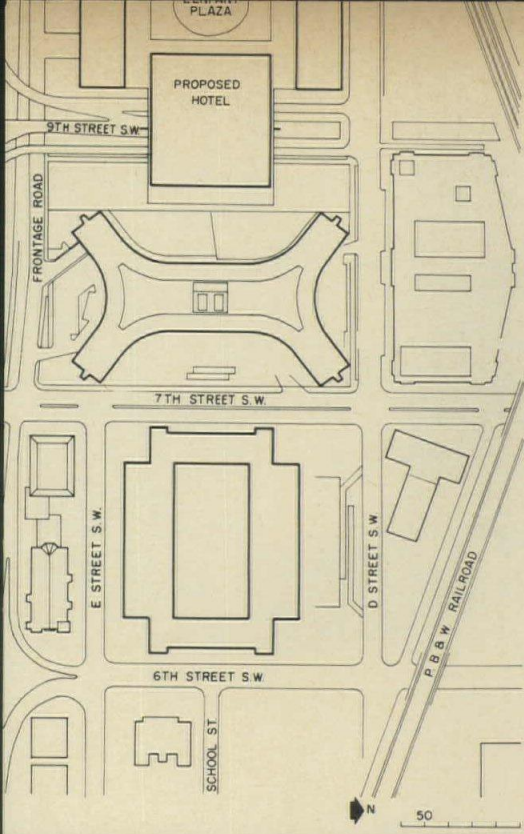
Presidents Kennedy and Johnson were both strongly concerned with the quality of the public buildings by which future generations would remember their administrations. The commissioning late in 1963 of Marcel Breuer to design the new Washington, D.C. headquarters for the HHFA, now become the U.S. Department of Housing and Urban Development, was an outgrowth of a directive called "Guiding Principles for Federal Architecture" sent by President Kennedy in June 1962 to the heads of all Federal agencies. The directive called for "designs which embody the finest contemporary American architectural thought."

The General Services Administration Public Buildings Service, the agency responsible as owner and client for selecting and working with those architects they consider most capable of implementing this directive, ranks the HUD building among the best of the group of notable public buildings which they have commissioned in the Kennedy-Johnson era. It is indeed a major work of architecture and as such is a fitting landmark to symbolize the achievement of an outgoing administration. More important, however, is its symbolic relevance to the future. As the center from which many key Federal design and planning strategies emanate, it is most appropriate that the new building succeeds so well in setting a high standard of public architecture which ideally should prevail throughout the country.

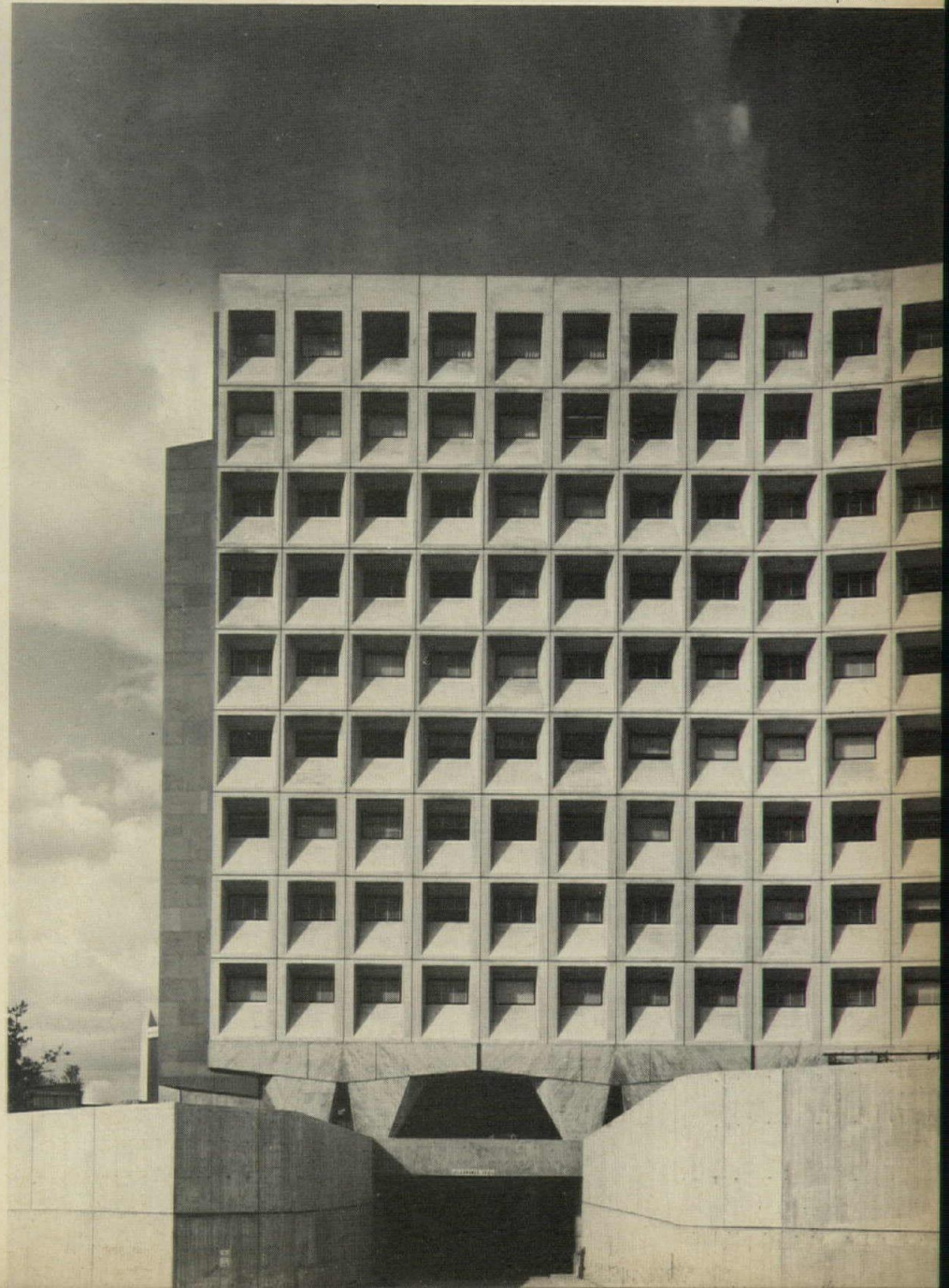
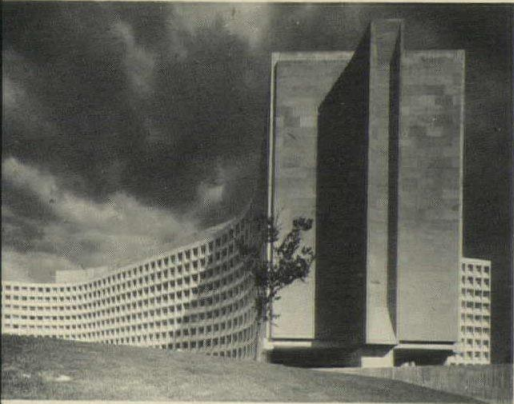
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT HEADQUARTERS BUILDING, Washington, D. C. Owner: *General Services Administration*. Architect: *Marcel Breuer and Herbert Beckhard, Nolen-Swinburne and Associates*; structural engineer: *Paul Weidlinger*; mechanical and electrical engineers: *Joseph R. Loring and Associates*; landscape architect: *George Patton*; food service consultant: *Robert L. Cahn Associates*; contractor: *John McShain, Inc.*

HEADQUARTERS FOR HUD: THE SITE SOLUTION

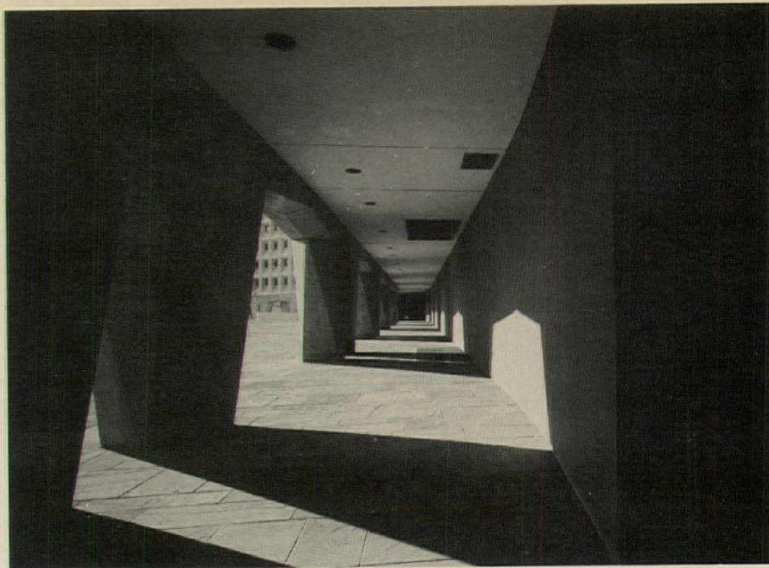


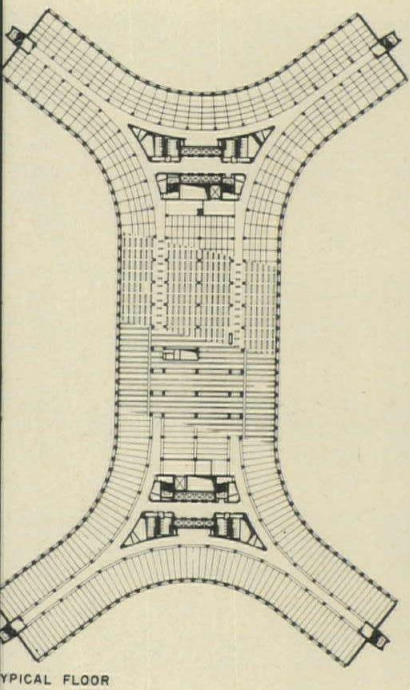
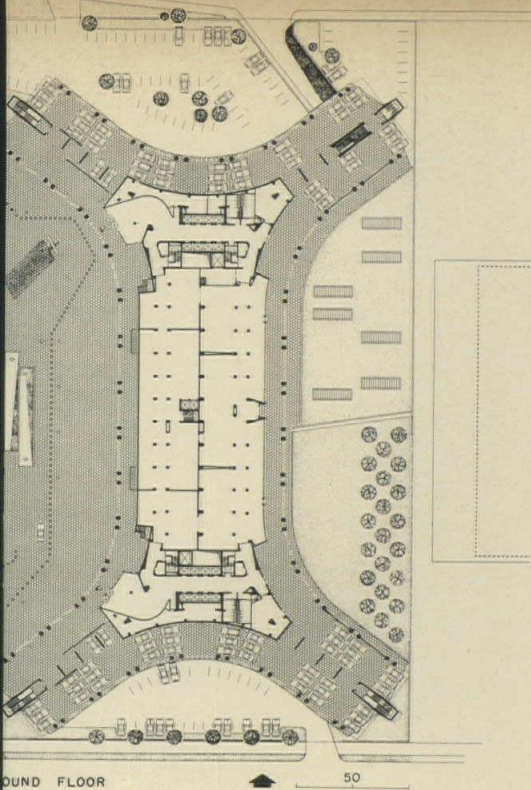


Ben Schnall photos



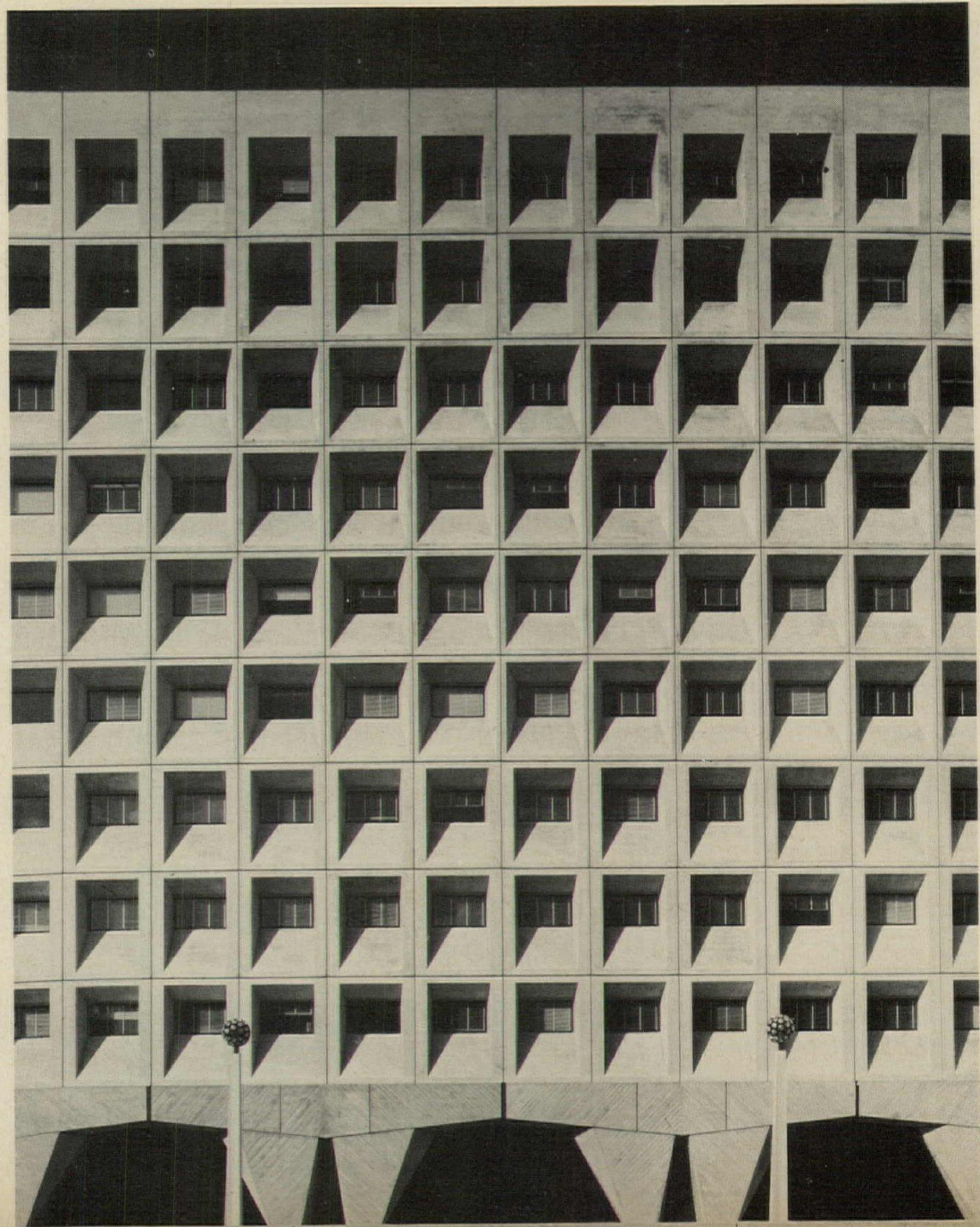
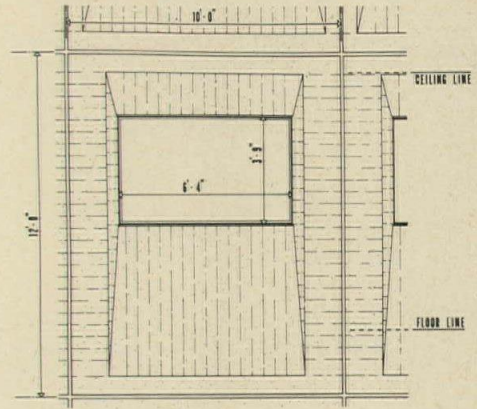
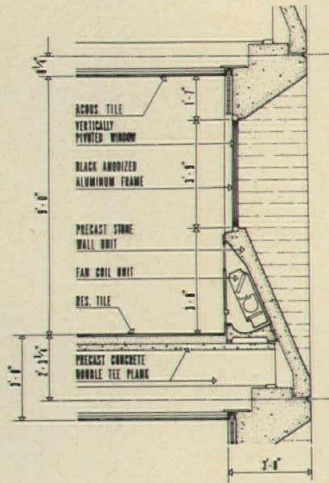
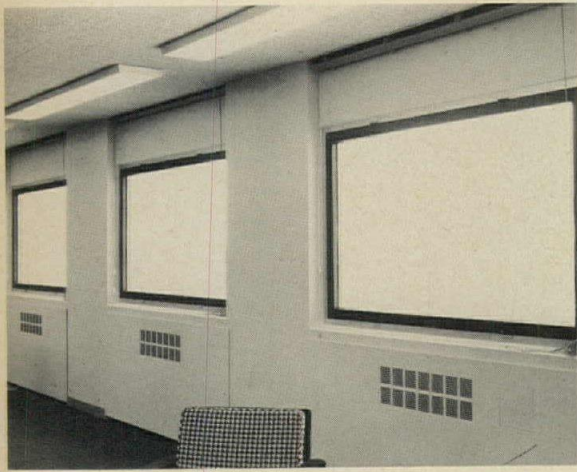
As the site plan and photographs show, the HUD building, bone-shaped in plan, is on a very tight plot bounded to the south by a thruway and on the remaining three sides by broad streets, which to the north and east border large buildings that extend right up to the sidewalk. To the west, I.M. Pei's L'Enfant Plaza, with its proposed hotel bridging 9th Street to HUD's lot line, was a further design constraint, as were the building height limitations of Washington, D.C. The plot had to accommodate a building large enough to provide office space for as many as 4700 employees scattered in 20 different buildings throughout the city. Extensive parking was required. The architects' solution was to create a double Y, 10 stories high, with each wing extending to the lot lines, thus creating four generous open spaces to counteract the impinging elements. An axial relationship was developed with regard to Pei's buildings, two of which are now complete. Below the plaza are three levels of underground parking reached by ramps on the main plaza, and from side streets, as shown in the photograph at right and site plan above.

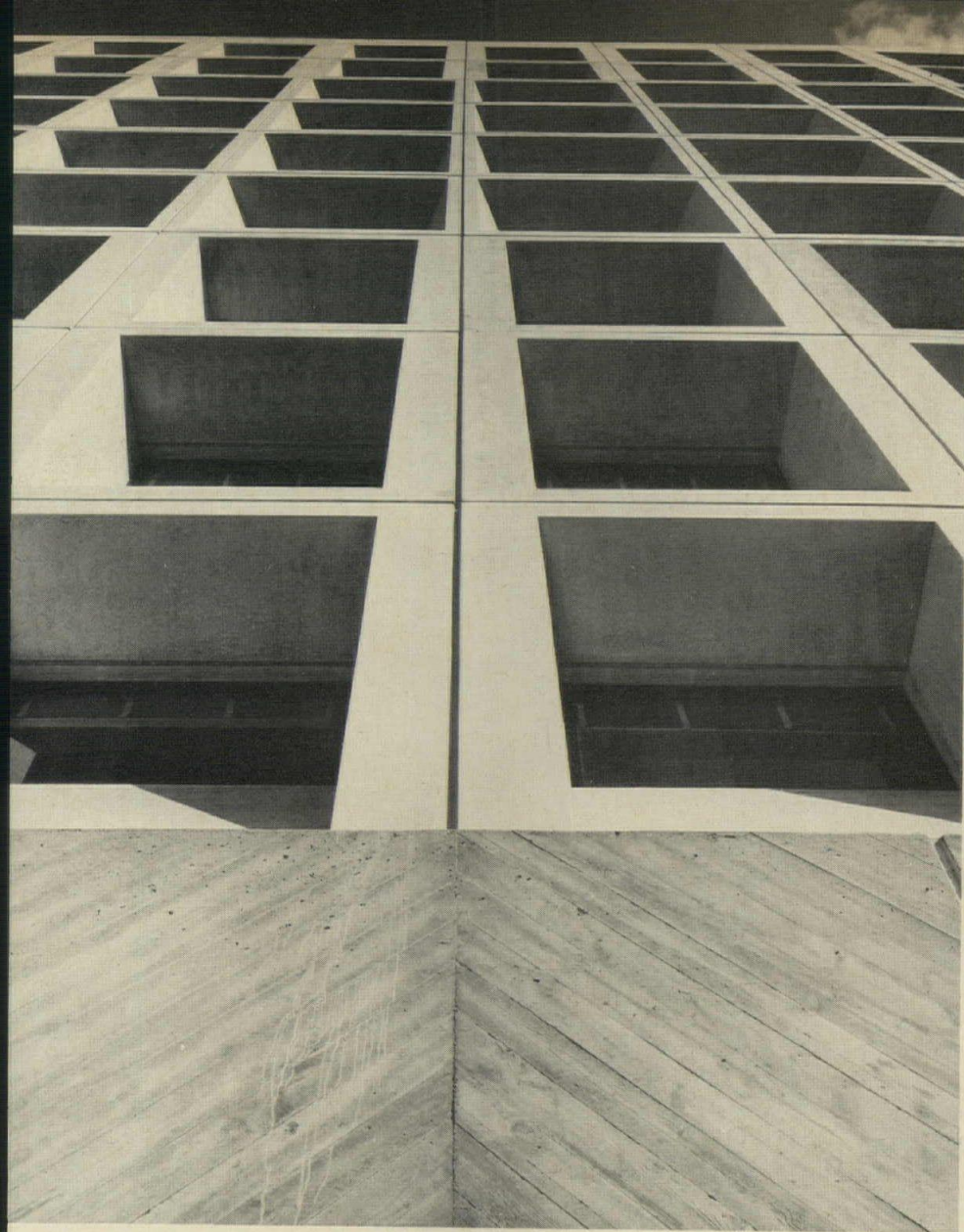




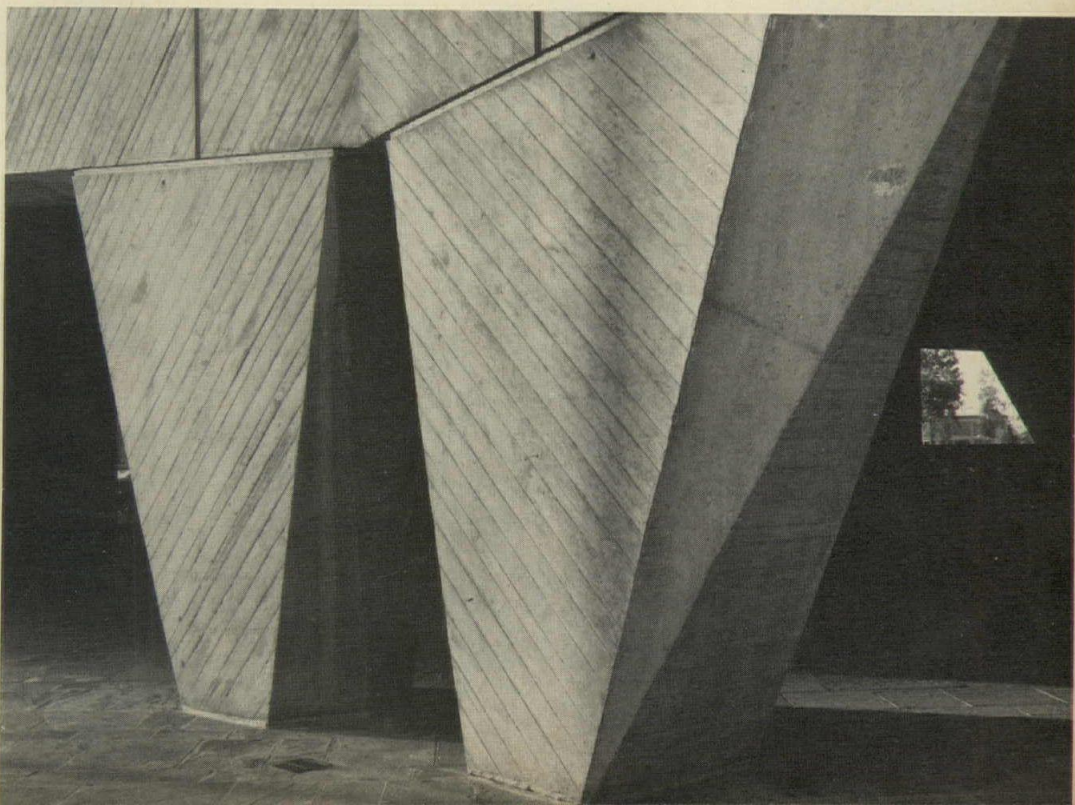
The plaza level plan shown at the top of the page indicates the cafeteria, kitchen, and the two identical entrance lobbies. The plan shown directly above is a combination drawing of a typical office floor, indicating the partition module at the top of the plan and the structural module at the bottom. The two center insets show the lighting pattern and the underfloor ducts. The main motor entrance is shown in the photographs of the courtyard at left and right. The blue stone paving is continuous across the plaza surface, vehicular access being separated from the pedestrian walk by low concrete bollards. The photo at the top of the opposite page shows the arcade that forms the base of each of the four facades.

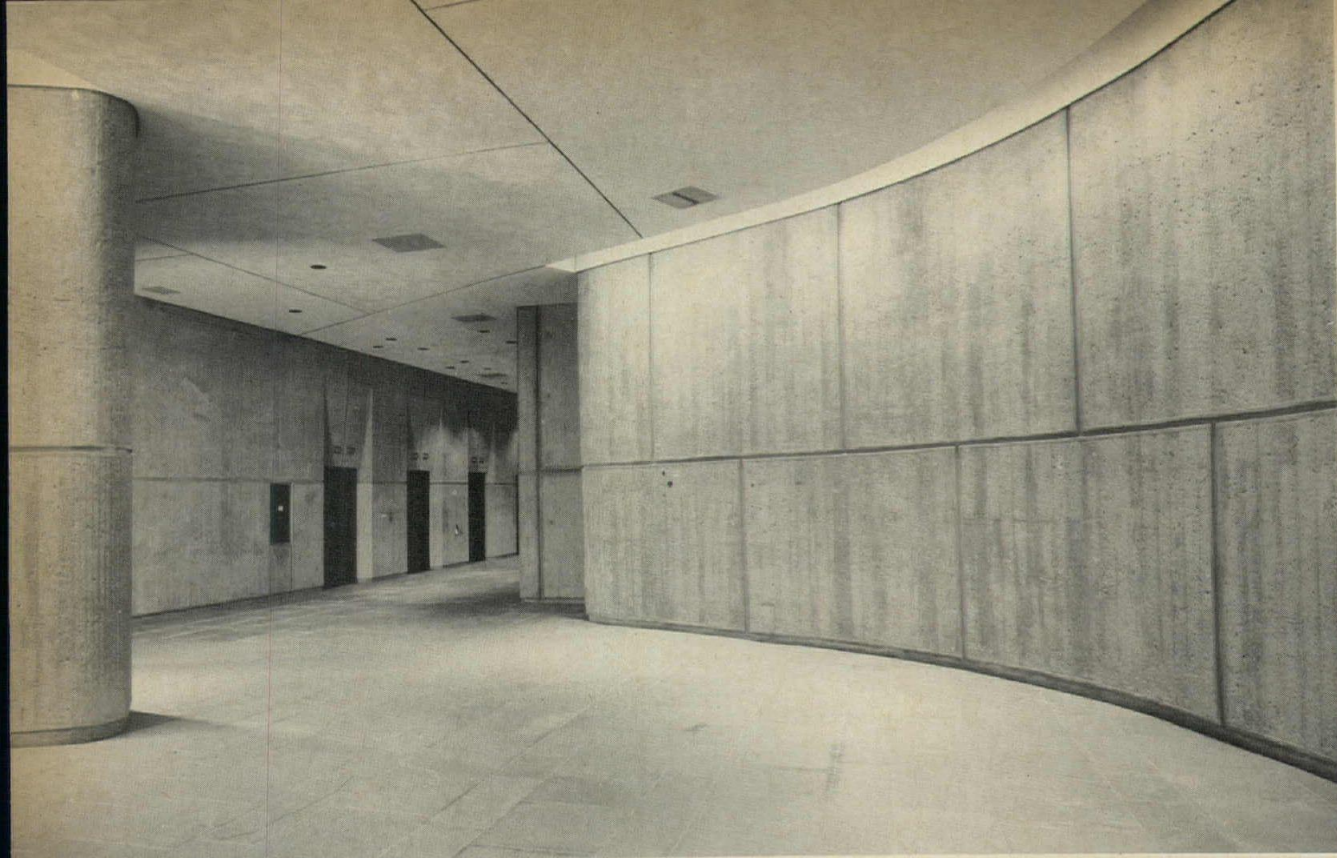




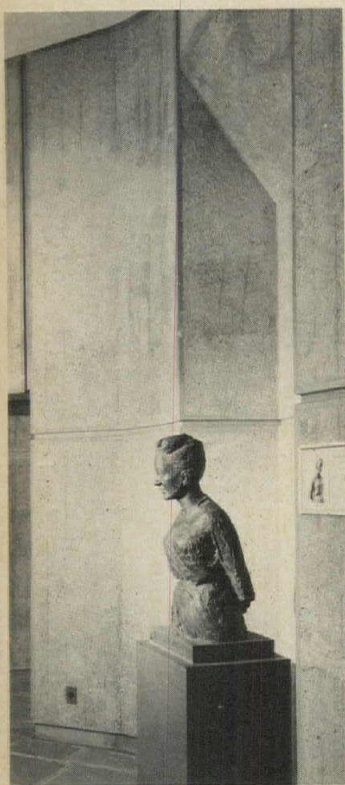


Thé details on this page reveal that the HUD building is based on a 10-foot module defined by the precast structural wall units. These units provide a flush interior wall, uninterrupted by any projections, as shown in the interior photo. The panels transmit their loads to the poured-in-place spandrel beams which resemble their own shear diagrams. These in turn are supported to the two-pronged pilotis, which are actually single columns with the inessential material removed. Precast concrete double tees span 30 feet from the outer face to a poured-in-place continuous beam supported by columns on 30-foot centers. The interior frame and the elevator cores are poured-in-place concrete. The photograph above and at left shows that the vertical edges of the precast window units are wider on the first three floors and the last two than they are in the four middle floors, and therefore the angles of inset are less acute. This is a stylized rather than literal expression of the fact that the loads to be carried are greater toward the bottom of the wall, while the ducts within the vertical members which handle air supply and return from the mechanical penthouse need to be larger near their source at the top.





Unfortunately HUD, in the interests of economy, brought its own old furniture into the new structure to the great detriment of the interior spaces. Under the control of the architects, however, were the public corridors and elevator lobbies. To honor her role as one of the leading pioneers in housing legislation, a bust of the late Catherine Bauer Wurster by her friend, architect Oscar Stonorov, has been given a prominent place in the lobby.





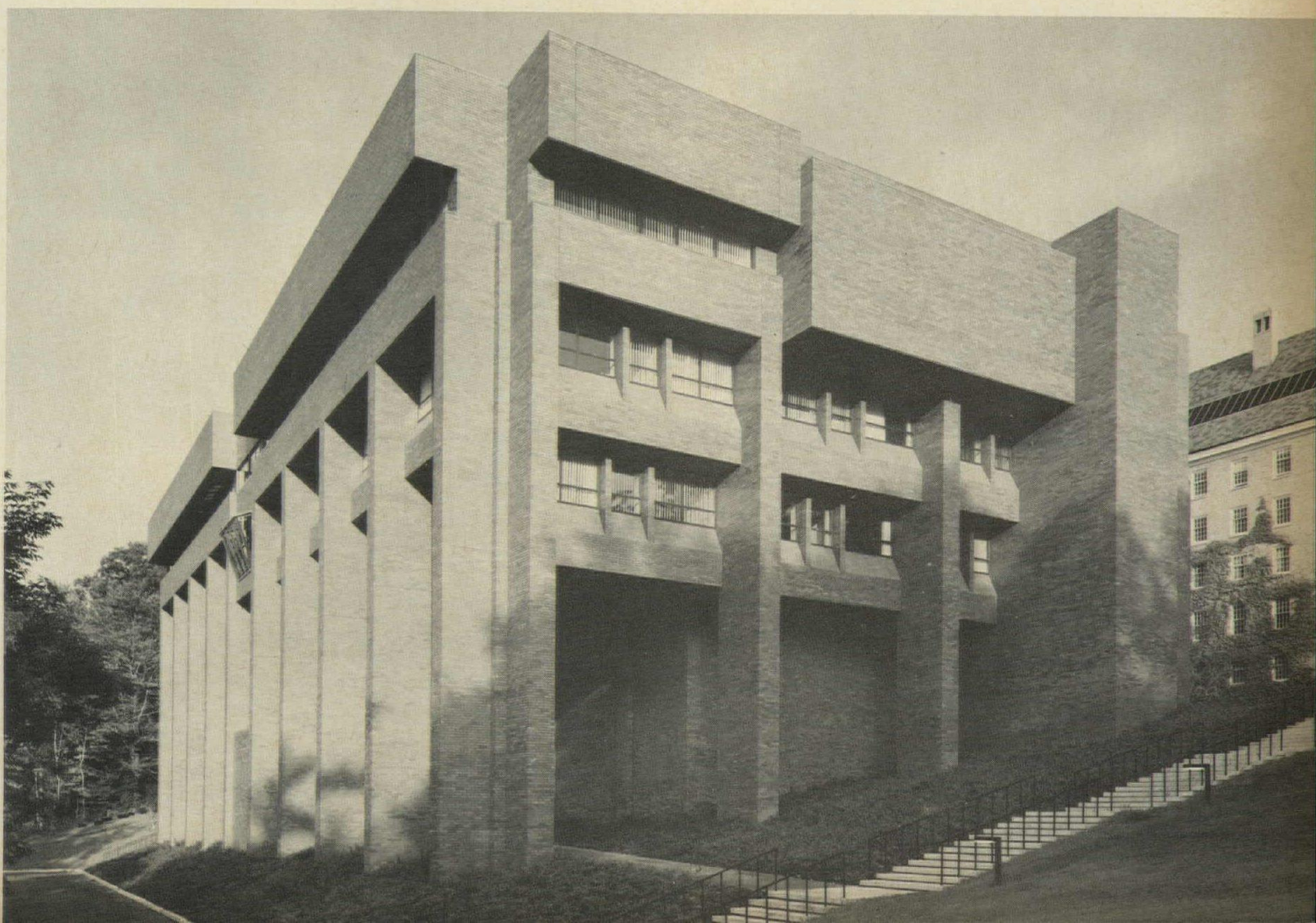
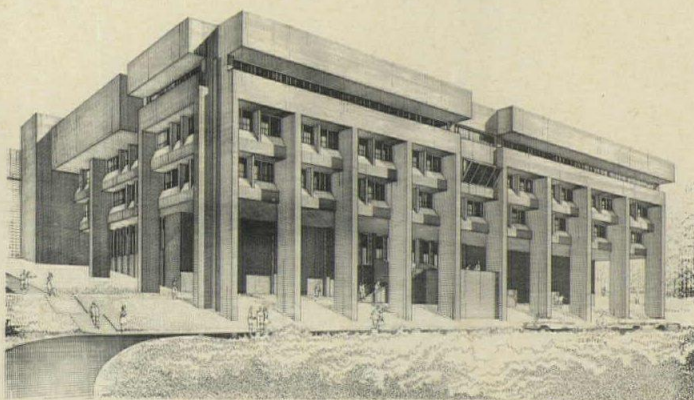
# POWERFUL "GATEWAY" FOR CORNELL'S UPPER CAMPUS

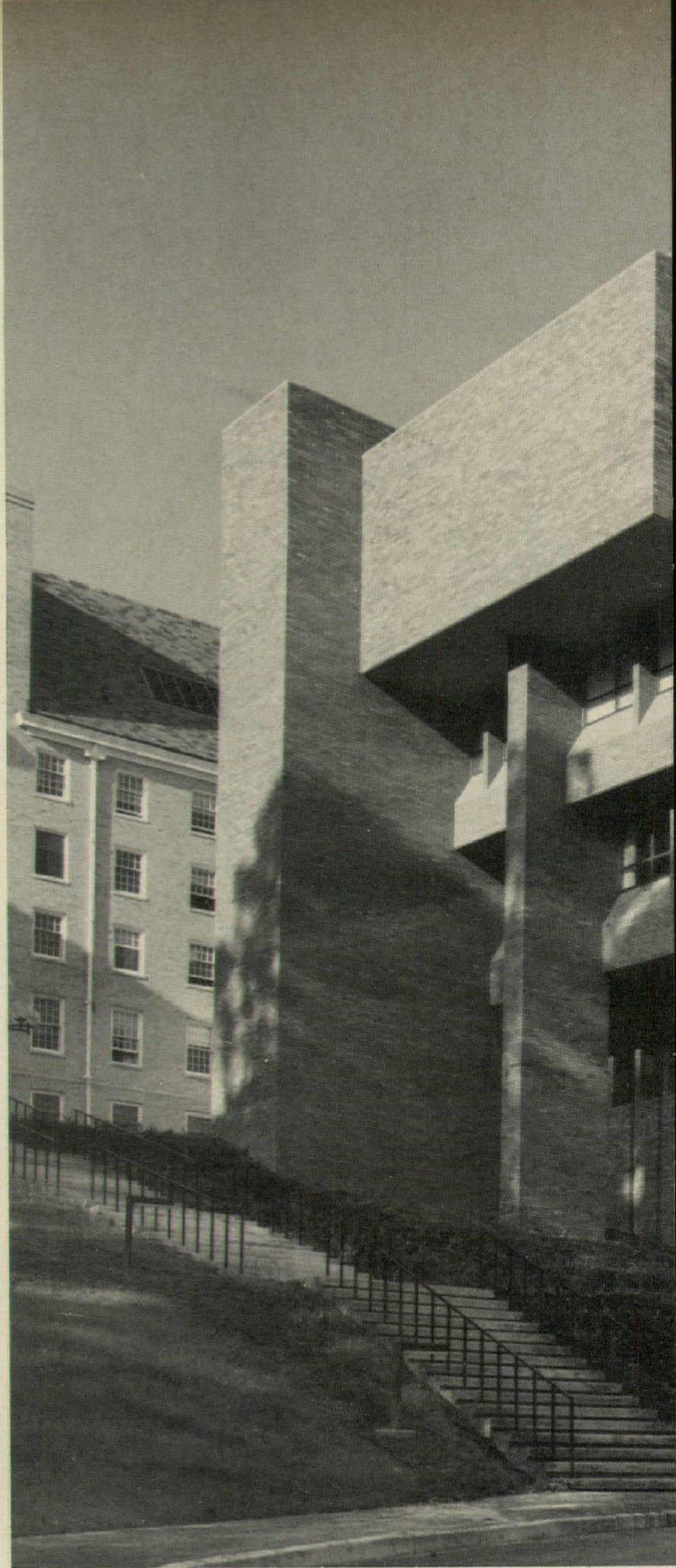
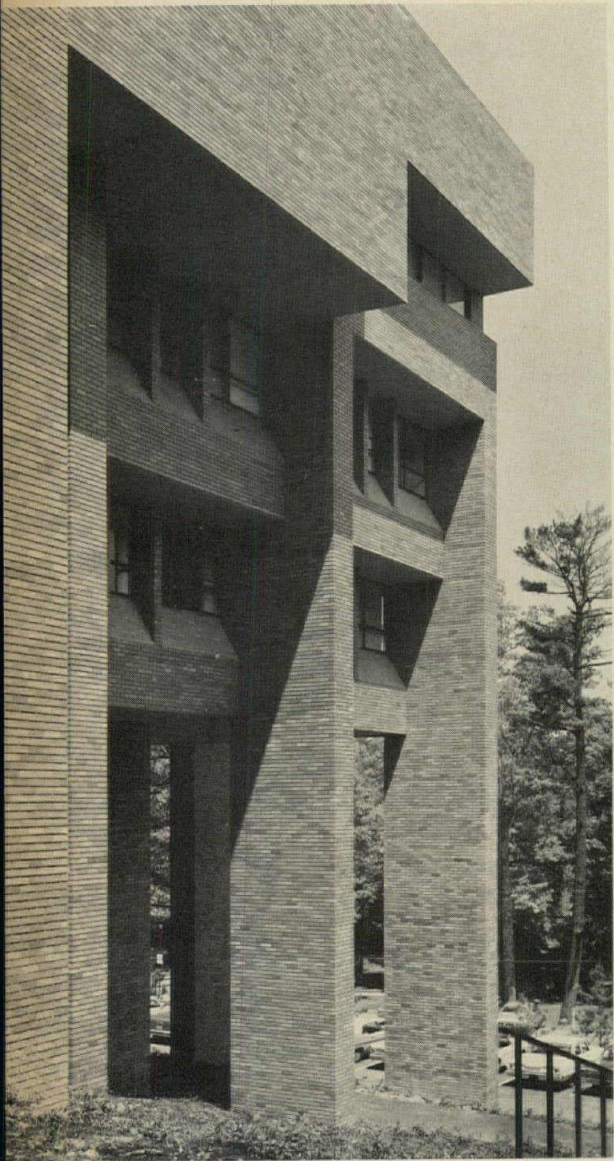
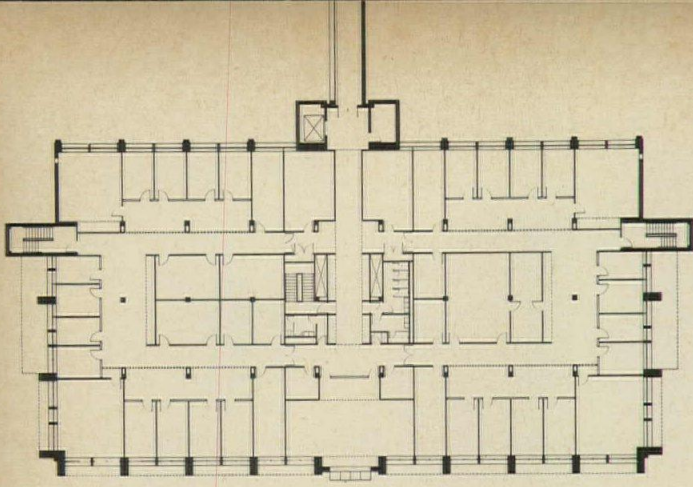
Those who have been seriously concerned with the relationships of new buildings to existing structures on campuses, or even in urban situations generally, should find this latest building by Ulrich Franzen at Cornell of

strong interest. Strictly speaking, the powerful structure is a new wing to extend the older Martha Van Rensselaer Hall, and to provide added facilities for the State University of New York's College of Home Economics at Cornell. From the outset Franzen conceived that a major part of the problem was to carefully relate the new construction to the larger context of the campus. This line of thinking has led the design into a very strong and assertive direction, instead of the "background architecture" the basic program might seemingly have called for. Franzen reasons that, "at present, most of the structures to the south of Lake Beebe, the sentimental heart of the campus, ignore the existence of this magnificent feature. It is our hope that the new wing gives the agricultural campus a window onto the lake. The building actually straddles a steep drop that defines the edge of a plateau on which the upper campus is located, and where this plateau plunges down toward the lake.

"In addition, the women's dormitories are to the north of the lake, and the natural route followed by the students on their way to the upper campus leads them directly past our site. Our building effort here has been an attempt to create not only a window onto the lake, but also at the same time to mark an entrance point to the campus itself—an entrance point for student traffic." Thus the new wing, as symbolic gateway, has been given firm precedence over the building it extends and which, incidentally, is now to be renovated.

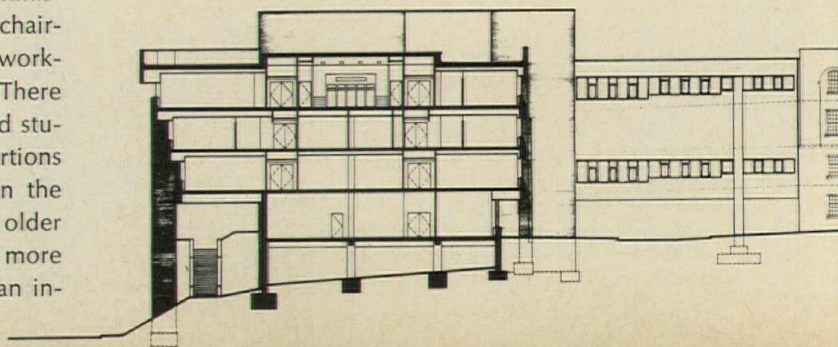
The new wing for the College of Home Economics was





George Cserna photos

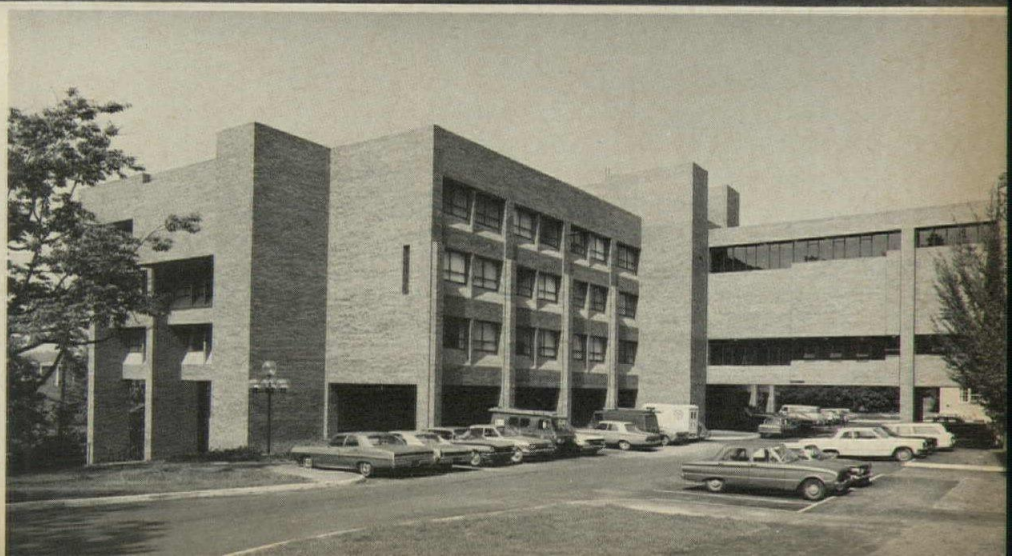
planned to house an incredible variety of program elements: chemistry laboratories on the top floor, teaching and administrative spaces (including the Dean and all departmental chairmen) on intermediate floors, and housing and design workshops as well as a television studio on the lowest level. There are also a new lecture hall, teaching resources center and student and faculty lounges. Many of these facilities are portions of the various departmental groups, and are located on the same levels as the balance of the groups remaining in the older connecting building. In relating these, it developed that more space was required at the top than at the bottom and an in-

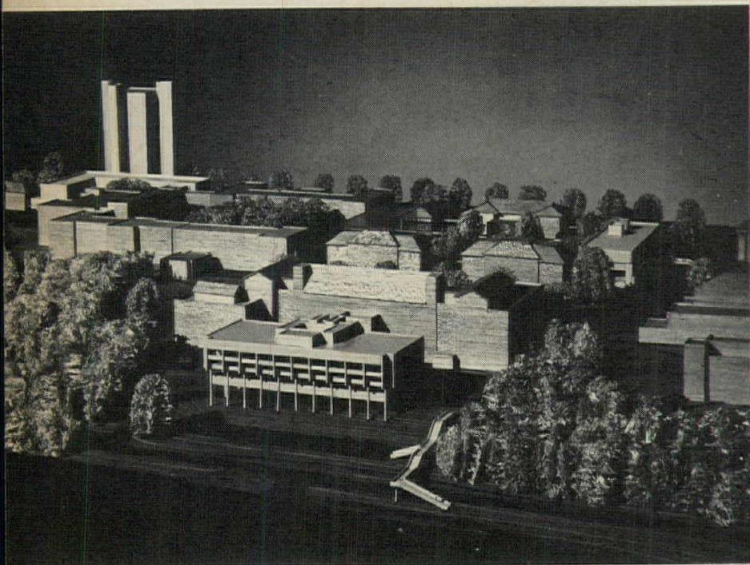
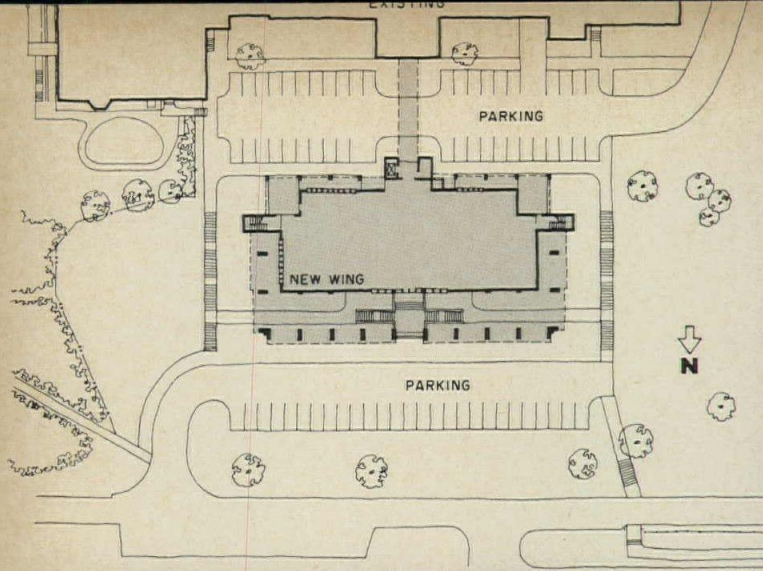




Interior floor areas within the Home Economics Wing have been kept relatively clear by placing stair and elevator towers on the periphery of the building, where they are clearly and simply expressed. Other services are banked at the center of each floor. Steam and chilled water for heating and cooling are supplied from the University central plant.

The new wing is linked to Martha Van Rensselaer Hall at the top of the slope by a multi-level, enclosed footbridge; at the bottom of the slope, the "gateway" function of the building is emphasized by an inset, covered gallery behind the piers, and a large-scale double stair meeting at a balcony-like landing.



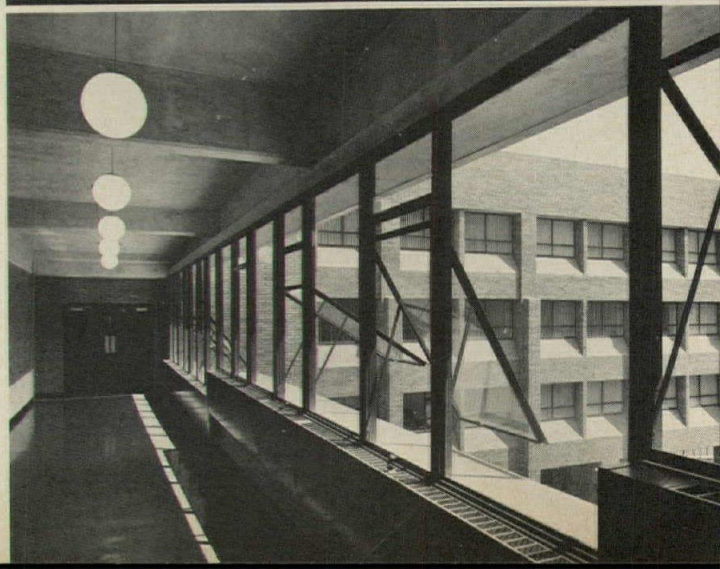
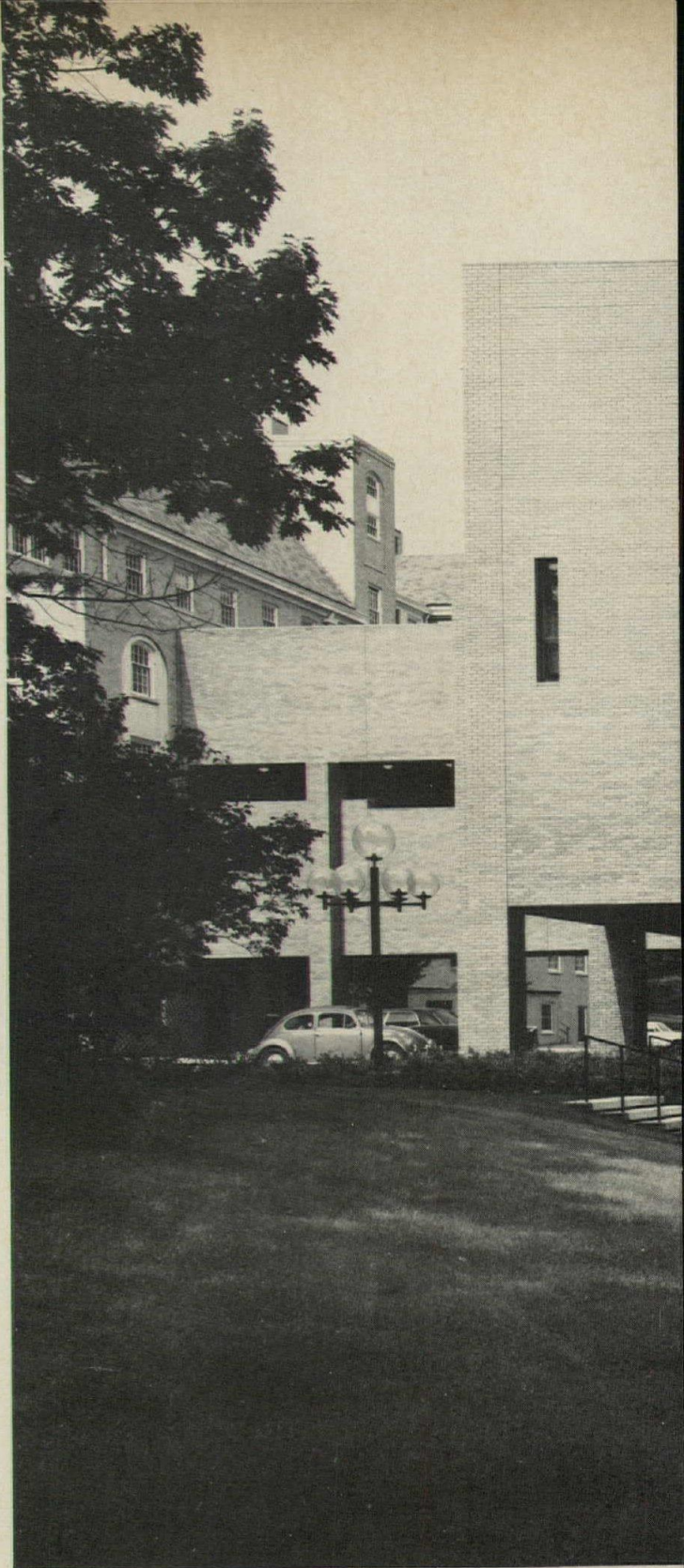


verted pyramid section was developed for the building, which exactly reflects a horizontal relationship of program elements between the old and the new.

A visual tie between old and new has been made by the color of the brick facing the reinforced concrete structure—a golden brown ironspot type brick which echoes some of the prevalent tones in the adjoining structures (see cover photo). It is also the color of brick used for Franzen's new Agronomy building which towers over the upper campus (see model photo above, and RECORD, April 1965). Together, they add a singular distinction and verve to the Cornell campus.

The Home Economics Wing is a highly articulated and plastic, almost sculptural, structure. As was noted in its earlier design presentation (RECORD, May 1966), the building follows a somewhat classical format of base (inset behind the piers), column and cornice. However, the larger forms are carefully but boldly broken down into smaller elements within the larger forms to achieve clarity and scale, strength and variety of changing shades and shadows.

NEW WING—MARTHA VAN RENSSELAER HALL, State University of New York College of Home Economics, Cornell University, Ithaca, New York. Architect: Ulrich Franzen—Robert L. Thorson, project manager, Edward A. Rosen, project architect; structural engineers: Garfinkel, Marenberg & Associates; mechanical engineers: Caretsky & Associates; contractor: Edward L. Nezelek, Inc.

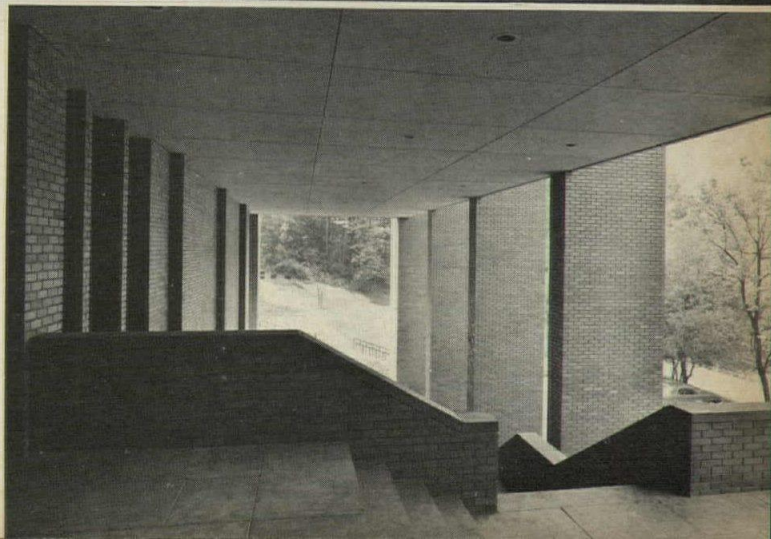


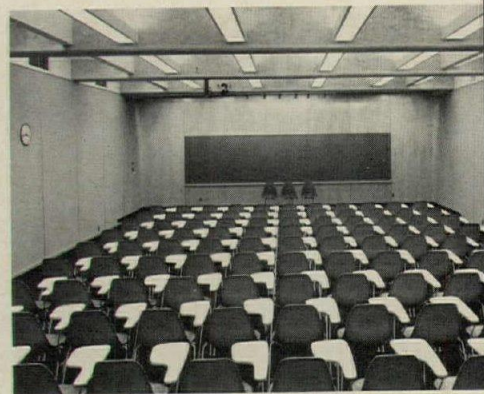
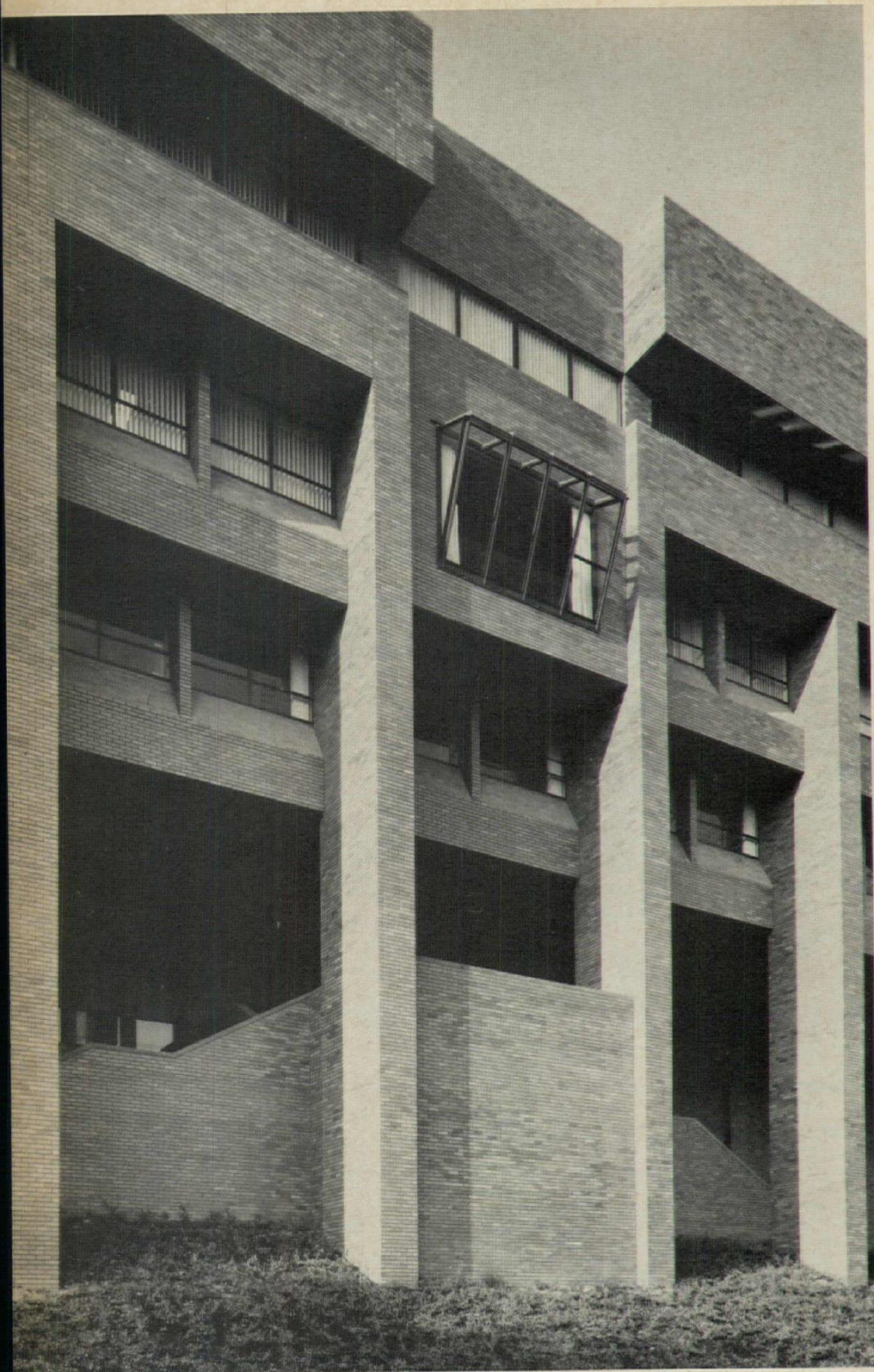


Downward sloping sills carry out Franzen's intent that the building serve as a "window" onto Lake Beebe at the foot of the slope. These, together with the strongly designed insets and cantilevers, assure that the building will visually carry a considerable distance across the campus.

The brick-clad, concrete structure is supported on concrete caisson foundations. In all, it contains 80,000 gross square feet, and cost \$2,443,000, or about \$30.54 per square foot.

As can be noted in the plot plan, as well as in the photos, road and footpath access, as well as spaces for parking, have been provided at both bottom and top of the slope.

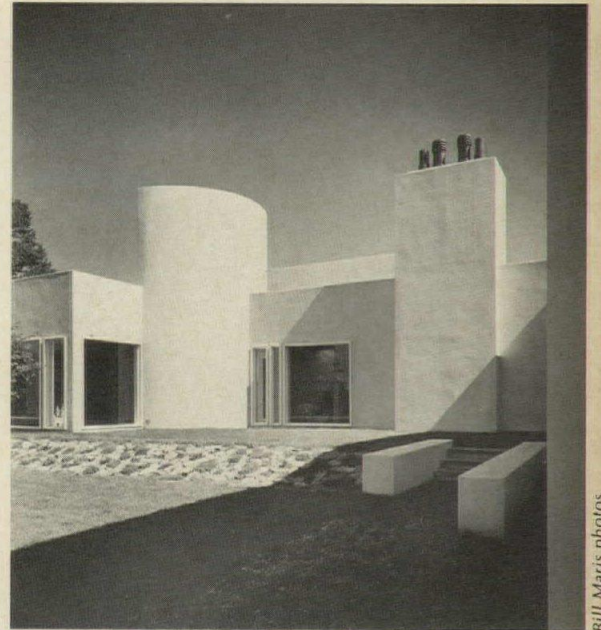




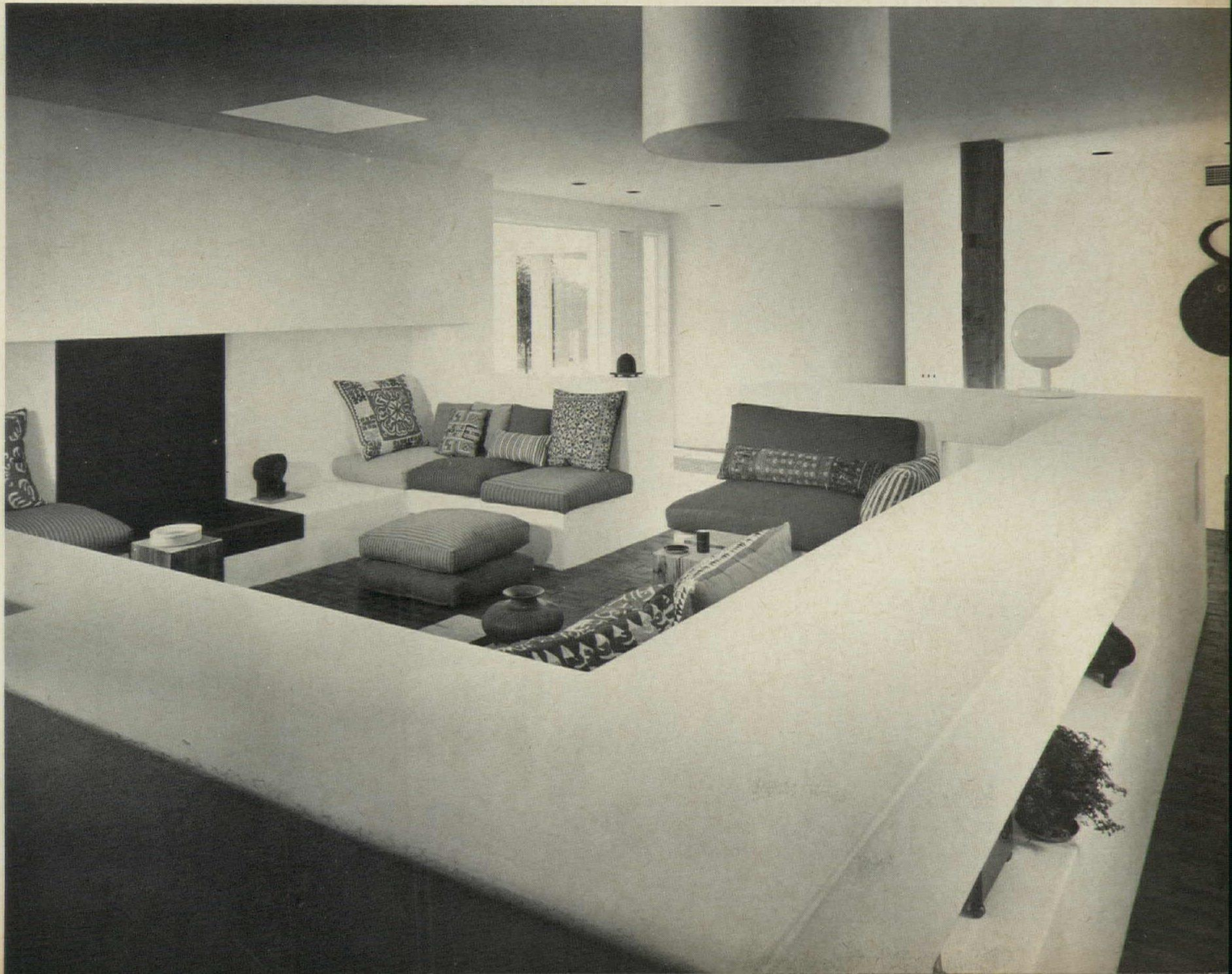
Interior spaces are treated as totally enclosed or view-catching areas, as suitable to their functions—the main lounge features a tilted-out window for a broad view of the lake below. All sash is steel with a baked enamel finish, and most windows are fitted with vertical blinds. Dry wall construction is used for partitions, finished with paint or vinyl wall covering. Floors are surfaced with carpet and vinyl asbestos or ceramic tile. All ceilings have acoustic tile. Interior lighting uses banks of fluorescent fixtures and incandescent downlights, and makes considerable use of dimmers.

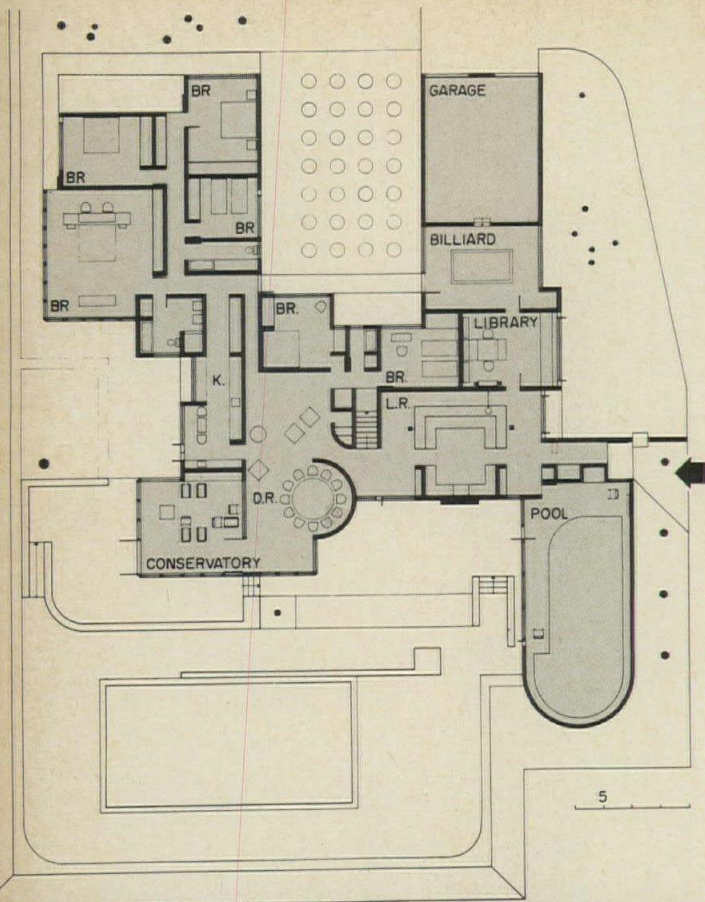
# Controlled interior space in white stucco

The juxtaposition of simple geometric solids creates the interior and exterior of this house, completely remodeled by Richard Meier. Meier says of the structure which previously existed here: "The old house was large, had sound foundations and good heating, ventilating, electrical and plumbing systems. Therefore, new construction was based on that which was existing, rather than completely demolishing the house and beginning again." Yet the architect did not allow these restraints to interfere with his characteristic modeling of spaces, and the completed house seems fresh and uninhibited. Chiefly, Meier has shaped forms which create a sense of surprise and expectation in the viewer who walks slowly through and around them.



Bill Maris photos

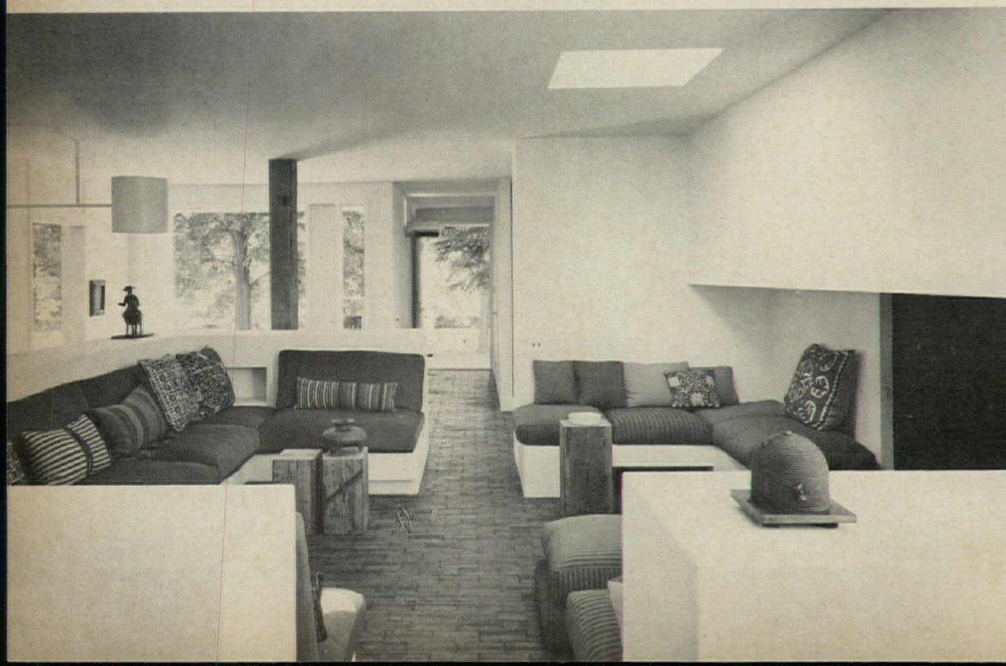
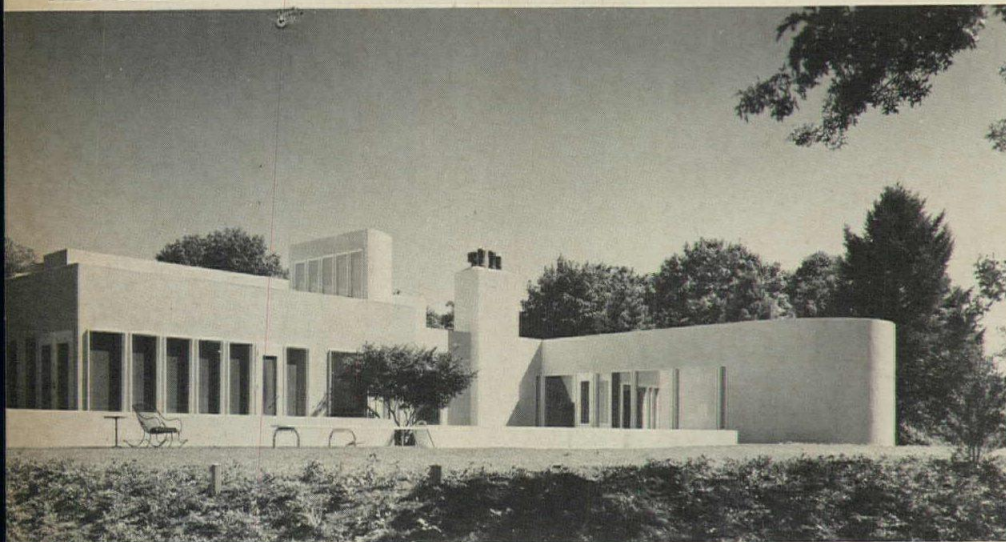




The separation of public from private spaces within the house was one of the major determinants of the new form of the building. Within the basically U-shaped plan, the introduction of a three-sided court removes the sleeping rooms from the daytime living areas. Windows are oriented in all directions around the facades, for the house sits on the crest of a hill in a rural area, providing the owner with broad vistas of the surrounding land.

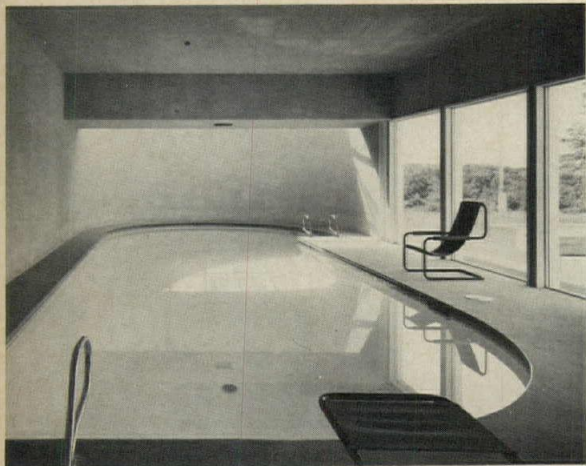
The Renfield house seems designed to be seen at a slow but continuing promenade. As a visitor approaches the entrance, his eye moves from the blank exterior facade of the enclosed pool to the recessed front door. Before passing the door he may glance to his left through a narrow window toward the skylighted interior of the pool itself. Once through the door, the main living area is seen directly ahead along the entrance hall, but its fixed rectangular seating is split to carry the eye farther, to the back of the dining room's curved stucco wall. The curved wall acts almost as an object in the rectangular living space, as the two rough wood posts become surprising objects of another kind. Within the sleeping wing, all of the rather narrow corridors terminate in windows or major living spaces, so that the viewer is constantly drawn along them, wishing to discover what is happening at their ends.

RENFIELD HOUSE, Chester, New Jersey. Architect: Richard Meier; interiors: Richard Meier & Elaine Lustig Cohen; landscape: Donald Richardson; contractor: Miller & Nelson; stucco: Gatti & Lopez. Remodeling completed in 1964.

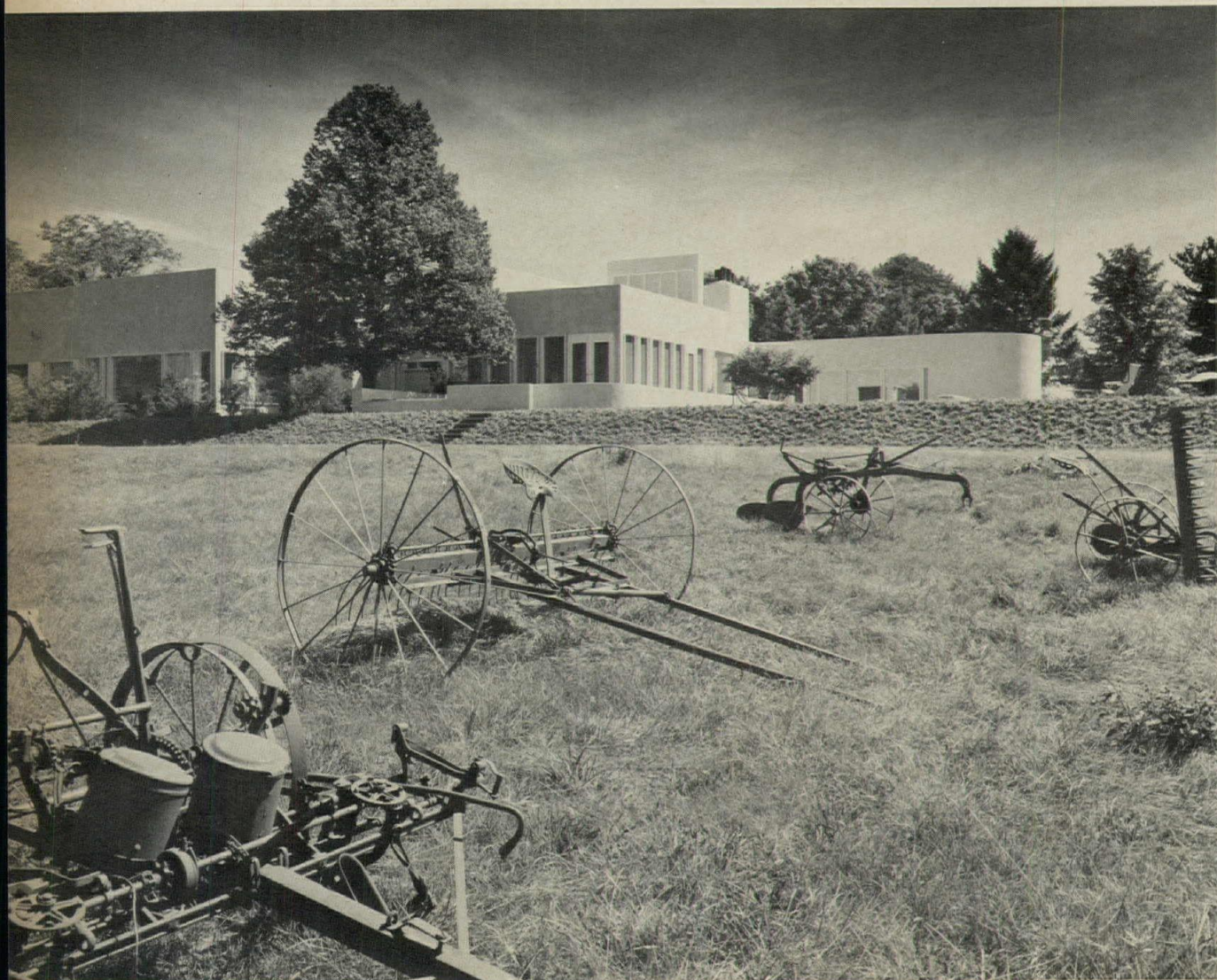






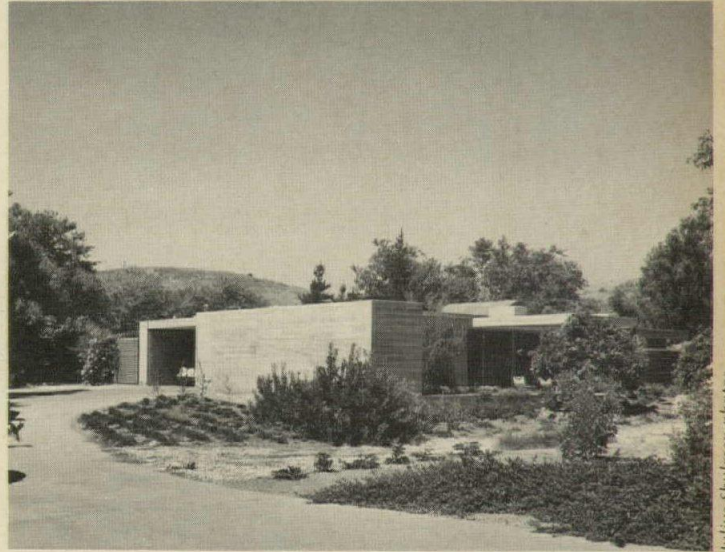


The low wall around the outdoor pool (below) provides a gradual transition between the active, populated house and the rough, grassy land directly in front, with its old farm machinery used almost as sculptural pieces. The twin towers of the fireplace and the skylighted dining area appear as simple geometric shapes within the architecture, and the half-circle of the dining area repeats the bold, sweeping curve around the indoor pool. As in the living room, the master bedroom (right) has fixed furniture designed by Meier, and the bedroom windows allow a panoramic view of the surrounding land.

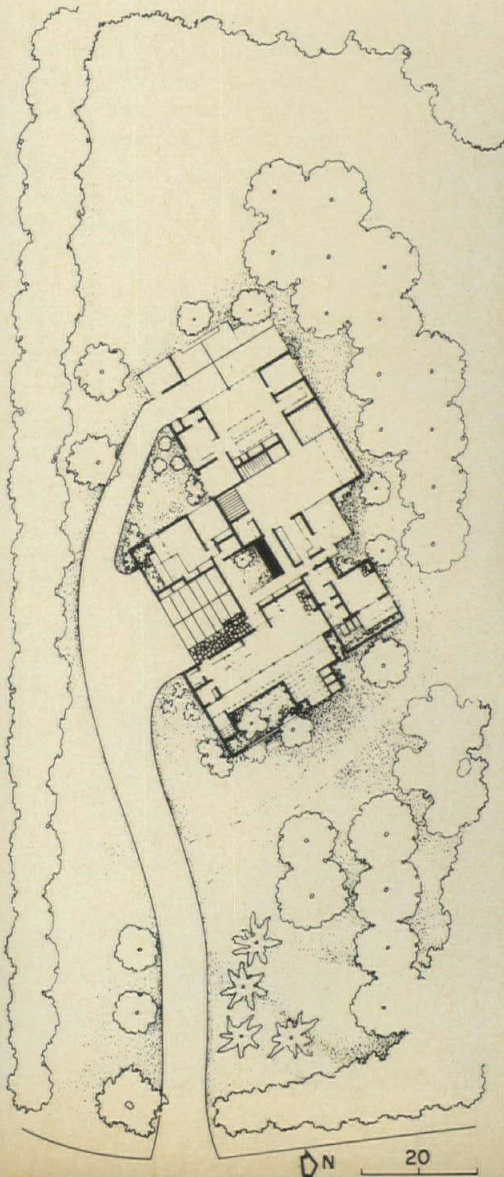


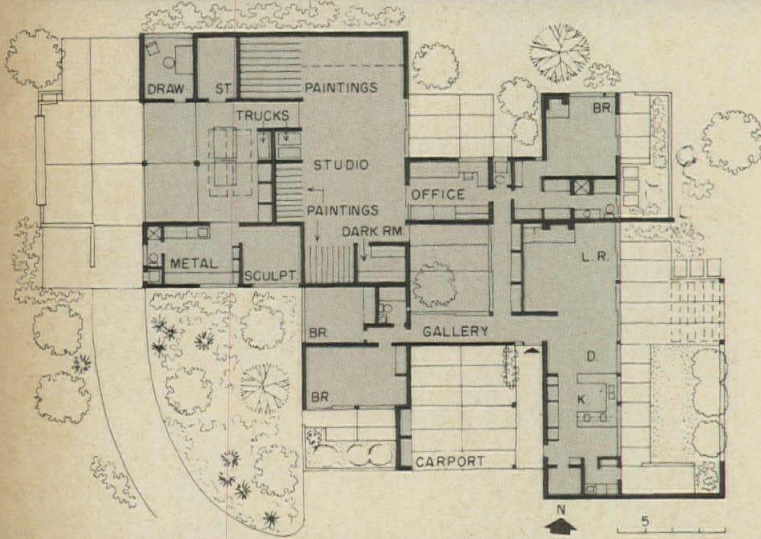
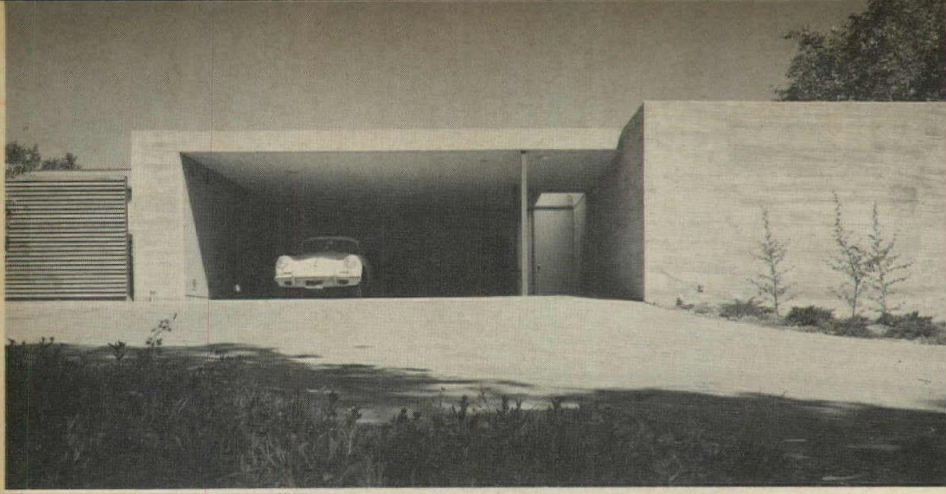
# Flexible interior space reaching out to the land

In this California house for an artist, architect Thornton Abell was asked to place a dual-use residence/studio on a site which contained excellent trees and shrubbery. Its dual-use meant that circulation patterns must be clear, and that privacy for the residence must be consciously maintained. The trees and vista seemed to demand that the architecture reach out to the land. Within these parameters, Abell has created a gracious and simple design, perhaps reflected in miniature by its central court (below). With the character of its foliage, the entrance area seems to encompass a piece of the site, rather than be a man-made court. Yet it is a court which not only provides a circulation focus for the plan, but remains a rather private place within the house and its site.



Julius Shulman photos



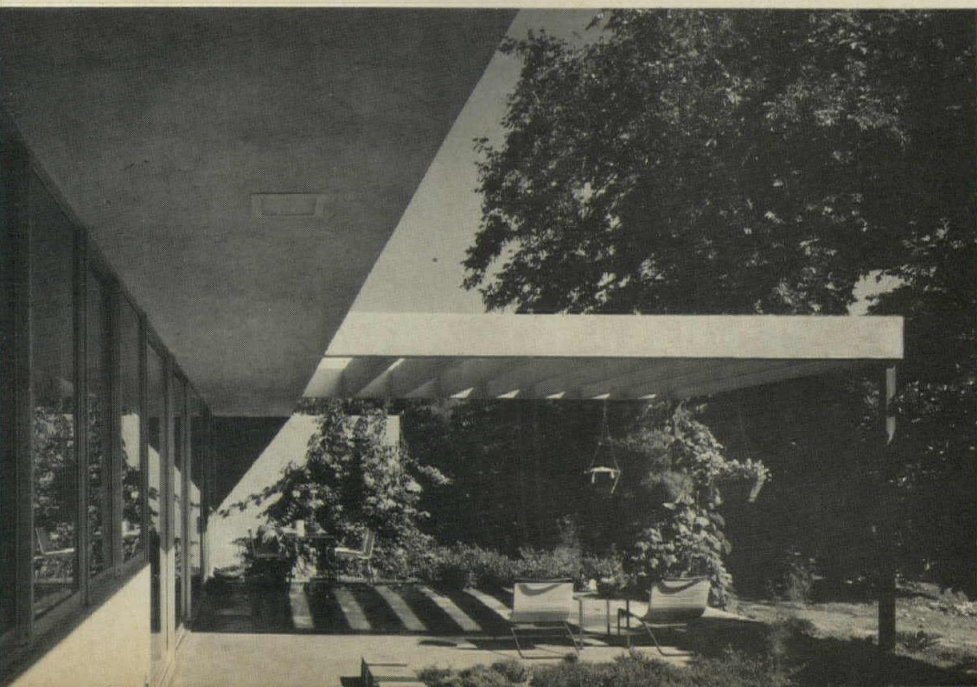


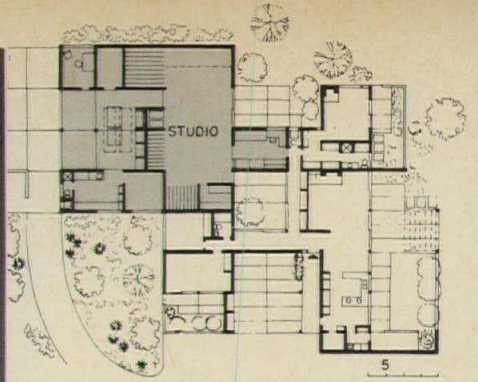
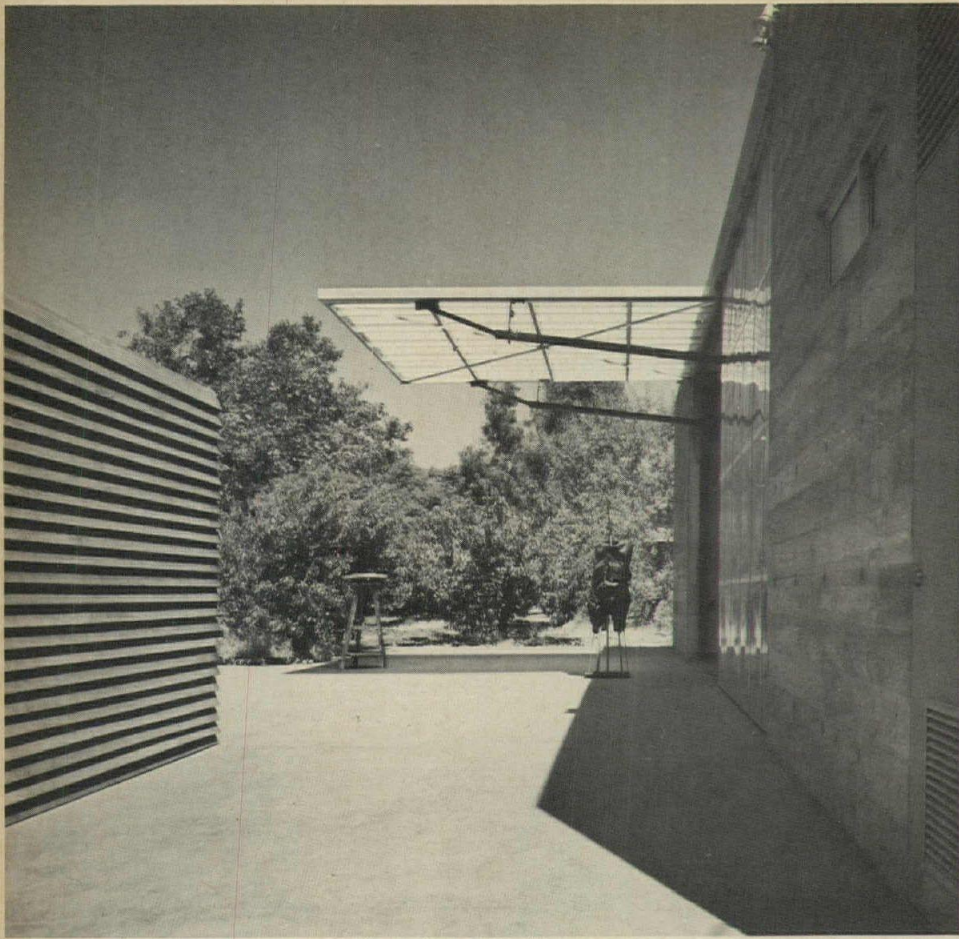
The grounds comprise over an acre in a wide canyon, with the access road to the east screened by a natural drop in the land and heavy planting on a knoll between road and house. Part of the site was covered by an orchard of fruit trees, and the house was carefully located to save them. Excellent foliage helped dictate the choice and character of the material. Plain board-formed concrete has been used throughout the house, on both the interior and exterior. It is a simple, strong surface which creates a backdrop for the closely planted shrubbery and reflects well the intricate shadows cast upon it. As with all exposed concrete, quality workmanship is essential; these walls reflect the conscientiousness of the contractor as well as the skill of the architect. The walls repeat so well the boards that formed them that, in the living room and bedrooms, it is difficult to distinguish texturally between concrete wall and wooden floor.

In addition to the interior court at the entrance, there are four exterior courts enclosed by low-walled extensions from the house. Rather than being the outside coming indoors, these walled planting areas seem to extend the house past its heated and air-conditioned boundaries, as if it were reaching out, and about to grow further. Details such as these add spaciousness to what is basically a small residence and professional studio, each well separated but immediately accessible to the other.

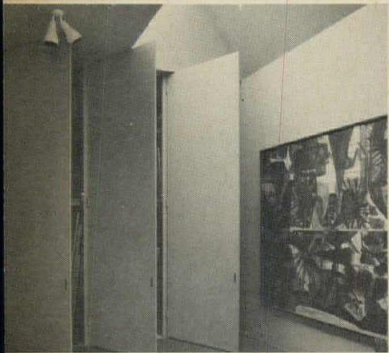
HOUSE IN MALIBU, California. Architect: Thornton M. Abell; contractor: H. P. Marks and Sons.







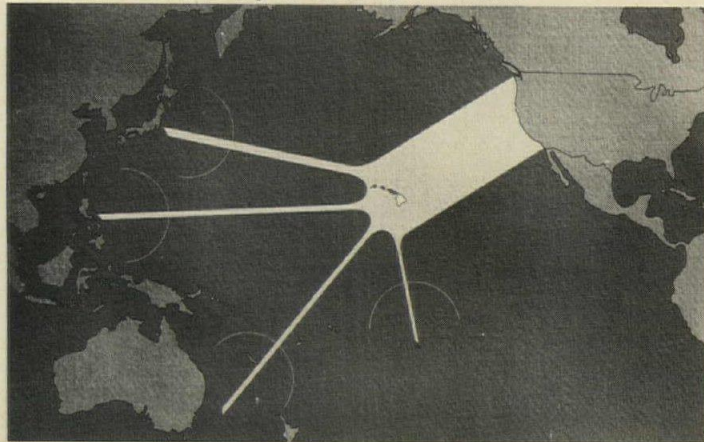
The owner required, in addition to living, sleeping, and cooking areas, a flexible studio for the painting and storage of large canvases, provision for sculpturing in metal and plaster, a photographic dark room, and an office area. The studio has extensive storage and supply spaces and a loading area accessible to trucks. As in the living areas, board-formed concrete is used throughout the studio, with the addition of some framed cabinet work and exposed wood. The continuous skylight at the rear of the studio adds dramatic lighting. Studio and office have their own semi-enclosed court, bounded on the east by the chimney and the concrete wall of the master bedroom.



# PLANNING FOR LEISURE

More leisure, greater affluence, larger and larger planes, lower air fares, more and faster travel—these are the ingredients of a boom in tourism of unprecedented dimensions. It takes less time to reach an exotic island resort from either coast than it does to cross the continent, and to some destinations, it costs less. Travel is so easy that the far-away has become the accessible and the available; the dream of South Sea palm-fringed beaches need no longer go unfulfilled. For millions the dream has become reality, and millions more are practically standing in line to make their dreams actualities. For airlines, hotels, travel agents, merchants, this is good news—up to a point. Even a thriving economy—and tourism is reviving the economy in many places—can encounter problems. Since resorts usually are located where there is natural beauty of some sort, the question is inevitable: How can a beautiful place be developed without being spoiled? More than most resorts, Hawaii faces this problem, first, because it is a *resort state*, and second, because many of Hawaii's resort locations are still far from fully developed. How Hawaii has planned for its expanded tourism, and what measures it still needs to assure a positive answer to that pressing problem, make an engrossing study—useful to architects and planners everywhere as leisure becomes an ever bigger industry.—*Elisabeth K. Thompson*

From "Kohala Coast Resort Region," Belt, Collins & Associates



## Hawaii's problem is success: can it further expand tourism and also preserve its natural beauty?

When one-and-a-quarter million people converge on a place, they are bound to cause it to change. The mere need of providing housing for them—overnight or longer—will do things to a place. Add to that their need for a reasonable amount of activities, and the whole problem is vastly compounded. For 1.2-million people—the number who have visited Hawaii this year, more visitors than there are residents—will have a broad range of tastes. For some the remote sandy shore, shaded by coco palms and keawe trees, is enough; for others, it's instant boredom.

Hawaii is a multi-island state whose fabled beauty could become a near-fatal attraction. Because its beauty is confined to no one island—and not even to one spot on an island—the whole state qualifies as a resort area. The whole state thus is subject to the very considerable pressures of tourism. For tourism is big business in Hawaii. Its dollar volume is second only to government (defense) spending, and is far ahead of the Islands' traditional industries, sugar and pineapples. The pressures it exerts come from all its components: the airlines, which say flatly that they "can't sell a seat without a bed" (at the destination point); the hotels, which want full occupancy; the developers and financiers, who want as quick a return on their investments as possible; and all the service agencies essential to satisfying the tourist. Pressure comes, too, from the associations which promote tourism.

These pressures have meant that where environmental decisions were concerned, preference has gone to the proposal or solution which best answered the demands of tourism. Since

the only jet airport until a year ago was at Honolulu, the greatest pressure—and the greatest economic advantage—was in Waikiki, the resort district of Honolulu. As a result, tall hotels replaced small hotels, and apartment, condominium and commercial buildings crowded the hotels until the density along a 10-block stretch of Kalakaua Avenue, the main Waikiki street, has become that of a metropolis, not of a resort.

More as a measure to improve the economy of the Outer (now called "Neighbor") Islands than as a signal of environmental distress, the State of Hawaii, then brand-new, in 1959 commissioned an "action program" for development of new "Visitor Destination Areas" in the five major inhabited islands. But the effect of the program—actually a broad-scaled, statewide study of the potentials for resort development—has been environmental as well as economic. For a part of the study included recommendations for "First Stage Plans for Public Improvements," prepared by Belt, Collins & Associates of Honolulu, engineers, planners and landscape architects. These plans set forth the improvements which would be necessary at the sites selected for possible development and which the state should provide—water (always a problem) and roads, parks, marinas and other open recreation areas—as incentives and stimuli to developers. But the plans also suggested the character that would be appropriate for development of each site.

The VDA study was a valuable tool to the state in fostering development, especially in the Neighbor Islands, little known to developers and investors. Of the 10 Neighbor Island sites, some development has taken place at seven; plans are under way at a different location (which had not seemed feasible in 1959); planning is under way on one, and nothing has yet happened at the last. The increased number of rooms, the growing variety of accommodations at resort areas, the much-needed choices of activities (few tourists really want the

desert-isle syndrome for long; they want people and action) have attracted visitors in economically-encouraging numbers to these outer locations.

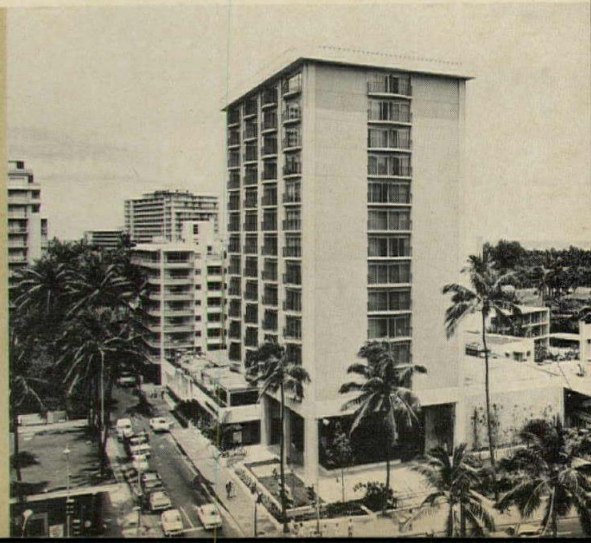
With the economy on the upgrade in these various places, it is fair to ask, What of the environmental quality?

The VDA, in its necessarily general terms, pointed the way toward quality in both planning and building design. And Hawaii's two pioneering tools, the State General Plan and the Land Use Law (Hawaii was the first state to enact such legislation) have respectively done much to set goals and high standards for development and to set the boundaries for the state's four zoning categories. But so far nothing provides specific design criteria for the selected sites in the Visitor Destination Areas, and it is these that Hawaii so greatly needs.

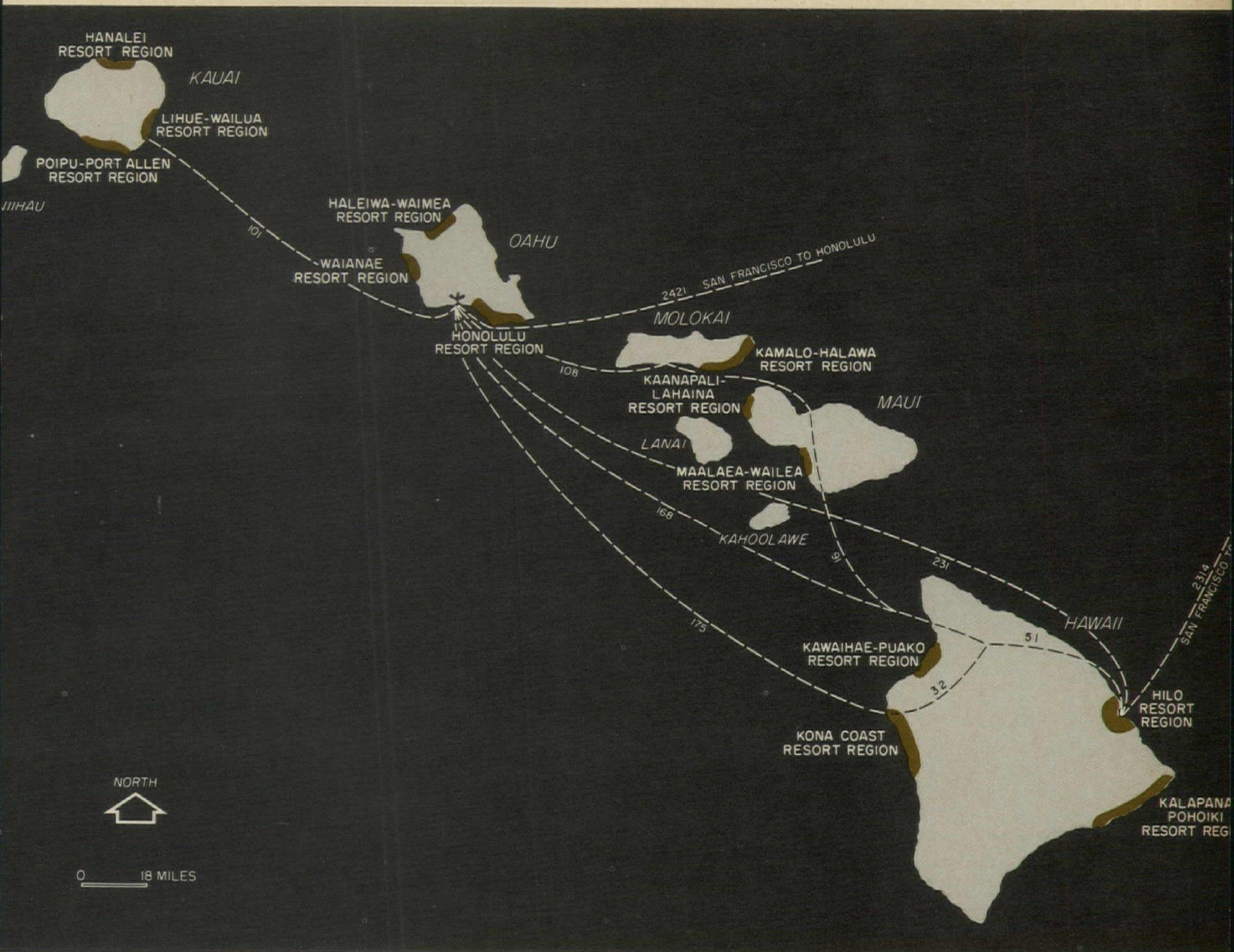
Fortunately, however, a series of Environmental Studies, just completed, was commissioned last year by the State's Foundation on Culture and the Arts. These provide the detail of carefully considered criteria for the particularly sensitive areas in the state. Excerpts are included on the following pages. These—and, hopefully, others of similar scope and depth—can become yet another pioneering tool and, if made policy, a means toward assuring environmental quality and economic viability.

Protection of natural beauty—at best a fragile thing—and enhancement of the economy are not necessarily mutually exclusive goals. Hawaii's far-sighted economic planning for tourism needs to be matched by far-sighted planning for the quality of its environment. Each island has its own character and capacity for use. The state needs an inventory of such natural resources and an estimate of their capacity for use. The General Plan sets Environmental Quality as one of its goals, and Good Design as another, but these are only a beginning. As landscape architect Garrett Eckbo, whose firm will make the first five-year review of the Hawaii General Plan, says, "Hawaii is the test for the landscape of tourism."

**Dilemma in paradise:** Must success prove fatal? Can Hawaii protect its loveliest places by increasing densities in already-urbanized areas? Or should it also extend protection to small but growing towns on outer islands? If it does, where will it house the millions of tourists expected in the next few years? Tourist tastes range widely, from Waikiki's congestion (near right) and many choices to remoteness and isolation (center), and in between, to small, quiet resorts (far right) with some choice.





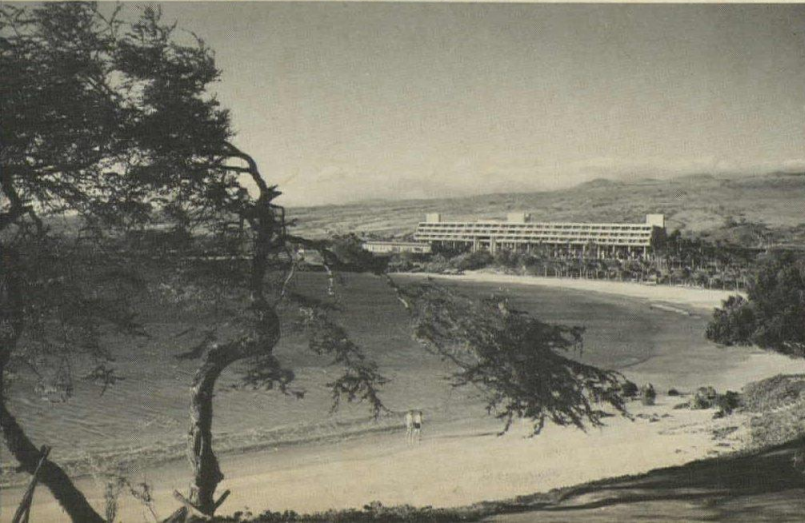


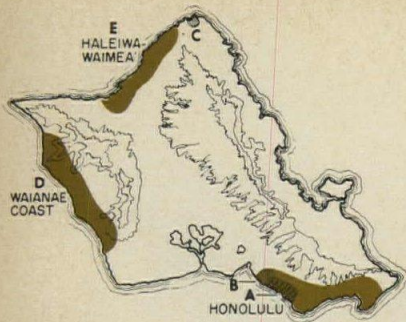
Visitor destination areas in each of its five major islands were selected in 1959 by the new state of Hawaii to spread benefits of growing tourism on Oahu to outer islands. VDA is defined as a place capable of "independently attracting and motivating travel to itself." Within a VDA, resort regions offer a variety of recreation and entertainment. State's "action program" made promise that outer islands would maintain "image" of Hawaii even with greater density in Waikiki.

Mauna Kea Beach Hotel, Skidmore, Owings & Merrill, architects

R. Wenkam

Waiohea, Vladimir Ossipoff, architect

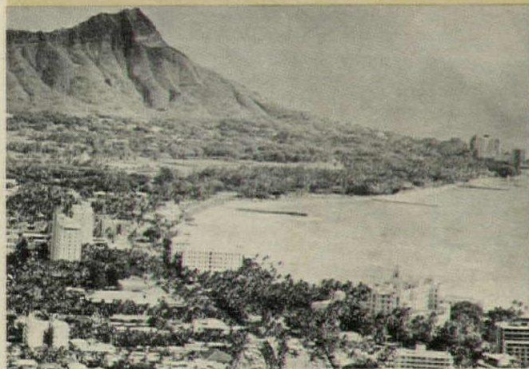
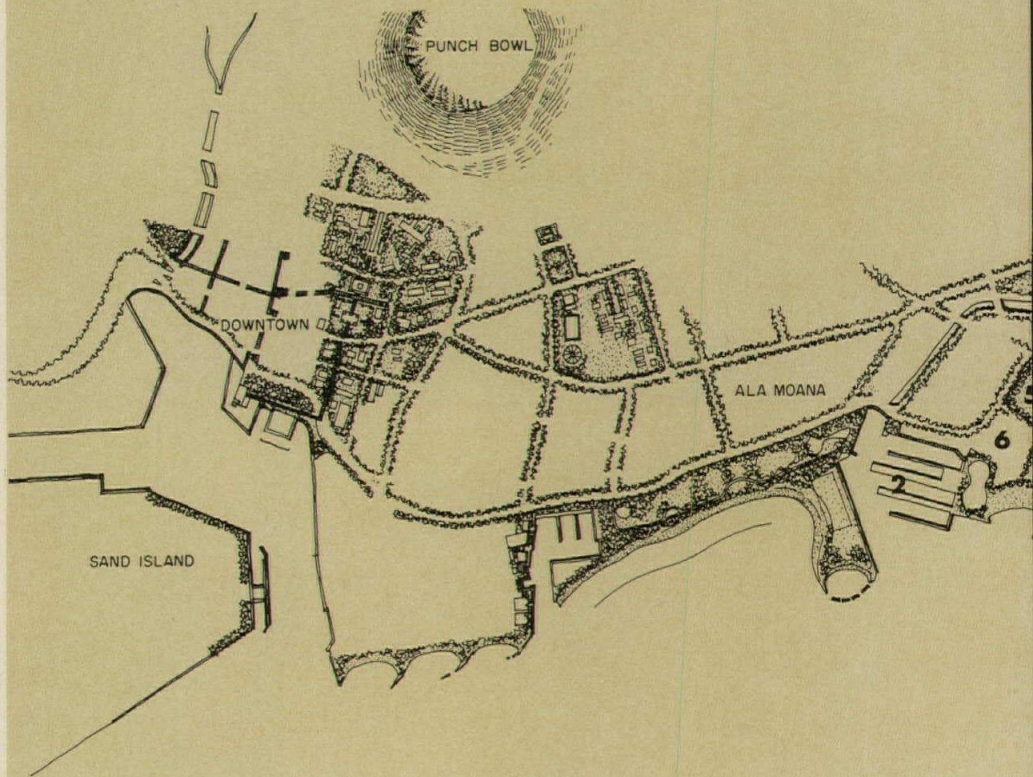
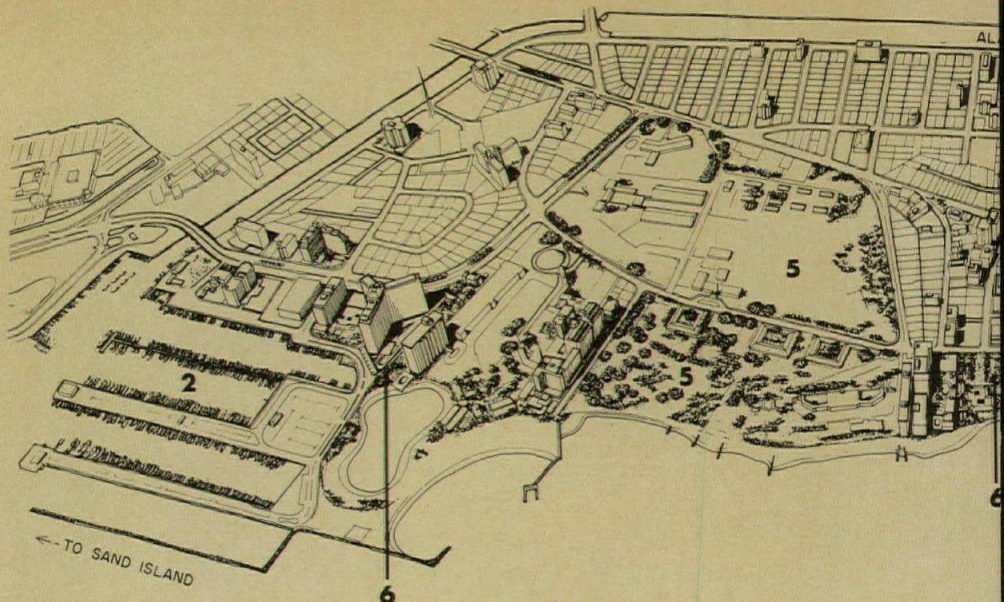




## OAHU

### Waikiki: concentrating people, buildings and activity makes for choice—and planning problems

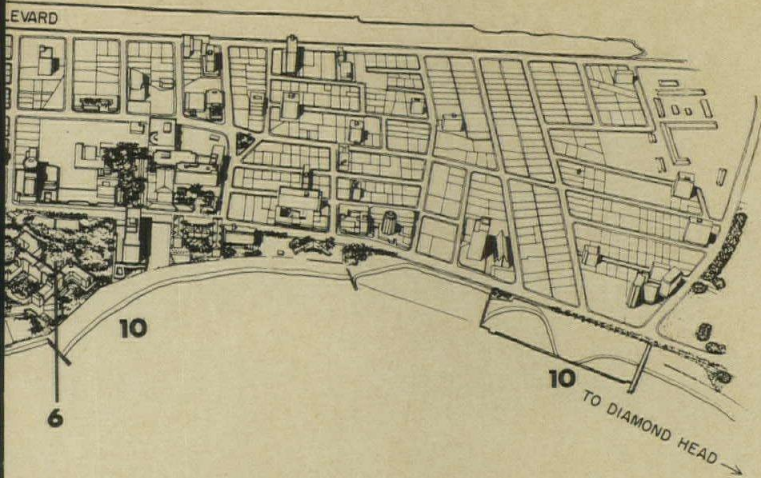
Waikiki, "playground of the world," is every tourist's destination at some time during his visit to Hawaii. Even now that it is no longer the inevitable first destination of every visitor—the Hilo airport was expanded to take jets late in 1967—it still is the overwhelming favorite of Hawaiian resorts. Part of its lure is no doubt the image of Diamond Head, for so many years the visual symbol of Hawaii. More important is the fact that Waikiki has a choice and contrast of activity that is hard to match in other resorts: all sorts of shops, hotels, nightclubs, restaurants; apartments; water sports, boat trips. Most of all, it has people, and they mean action, for a broad spectrum of tastes and backgrounds. But Waikiki's popularity has created a serious environmental problem: congestion. Buildings crowd the waterfront, each wall nudging its neighbor's wall. The vistas from Kalaheua Avenue, the main street, to the ocean are gone. Except for the bright muumuus and aloha shirts, it is difficult to believe this is Hawaii. It seems more like a new-built city, anywhere. To newcomers this problem is less acute than to returning visitors and residents. But it is not hopeless. The street is handsome, if crowded, and public opinion has been aroused to the need for long-range planning—comprehensive and uncompromising. Planner Aaron Levine and architect William Grant of the Oahu Development Conference, commissioned by the Foundation for Culture and the Arts to study the Honolulu waterfront, urge a "bold new approach" with land use, public works and architectural control as the working tools.



Hawaii Visitors Bureau



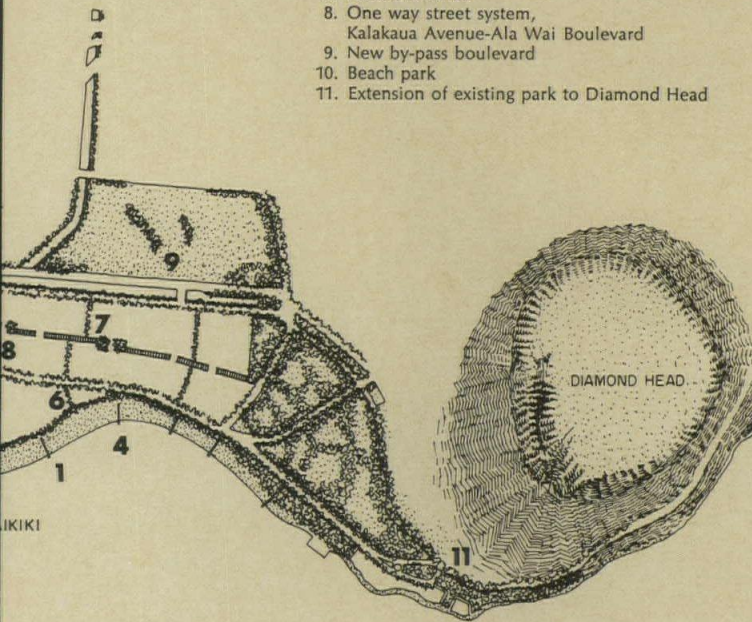
1960 (left): Some ocean-front sites were still open; 1968 (right): Only low-density uses afford relief from "concrete jungle" and plans indicate increasing density even for them.



WAIKIKI TODAY

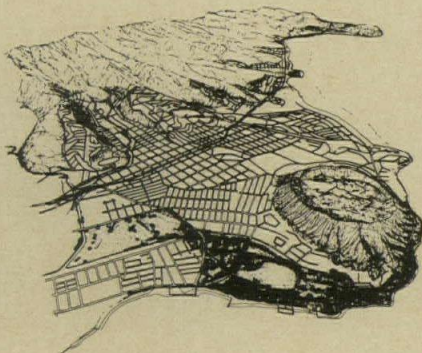
Legend

1. Surfing sites
2. Yacht harbor
3. Beach promenade
4. Beach reclamation
5. Open space, Fort deRussy
6. Low-density areas
7. Pedestrian mall
8. One way street system, Kalakaua Avenue-Ala Wai Boulevard
9. New by-pass boulevard
10. Beach park
11. Extension of existing park to Diamond Head



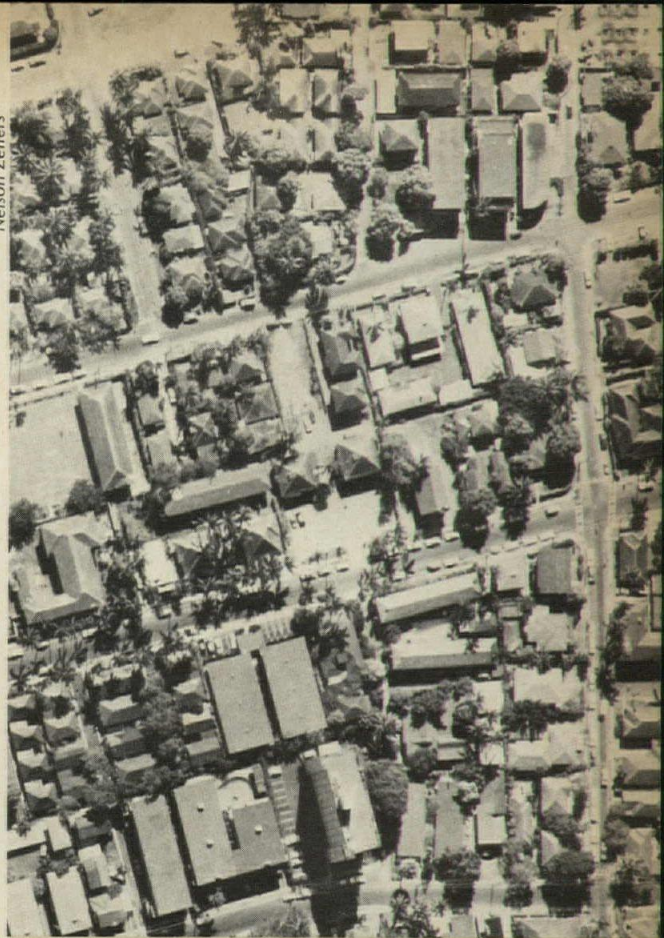
Urban Design Plan/1968: Environmental Study of Honolulu Waterfront

**Diamond Head**, "a fragile design element in the urban landscape" increasingly threatened by development on its lower slopes, appears safe now that city action (in response to unprecedented public expression against further building at its base) and designation as a National Natural Landmark have given it special status. But city's new 350-foot height limit and present high-rise buildings threaten many views of it. Recommendations of Environmental Study for Waikiki include relief of traffic congestion, more open space and emphasis on larger area for Waikiki.

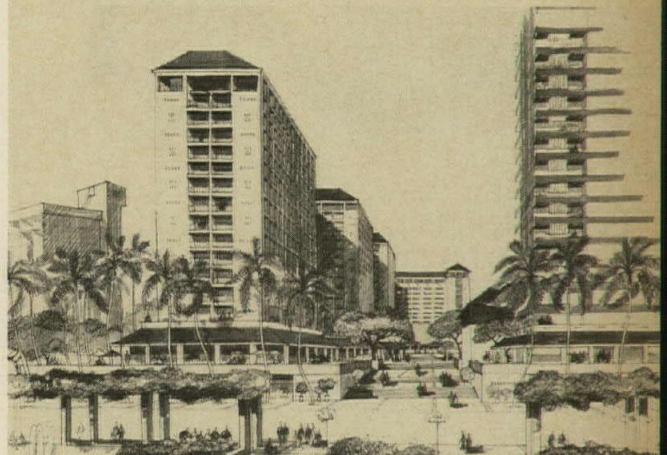


Aaron Levine, planner, William Grant, architect

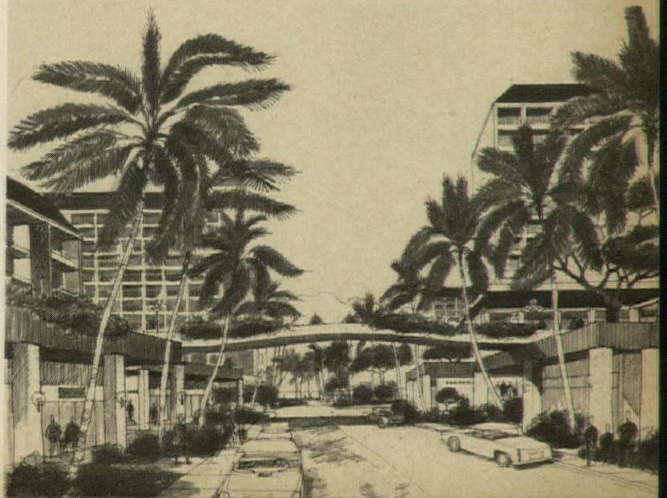
Nelson Zellers



"The Jungle," Waikiki's blighted area of bungalows and duplexes, will be redeveloped as a park-resort by Liliuokalani Trust to "re-establish the feeling of a relaxed tropical resort once characteristic of Waikiki." Raised pedestrian mall, with parking below, will form base for hotel and apartment buildings sited to preserve ocean view.



Belt, Collins & Associates, engineers, planners and landscape architects





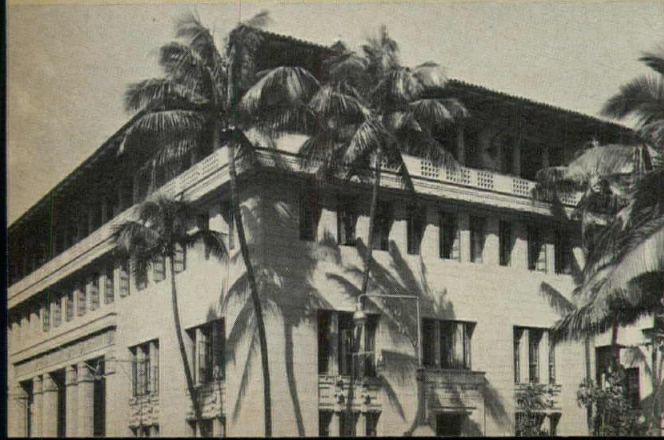
Ala Moana Shopping Center, John Graham and Company  
Camera Hawaii

Academy of Arts, Bertram Goodhue, architect



**B** Honolulu's unique character as crossroads of the Pacific makes it a Visitor Destination Area in itself. Multi-cultural in aspect as in population, a mixture of sophistication and naturalness, set between the ocean and the mountains, its variety is apparently endless. Waikiki is only one part of the city; the other parts have their charm and interest also: Downtown with its fine older business buildings (below left) and new handsome office complexes (below right), its world-famous Academy of Arts (above) and mammoth Ala Moana Shopping Center (top). New hotels and apartment buildings in Ala Moana district will further link this area with Waikiki.

Under & Baldwin Building, C. W. Dickey, architect

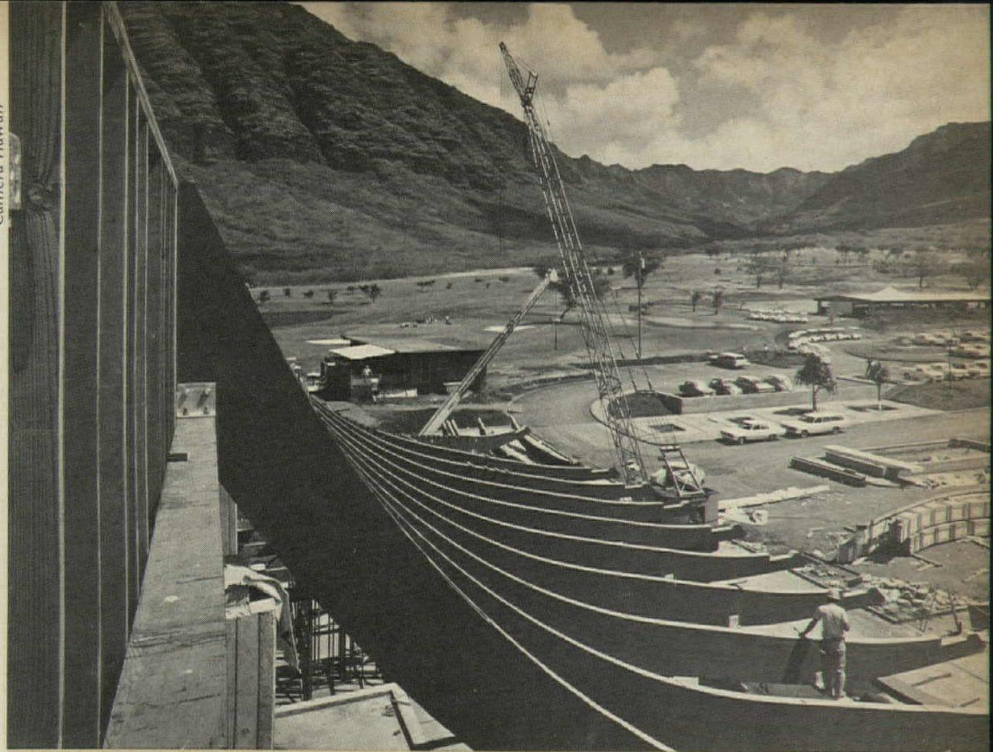


Financial Plaza, Leo S. Wou and Victor Gruen Associates, associated architects

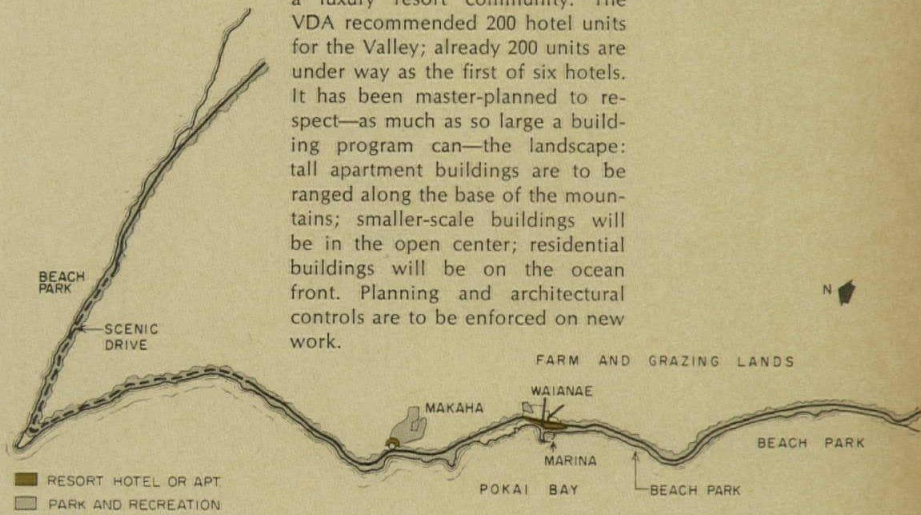
**Honolulu, with many tourist attractions and new resorts north and west, will reduce pressures on Waikiki**

The island of Oahu has some of Hawaii's most beautiful beaches and most dramatic scenery, but until such attractions as the semi-scientific Sea Life Park and the Polynesian Cultural Center on the Windward side of the island, the average tourist had no experience of Oahu besides Waikiki (except for Honolulu). With the development of Makaha Valley as a luxury resort, and of the magnificent North Coast, and with new and improved roads, the more adventurous visitors, at least, will spread to these outer areas.

Camera Hawaii



**D** Makaha Valley, one of Oahu's most dramatic and beautiful places, is one of three Visitor Destination Areas on the island. Although development came to it slowly, the Valley is fast being transformed into a luxury resort community. The VDA recommended 200 hotel units for the Valley; already 200 units are under way as the first of six hotels. It has been master-planned to respect—as much as so large a building program can—the landscape: tall apartment buildings are to be ranged along the base of the mountains; smaller-scale buildings will be in the open center; residential buildings will be on the ocean front. Planning and architectural controls are to be enforced on new work.



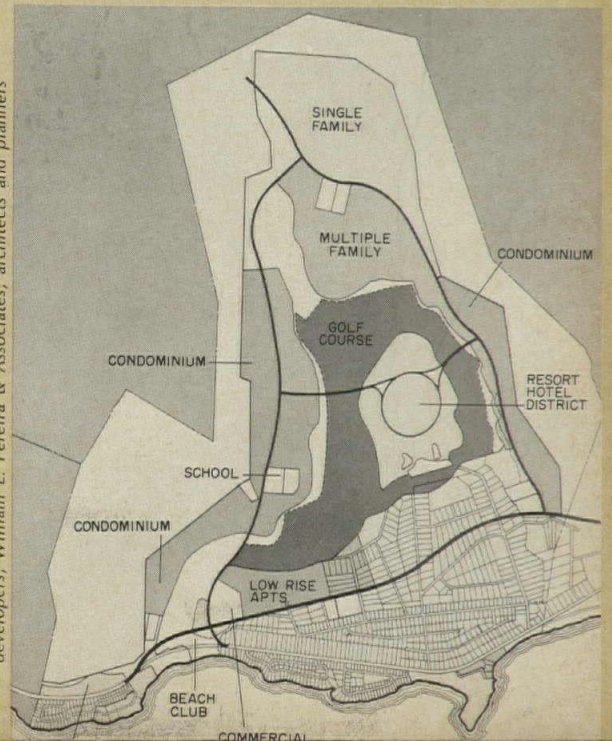
State Of Hawaii Visitor Destination Area Study



Camera Hawaii

**C** Oahu's North Shore, not one of the original Visitor Destination Areas, is now scheduled for development as a resort community, with some 20 hotels planned for an 11-mile stretch of coast between Kawela Bay and Kahuku, provided zoning changes (from "agricultural" to "urban") are approved. Other changes in the wild and beautiful coastal area will occur with closing of a large sugar plantation at Kahuku.

Capital Investment Corporation and Weyerhaeuser Family Associates, developers; William L. Pereira & Associates, architects and planners



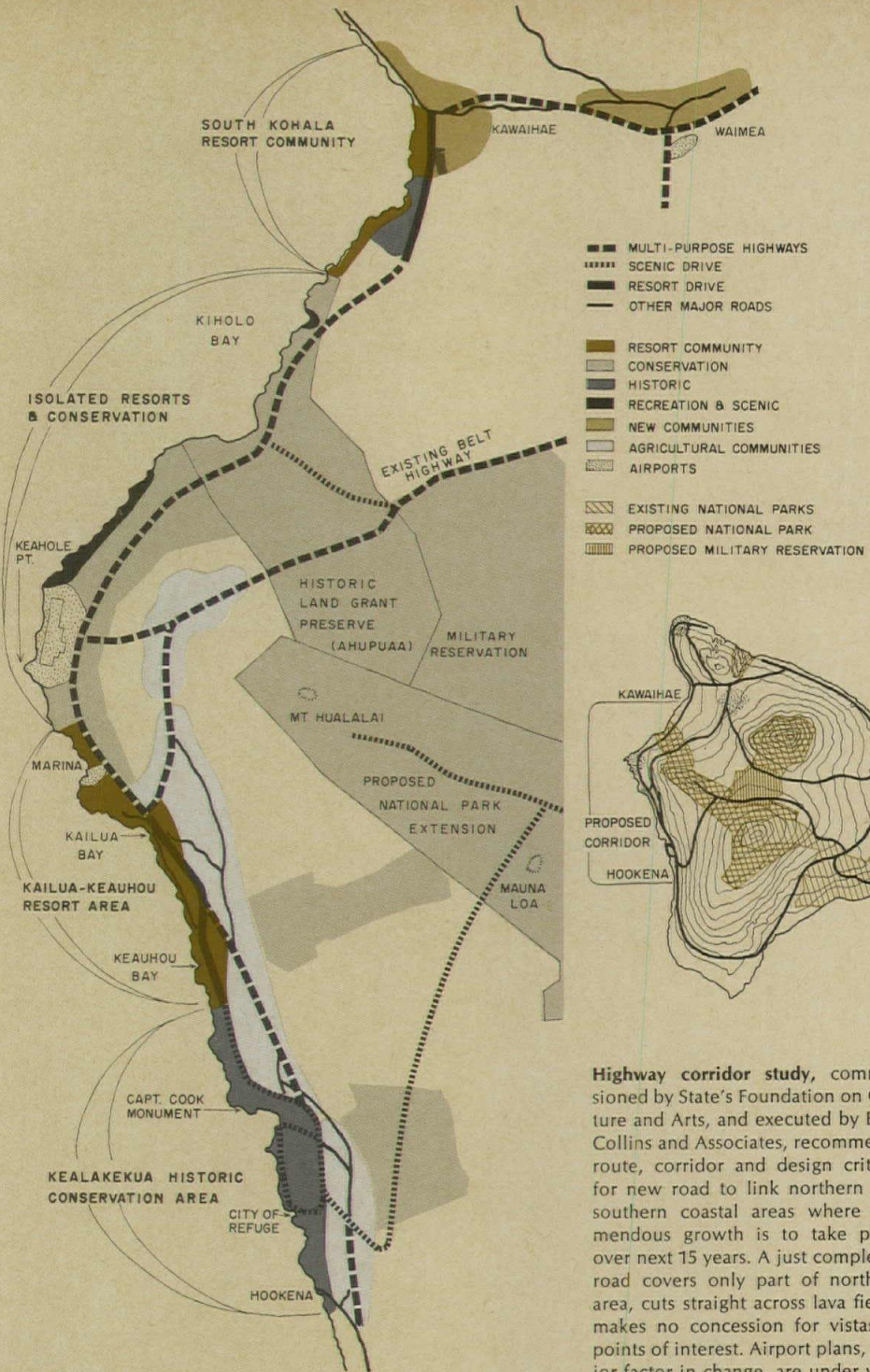


# HAWAII

## Transportation, land-use, design criteria: keys to future quality of Big Island's West Coast

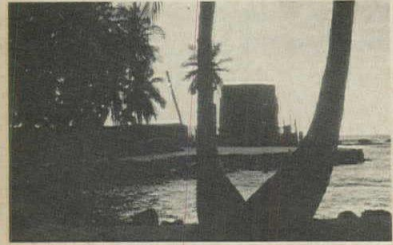
West Hawaii is presently sparsely populated, partly because much of it is ranchland in private ownership, but mainly because roads are all but non-existent in the north section, and inland along the south Kona Coast. The new jet airport to be built north of Kailua (B) and the new road linking the north (A) and south coasts will deeply affect the whole coast, shifting and increasing its population, raising land values and increasing the pressures for more intense and denser development. It is an area of vast vistas to mountains, lava fields, lush vegetation and great potential. The area itself is not so much beautiful as it is rugged and wild, qualities which—at least along the coast—should be preserved and enhanced by whatever is man-made. State land use zoning has given the broad basis for future development, but still needed are detailed criteria of the scope of the Environmental Studies, and a process which would coordinate public works programs with private development plans. Also important to coordinate with development plans is the preservation of historic sites (like City of Refuge, below) in which the West Coast abounds.

Belt, Collins & Associates



**Highway corridor study**, commissioned by State's Foundation on Culture and Arts, and executed by Belt, Collins and Associates, recommends route, corridor and design criteria for new road to link northern and southern coastal areas where tremendous growth is to take place over next 15 years. A just completed road covers only part of northern area, cuts straight across lava fields, makes no concession for vistas or points of interest. Airport plans, major factor in change, are under way.

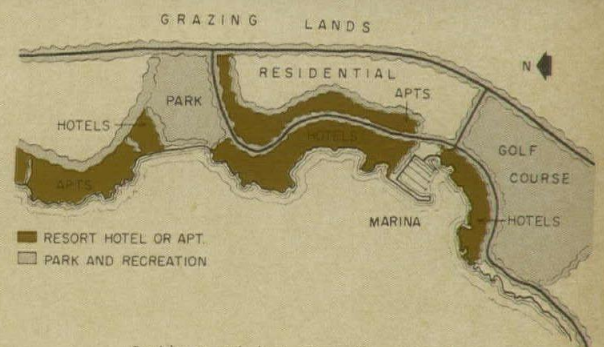
Path and roadway system for shoreline, Kohala Coast resort region. Belt, Collins & Associates, engineers, planners and landscape architects.





**A Kohala Coast** will be developed by Dilrock-Eastern Corporation (Dillingham Corporation, Laurance Rockefeller, Eastern Airlines) as \$250-million resort community which will eventually include a new town, a range of hotel types, residences, public recreation and restored historic sites. Master plan (bottom) provides land uses compatible with existing Mauna Kea Beach Hotel, and conserves scenic and recreational resources. New 102-room wing (below left) shows its success as luxury resort.

Wimberly, Whisenand Allison & Tong, architects



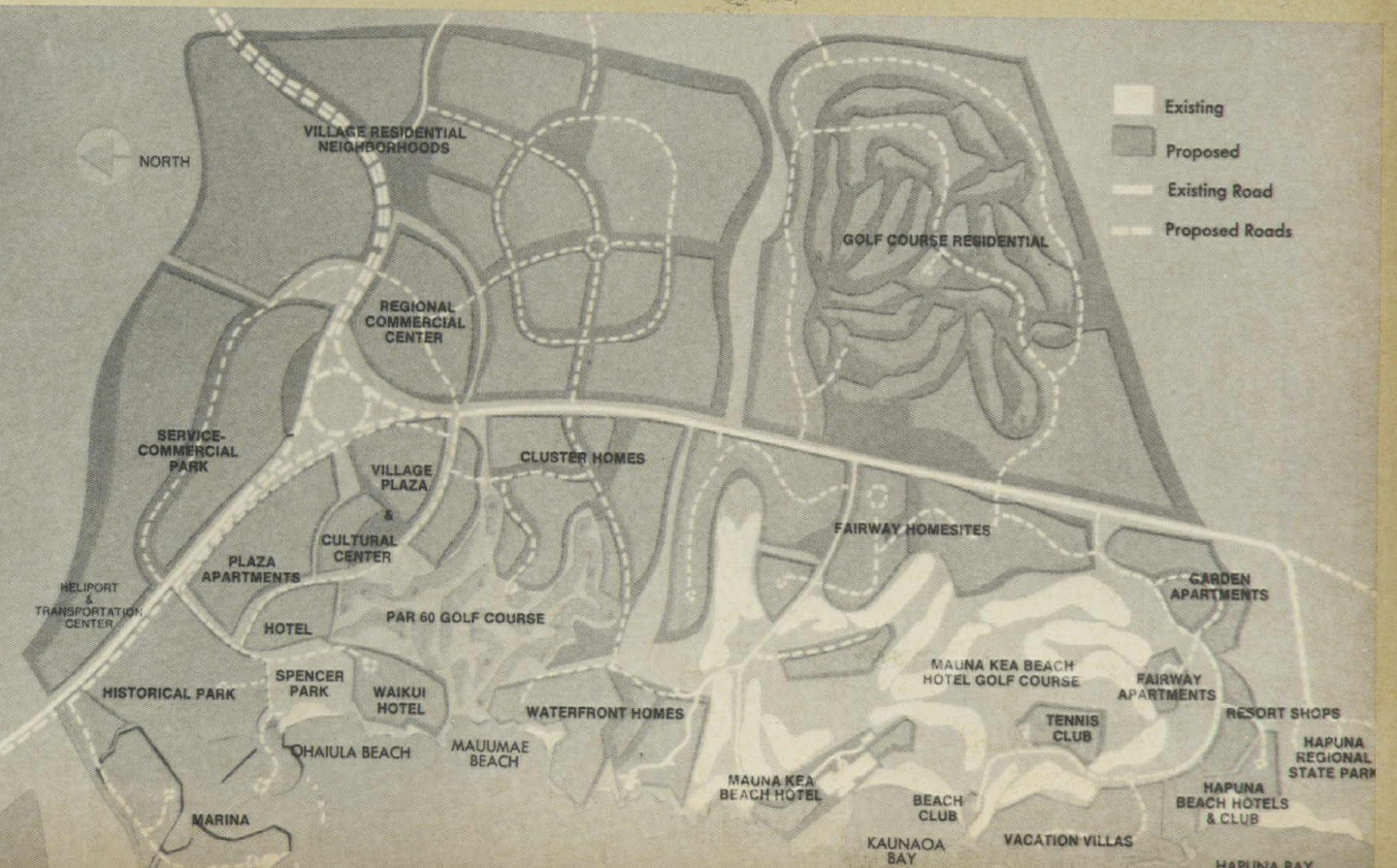
Vacation villa: Thomas O. Wells, architect

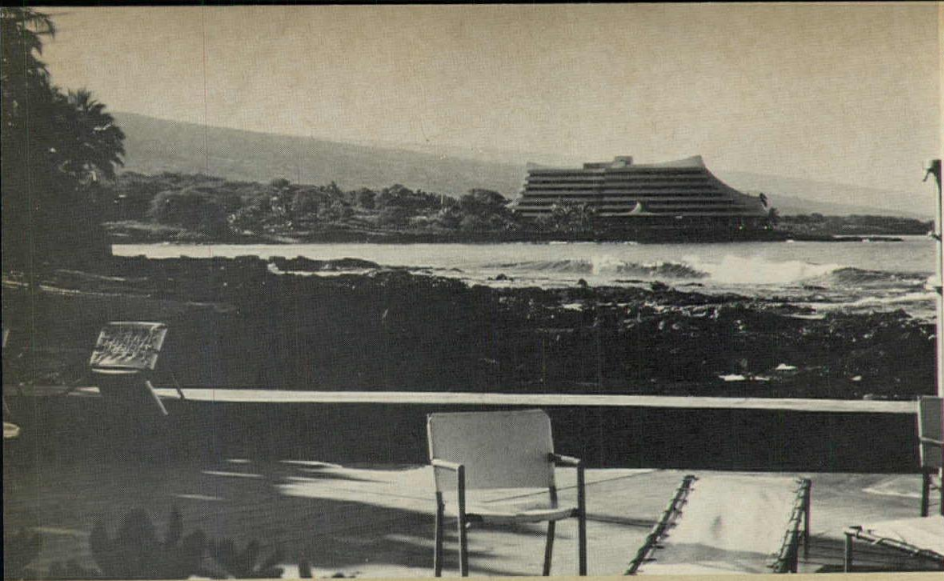


Residence: Vladimir Ossipoff, architect



Camera Hawaii





Kona Hilton Hotel Wimberly, Whisenand, Allison & Tong, architects

## Big Island's Kona Coast knows pressures of rapid growth and great potential as tourist area, and seeks means to control quality of development

The Island of Hawaii—the Big Island—has four extinct or dormant volcanoes and one, Kilauea on the slopes of Mauna Loa, whose continuing activity is almost legendary. The miles of lava that cover much of the island become a part of its particular attraction, and resorts built on these lava fields are like oases. The great scale of the vistas from all parts of the island are its special beauty. Except for the resort area of Hilo on the East Coast (D), and the small village of Kailua on the Kona Coast (B) there is no tourist activity center on the island. As the new resort communities in the north and south—Kawaihae and Keauhou—develop, and as Kailua itself grows, as it will, and the new road becomes actuality, the tourist can choose among a great many recreational and sport activities.

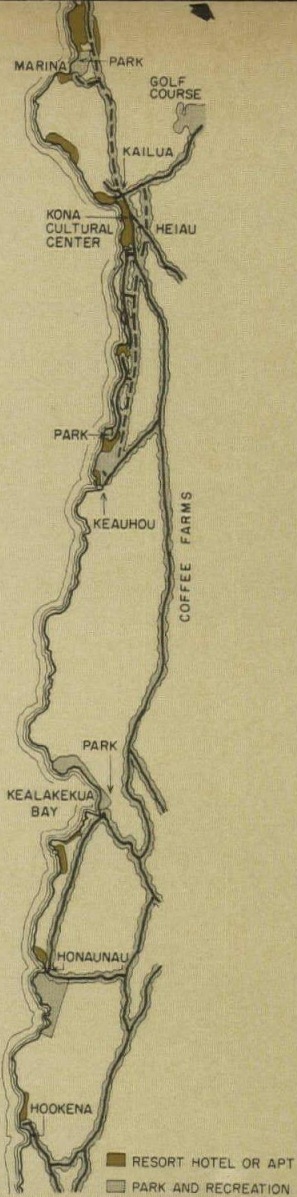


**B** Kailua is center of Kona Coast population, commercial activity and at present, hotels. But it is still a village (below) in size, scale and urban resources. In the rush toward tourism, Kailua's height limit, once three stories (as at old Kona Inn, left) was raised to seven stories, permitting height limit hotels (like Kona Hilton, above) to be built. Recent concern for future attractiveness of town as Visitor Destination Area led to lowering of limit to four stories. To realize its aspirations Kailua also needs well-planned, well-designed, man-made charm.

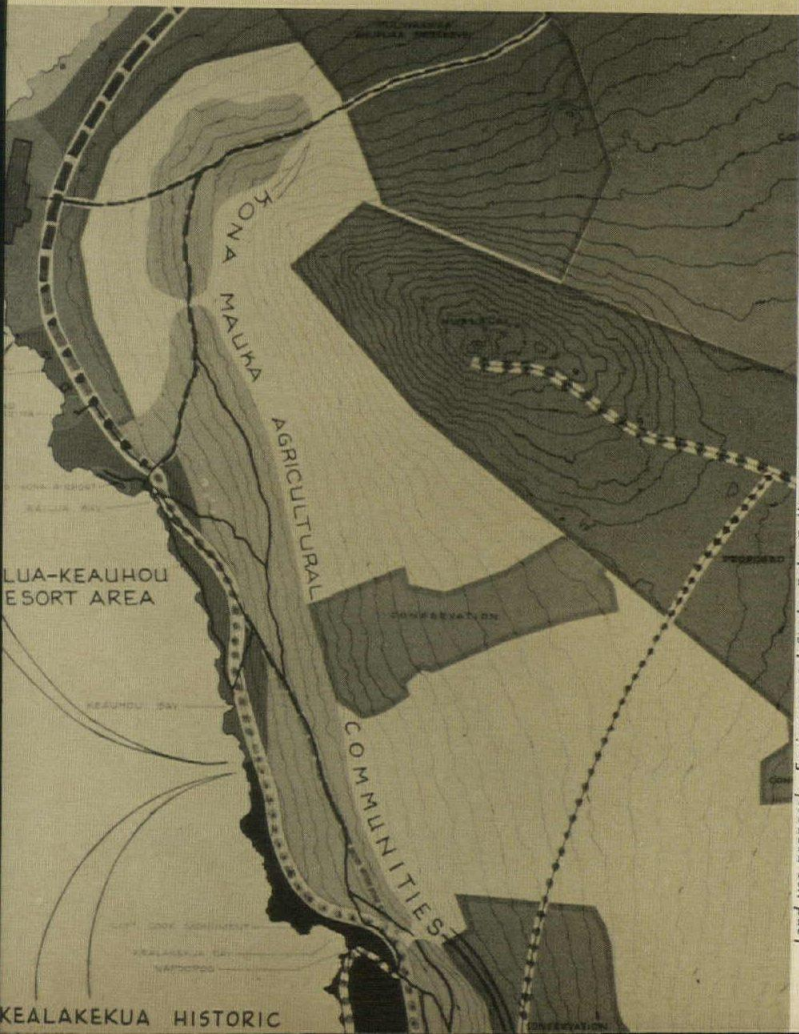
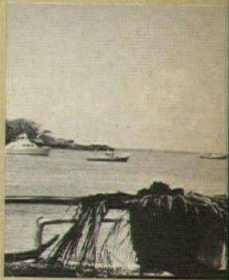


**Small isolated resorts** like Kona Village (left) are at opposite extreme from large in-town hotels in Kailua. Low-density Kona Village is accessible only by air; the new road would make this and other suggested resorts of similar type easier to reach but would still permit isolation which is their special attraction. Presently only two or three such isolated resorts exist in Hawaii, but recommended land use plan (across page, bottom) suggests additional sites along North Coast. Scale and size of such resorts does not disturb landscape.



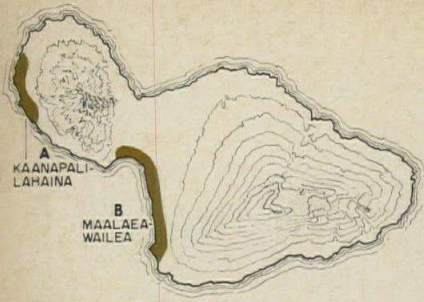


**C** Keaouhou, the \$180-million residential and resort "Community of Leisure" now being developed on Keaouhou Bay, is the historic playground of Hawaiian royalty. The new community will change the present small fishing port on the Bay by making it into a marina, with a plaza intended to become the focal point for the community and for tourist activities. The master plan contains four sites on which nine hotels can be located (three are already in planning). It will feature clustered residences of various types, and apartments.



Land use proposals, Environmental Study, Belt, Collins & Associates, Engineers & Planners  
H. Peter Oberlander & R. J. Cave, Community Planning Consultants, Inc.





# MAUI

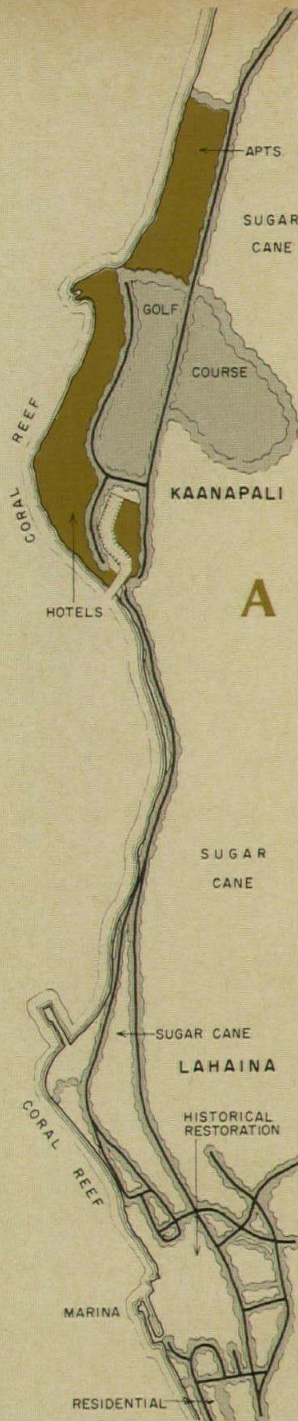
## Second-largest island

Maui is scenic, historic, and the site of the most successful Visitor Destination Area to date.

### Destination Area to date.

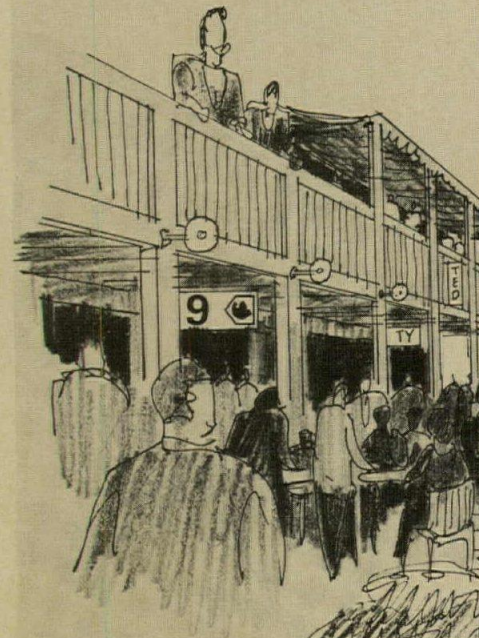
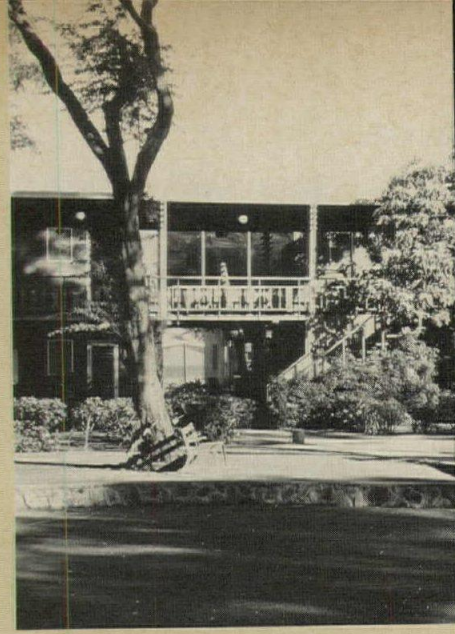
Diverse, historic, beautiful, completely different from the Big Island, Maui is known as the valley isle because of the isthmus that joins its two volcanic masses, one derived from huge Haleakala, the other from smaller Puu Kukui. As a place, its beauty is more delicate than Hawaii's and stronger than Kauai's. Thus the impact of development on it can be disastrous if not carefully done. How it is done, where it is permitted to happen, and how the pressures for increased density are handled will be of utmost importance in its future. Since Maui is the site of the most successful Visitor Destination Area to date—Daanapal 12—that development serves as both example and caution. Siting and orientation can be significant factors in the quality of the environment, and at Kaanapali, where the openness of the site and the landmark Black Rock were its most noticeable attributes, the scale could be bold and strong. But Black Rock has been obscured by a hotel, and whatever scale the place will have must come from siting, height and design. Kaanapali's hotels and choice of recreation offer the tourist the necessary variety, and Lahaina, an old whaling village south of the resort area, complements this with historic buildings, night clubs and restaurants.

Camera Hawaii



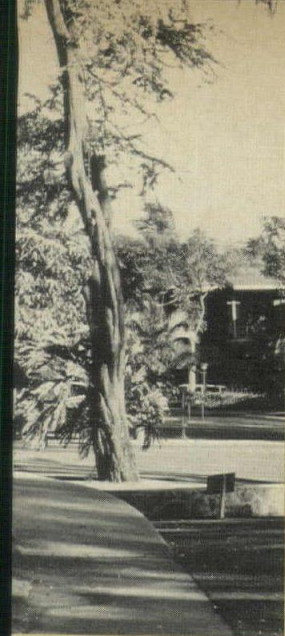
State Of Hawaii Visitor Destination Area Study

- RESORT HOTEL OR APT.
- PARK AND RECREATION



AMFAC, Inc. Developers





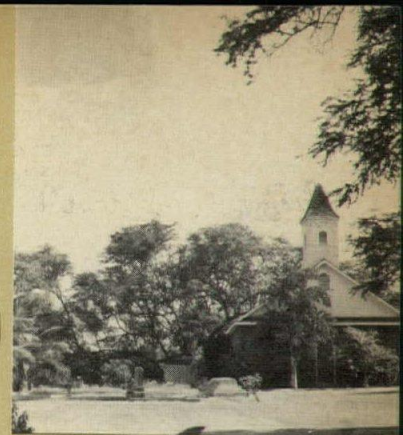
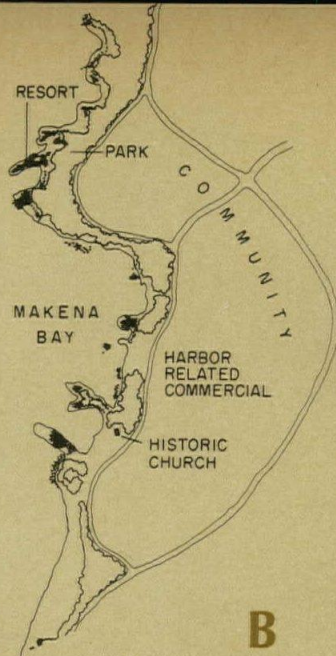
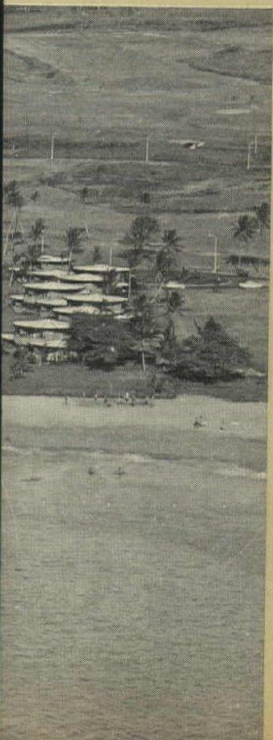
**Napili Kai** resort on the north shore attracts long-staying, repeat patronage, and has a high occupancy rate. Small, comparatively remote, its patrons have similar tastes and backgrounds, enjoy similar activity (or non-activity).



**Lahaina**, one of Hawaii's most historic towns, is being restored as an important tourist attraction. Keeping its vitality as a town while bringing visitors to its narrow streets is a design problem tackled by Environmental Study; how to make new buildings, inevitable for the town's growth, compatible visually and spatially, is another. Above, Hale Aloha church as focus.

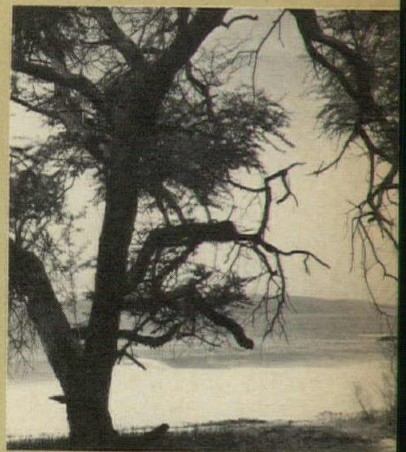
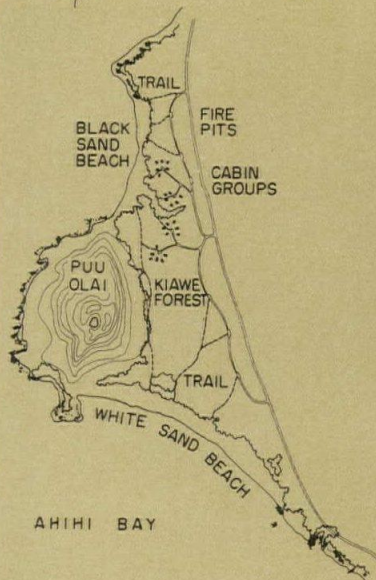


**Kaanapali** (A), resort community proves validity of its selection as a VDA. Five hotels and a condominium have been built within its boundaries, with a range of accommodations and variety of activities. It meets the VDA definition of a destination area by having at least 1500 rooms, restaurants, golf courses, white sandy beach (one of the best). It will also have a large resort-oriented shopping center, Whalers' Village, now under construction at the Lahaina end of the beach. One of its problems—easy transportation into Lahaina—will be solved if proposed railroad with excursion train goes into operation. This would permit non-drivers (or those who could not rent a car, or those on tours) to make independent excursions into town for sightseeing or shopping.

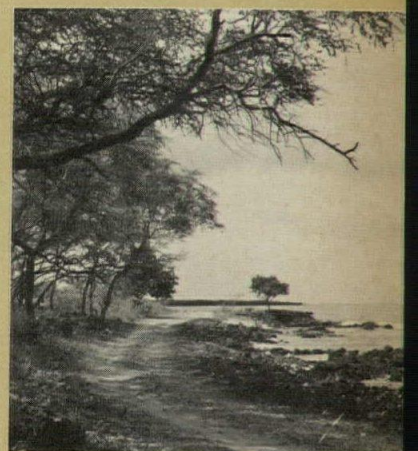
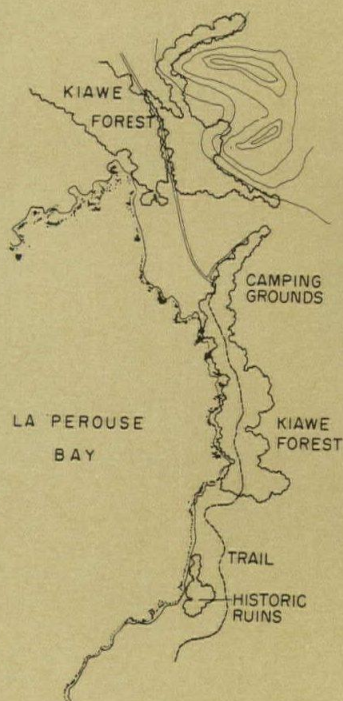


**Makena**, an old Hawaiian settlement, a town under missionaries, then a busy port, could be revived as a recreation-related town, Environment Study suggests. For residents' use, parks and beaches should be developed, it recommends.

**B**



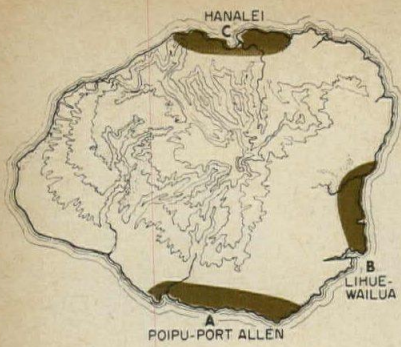
At **Puu Olai**, study suggests keeping its two beaches—one white sand, the other black—as a natural park, with minimum development. Simple cabins and camping areas—which local people could use—could be located under trees along shore.



**La Perouse Bay** is wilderness area, largely lava fields with historic Hawaiian ruins. Study recommends that it be kept largely as it is, with footpaths to historic sites, but no other development.

*John Carl Warnecke and Associates, architects*

*Environmental Study of undeveloped coastal area below selected Visitor Destination Area was undertaken as commission from State Culture and Arts Foundation to determine how to prevent over-building and disfigurement of so sensitive an area, and to provide resident-oriented recreation facilities.*



# KAUAI

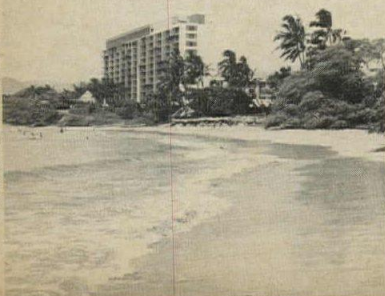
**Kauai's natural beauty makes all of it a Destination Area and especially sensitive to development.**

Kauai, oldest and, to many, loveliest of the islands, is so generally beautiful that the whole island was designated a Visitor Destination Area, with three regions (two of them—(A) and (C)—among the island's most exquisite) signaled out for resort development. Some development has taken place on all three sites, with varying degree of environmental success and respect for the fragile beauty they make their setting. That resorts do not have to intrude on the natural beauty of a place is clear in one of Kauai's older resorts, the phenomenally successful Coco Palms (B). This resort usurps no natural beauty, but transforms an ordinary

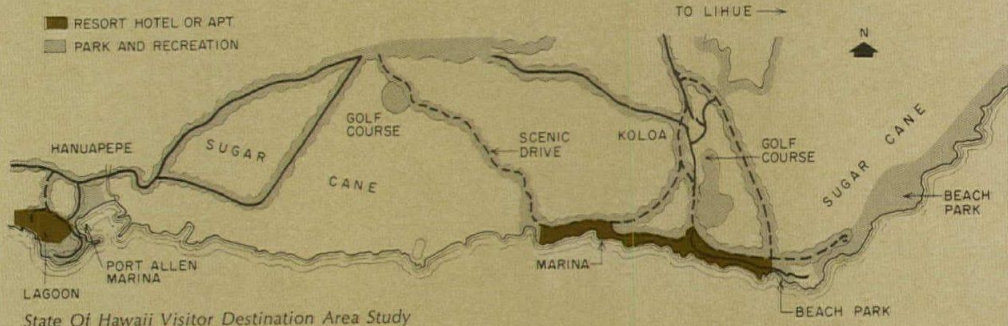


Coco Palms  
Wimberly & Cook, architects

site into an extraordinary experience. Its atmosphere may be synthetic, but the flair with which it is done is undeniably effective and in so using an ordinary site, other sensitive places can be preserved in their natural state. Another way to do this is the high-rise hotel. Fortunately on Kauai there is a choice.



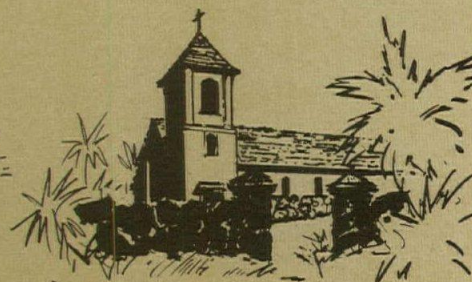
Kaiulani Surf,  
Frank Robert, architect

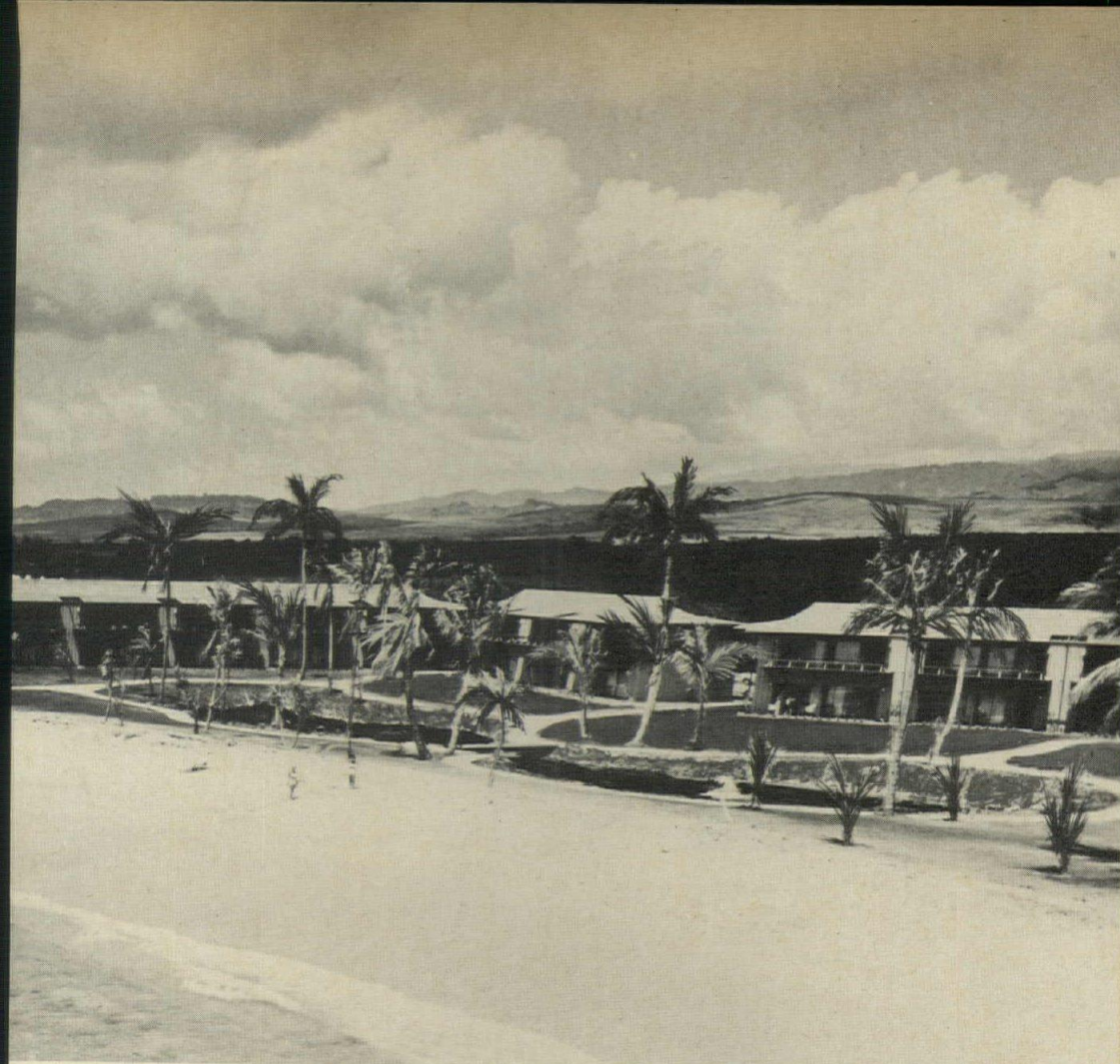


State Of Hawaii Visitor Destination Area Study



**A** Environmental study by Donald Wolbrink & Associates, landscape architects and planners, calls Poipu-Koloa area (A) "a world of its own" whose scale and character should derive from factors like indigenous housing, a 100-year-old mission church, vegetation like monkeypod tree.





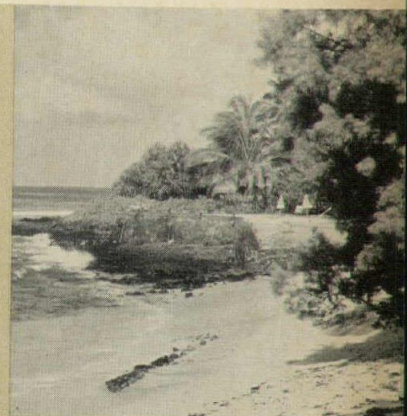
*Sheraton Kauai, Wimberly, Whisenand, Allison & Tong, architects*

Most recent of Poipu hotels is Sheraton Kauai, a cluster of two- and three-story units whose low profile, following example of earlier hotels on beach, does not interfere with view to mountains. Scale of individual buildings is such that with more vegetation, relation of this resort to beach could be no more intrusive than is Waiiohea, yet its openness and access to beach could be retained.



*Camera Hawaii*

*Waiiohea, Vladimir Ossipoff, architect*



Waiiohea, a quiet resort on one of Poipu's small crescent beaches (A), evolved from two beach cottages, retains their scale and unobtrusive character. Environmental study warns that Poipu's beauty is "fragile, readily compromised, minimized or ignored"; that climate and location could turn it into another Waikiki unless land use and design controls are used.



## MOLOKAI

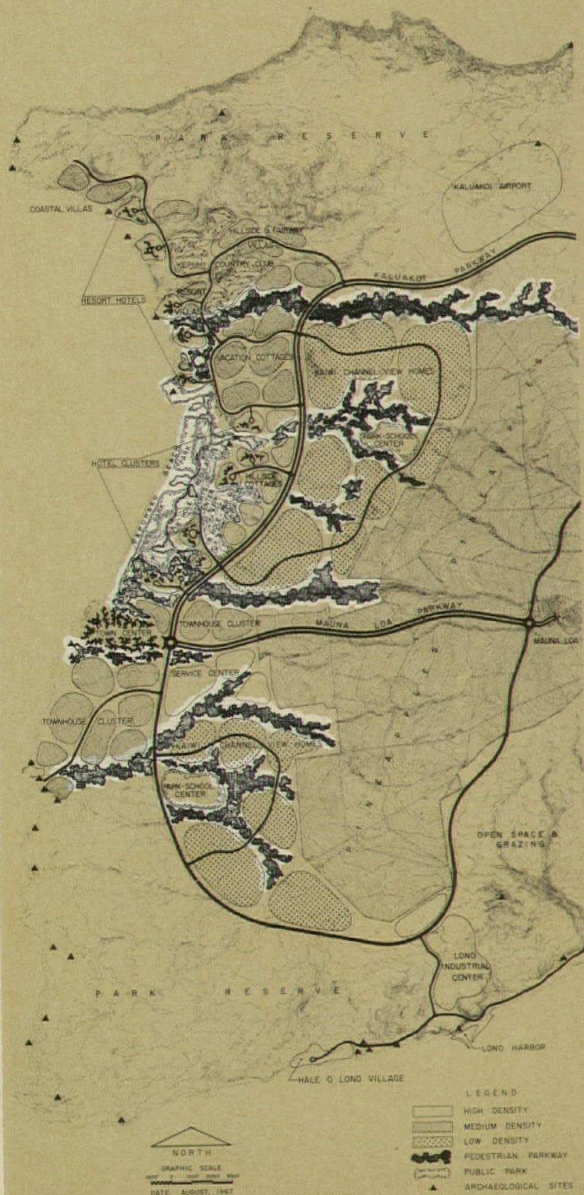
**Undeveloped, unspoiled, a unique opportunity to demonstrate quality in resort development**

Molokai's first resort community is being developed at the opposite end of the island from the site selected by the Visitor Destination Study in 1959. Private enterprise, in the form of Molokai Ranch Company, did not wait for the stimulus of public works, as the study proposed on the eastern end (A), but is forging ahead with development of a resort and second-home community on the west end (B). Here the beaches are superb and varied in type, from broad and sandy to small and rock-enclosed. The master plan (by Belt, Collins & Associates) uses the character of the beaches in its land use proposals: the small beaches for the intimate type of resort, the great beach for a public beach park, with a sports center and a golf course as part of the park: an exceptional demonstration of public conscience, and of particular importance now. Beach access, especially in resort areas, is often all but non-existent, yet all beaches are in public ownership. This great park opens the magnificent beach to the public, and suggests that the developers are concerned with the environmental quality of the new community. As yet no design criteria for the hotels and residences have been announced. These will be an important part of the implementation of the master plan.

*Hotel Molokai, Frank Robert architect*



**B** Molokai's west end is completely undeveloped; most of the land is open range. It is dry and parched but wildly beautiful. The master plan envisions an eventual community of 30,000 population. Its proximity to Honolulu (15 minutes by air) indicates potential as a second home community as well as a resort. The amount of open space provided is unusual but appropriate to the rural quality of the island. Most permanent residents would live in the hills above the resort area. Hotels will be of two types: large, located near the park, and smaller luxury resorts located on semi-private beaches. Rezoning (from agricultural to urban) has been granted by the State Land Use Commission for 1460 of the proposed 6800 acres.



## Heat pumps suited to electric rates: three examples

### 1. CHILLER WORKS ALSO AS A HEAT PUMP

Many more buildings are being electrically heated as well as cooled these days because electricity is frequently found to be a "best buy" strictly on an energy cost basis. This is the case with the three examples in this article—a high school, a high-rise apartment building, and an industrial plant, all of which employ some type of internal source heat pump system. The consulting mechanical engineers for these three projects, Robert G. Werden & Associates, Inc. of Jenkintown, Pennsylvania, have followed a policy of "creating hardware to fit the electrical rate, rather than waiting for rates to catch up with the hardware." That is to say, the heating and cooling system is designed to take maximum advantage of the utility's rate structure and the building and system operational characteristics.

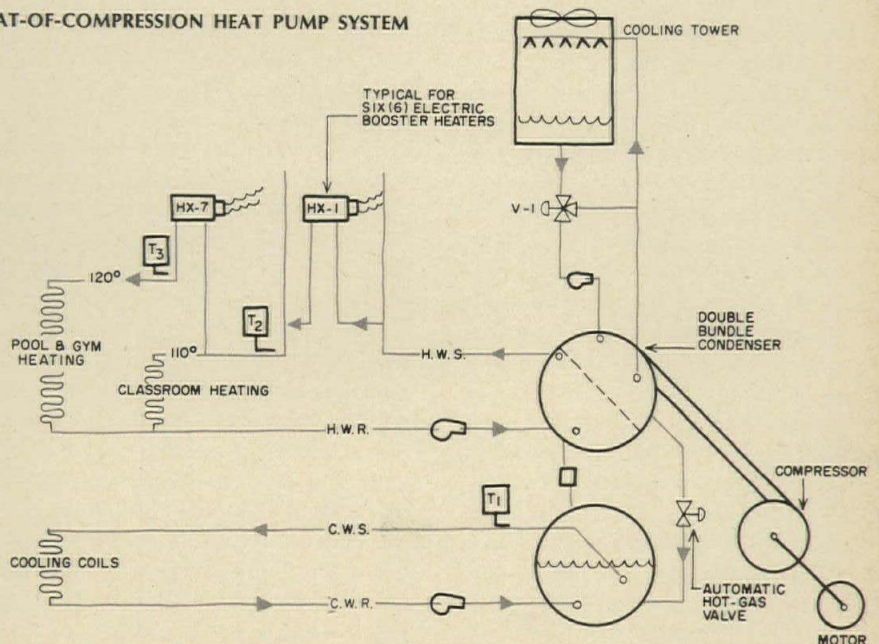
Upper Perkiomen High School, near Allentown in Montgomery County, has nearly 170,000 sq ft of space, arranged as three staggered cubes—a two-story classroom section in the middle, flanked by the athletic wing on one side and the auditorium on the other. The structure is well insulated: the wall U factor is 0.11, and the roof, 0.09. Also, glass is used sparingly. Exterior classrooms have only 10 per cent glass in their outside walls. Because the school is air-conditioned all the year, only 5 cfm of ventilation air per student were required for odor control.

The high school requires cooling most of the time when it is occupied. The engineers have calculated that, because

**Operation of the heat-of-compression heat pump.** The school is being cooled most of the time when it is occupied because it has low heat losses and fairly high internal gains (lights, equipment and people). The mechanical energy (electrically-driven motor) used in compressing the refrigerant gas is converted into heat. This heat is removed by the condenser and the hot refrigerant vapor is turned into a liquid. The liquid refrigerant is allowed to expand through an expansion valve into the evaporator, and in so doing it cools the water circulating through it. This chilled water, in turn, picks up heat from the conditioned spaces. During the colder weather all of the heat that must be rejected by the condenser is utilized by reheat coils located in the ducts close to where they enter the conditioned spaces. These reheat coils adjust the temperature of the 55 F air being supplied to meet the temperature of air required by the room. When it is 45 F outdoors and the school is occupied, the condenser will have excess heat, and this is rejected to the cooling tower.

In winter when the school is unoccupied there is no internal load, so the only "free" heat available to the system is that which has been stored in the structure and furnishings. The only heat available from the heat pump is that put into the system by the heat of compression—in other words, energy in equals energy out. This amounts to about 910,000 Btu per hr. There is no cooling load on the evaporator, however, since there is no internal load; therefore, the evaporator has to be artificially loaded by allowing hot gas from the compressor to be by-passed through the evaporator. In essence, electrical energy is merely being converted into heat energy, and the system coefficient of performance is 1.0 (energy out/energy in). The coefficient of performance of the refrigeration system on the cooling cycle, however, is around 4 (i.e., Btu of cooling effect/kw of power).

HEAT-OF-COMPRESSION HEAT PUMP SYSTEM



SUMMARY OF UTILITY COSTS

Scheme	1 Oil Heat		2 Gas Heat		3 Electrical Resistance		4 Heat Recovery	
	Units	Cost	Units	Cost	Units	Cost	Units	Cost
General Light & Power	509,700 Kwh		509,700 Kwh		509,700 Kwh		509,700 Kwh	
HVAC Auxiliaries	167,519 Kwh		167,519 Kwh		167,519 Kwh		167,519 Kwh	
Cooling	82,287 Kwh		82,287 Kwh		82,287 Kwh		190,192 Kwh	
Sub-total	759,506 Kwh	\$19,977.88 <sup>1</sup>	759,506 Kwh	\$19,977.88 <sup>1</sup>				
Heating	45,200 Gal		61,099 CCF	2.6	897,003 Kwh		501,912 Kwh	
Hot Water	3,290 Gal		4,472 CCF		65,477 Kwh		65,477 Kwh	
Swimming Pool	20,100 Gal		27,330 CCF		400,230 Kwh		400,230 Kwh	
Sub-total	68,590 Gal	5,699.83 <sup>3</sup>						
Cooking	3,537 CCF	619.39	3,537 CCF		52,170 Kwh		52,170 Kwh	
			96,438 CCF	13,173.69 <sup>4</sup>	2,174,376 Kwh	\$26,117.18 <sup>2</sup>	1,887,200 Kwh	\$22,670.41 <sup>2</sup>
<b>Total</b>		<b>\$26,297.10</b>		<b>\$31,151.57</b>		<b>\$26,117.18</b>		<b>\$22,670.41</b>

<sup>1</sup>Pennsylvania Power & Light Company rate LP-3. <sup>2</sup>Pennsylvania Power & Light Company rate HS. <sup>3</sup>Oil at 8.31 cents per gallon. <sup>4</sup>Philadelphia Electric Company rate G.

of internal load from lights (4 watts per sq ft) and people, the building needs cooling down to about 18 F outdoor temperature. Over a third of the classroom space is interior, and this requires cooling all the time when it is occupied.

The air distribution system in this school is single duct with reheat for temperature control. All of the classrooms and the various individual spaces have their own temperature control. The cooled air is supplied to the duct system from fan-coil packages always at 55 F, regardless of whether a room is calling for cooling or heating. Hot water flows through the reheat coil in response to the room thermostat to adjust the air temperature to that required to maintain about 75 F in the room.

The Btu's required for reheat are not provided by a boiler but from the refrigeration apparatus itself. Heat picked up by the chilled water of the refrigeration system is rejected to the system's condenser. This condenser has two bundles of tubes: one bundle extracts heat for use as reheat; the other bundle extracts heat for disposal via a cooling tower if there is more heat rejected into the condenser than is needed for reheat.

The reheat system has several advantages. From the standpoint of a central air-distribution type of system, it simplifies and cuts down on the ductwork; physical coordination with the structure is also simplified. Further, the air temperature controls are simplified, thus cutting costs—about \$75 per coil controlled, compared with a system that alternately uses hot and chilled water.

From the engineer's standpoint, the single duct reheat system can be easily sized accurately for air quantities and for refrigeration, because the fan-coil units are supplying the same quantity and the same temperature air all the time. Also significant is the fact that energy usage costs can be predicted quite accurately. But, on the other hand, this approach is less efficient thermodynamically than a system that throttles the heating or cooling effect in response to the load.

Werden obtained costs on four different schemes for heating and cooling:

1) oil heating and electric cooling, 2) gas heating and electric cooling, 3) resistance heating and electric cooling, and 4) heat-of-compression heat pump. With the first two approaches, the electric rate (which had a demand charge) for power and light and for electric-driven refrigeration averaged out at 2.6 cents per kilowatt-hour. With the all-electric approaches, however, the utility had a flat 1.2 cents per kwhr rate.

There were several reasons why the engineers chose the heat-of-compression heat pump. First, the refrigeration device with all its switchgear and controls was already there. This meant a \$30,000 cost savings by leaving out the resistance heating. But further, the heat-pump system could extract heat from the core and put it into the exterior rooms as needed.

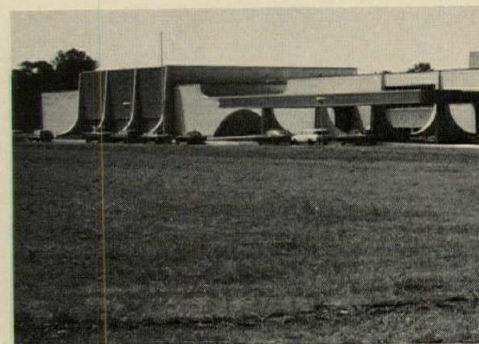
The refrigeration system was sized, however, for cooling season load and not for maximum heating demand, because maximum heating capacity would be needed only a small part of the time, principally on week-ends. This additional heating capacity was provided by six 125-kw hydronic booster heaters. There are also booster heaters for the pool and the gymnasium.

When the school is unoccupied during the heating season, the fresh-air dampers are closed. A number of rooms are ganged on one thermostat placed in the room having the worst outdoor exposure. Fans operate only when the space temperature in that room drops below 60 F. Valves on reheat coils in all rooms open, however, when the space temperature in any of these rooms drops below 75 F, so there is heat in these coils when the fans go on.

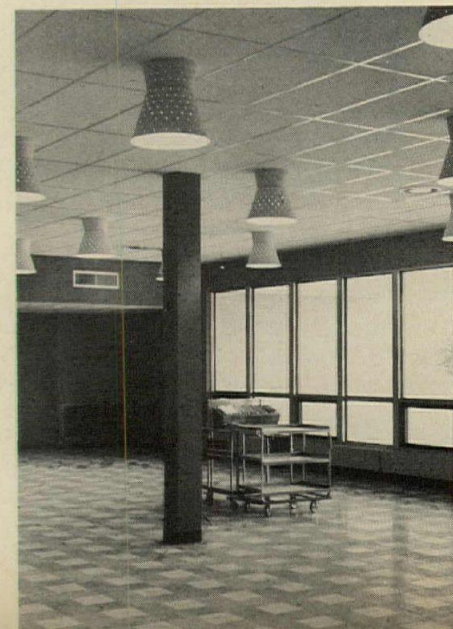
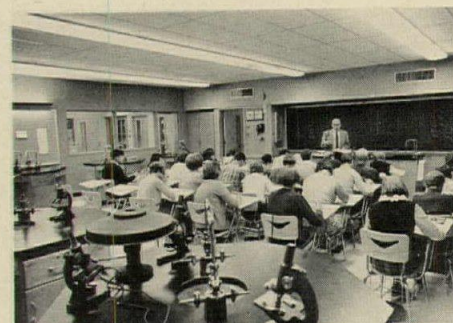
During the cooling season, the refrigeration plant is shut down completely during unoccupied periods. On a week-end the interior temperature in some rooms might go as high as 95 F, but this load is picked up by turning the plant on earlier on Monday morning.

Since there are times when portions of the school may be used at night by the community, the chiller was specified to have capacity control down to 10 per cent of maximum.

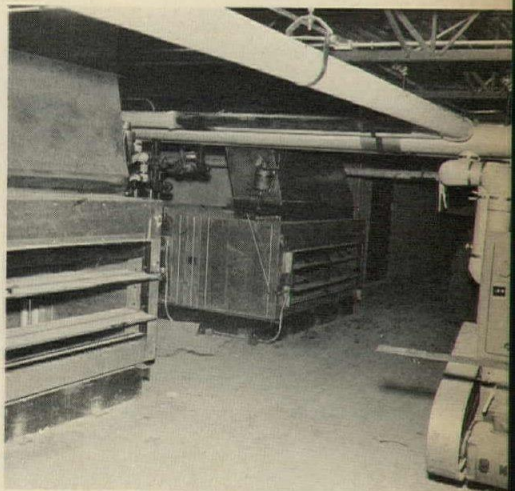
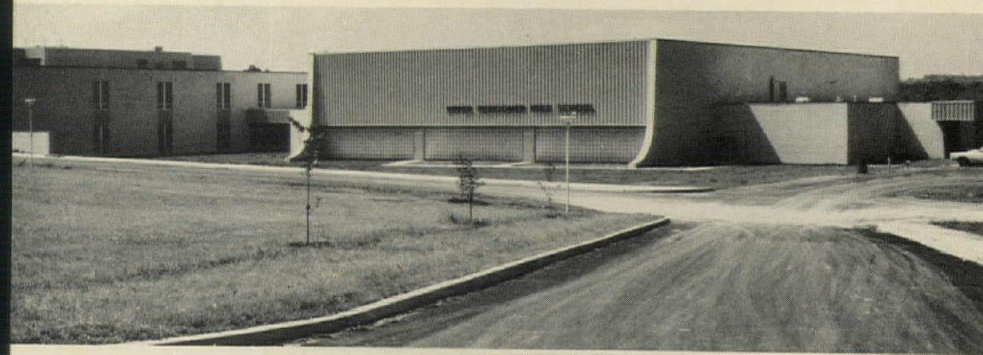
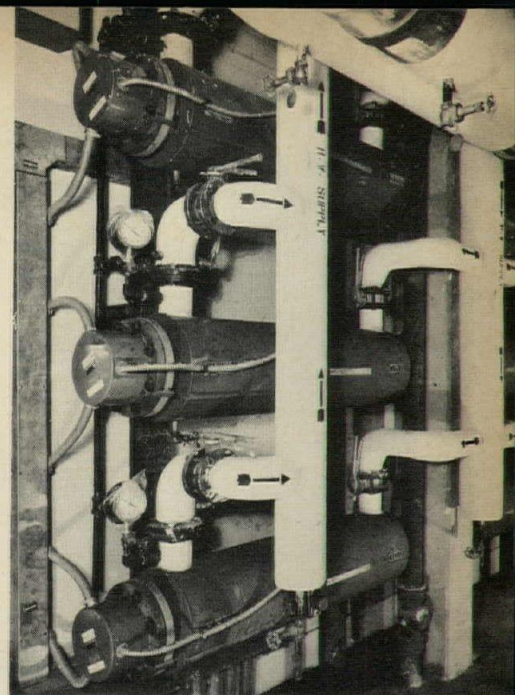
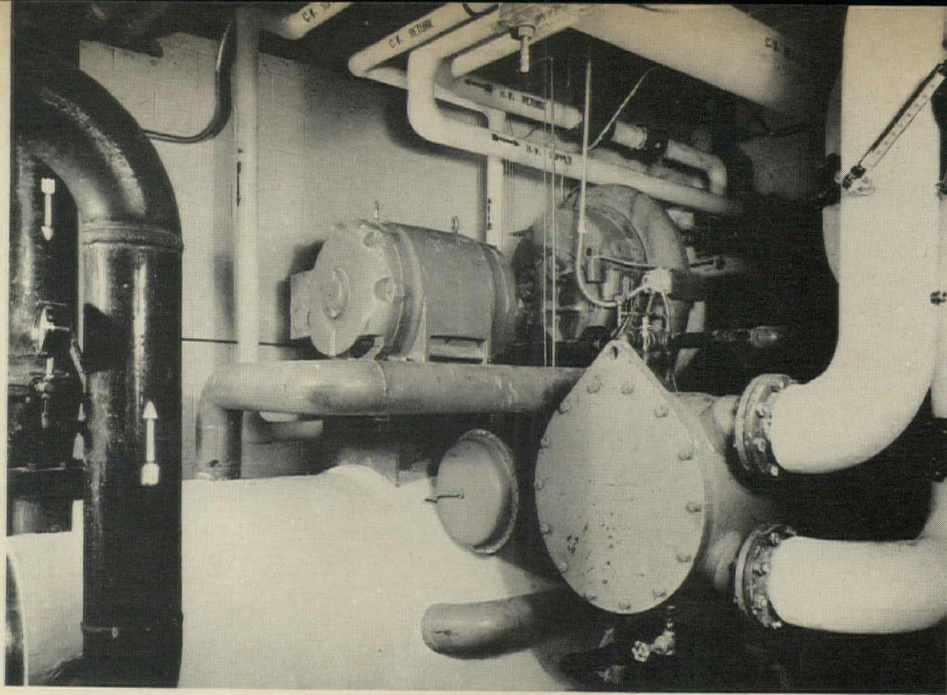
Cost of Upper Perkiomen High School was \$29.68 per sq ft. Cost of HVAC was \$2.82 per sq ft; plumbing, \$2.35; electrical, \$2.12. Architects: Everett Associates; consulting mechanical and electrical engineers: Robert G. Werden & Associates.



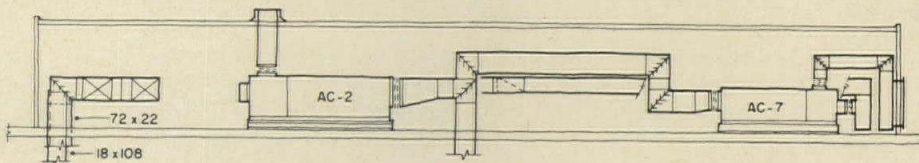
Robert B. Grubb photos



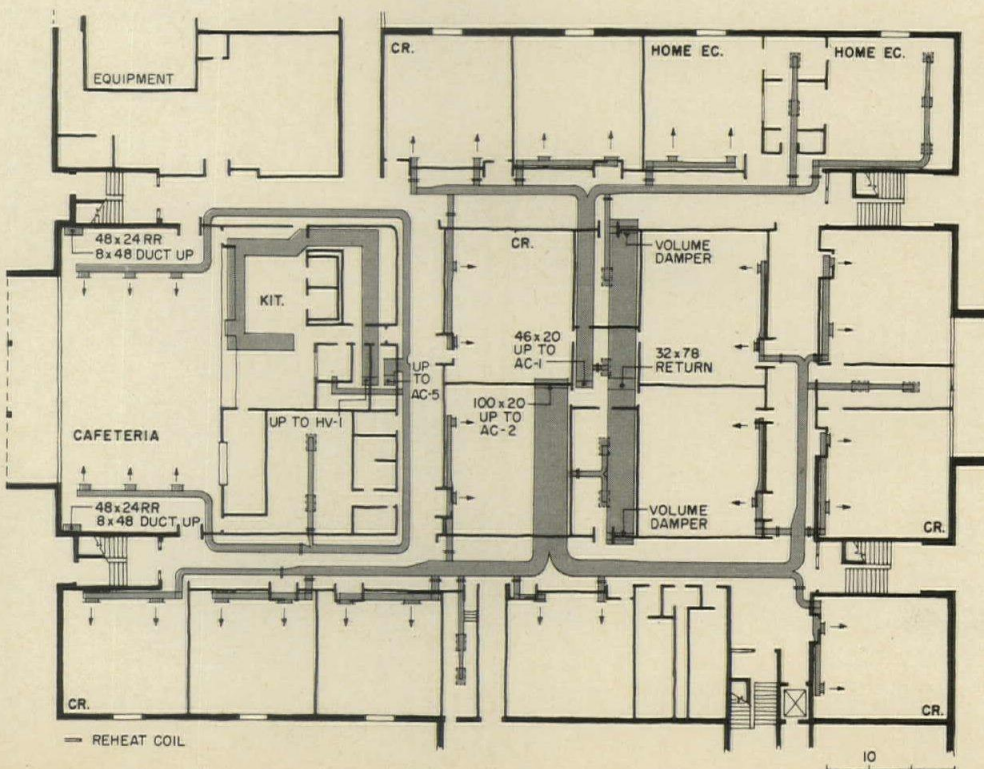




SECTION THROUGH EQUIPMENT PENTHOUSE



CLASSROOM WING—FIRST FLOOR PLAN



Equipment used for the heat-of-compression heat pump is a 364-ton centrifugal water chiller (top, left). When its output is insufficient to match the heating load during winter unoccupied periods, it is supplemented by six electrically-operated hydronic booster heaters (top, right). The air-distribution system is single duct with reheat. Air conditioners (fan-coil units with return and fresh air dampers and filters) supply 55 F air to the duct systems (photo above and section). For the classroom wing these ac units are located in a large penthouse, which also serves as a return air plenum. Reheat coils are located as indicated on the plan. Air return is via corridors to return registers connected to return ductwork. The supply and return ducts are easily run in furred-down spaces of corridors, posing no problem for physical coordination with the structure. Because classroom exterior walls are well insulated and have very little glass, the air distribution can be from grilles set in furred-down spaces along the interior (corridor) walls (see photo across page). In the library and cafeteria where there is a lot of glass in the exterior wall, electric baseboard heaters controlled by an outdoor thermostat were used under the windows, so as to take the chill off the glass in colder weather.

## 2. OFF-PEAK STORAGE FEEDS UNITARY HEAT PUMPS

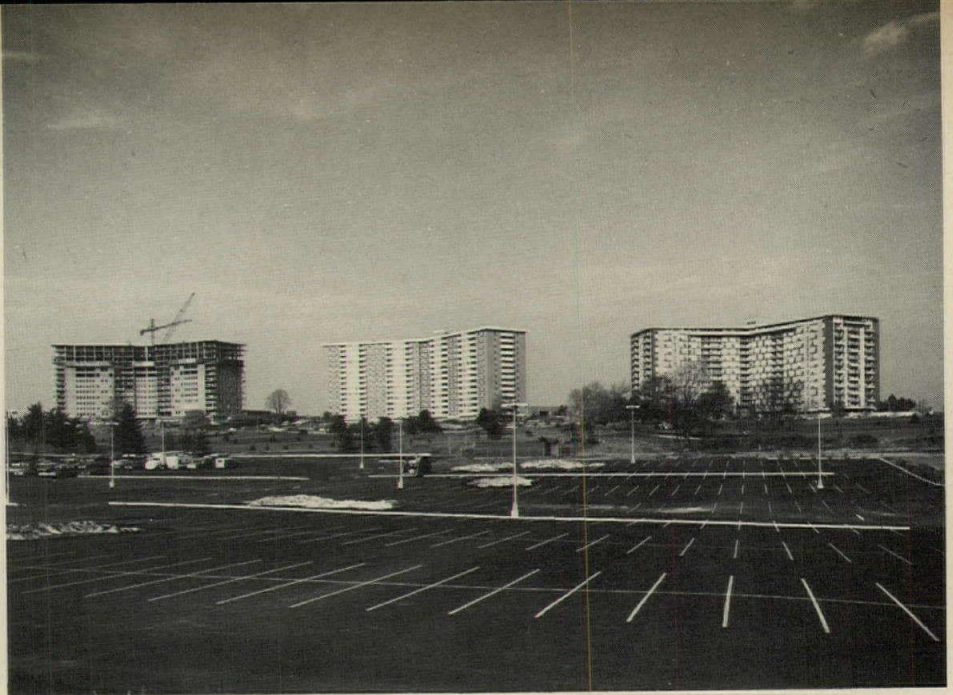
The latest in a series of three all-electric high-rise apartment buildings on the site of the former Cedarbrook Country Club bordering on the city of Philadelphia uses individual water-source heat pumps for year-round comfort conditioning. The water source in this case is not a well or lake, but an interior water-pipe loop. In winter, when the temperature in the loop drops below 60 F, heat is added to it from water in two storage tanks heated by electric boilers. In summer, when the temperature of the water in the pipe loop goes above 90 F, the water is sent through two evaporative coolers.

A particular advantage of this system as compared with through-the-wall air-source heat pumps or air conditioners plus resistance heating elements is this: There are times when some apartments may require cooling while others require heating. Rather than heat being rejected to the atmosphere, as would be required for air-cooled conditioners in spaces calling for cooling, with the heat pumps this heat is rejected to water in the pipe loop. Then, heat pumps in spaces requiring heating extract heat—in a sense “free”—from the pipe loop.

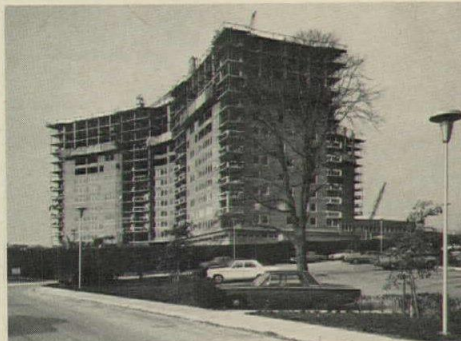
The principal reason that the three apartment buildings are electrically heated and cooled is that the Cedarbrook project also includes a large shopping center, so the apartment buildings are able to take advantage of the Philadelphia Electric Company's commercial rate. Power cost for operating the heat pumps in this building thus works out to only 4.5 mills.

Operating economies during the heating season are assured and enhanced by use of off-peak power for heating hot water. A demand-limiting regulator allows resistance heating to go on in steps, always keeping demand below that maximum charged to the total project. The water in the space heating storage tanks is allowed to go as high as 200 F. This means that the storage tanks can be inexpensive steel tanks such as are used for oil storage; they do not have to be much more expensive pressure vessels. Heat from water in the storage tanks is transferred to the water pipe loop via a heat exchanger. Reason for this is that there are 13 stories of static head in the water loop and it obviously is much less expensive to build a heat exchanger to take this pressure than the huge storage tanks.

Further economies in the over-all system are achieved by using heat-exchange wheels to recover heating or cooling effect from exhaust air.

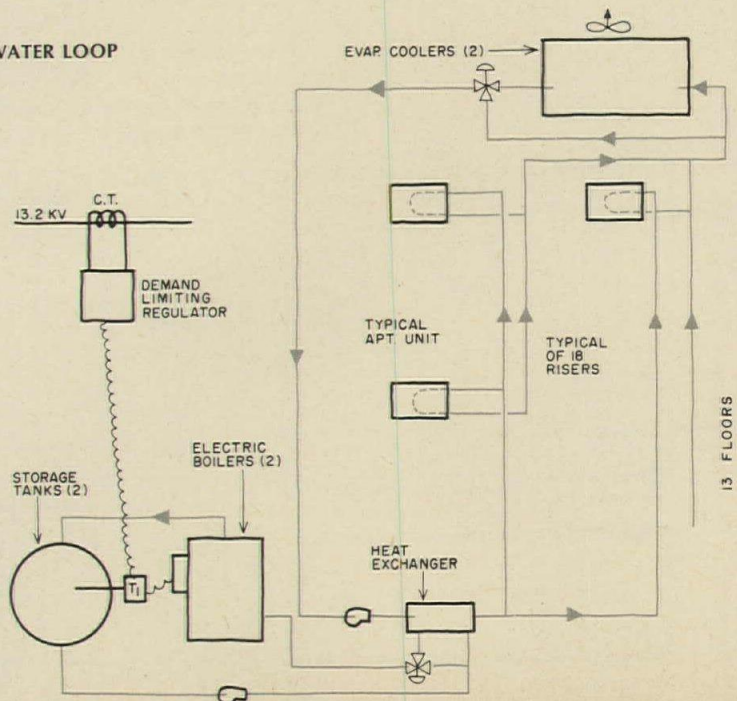


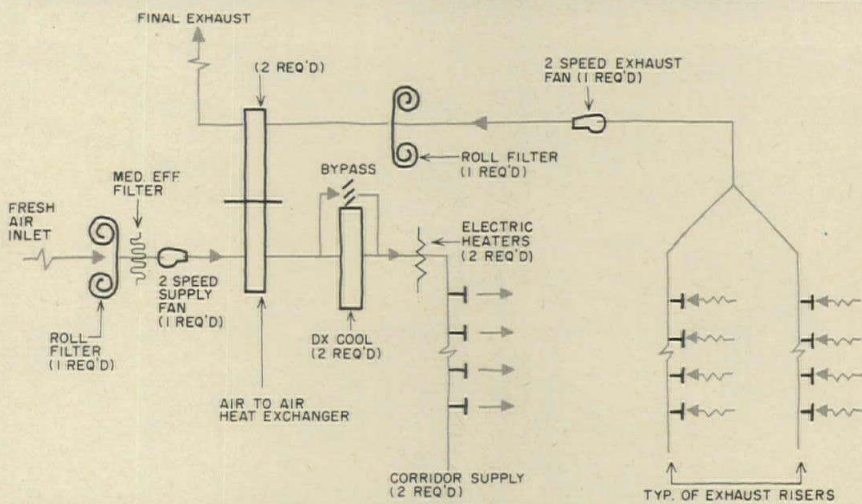
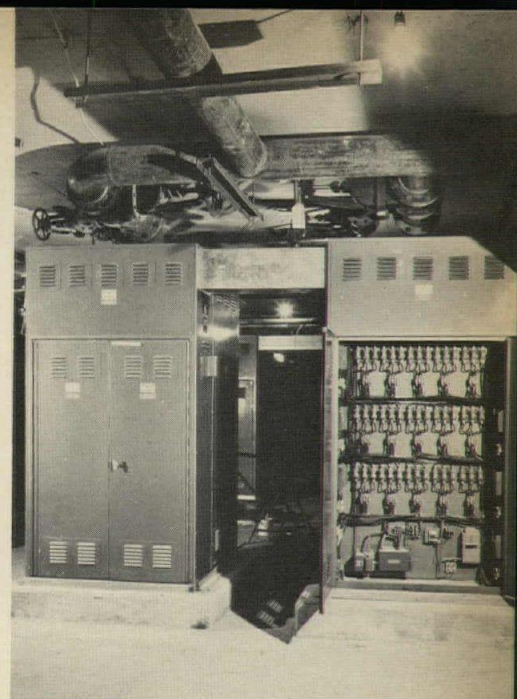
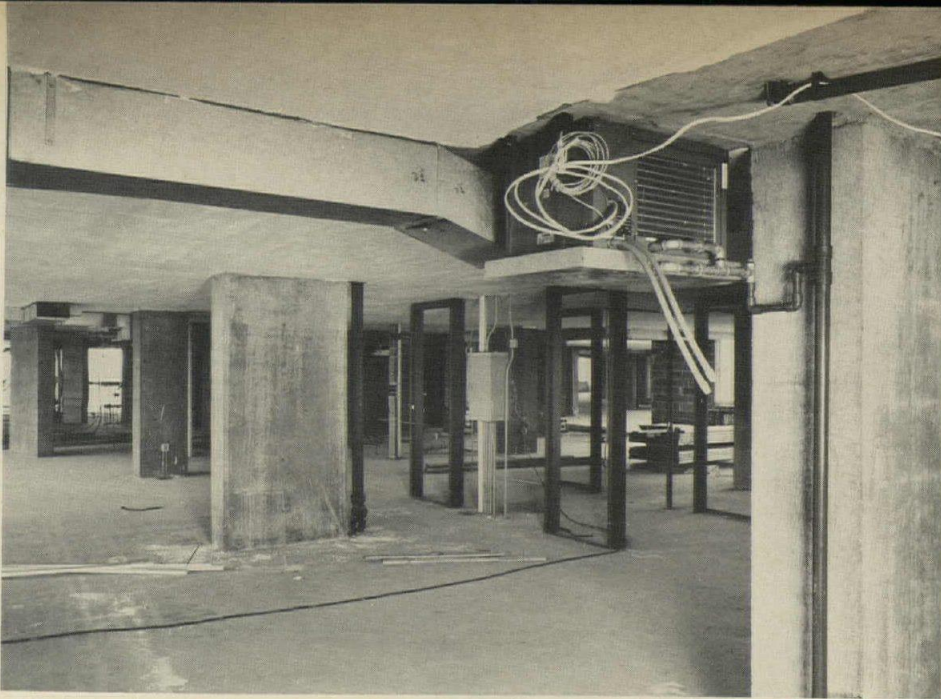
All three of these high-rise Y-shaped apartment buildings are heated and cooled electrically. Cedarbrook Hill III, the building under construction, left in photo, has unitary heat pumps served by an internal water loop heated by off-peak power and cooled by evaporative coolers. The other two buildings have through-the-wall air conditioners. Owner: Cedarbrook Joint Venture; architect and planner: Todd Merriam.



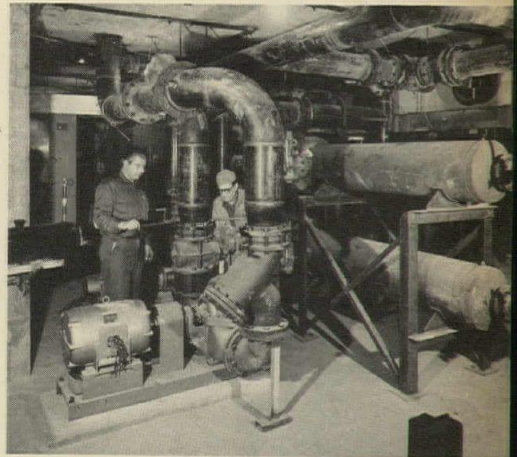
**Small unitary heat pumps** produce cooling and heating effects within apartments. In addition to their own energy input they either reject heat into or pick up heat from a water loop (actually there are 18 risers to supply all apartment heat pumps). When all apartments are on cooling the heat rejected to the water loop is removed by two evaporative coolers. Since these coolers are closed to the atmosphere, they do not contaminate the water as cooling towers might. A heat pump might reject heat at 105 F and the evaporative coolers bring the temperature down to 90 F. When any apartments are heating, heat is extracted from the water loop; temperature in the loop is not allowed to go below 60 F. This temperature is maintained by circulating hot water (as high as 200 F) from storage tanks. When heat is called for, electric boilers go on as long as the maximum demand is not exceeded. Most of this will be at night.

### TERMINAL UNITARY-WATER LOOP HEAT PUMP SYSTEM

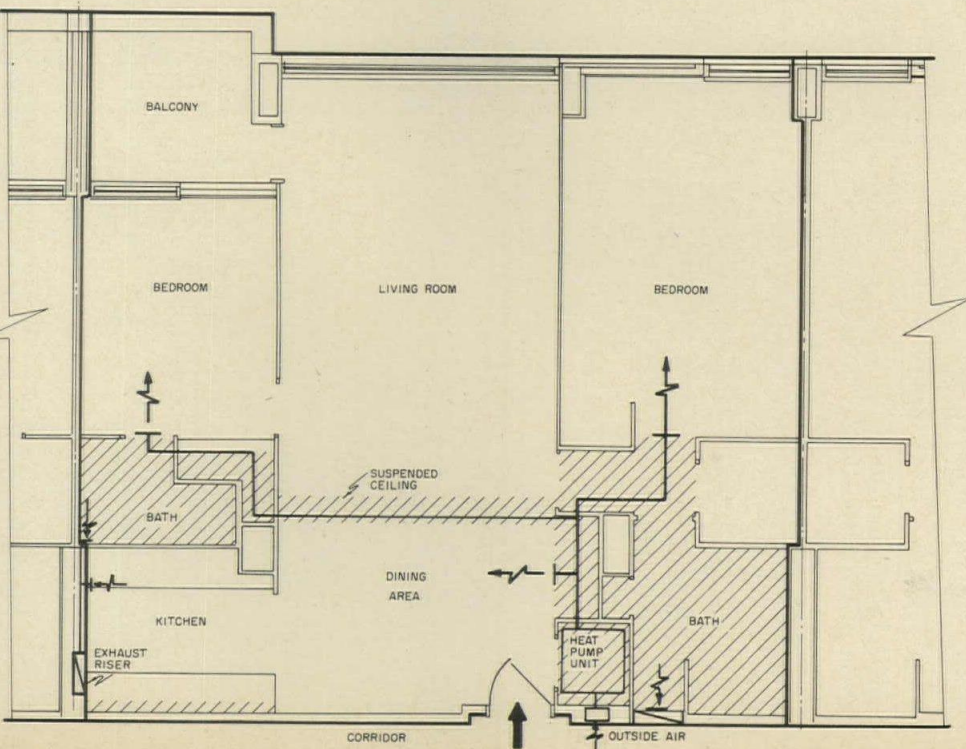




CORRIDOR SUPPLY AND APARTMENT EXHAUST SYSTEMS



SCHEMATIC DIAGRAM OF AIR DISTRIBUTION SYSTEM

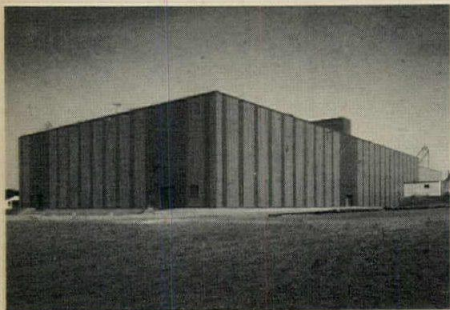


The small, water-source heat pump units (2 to 3 tons) are easily installed near the ceiling in closets located near corridors (top, left). Fresh, tempered air is supplied to corridors at 2 locations in the Y-shaped plan. This air is pulled into the heat pump units through grilles in the corridor walls and then through fire dampers. The schematic of the ventilation and exhaust air systems is shown above, left. The structure is flat-plate concrete, and the underside of the slab becomes the ceiling. For this reason, ducts for air distribution to the various rooms in the apartment have to be installed in furred-down spaces. Air distribution schematic for a typical apartment is shown at left. The electric boilers that draw on off-peak power to heat water in storage tanks for utilization by the water-pipe loop are shown at the top of the page, right. The doors are open on the front of one of the boilers, showing the contactors that add or take away electrical load in accordance with the measurement of total demand by the demand-limiting regulator. The photo directly above shows the heat exchanger for the water loop and the circulating pump for the loop.

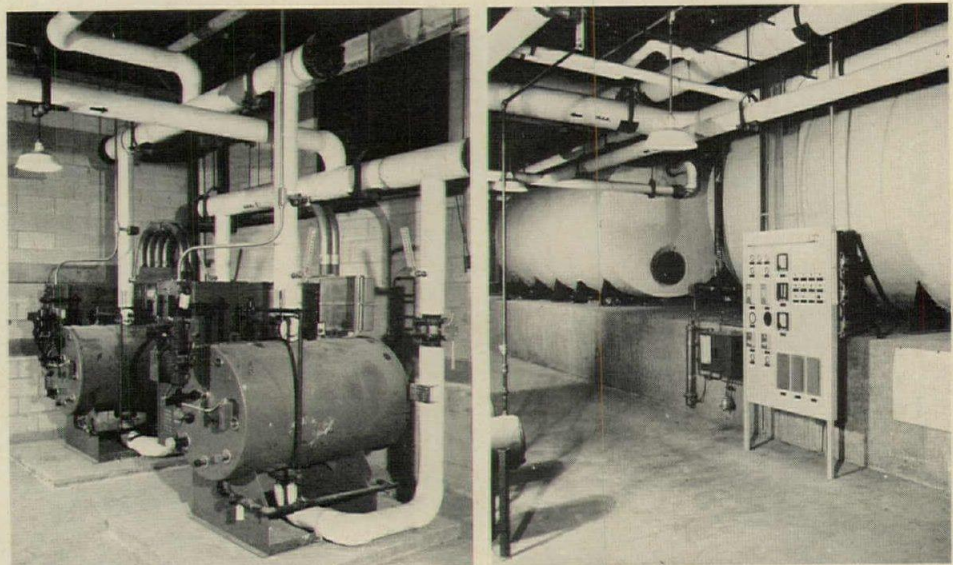
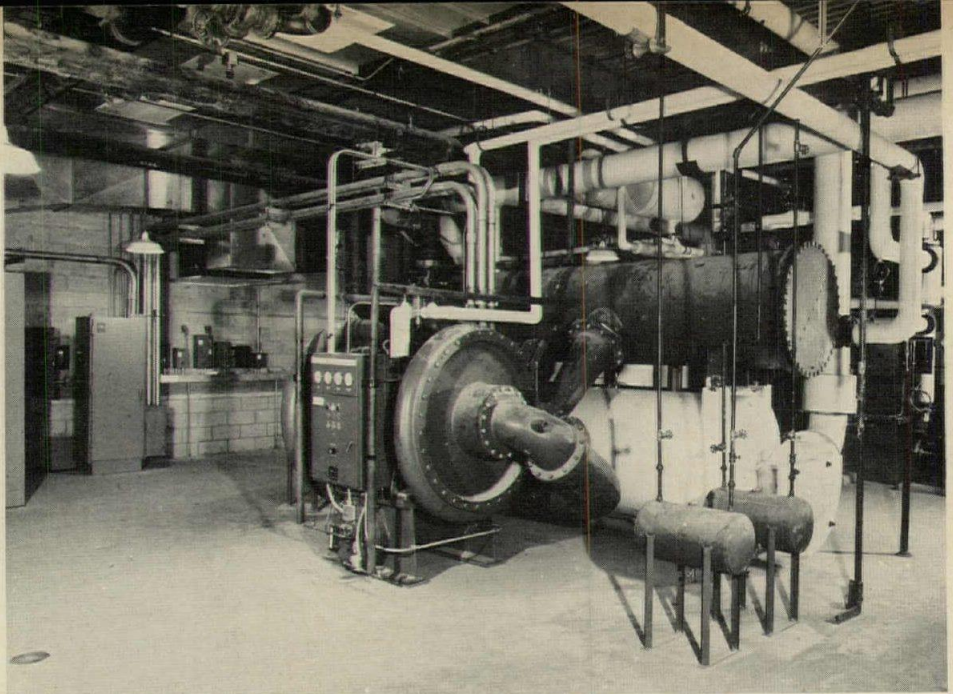
### 3. NIGHTTIME HEAT STORAGE MEETS DAYTIME LOAD

When the Fischer & Porter industrial plant in Hatboro, Pennsylvania was about to be modernized and air conditioned, engineer Werden first had considered an air-source heat pump. But the project was delayed, and upon its resumption Werden decided that a water-source heat pump with off-peak storage would make more sense. First of all, the water-source heat pump unit saved the owner \$125,000 in initial cost. Operating cost was estimated to be \$1200 more per year, but obviously this extra amount would never match the equipment savings.

Werden obtained the demand curve for the existing plant for one of the coldest days in January. It was apparent that during the hours from 11 p.m. to about 7 a.m. not only was the demand considerably below peak, but the heating load was much less because there were fewer people and less ventilation load. The difference at any time between the electrical requirement for heating and the total demand available for heating can be used to store heat. This stored heat is used whenever necessary to avoid exceeding the maximum peak set by power and light, which would result in a penalty charge. The chief facilities engineer elected to monitor the power manually and not use a regulator.

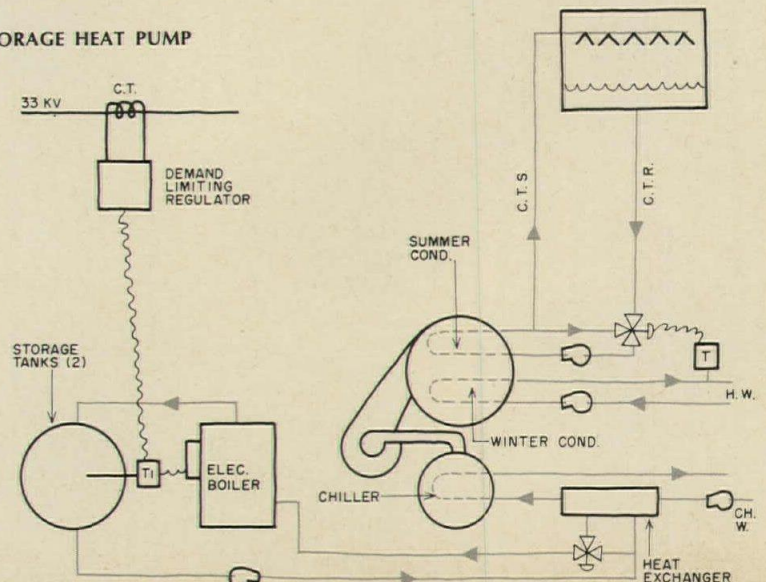
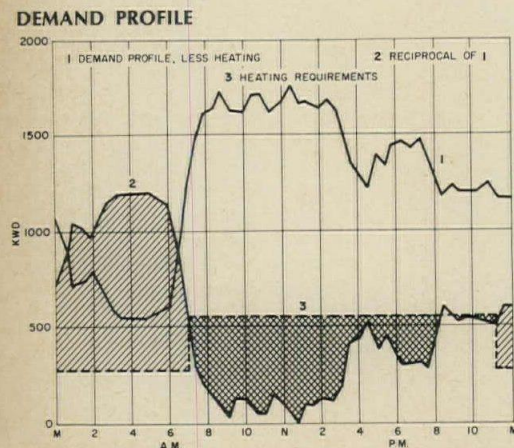


Windowless three-story Fischer & Porter plant operates round-the-clock. Heavy power usage makes low rate for off-peak heating. Architects: Seidle, Slocum & Smith.



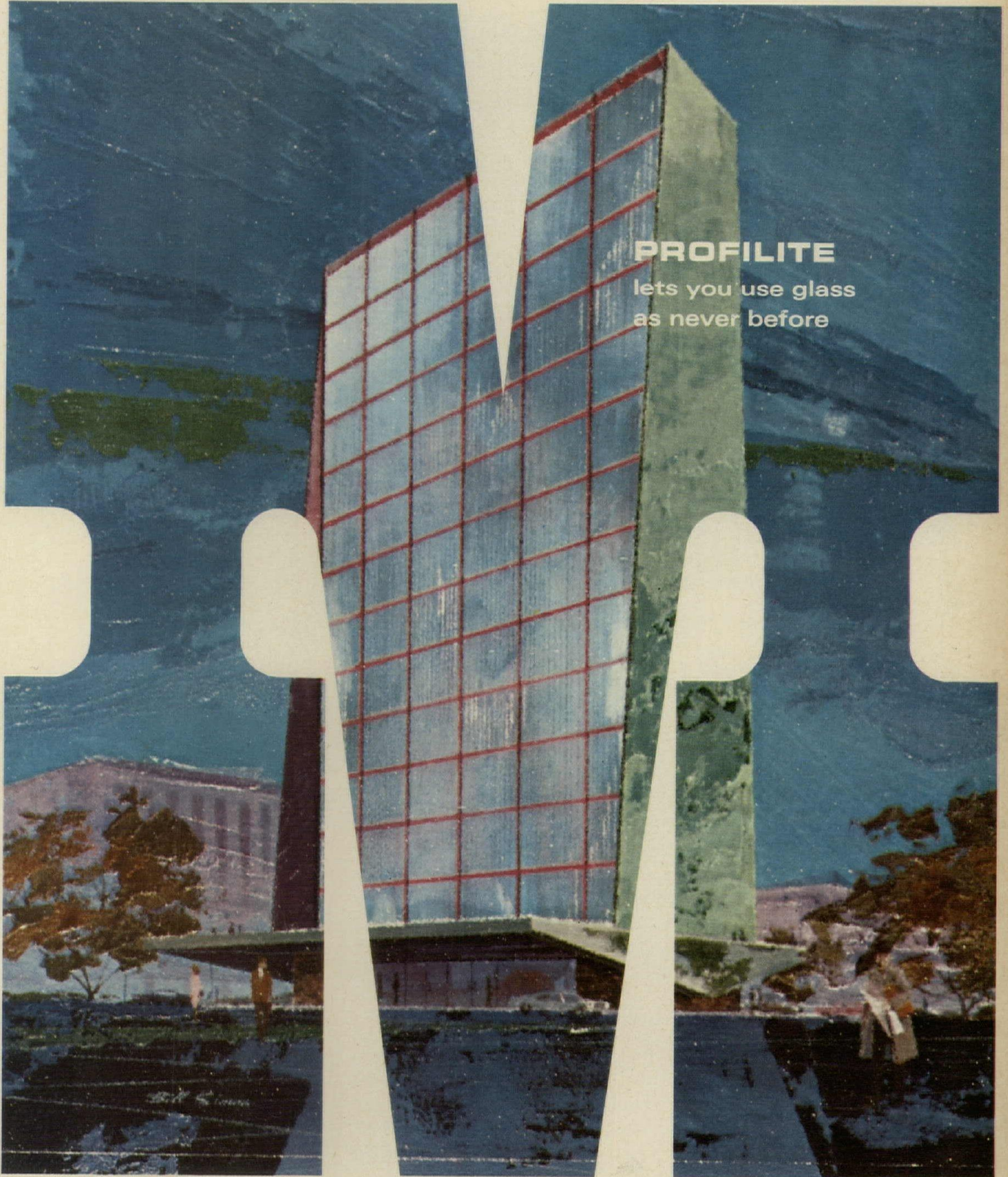
Use of off-peak power again is the key to economical heat pump operation on the heating cycle. With the commercial rate, power cost for the storage is only 4.5 mills, as long as peak demand is not exceeded. The chiller picks up heat from the storage tanks and delivers it via the condenser to fan-coil units for space heating. The graph at left shows when power is available for heat storage. The reciprocal of the demand curve has been drawn so that the inverse of the peak demand meets the zero mark of kilowatt demand. Thus any portion above zero is available for heating. Heating requirement is shown by curve 3. Any time curve 2 is higher than curve 3, this differential is available for storage. This is shown by the single cross-hatched area. Double cross-hatch indicates no storage possible. The heat pump is shown in the top photo, while the electric boilers are above, left and the storage tanks are above, right.

#### OFF-PEAK STORAGE HEAT PUMP



# PROFILITE

GLASS that could change your thinking about design, lighting, strength, heat and sound insulation



**PROFILITE**

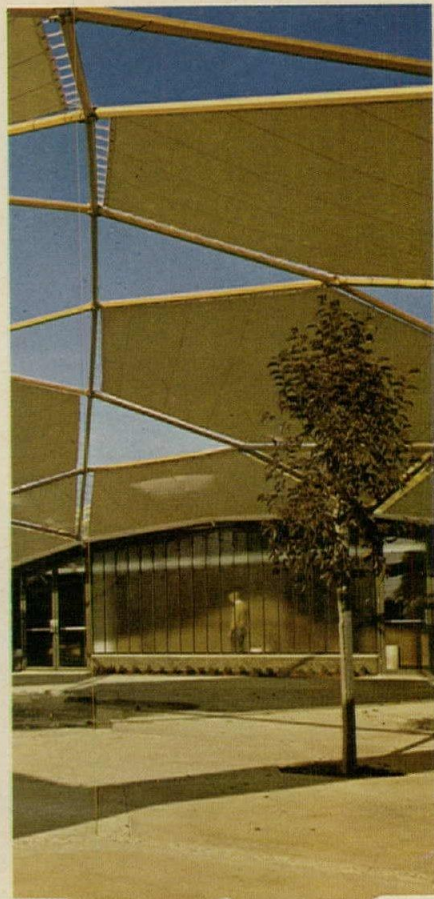
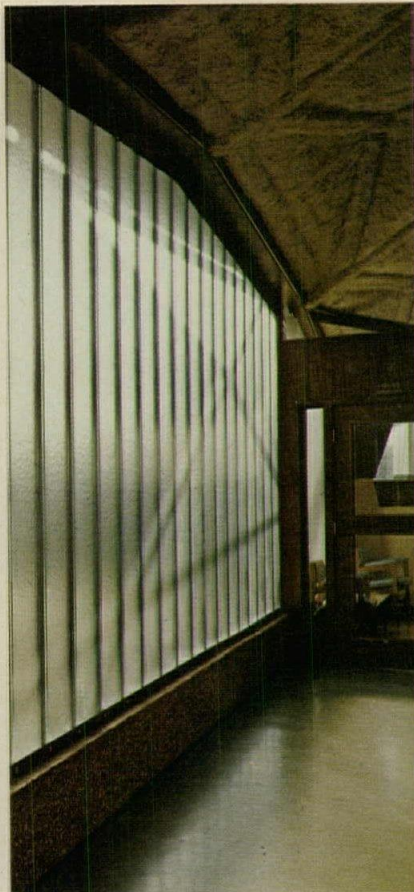
lets you use glass  
as never before

MISSISSIPPI GLASS COMPANY



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# PROFILITE



## PROFILITE

**the channel-shaped glass that brings a fresh new concept in daylighting practice**

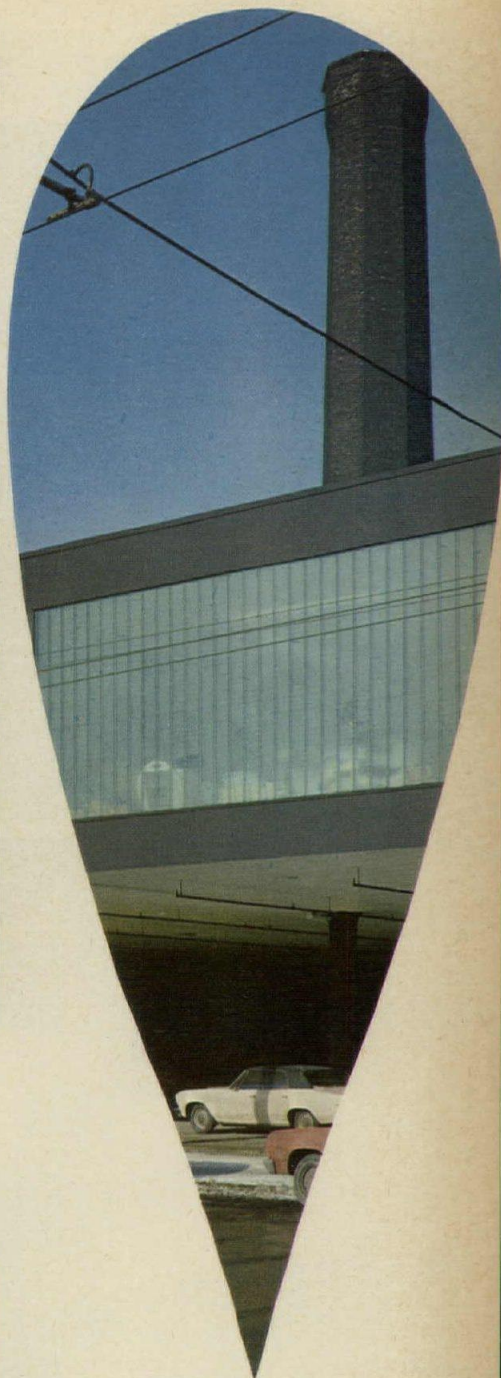
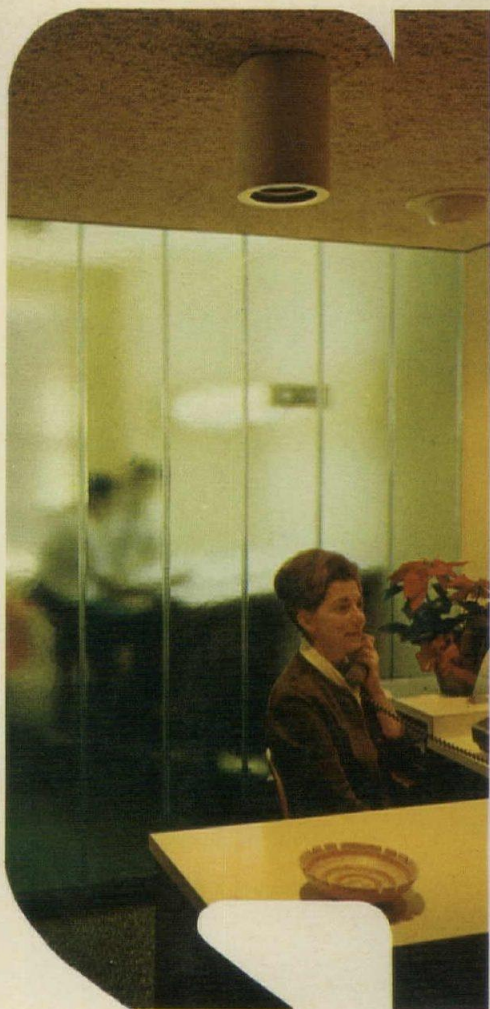
You need to think differently about glass to bring Profilite into your building plans. With it you have new design possibilities. It also offers new structural efficiencies. Picture the rising channels of Profilite giving their upsweep to building exteriors. Look down corridors where vast stretches of glass wall let in more light and stand strong without any framing to get in the way of the repeated vertical pattern.

## BOLD VERTICAL LINES add decorative effect

The adjoining flanges of the channel-shaped sections of Profilite eliminate the need for muntins . . . save this cost and provide attractive wall sections that are easily maintained. The vertical accent gives height emphasis to interiors and the glass helps distribute daylight for a more spacious feel in the environment. Each vertical line not only adds its heightening effect but also signifies built-in strength of Profilite.

## CHANNELED SECTIONS so easily handled two men can install

Profilite sections are just under 12 inches in width ( $11\frac{13}{16}$ ""). The stock lengths of 8, 10, and 12 feet are easily handled by two men without special equipment. Profilite weighs 4.34 lbs. per linear foot, so a ten-foot section could be lifted and set in place by one man if necessary and easily by a two-man team. Profilite is set in anodized aluminum sills supplied as part of the Profilite glazing system. Slip-in vinyl inserts seal the areas between metal and Profilite glass channels.



## CHANNEL MOVEMENT helps compensate as build- ing shifts or settles

Profilite sections, because of their channel linkage, can move in relation to each other without tension. And there are no rigid metal members in between. Profilite's "flange joints" are cushioned top to bottom by non-hardening sealants or vinyl insets. The seal is positive, yet the glass is free to contract, expand, or move vertically. Profilite is thus especially suited for glazing buildings that may tend to settle.

## SO STRUCTURALLY STRONG

it's practically self-framing

Profilite has proved it withstands substantial wind pressures and suction forces. The structural configuration of each section forms extra strength every foot of the way. It is so resistant to lateral pressures that you do away with vertical members necessary in conventional glazing. You enclose vast stretches of wall areas, "channeling in" Profilite that builds in extra strength section after section.

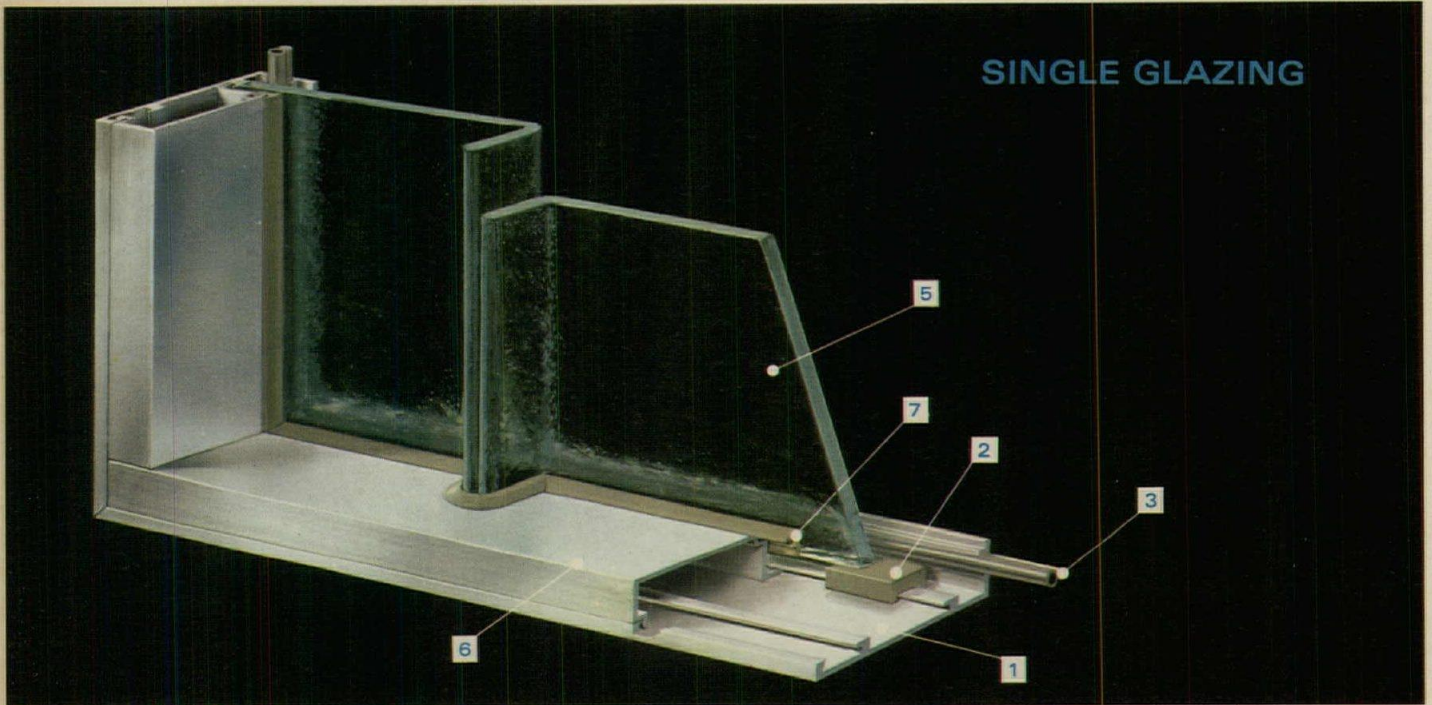
## GIVES PLANTS CURTAIN WALL LOOK

Profilite's biggest volume use at present is for exterior walls where its vertical lines give a curtain wall effect. Installed cost compares favorably with that of conventionally glazed areas. Double-glazed Profilite forms a 1½" air cushion between inner and outer channels for heat and sound insulation—U-value 0.55; visible transmittance 72%.

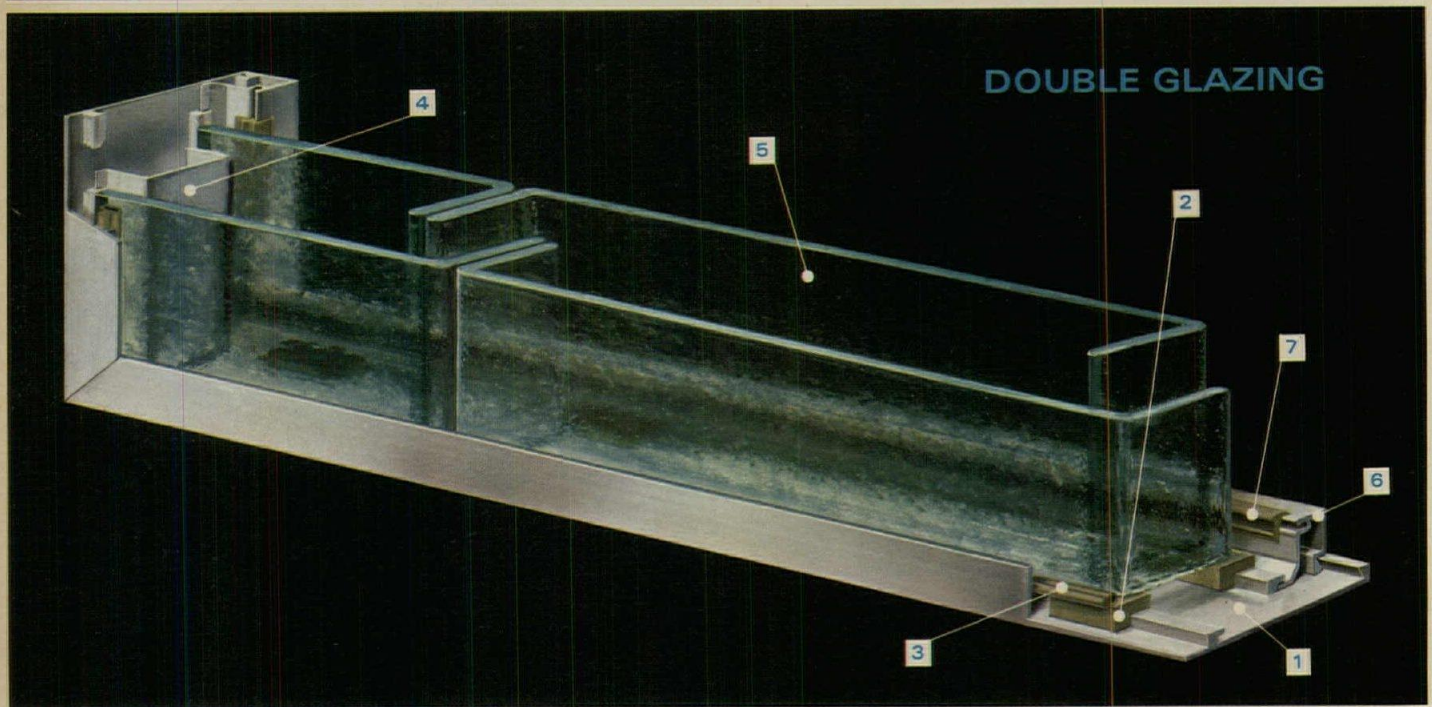


# PROFILITE EASY TO INSTALL

With Profilite you have a complete glazing system. Aluminium framing for periphery, jambs, heads and sill and vinyl setting blocks and slip-ins all supplied for double or single glazing.



SINGLE GLAZING




DOUBLE GLAZING

- 1 Extruded aluminum periphery frame. 2 Vinyl setting block. 3 Vinyl slip-in. 4 Bent aluminum section.  
5 Profilite. 6 Extruded aluminum sill snap-on. 7 Vinyl roll-in.

Write for Profilite Installation Guide for detail glazing instructions.



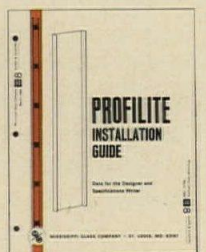
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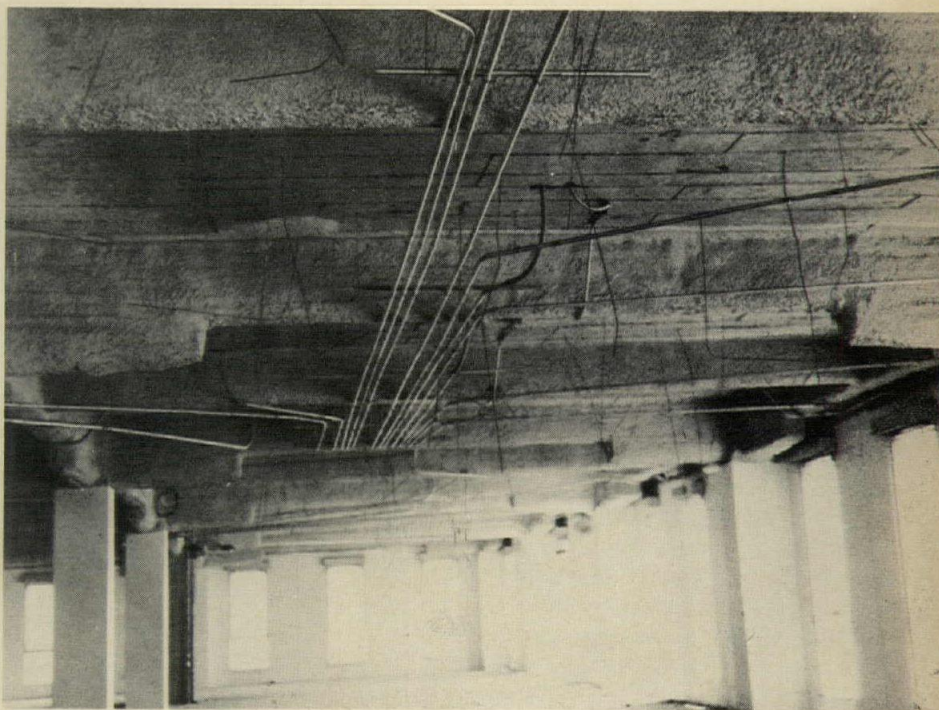


## Makeshift holes for utilities negate floor slab's fire resistance

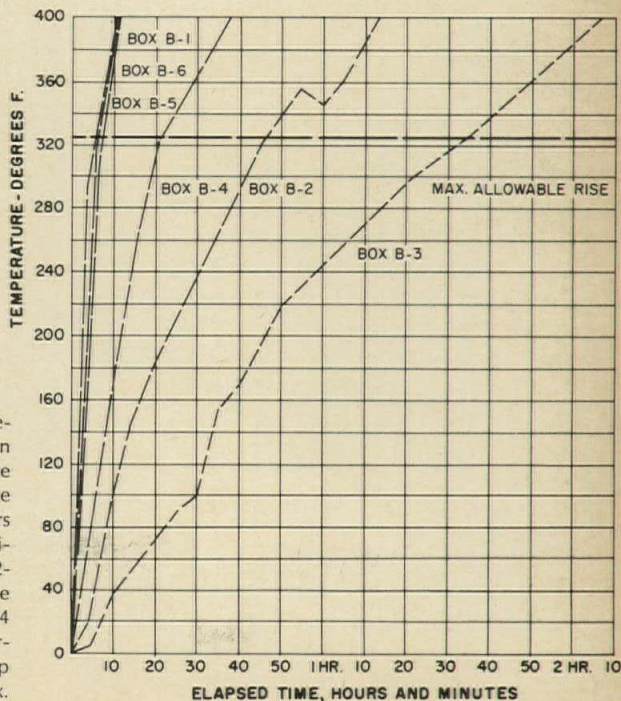
Lack of adequate underfloor electrical raceways in new multi-story commercial buildings frequently leads to an undermining of the fire integrity of these buildings. Increasingly it is being found that when not enough underfloor electrical ducting is provided (or even is omitted altogether) electricians may drill holes through the floor slab to provide electrical outlets and telephone and other communication outlets for tenants. Fire tests have shown that when this method, called "poke through," is used, the fire-resistive rating of a floor can be reduced to as little as six minutes.

How this comes about is explained by fire protection engineer John G. Degenkolb: When a plan of a new building is submitted to the building department, the details of the installation of the electrical outlets and the telephone distribution system may not be shown on the plans. But this is not sufficient reason for denying a permit or requiring modification of the plans. In other words, the fact that lots of outlets are not shown is not necessarily an indication of a building code violation. But when extensive areas are shown without indicating numerous electrical outlets, the plan checker at least can suspect that the code may be violated after initial construction. Omission of such information should be sufficient reason for the checker to require additional information, or to stamp the plans that "subsequent alterations shall not reduce the fire-resistive characteristics of the building."

When insufficient outlets are provided originally, and floors are leased, tenants may ask for electrical and telephone outlets where they do not exist. The common way of providing these outlets is, as mentioned earlier, by drilling holes directly through the floor. These, of course, are not visible when there is a suspended ceiling below the slab. The outlets on the floor above are covered over with the floor fitting. This "poke through" technique makes the floor in effect a sieve from the fire protection standpoint. Even though the electrical installation with "poke through" complies with the electrical code, it will in many



When underfloor ducts are not provided in a commercial building requiring numerous electrical outlets, tenant changes may involve cutting holes in the floor slab to serve outlets on the floor above. While this violates many codes, it may go undiscovered.



The effect on fire resistance of penetrations through the slab is shown in this graph. Tests conducted by the Fire Prevention Research Institute showed that none of the floors tested with penetrations for electrical or telephone boxes provided a 2-hour fire rating, even though the voids for the boxes B-2, B-3 and B-4 were filled with mineral wool. Thermocouple location was on the top of the slab directly under the box.

cases violate the local building code.

As "poke through" has grown more and more common, greater and greater liberties have been taken. John Degenkolb gives the following example: Most building codes permit a limited amount of penetration of fire-rated ceilings for hanging lighting fixtures, etc., usually in the amount of 100 sq in. per 100 sq ft of ceiling. In one instance, a particular building department extended this interpretation to permit the same 100 sq in. per 100 sq ft in the floor as well as the ceiling. (At this time the seriousness of the fire hazard caused by "poke through" was not recognized.) But in one known instance the interpretation was stretched way out of proportion to the intent. What happened was that a 360 sq in. rectangular hole was cut in a floor having an area of 400 sq ft for installation of telephone equipment. This 360 sq in. amounts to 90 sq in. per 100 sq ft. The fire-resistive floor in the area of this hole consists of a  $\frac{3}{8}$ -in. metal plate that can be removed to give access to the call director. As individual outlets were needed, lines were run out to the desired location and holes were drilled through the floor.

Fire tests have shown that even though "poke-through" floor penetrations have been packed with mineral wool insulation, fire resistance is not increased sufficiently to meet code requirements. In one test, for example, when a 1½ in.-diameter hole was drilled for access to an electrical outlet box and the void was packed with mineral wool, the fire resistance was increased to 1 hour 34 minutes, but not to the required 2 hours. When the same procedure was used with a telephone outlet box, the fire rating was only 21 minutes. With no packing, fire resistance is about 6 minutes.

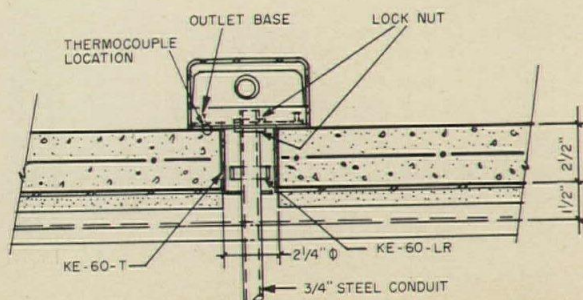
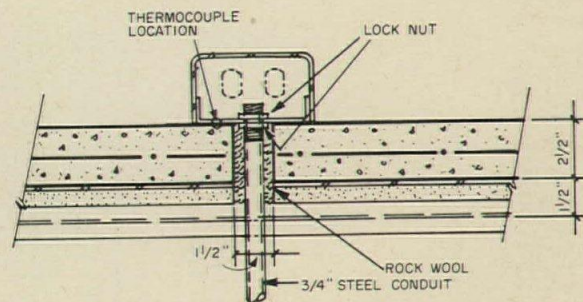
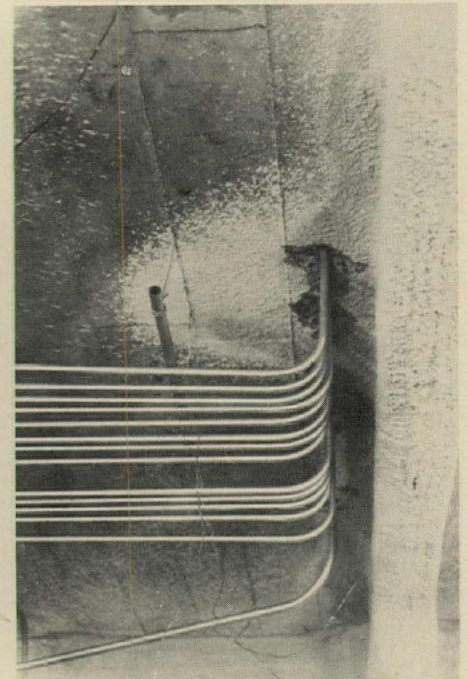
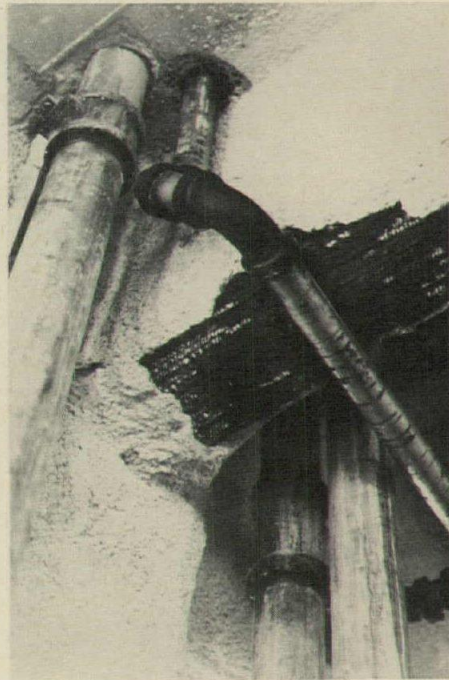
The hazards of "poke through" are recognized by the model code groups, but prohibition has not always been spelled out. The Uniform Building Code of the International Conference of Building Officials does preclude "poke through." The Southern Standard Building Code late last year adopted a section which states, "The penetration of a fire-resistive floor or floor-ceiling assembly for electrical, telephone, plumbing, air conditioning, inter-communication systems or similar facilities shall not be permitted unless such openings are installed in such manner that fire resistance is not decreased." The Building Officials Conference of America has given an interpretation to the effect that "poke through" is not acceptable.

In Degenkolb's view, "poke through" should be prohibited by the National Electrical Code. He says that Article 300 should be amended in the section on Prevention of Spread of Fire to read:

"Electrical installations shall be so made that the possible spread of fire through fire-stopped partitions, hollow spaces, fire walls, fire-resistive floors, or fire partitions, vertical shafts, ventilating or air-handling ducts is reduced to a minimum."

A further possible hazard of "poke through" has been cited by Degenkolb: A fire occurred on one of the top floors

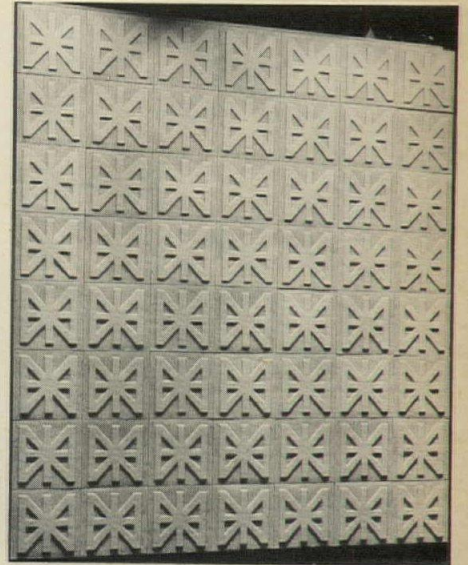
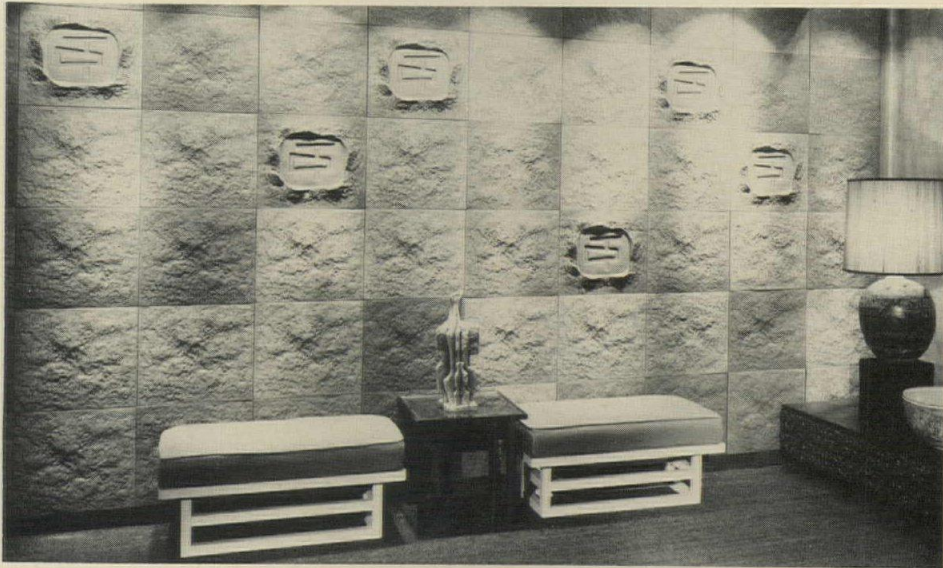
of a 16-story office building in a California city. The fire was confined to this floor by the fire department, but the water used in firefighting ran down through holes drilled in the floor and almost completely ruined the contents of four floors below. While this is not a fire-spread problem, it is obviously a fire-loss problem chargeable against the fire insurance.



If architects and their engineers do not provide sufficient electrical distribution and plumbing lines in their original plans, tradesmen may resort to the practices shown here. Holes are drilled through slabs and fireproofing material knocked off metal lath protecting a beam, lowering effectiveness of the fire barrier.

The floor slab shown in the top drawing, with mineral wool packing in the void, when fire tested gave a 1 hr 35 min. rating. The floor slab shown in the bottom drawing gave only a 6 min. rating.

For more information circle selected item numbers on Reader Service Inquiry Card, pages 217-218



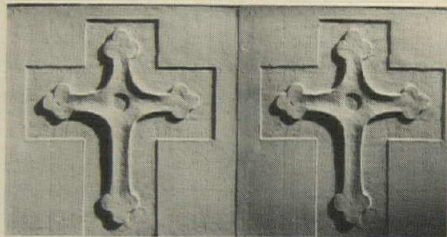
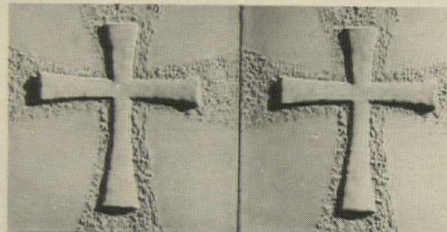
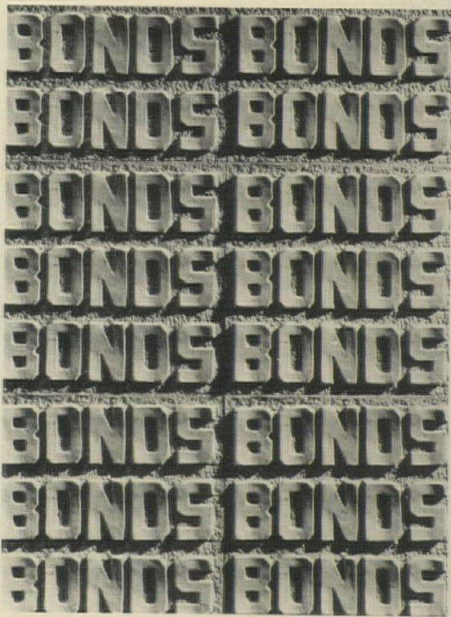
**ARCHITECTURAL CERAMIC WALL** / A three-dimensional ceramic wall (right, above) represents the Chapter logo in the new offices of the New York Chapter AIA. The wall, composed of off-white matte-glazed 12-in. units, is one of a series of sculptured and textured "Walls with a Theme."

There are many ways to convey a theme. For example, a 12-in. unit with the sculptured letters B-O-N-D-S repeated three times and finished in an antiqued metallic bronze glaze was designed for two stores.

But symbols need not be limited to corporate logos, and walls can even be chosen from a number of standard designs to convey just the right mood. For instance, several recent cross patterns (left) suggest a religious atmosphere.

Above left: designer's showroom wall based on the firm's seal. ■ Design-Technics, New York City.

Circle 300 on inquiry card



**WEATHER-RESISTANT PLASTIC** / *Kydex 5000* is an acrylic polyvinyl-chloride thermoformable sheet with an all-acrylic surface. Uses include architectural fascia, spandrel panels, and sculptured facades. Notable characteristics: toughness, weatherability, rigidity, flame resistance, formability and light weight. ■ Rohm and Haas Company, Philadelphia.

Circle 301 on inquiry card

**TIMED CEMENT** / A new type of cement which sets as quickly as desired produces regular or lightweight concrete that can be walked on in 15 to 20 minutes. The cement should speed production of most precast concrete units and permit more frequent form turnover. It should also be effective for lightweight roof decks. ■ Portland Cement Association, Skokie, Ill.

Circle 302 on inquiry card

**SILICONE SEALANT** / *Silicone Sealant 1300* does not need a primer to obtain adhesion. It can be applied to joints between all types of masonry, tilt-up concrete panels or concrete curtain walls, and is reported to have excellent resistance to sunlight, ozone, and moisture. ■ General Electric, Waterford, N.Y.

Circle 303 on inquiry card

more products on page 152

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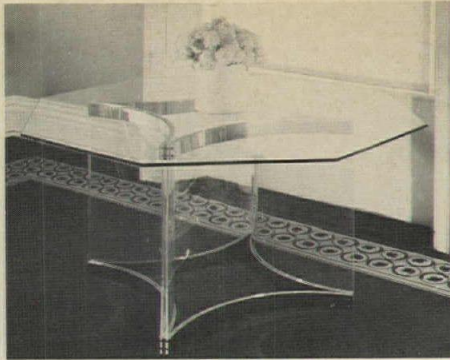
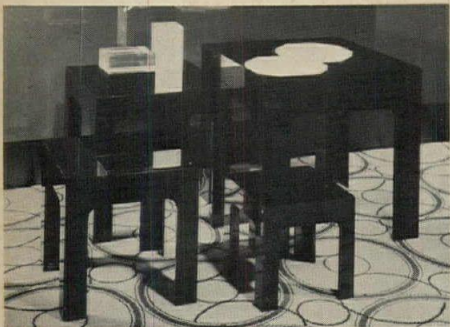
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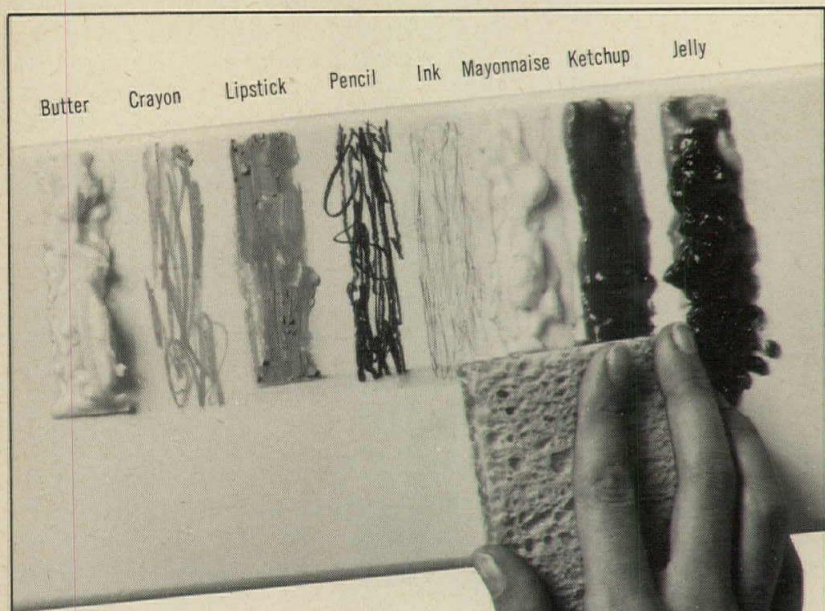
For more data, circle 69 on inquiry card

continued from page 149



**COLOR IT PLASTIC** / Acrylic plastic nesting tables, octagonal stool-tables and cubes, which may be either transparent or opaque, are available in a range of 35 colors from deep purple to hot pink. Surfaces also may be silk-screened geometric patterns. Octagonal, square or rectangular glass-topped tables have bases of bent acrylic plastic with chromed-steel frames ■ Albrizzi Ltd., New York City.

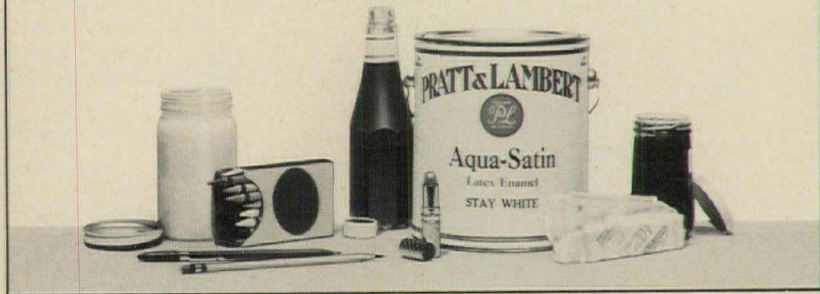
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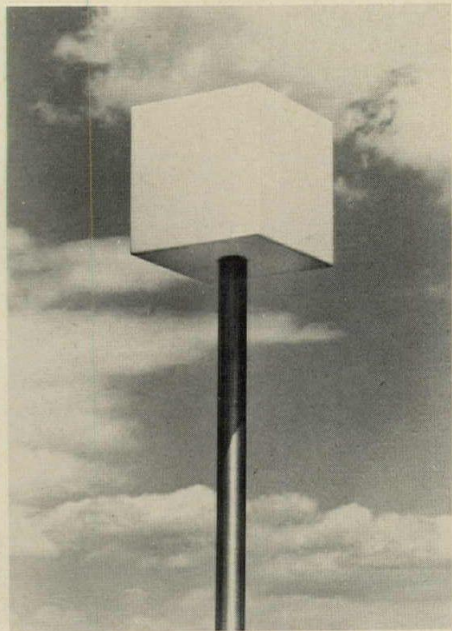
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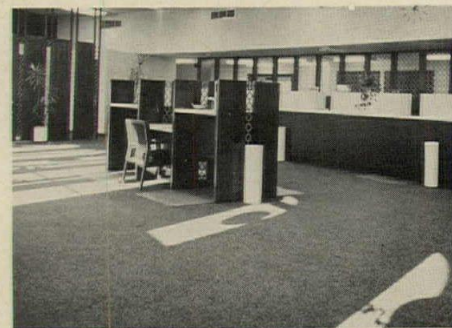


For more data, circle 70 on inquiry card



**CUBE OUTDOOR LIGHTS** / Shatter-proof, vandal-resistant plastic is used for an outdoor line based on the cube shape. Cubes may be used singularly or in multiples, with either mercury vapor or incandescent lamps. ■ Habitat Incorporated, New York City.

Circle 305 on inquiry card



**BANK CARPETING** / Approximately 800 yards of Margate Poppy Red wool tweed carpeting was installed in the main lobby of the First National Bank of Ottumwa, Iowa. Architects for the building are Stefen-Stoltz. ■ Bigelow-Sanford, Inc., New York City.

Circle 306 on inquiry card

more products on page 162



## Tough terrazzo is still good-looking after 3,000,000 shoppers.

(Shell Epon<sup>®</sup> resin has what it takes.)

Epoxy thin-set terrazzo floors based on Epon resin pass the test of wear and time. The epoxy terrazzo above was installed in the mall of a shopping center over 3 years ago. Three million customers later, after 3 years of foot traffic, scrubbing, moisture and temperature changes, it still looks and performs as good as new.

Terrazzo based on Shell Epon resin absorbs impact, vibration and noise—and can be made flexible enough to apply without divider strips. Its ¼-inch thickness limits weight to 3 to 4 lb./sq. ft., reducing load-support re-

quirements compared to portland-cement terrazzo.

Installation is fast and simple



The mall of Rascoe-Tempo Stores, Fair Oaks, California, has an epoxy terrazzo floor based on Shell Epon resin. It has withstood over 3,000,000 shoppers since installation in December 1964.

over conventional subfloor materials. The floor cures quickly, and can be ground in 16 to 20 hours.

Shell supplies Epon resins to companies who make terrazzo flooring materials. *Write on your letterhead* if you'd like one of these companies to get in touch with you—and show you the many colors available, with either marble or granite chips. Be sure to describe your flooring projects.

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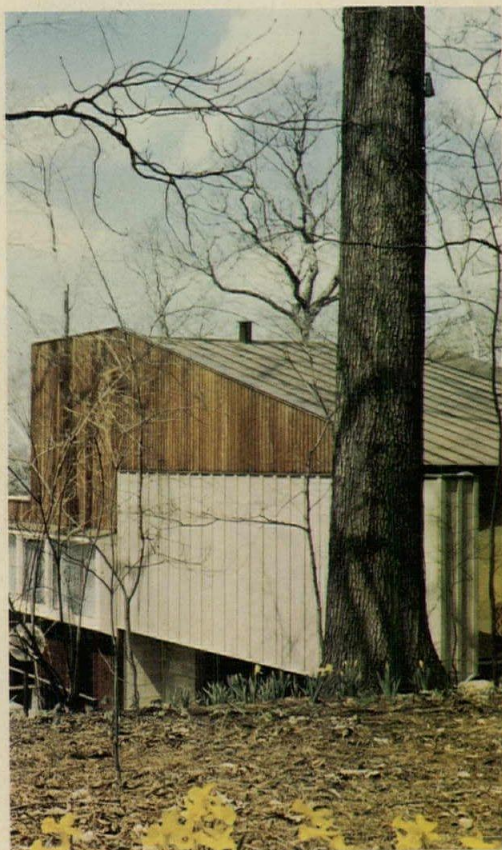
which architecture can serve their individual needs, aspirations and way of life.

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The distribution of RECORD HOUSES annuals to architects, engineers, interior designers and builders is dedicated to mutual understanding among all, in the interest of better housing.

The house building and buying public will find it on sale at leading bookstores.

Note: The houses shown here are from RECORD HOUSES OF 1968.



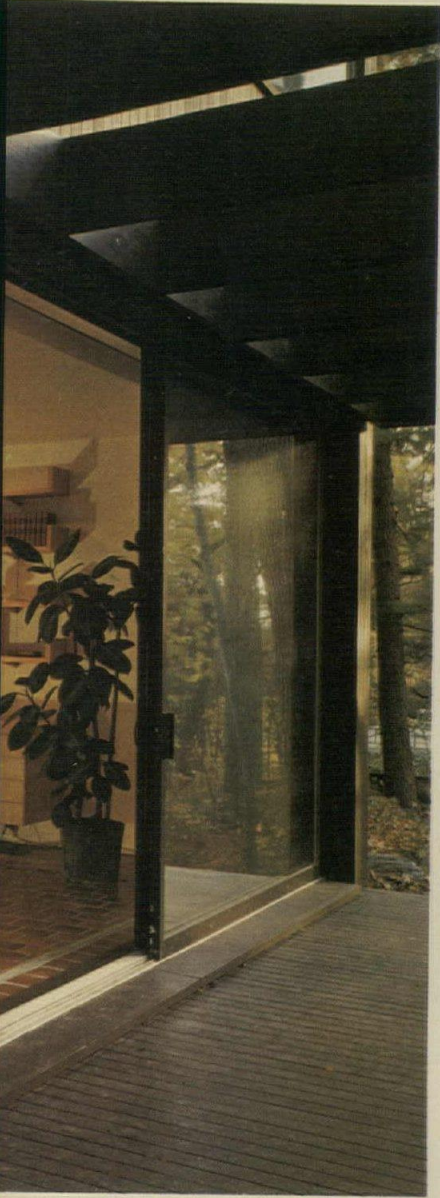
Hillside House, Baltimore, Maryland.  
Architect: J. William Ilmanen.  
Photo by Norman McGrath.



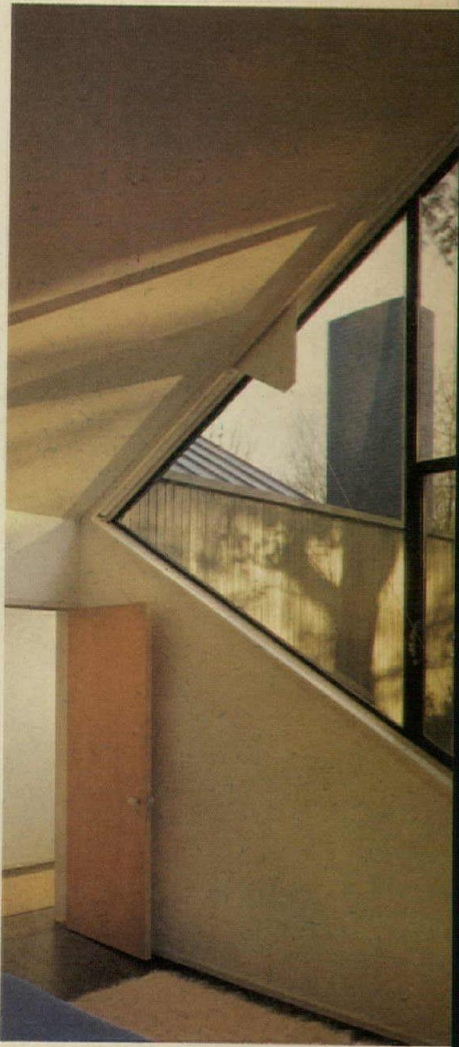
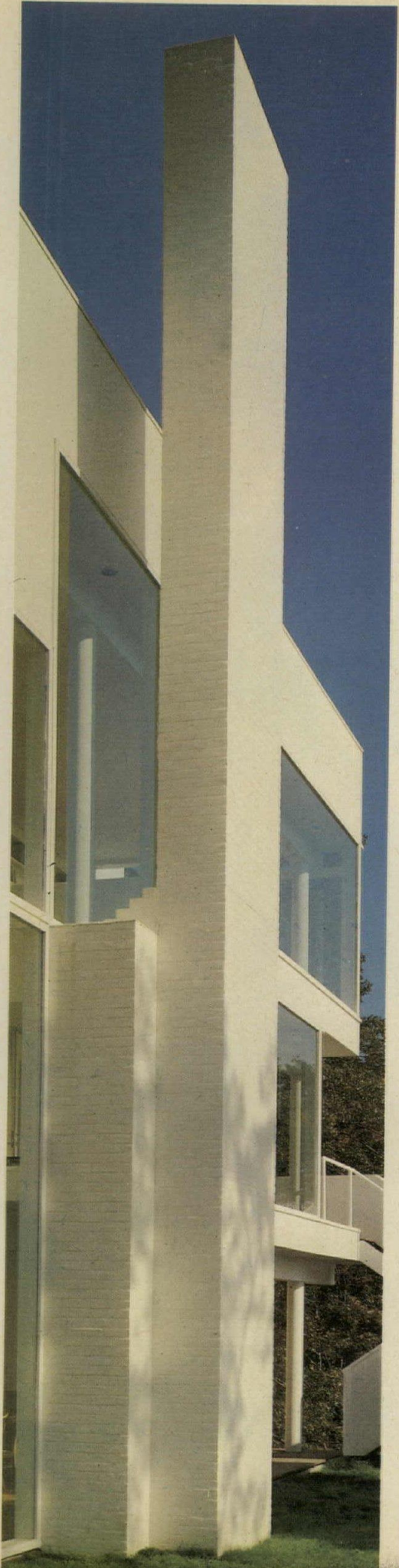
Suburban House, Purchase, New York.  
Architects: Charles Gwathmey and Richard Henderson of Gwathmey & Henderson.  
Photo by Bill Maris.



DF 1969



Woodland House, New York State.  
Architect: Edward L. Barnes.  
Photo by Green © (ESTO).



Woodland House, New York State.  
Architect: Edward L. Barnes.  
Photo by Green © (ESTO).

Smith House, Darien, Conn.  
Architect: Richard Meier.

**ARCHITECTURAL RECORD**  
330 WEST 42ND STREET  
NEW YORK, N.Y. 10036  
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continued from page 164

# Roof ponds and water problems go down the drain, now that FOAMGLAS<sup>®</sup> insulation is tapered.

FOAMGLAS insulation solved one problem years ago—water trapped in the insulation *underneath* the roofing. Because it's 100% closed-cell glass, FOAMGLAS cannot absorb moisture, or contribute to vapor-pressure buildup which causes roof blisters and cracks.

Now that you can get tapered FOAMGLAS insulation, you can eliminate water problems on the roof. Start with a flat roof deck. Place precut FOAMGLAS

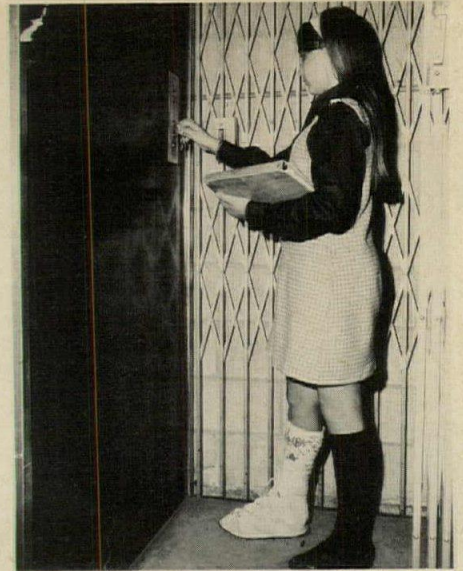
blocks in sequence. Automatically, you get a roof perfectly sloped for drainage.

The roofer can do it himself and roof over immediately. Single-contractor responsibility. Just compare it to more complicated ways of sloping a roof. For descriptive brochure, write Pittsburgh Corning Corp., Dept. AR-128, One Gateway Center, Pittsburgh, Pa. 15222. In Western Europe, Pittsburgh Corning de Belgique S.A., Brussels.

The Insulation People



For more data, circle 80 on inquiry card



**SCHOOL ELEVATORS** / The mobility problem for physically handicapped children in a non-specialized public school is being met with a small elevator known as the *Super Lectro-Lift*. The key-operated unit has a three-person capacity. ■ Sedgwick, New York City.

Circle 311 on inquiry card



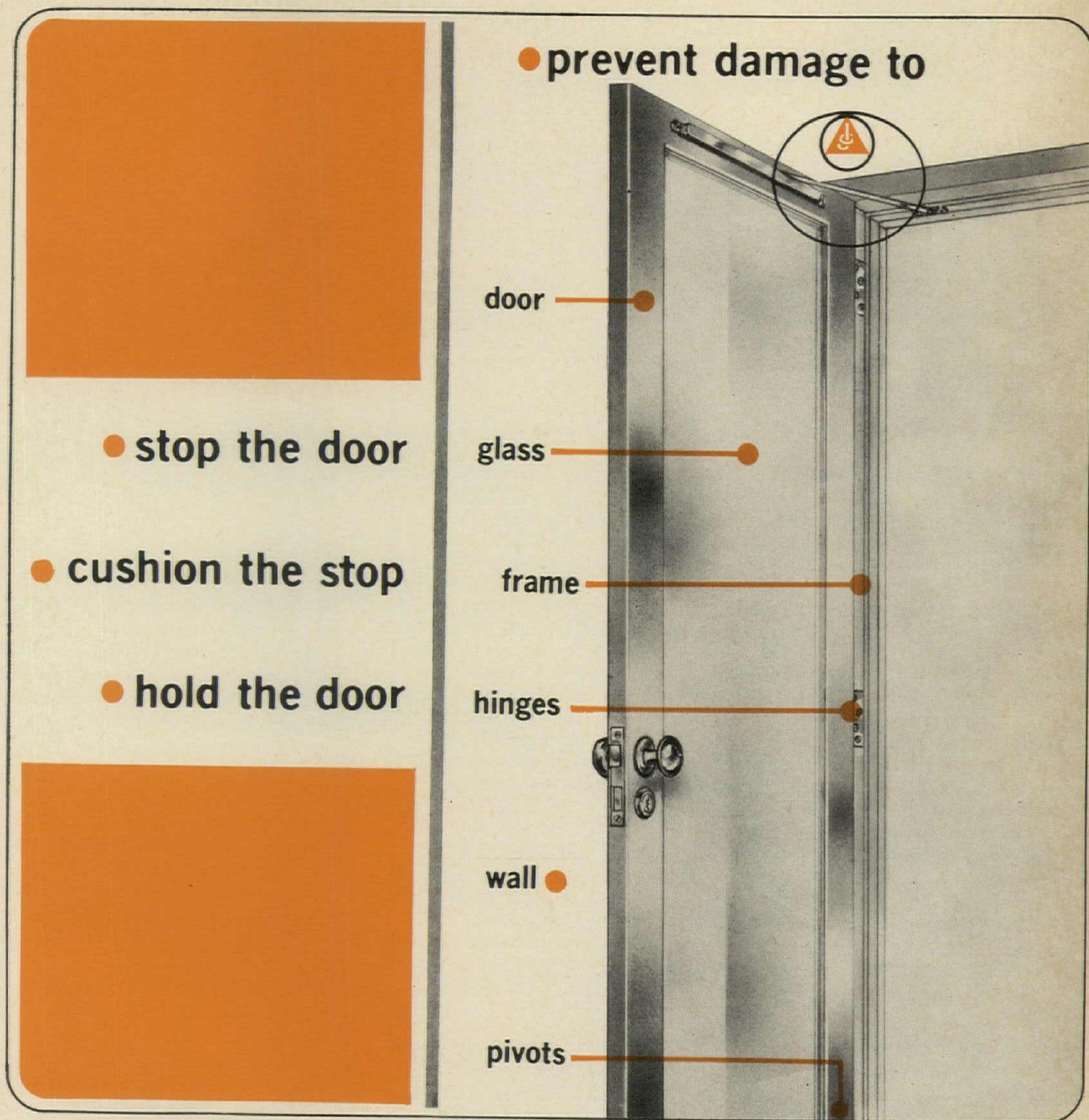
**HEAVY DUTY RUBBER FLOORING** / This hard-wearing, non-slip, sound-deadening flooring has proved effective for public circulation areas that also require a good appearance and easy maintenance: It has been used in air terminals, railway and subway stations, shopping centers and schools and universities throughout Europe since 1949. The 3/8-in.-thick rubber tiles, available in ribbed and studded patterns, have a dovetail key which bonds with mortar to concrete slab. The flooring may be used indoors or out and is guaranteed for five years. ■ Pirelli Rubber Floorings Corp., East McKeesport, Pa.

Circle 312 on inquiry card

more products on page 180

For more data, circle 81 on inquiry card

# GJ OVERHEAD DOOR HOLDERS



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**2 THE USE OF COLOR IN INTERIORS.** By **ALBERT HALSE—New.** This comprehensive analysis explores the use of color in the past, and presents in detailed form the information required to understand the use of color in interior design today. It examines, with many illustrations, the various systems of color notation, the psychology of color as applied to interior design, and the effects of light on color. **256 pp., \$16.50**

**3 THE DESIGN OF FOUNDATIONS FOR BUILDINGS.** By **SIDNEY M. JOHNSON and THOMAS C. KAVANAGH—New.** This volume summarizes and presents current standards (to the extent that they exist) for the design and construction of foundations. Although there is no nationally accepted foundation design standard (such as is found for steel and concrete), the authors present current practices and opinions on the routine aspects of foundation design, and indicate potential problem areas, with discussions and references to other sources. **416 pp., \$16.00**

**4 CONCRETE CONSTRUCTION HANDBOOK.** By **JOSEPH J. WADDELL—New.** Here is a complete guide to the most difficult and tricky of all operations in the construction industry—the mixing, pouring, and curing of specification-quality concrete. A quality control manual, the handbook also includes sections on formwork, shoring, aggregates, and additives. It makes maximum use of tables, charts, and drawings, furnishing the reader with practical working information and assistance. **900 pp., \$27.50**

**5 SYSTEMS MANAGEMENT TECHNIQUES FOR BUILDERS AND CONTRACTORS.** By **PAUL G. GILL—New.** The book demonstrates the use of *systems management* techniques for the development, management and control of builder and contractor organizations. It has been written for use by builders and contractors at all levels of the construction industry, where the current need for more powerful business management techniques is critical. **224 pp., \$15.00**

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## OFFICE LITERATURE

For more information circle selected item numbers on Reader Service Inquiry Card, pages 287-288

**COPPER FASCIAS** / A brochure on the design and installation of copper fascias is the first in a new "Creative Design in Architecture" series relating to copper, brass and bronze. Subsequent bulletins will cover copper gutters, leaders, downspouts, flashing, and roofing. ■ Copper Development Association Inc., New York City.  
*Circle 400 on inquiry card*

**SPANS** / "Spans for Joists and Rafters" is 16 pages of design criteria, loads and deflection limitations, tables and a conversion diagram. ■ Southern Pine Association, New Orleans.\*  
*Circle 401 on inquiry card*

**FIREPROOFING** / Specifications and technical data for vermiculite *Type-MK* fireproofing that is applied by machine directly to steel and concrete are covered in a four-page brochure. ■ Vermiculite Institute, Chicago.  
*Circle 402 on inquiry card*

**EXTERIOR PANEL** / A comprehensive booklet describes *Glasweld*, an exterior-grade, steam-cured, asbestos-reinforced incombustible panel with a permanent all-mineral enamel surface. Included are a color chart and photos of various installations, in addition to detail drawings. ■ U.S. Plywood, New York City.\*  
*Circle 403 on inquiry card*

**LEAD** / "Designing with Lead" is an 18-page booklet that discusses the versatility of lead, its characteristics and possibilities. ■ American Smelting and Refining Company, New York City.\*  
*Circle 404 on inquiry card*

**FIRE-PROTECTION SYSTEMS** / A detailed planning guide covers various alarm systems, types of detection devices and major signaling methods. A series of charts helps in the selection of protection for specific building types. ■ Honeywell's Commercial Division, Minneapolis.  
*Circle 405 on inquiry card*

**TRAINING ROOMS** / "How to Set Up an Effective Training Room," is a 16-page idea and planning guide. One topic discussed is seating and other equipment for various purposes. ■ Brunswick Corporation, Kalamazoo, Mich.\*  
*Circle 406 on inquiry card*

\* Additional product information in Sweet's Architectural File

more literature on page 188

Around the world,  
millions ride...

the  
proven  
moving  
walk

Railway Station • Osaka, Japan  
Installed 1967  
Capacity 8,000 per hr

Dept. Store • Gothenburg, Sweden  
Installed 1966  
Capacity 6,500 per hr

Some other Sandvik  
Movator installations—

Milan, Italy	1960
Osaka, Japan	1961
Nara, Japan	1961
Sydney, Australia	1961
Sandviken, Sweden	1962
New York, N.Y.	1963
Montreal, Canada	1965
Munich, W. Germany	1965
Ostersund, Sweden	1966
Fair Lawn, N.J.	1967
Montreal, Canada	1967

Subway • Paris, France  
Installed 1964  
Capacity 10,000 per hr

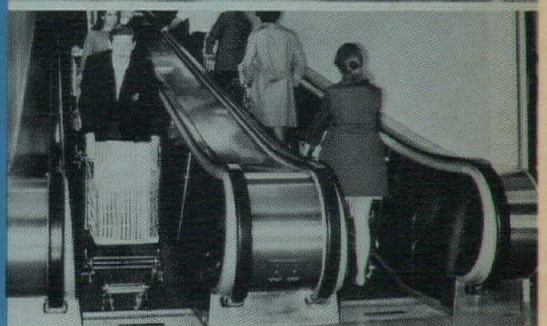
Dept. Store • San Francisco  
Installed 1967  
Capacity 6,500 per hr

intercontinental  
experience



**SANDVIK**

**SANDVIK**  
*Movator*



Sandvik Movators — moving walks of rubber-covered steel — have proven their reliability by years of trouble-free operation and millions of passenger miles. □ In the Paris subway, for example, two Sandvik Movators have been in continuous operation for four years. They have been so successful in changing passageway congestion into a smooth, controlled flow that three more 600' Sandvik units

have recently been installed. It's the same safe, smooth-moving story for the patrons of Skaggs Pay Less store in San Francisco and for millions of other Movator riders around the globe. □ Sandvik can apply over ten years of design, manufacturing, installation and service experience to your people-carrying requirements. Write for Sandvik Movator booklet or contact your nearest Sandvik office.

110/44

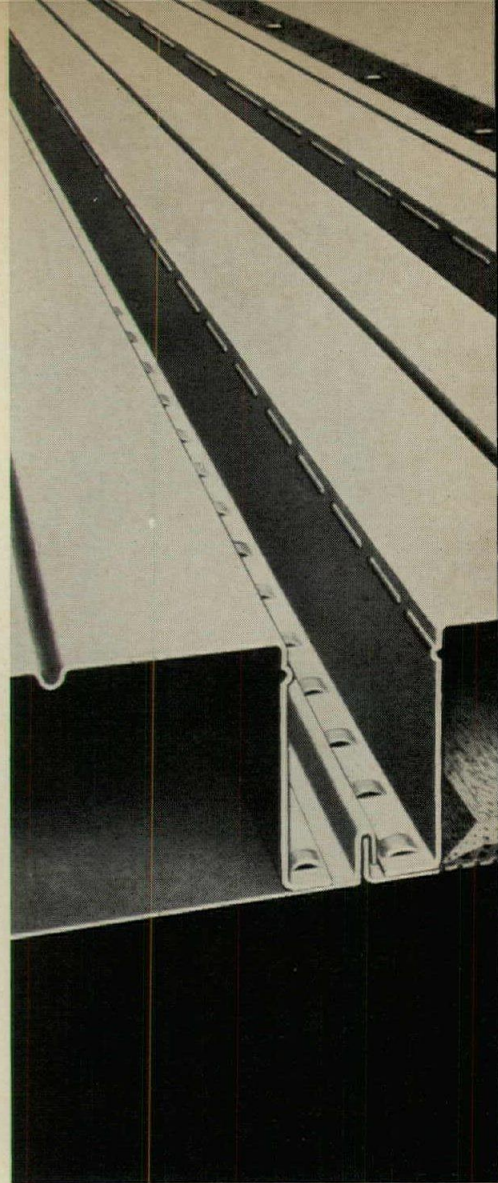
**SANDVIK**

**SANDVIK STEEL, INC., Fair Lawn, New Jersey**  
MOVATOR DIVISION  
Branch Offices:  
Cleveland • Detroit • Chicago • Houston • Los Angeles • Portland, Ore.  
In Canada: Sandvik Canadian Ltd.

For more data, circle 90 on inquiry card

**NEW**  
for more design freedom  
and economy...

# Robertson Long Span Composite Deck for roofs and floors



- Floor spans to 30 feet
- Roof spans to 36 feet

- High load capacity, made possible by 100% mechanical interlock between steel deck and concrete. Adaptable to steel framing or wall bearing design

- Multi-Purpose: structural, recessed lighting, acoustical, air transfer features

Now Robertson has added longer span capabilities to the world's most complete line of composite deck systems. Designers now have a choice of spans up to 30 feet for floors and 36 feet for roofs, with minimum depths of floor and roof cavities.

As in Robertson's familiar Q-Lock series, composite design of Long Span deck is based solely on the mechanical interlock of the steel deck with the concrete. This is obtained by embossments formed into the steel deck sections. No reliance on chemical bond is used in establishing load values. This assures true load capacity at all times, even under adverse job site conditions.

Another advantage of Long Span deck is its multi-purpose concept, for accommodation of mechanical services such as recessed lighting, acoustic control, electrical distribution and air movement. In addition, when used as the finished ceiling it provides an attractive, textured surface ready for finished painting.

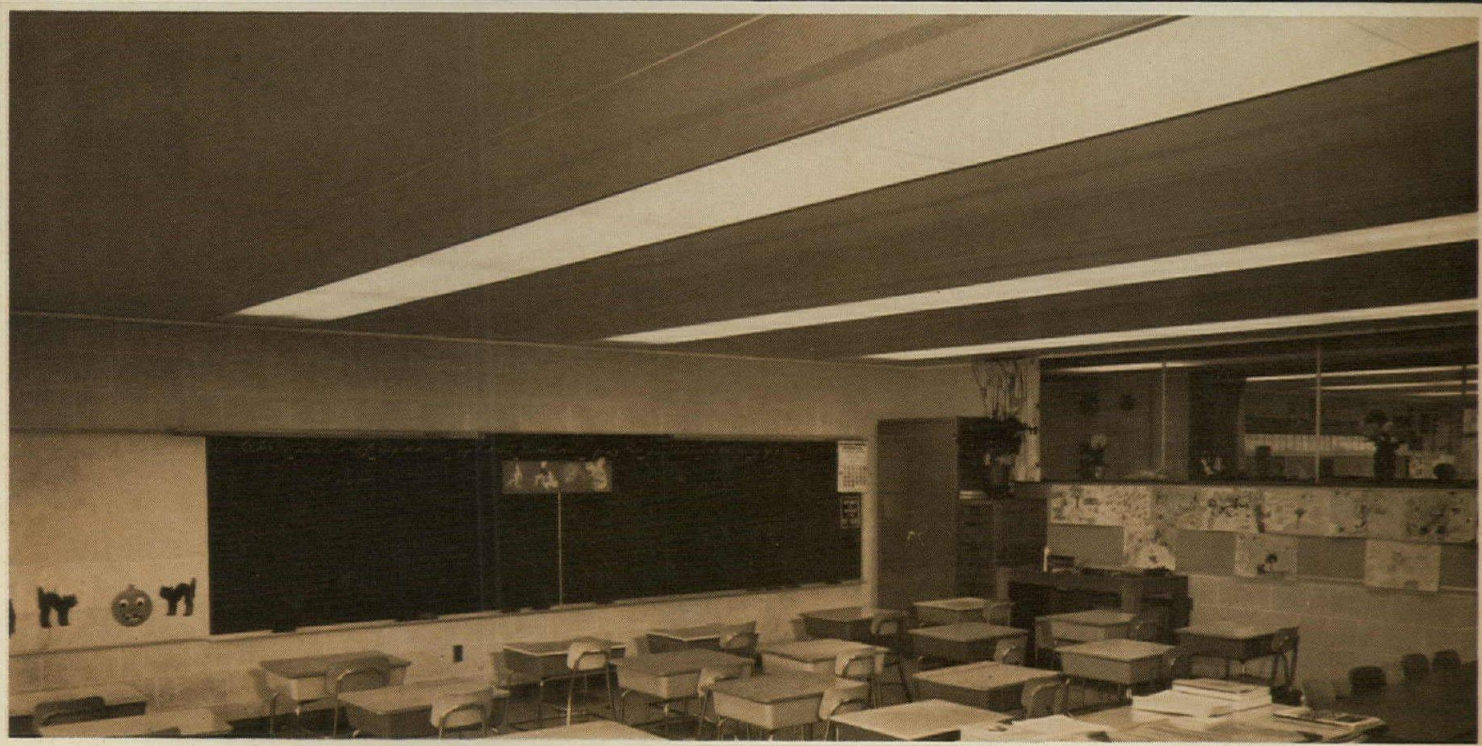
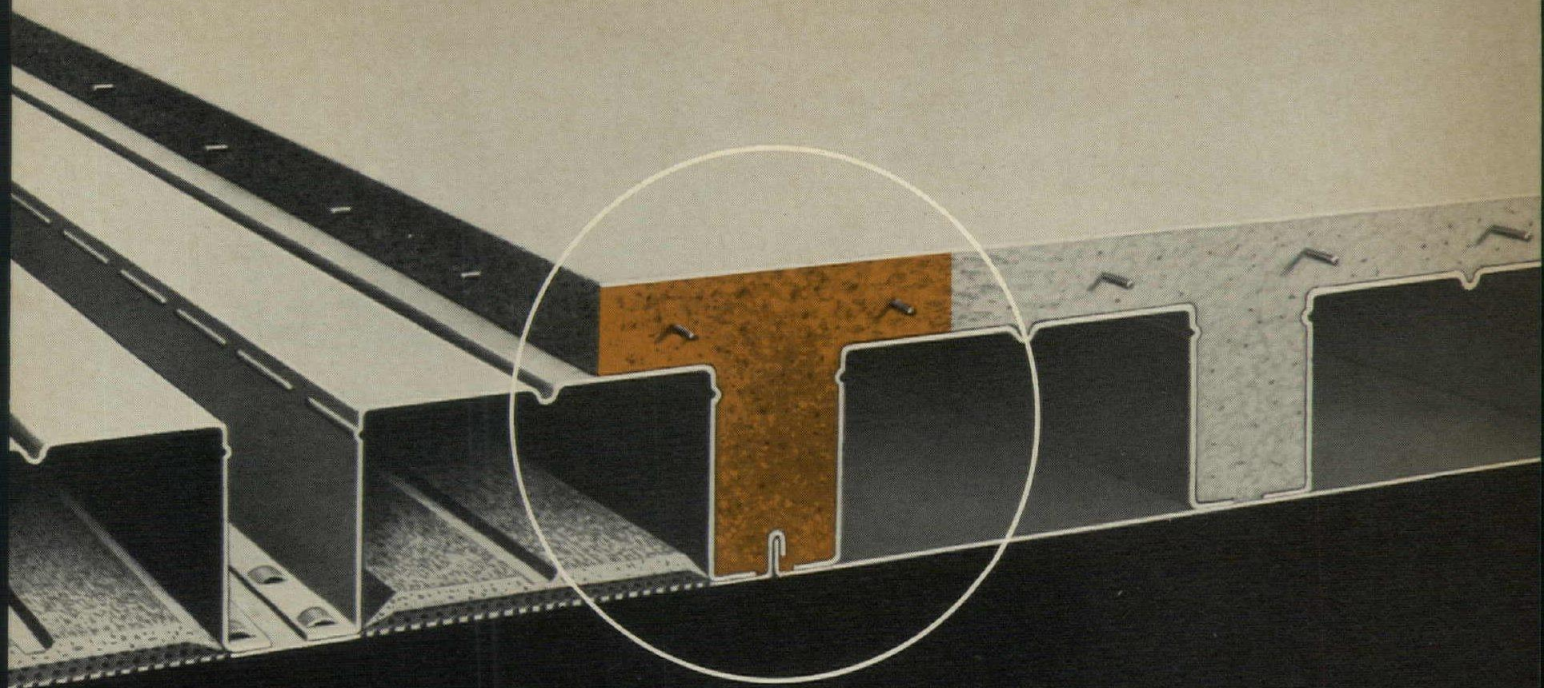
All of these features—longer span, high load capacity and multi-purpose versatility—mean new design freedom and economy as reflected in overall building costs. Send for literature which includes complete product description, specifications, load tables, test background and typical design example.

## H. H. ROBERTSON COMPANY

Two Gateway Center  
Pittsburgh, Pa. 15222



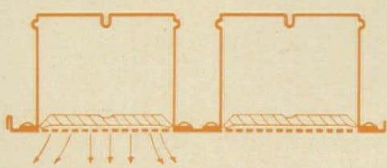
SALES OFFICES, AGENTS AND  
PLANTS IN 60 COUNTRIES  
AROUND THE WORLD



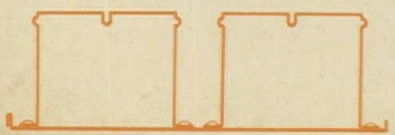
In this typical installation, alternate units of DC and ADC composite roof and floor deck provide the finished ceiling treatment as well as acoustical control and recessed light troffers.

**Robertson  
Long Span  
Deck Types**

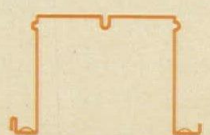
Common depths 4.5", 6.0"  
and 7.5" to 1'0" module.



**TYPE ADC** Structural, acoustic, air diffusion.



**TYPE DC** Structural, air transfer, electrical.



**TYPE #5** Structural, recessed lighting.

**H. H. ROBERTSON COMPANY**  
Two Gateway Center, Room 1101  
Pittsburgh, Pa. 15222



I would like to have more information on Long Span Composite Deck. Please send your new 8-page technical brochure.

Name \_\_\_\_\_

Title \_\_\_\_\_

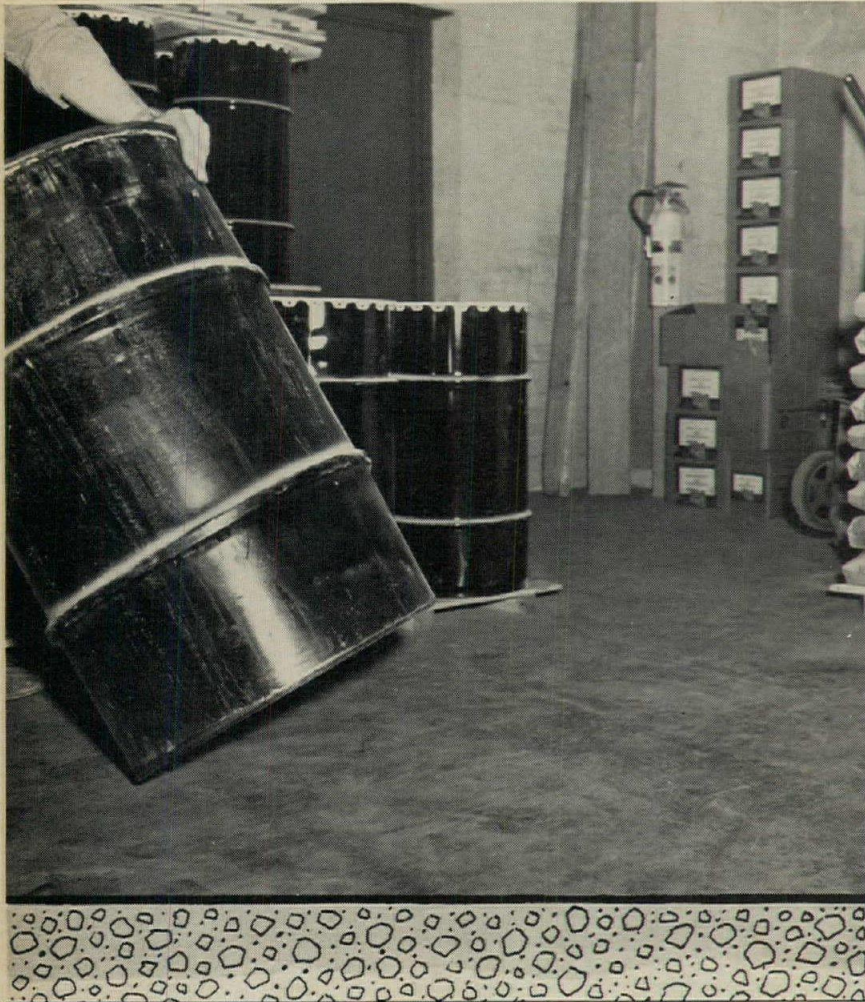
Company \_\_\_\_\_

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**The Upco Company**  
A SUBSIDIARY OF UNITED SHOE MACHINERY  
4805 LEXINGTON AVE., CLEVELAND, OHIO 44103

For more data, circle 92 on inquiry card

*continued from page 184*

**FOAMED PLASTIC INSULATION** / A folder presents data and a sample cut of *Armaflex*, an insulation with a K value of 0.27 at 75 F. Other characteristics: prevention of dripping and condensation; flexibility; resistance to job-site abuses; and absence of need for additional vapor barriers. ■ Armstrong Cork Company, Lancaster, Pa.\*

Circle 407 on inquiry card

**PERMANENT COLOR ANODIZED FINISH** / A brochure gives specifications for exterior films that can be obtained on both sheet and extrusions in standard architectural alloys of aluminum. ■ The Adams & Westlake Company, Elkhart, Ind.\*

Circle 408 on inquiry card

**TILES** / A four-page brochure describes *Dekora*, three-dimensional tiles for ceiling and wall design and acoustical effects. The tiles, manufactured from reinforced gypsum plaster, are molded in the form of a tray with a decorative face. Tiles may be decorated or left unfinished. ■ Sarturo Modules, Inc., Brooklyn, N.Y.

Circle 409 on inquiry card

**PLASTICS IN BUILDINGS** / The major applications—with special regard to formulation, production and processing techniques—are highlighted in a paper titled "Utility and Esthetics in Structural Plastics." The paper was presented at the Regional Technical Conference, Japan Section, Society of Plastics Engineers, Inc., Kyoto, Japan on October 14. ■ Claremont Polychemical Corp., Roslyn Heights, N.Y.

Circle 410 on inquiry card

**REDWOOD** / Assorted literature gives much information on redwood and its uses. Topics include: "Redwood Interiors," "Redwood Homes," "Redwood Plywood," and "Redwood Remodeling Ideas." ■ California Redwood Association, San Francisco.\*

Circle 411 on inquiry card

**FAN-HEATER-VENTILATION** / "Pryne Fans and Heaters and Quiet Ventilation Systems" is a 12-page brochure featuring several new products in addition to the regular full line. New items include a low-profile, roof-mounted fan ventilator and the *Mini-Sone* bathroom fan. ■ Emerson Electric Co., St. Louis.

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\* Additional product information in Sweet's Architectural File

more literature on page 196



# JOIST SPECIFYING MADE EASY with this working handbook from the Steel Joist Institute



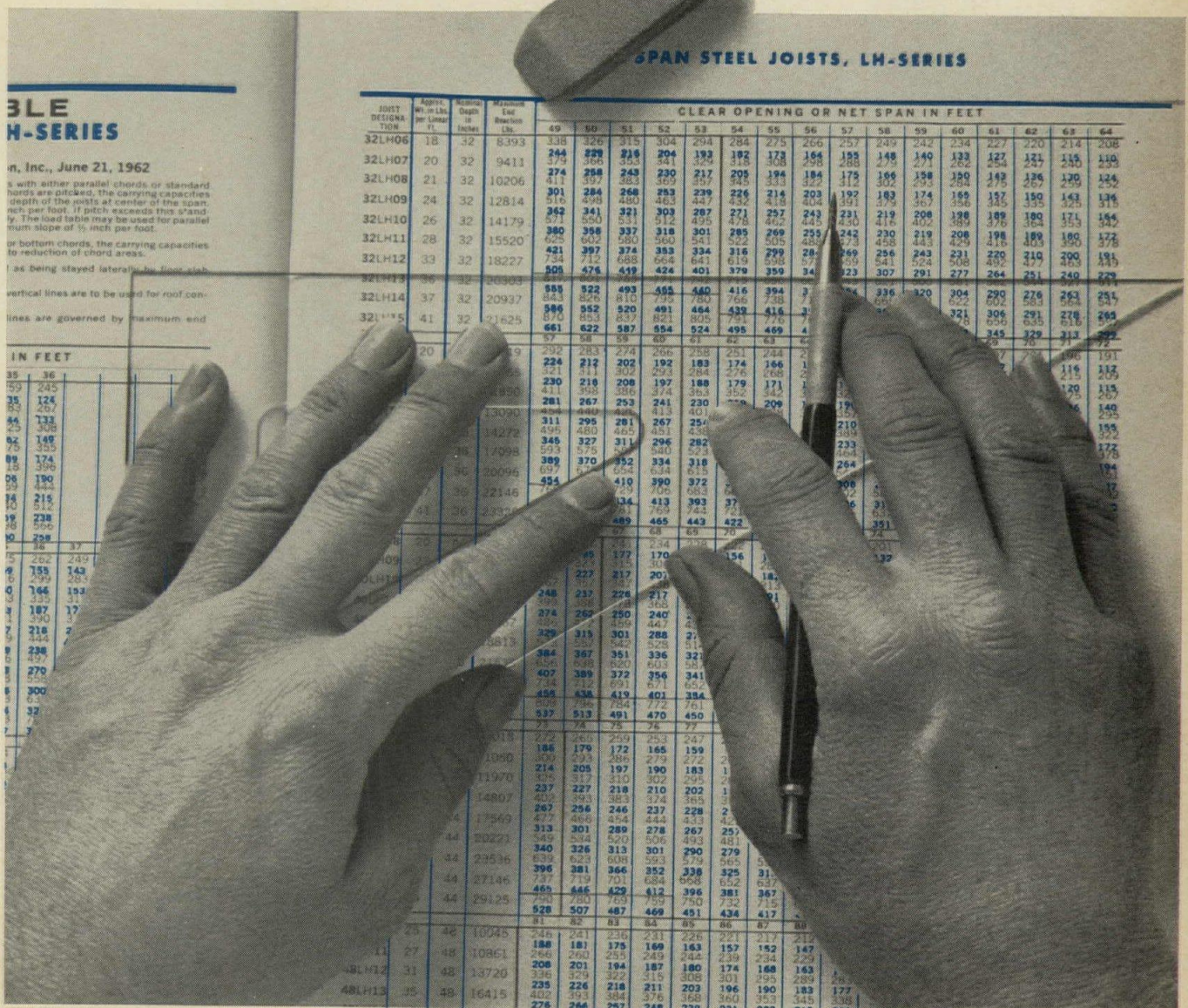
STEEL JOIST INSTITUTE  
DuPont Circle Bldg.  
Washington, D.C. 20036

Please send me a copy of your 1969 Edition, Standard Specifications and Load Tables for Open Web Steel Joists.

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FIRM \_\_\_\_\_  
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CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

It's the brand new, 1969 edition of Specifications and Load Tables for Open Web Steel Joists, including Long Span Joists. Here, in 32 pages, is all technical information you need for fast, accurate specification of joists

to carry uniform loads on spans up to 96 feet. Covers J-Series, H-Series, LJ-Series and LH-Series joists. A complete working handbook . . . a valuable addition to your reference shelf. Write for your free copy.



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- Light Fixture • Convenience Outlet
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Vinyl clad stainless steel console harmonizes with contemporary patient room design in hospitals and nursing homes. Similar consoles of satin finish stainless steel for patients' bathrooms and other washroom areas. Both models constructed of stainless steel throughout for lifetime service.

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For more data, circle 95 on inquiry card



Memorial Hall in Philadelphia, erected for the 1876 Centennial Exposition. The statue of "Columbia" at the dome top, the dome's supporting members and the statuary groups at the corners of the building were all coated with PLY-LASTIC.

The monument  
that posed  
a problem...

and how

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solved it

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PLY-LASTIC is one of a complete line of architectural coatings from M.A.B, and is available in decorative colors. For specifications, technical assistance, and names of franchised applicators, write to our Architectural Division.

5602 J.

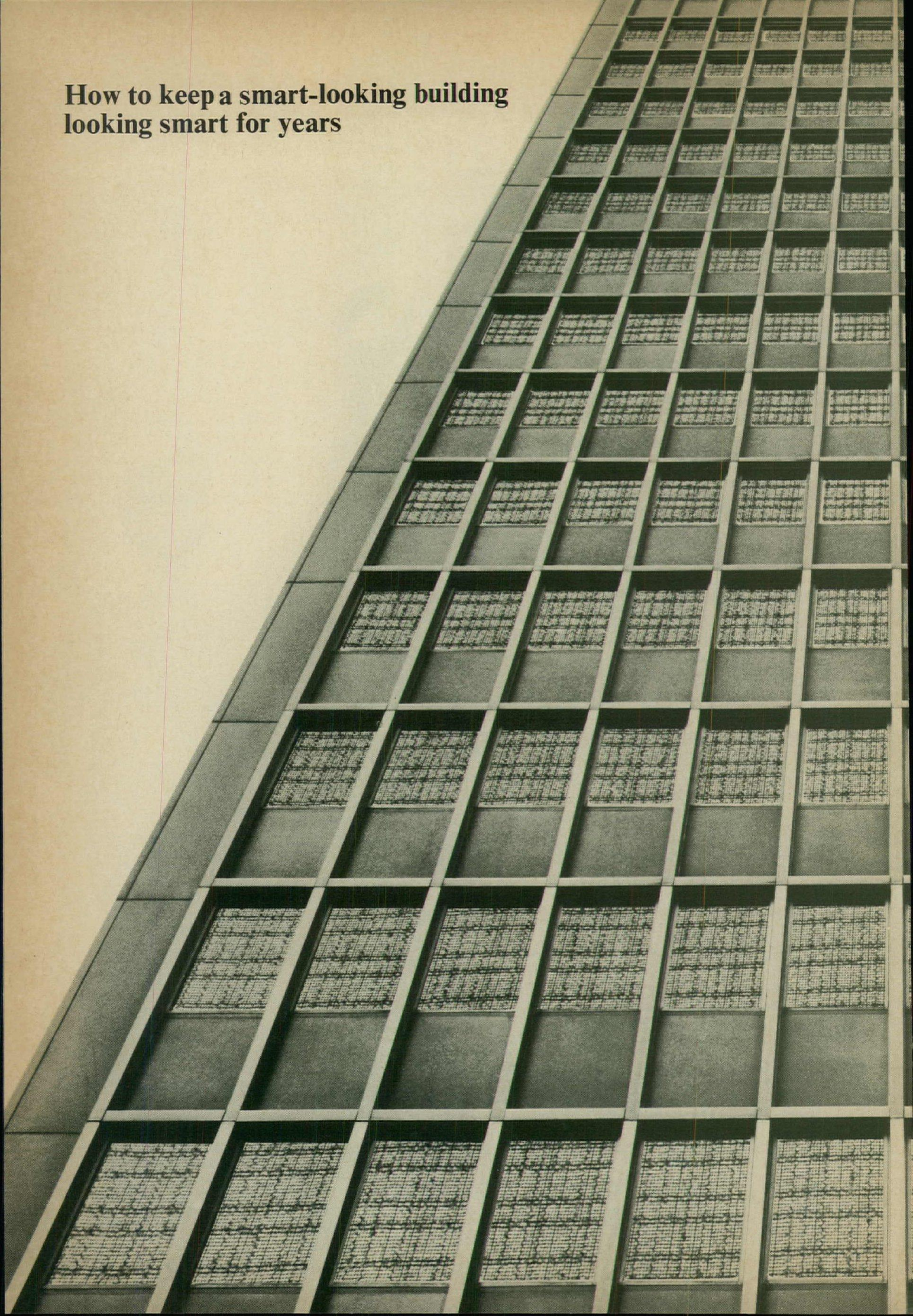


**M. A. BRUDER & SONS, Incorporated**  
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Philadelphia, Pa. 19143

For more data, circle 103 on inquiry card



**How to keep a smart-looking building  
looking smart for years**





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Fiber Glass



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One Gateway Center, Pittsburgh, Pennsylvania 15222

- I'd like to know more about PPG Feneshield fabrics.  
 Please send me your new booklet.  
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NAME

TITLE

COMPANY

STREET

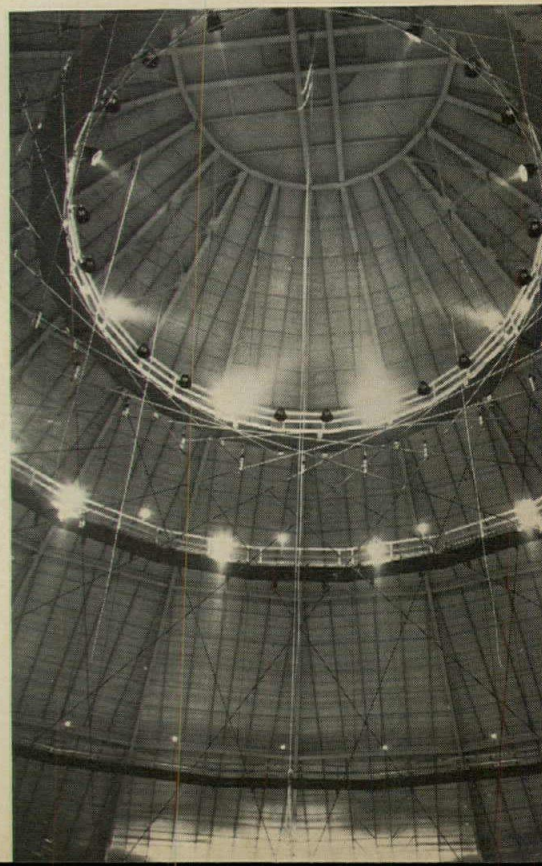
CITY

STATE AND ZIP

# Steel strand lightens weight and lowers cost of college center dome



Note the off-center, non-radial, wheel-spoke system. With the tension ring eliminated, the public address system may be raised and lowered through the open "hub."





Permanent seating is provided for 13,000 persons at such events as basketball games, commencement exercises, and major student and area events. The center also houses athletic offices and a 360-bed "grad" student dormitory.

More than 7,700 ft of Bethlehem strand counter the outward thrust at the base of the 328-ft-diam dome of the Ohio University Convocation Center in Athens, Ohio. Acting much like the bottom chord of a truss, the 1½-in.-diam strands are arranged in a wheel-spoke system that eliminates a center tension ring.

Result: a roof structure that's both light and economical; total steel weight is less than 10.5 psf. Also containing 260 tons of Bethlehem structural steel shapes in its roof, the structure cost \$7.2 million. Another 2,100 ft of our cable, 7/8-in.-diam wire rope, are used as suspenders for three cat-walk rings. These support

arena lights as well as provide access to them. All of the cable is galvanized.

More designers than ever before are considering steel cable for roof systems. Besides lighter weight and lower cost, they provide column-free viewing of the action. If you'd like to think "steel cable" for any of your new projects, talk it over with us first. It's a safe bet we can help. *Bethlehem Steel Corporation, Bethlehem, PA 18016.*

**Architect:** Brubaker & Brandt **Engineer:** Fling & Eeman, Inc.  
**Steelwork:** Bristol Steel & Iron Works, Inc. **General Contractor:** Knowlton Construction Co.

# BETHLEHEM STEEL



For more data, circle 104 on inquiry card ▶

# THE ARCHITECT

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THE ARCHITECTS IN THE OFFICE OF ALFRED EASTON POOR WANTED A WINDOW COVERING THAT WOULD PRESERVE THE NEAT UNIFORMITY OF THE FACADE, AS WELL AS CONTROL LIGHT AND HEAT. THEY SPECIFIED THE 1-INCH-WIDE SLATS OF **LEVOLOR** RIVIERA VENETIAN BLINDS.



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# ARCHITECTURAL RECORD

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## SEMI-ANNUAL INDEX

VOLUME 144  
JULY-DEC. 1968

Readers using the index will find buildings, with only a few exceptions, entered in three ways: by architect's name, by owner's name, and by building type (apartments, hospitals, schools, etc.). Still other categories cover the special subjects dealt with in the magazine's engineering section (concrete, lighting, prefabrication etc.). ABBREVIATIONS: BTS—Building Types Study; AE—Architectural Engineering; BC—Building Components

### A

- Abell, Thornton M., archt.; Residence in Malibu, Calif.—Dec. 1968, pp. 117-120
- Agostini, Edward J., article "Programing: demanding specialty in a complex world"—Sept. 1968, AB, pp. 93-94
- Airports. Building Types Study 387—August 1968, pp. 123-146. Houston Intercontinental Airport, Houston, Tex.; Goleman & Rolfe and Pierce and Pierce, archts.—Aug. 1968, BTS, pp. 134-138. Newark Airport, Newark, N.J.; The Port of New York Authority, archts.—Aug. 1968, BTS, pp. 142-144. Philadelphia International Airport, Philadelphia; Vincent G. Kling, and Assocs., archts.—Aug. 1968, BTS, pp. 139-141. "Airport and terminal planning and design: proving ground for comprehensive services," by Arnold W. Thompson—Aug. 1968, BTS, pp. 123-124. "The architect, the airport and the industry: opportunity and challenge," by Simon V. Waitzman—Aug. 1968, BTS, pp. 125-128. "People movers: an appraisal of secondary transportation systems and a guide to their selection," by William C. Gabrielsen—Aug. 1968, BTS, pp. 132-133. "The systems approach: a working tool for airport design," by H. P. Daniel van Ginkel—Aug. 1968, BTS, pp. 129-131
- Allen, Rex Whitaker and Assocs. archts.; Dominican Santa Cruz Hospital, Santa Cruz, Calif.—Oct. 1968, BTS, pp. 180-182
- Anderson, Beckwith and Haible, archts.; Applied Science Building, Rochester Institute of Technology, Rochester, N.Y.—Nov. 1968, pp. 124-125
- Angleton-Danbury District Hospital, Brazoria County, Tex.; Neuhaus & Taylor, archts.—Oct. 1968, BTS, p. 173
- Anne Arundel Community College, Arnold, Md.; Anne Arundel County Associated Architects: Francis T. Taliaferro, Earle S. Harder, Howard Wheeler, William H. Harder—Sept. 1968, BTS, pp. 180-184
- Anne Arundel County Associated Architects (Francis T. Taliaferro, Earle S. Harder, Howard Wheeler, William H. Harder); Anne Arundel Community College, Arnold, Md.—Sept. 1968, pp. 180-184
- Apartments. 5825 Dorchester, Chicago; Skidmore, Owings & Merrill, archts.—Sept. 1968, pp. 149-152
- Architectural Business. 1969 F. W. Dodge Construction Outlook—Nov. 1968, pp. 81-84. "Liability, a force for change, Kassabaum urges unity"—Dec. 1968, A.B., pp. 69-70. "LBJ signs \$5.3-billion omnibus housing legislation"—Sept. 1968, p. 81. Practice: "Programing: demanding specialty in a complex world," by Edward J. Agostini—Sept. 1968, pp. 93-94. "33 more communities get HUD Model Cities grants"—Oct. 1968, p. 81
- Architectural Education. Review of the A.I.A. report on architectural education by Jonathan Barnett: "Well-building hath three conditions . . . but 'environmental design' has 216 tasks"—Oct. 1968, pp. 163-166
- Architectural Engineering. "Brick bearing walls keep costs in line for low-cost housing"—Aug. 1968, p. 150. "Failure of a high-rise system: how safe should the structure really be?"—Nov. 1968, pp. 169-170. "Heat pump system suited to electric rates: three examples"—Dec. 1968, pp. 137-142. "Lighting that does much more than provide illumination"—Aug. 1968, pp. 147-149. "The practical considerations in designing audio-visual facilities," by Raymond H. Wadsworth—July 1968, pp. 149-160. "Some particular problems of noise control"—Sept. 1968, pp. 185-192. Steel space frame for Princeton University, Princeton, N.J.; Walker O. Cain & Assocs., archts.—Oct. 1968, pp. 183-188
- Articles "Glass box and black box or can artificial intelligence help solve design problems?" Report on Design Methods Group Conference at M.I.T.; by Jonathan Barnett—July 1968, pp. 127-128. "Proposal: A New and Comprehensive System for Design and Delivery of Buildings" by Robert F. Hastings—Nov. 1968, pp. 135-138. "Well-building hath three conditions . . . but 'environmental design' has 216 tasks" a review by Jonathan Barnett of the A.I.A. report on architectural education.—Oct. 1968, pp. 163-166
- Audio-Visual Facilities. "Practical considerations in designing audio-visual facilities" by Raymond H. Wadsworth—July 1968, Special Report No. 7, pp. 149-160
- "Avoiding cracking of gypsum partitions in concrete-frame buildings."—Oct. 1968, BC, pp. 193-194

### B

- Bank. County Federal Savings Bank, Westport, Conn.; David, Brody & Assocs., archts.—Oct. 1968, pp. 155-157
- Barnes, Edward L., archt.; Dormitories for Rochester Institute of Technology, Rochester, N.Y.—Nov. 1968, pp. 130-134
- Barnett, Jonathan. "Glass box and black box or can artificial intelligence help solve design problems?" Report on Design Methods Group Conference at M.I.T.—July 1968, pp. 127-128. Review of A.I.A. report on architectural education: "Well-building hath three conditions . . . but 'environmental design' has 216 tasks."—Oct. 1968, pp. 163-166
- Barnhart, J. M., article "Guidelines for using fibrous glass ducts in larger types of buildings"—Nov. 1968, AE, pp. 175-178
- Beckhard, Herbert, with Stanley Abercrombie and Donald Cromley, archts., Kreizel House, Long Island, N.Y.—July 1968, pp. 129-132
- Berkeley Marina, Berkeley, Calif.; Gerald M. McCue & Assocs., Inc. archts.—Oct. 1968, pp. 160-161
- Birkerts, Gunnar, archt. Three Colleges: Tougaloo College, Glen Oaks Community College, Vocational Technical Institute of Southern Illinois University—Oct. 1968, pp. 129-144
- Bolton, Preston M., archt.; Eads Residence, Fort Smith, Ark.—Nov. 1968, pp. 148-149. Geni-tempo Residence, Houston—Nov. 1968, pp. 144-145. Halpern Residence, Houston—Nov. 1968, pp. 139-142. Hudson Residence, Houston—Nov. 1968, pp. 146-147. Hunting Lodge, Wallis, Tex.—Nov. 1968, p. 143. Loy Residence, Houston—Nov. 1968, p. 150
- Brenner, E. H. Clinic for Professional Center, Inc., Lafayette, Ind.—Aug. 1968, p. 122
- Breuer, Marcel and Assocs., archts.; Proposed office tower for Grand Central Terminal, New York City—July 1968, News, p. 36. HUD Hdqtrs. Building, Washington, D.C.; Marcel Breuer and Herbert Beckhard, Nolen Swinburne and Assocs., archts.—Dec. 1968, pp. 99-106
- Building Components. "Avoiding cracking of gypsum partitions in concrete-frame buildings."—Oct. 1968, pp. 193-194. "Guidelines for using fibrous glass ducts in larger types of buildings," by J. M. Barnhart—Nov. 1968, p. 175-178. "Makeshift holes for utilities negate floor slab's fire resistance"—Dec. 1968, pp. 147-148. "Structure thermally isolated in cold-storage warehouse design"—Aug. 1968, p. 156. "Urethane foam insulation suits electri-

cally-conditioned apartments"—Aug. 1968, p. 155

## C

- Cain, Walker O. & Assocs., archts.; Princeton University Space Frame, Princeton, N.J.—Oct. 1968, AE, pp. 183-188
- Clinic for Professional Center, Inc., Lafayette, Ind.; E. H. Brenner, archt.—Aug. 1968, p. 122
- Colbert, Charles, archt.; Helen Cox Jr. H.S., Harvey, La.—Nov. 1968, BTS, pp. 162-163. Paul B. Habans Elementary School, Algiers, La.—Nov. 1968, BTS, pp. 160-161
- College Buildings. Building Types Study 388—Sept. 1968, pp. 165-184. Anne Arundel Community College, Arnold, Md.; Anne Arundel County Associated Archts.—Sept. 1968, BTS, pp. 180-184. Cornell University, Martha van Rensselaer Hall, Ithaca, N.Y.; Ulrich Franzen & Assocs., archts.—Dec. 1968, pp. 107-112. University of Detroit, Ford Life Sciences Complex, Detroit; Glen Paulsen and Assocs., Inc., archts.—Sept. 1968, BTS, pp. 168-169. Glen Oaks Community College, St. Joseph County, Mich.; Gunnar Birkerts and Assocs., archts.—Oct. 1968, pp. 138-141. Collegiate Commons, Student Dormitories, Boiler House, Grand Valley State College, Allendale, Mich.; Meathe, Kessler and Assocs., Inc., archts.—Aug. 1968, pp. 97-104. Lutheran School of Theology, Chicago.; The Perkins & Will Partnership, archts.—Sept. 1968, BTS, pp. 174-179. Five Polytechnic Institutes at Barisal, Bogra, Babna, Rangpur, Sylhet, East Pakistan; Stanley Tigerman and Muzharul Islam, archts.—Sept. 1968, pp. 153-160. Rochester Institute of Technology Campus Plan, Rochester, New York; Anderson, Beckwith and Haible; Edward Larrabee Barnes; Kevin Roche, John Dinkeloo Assocs.; Hugh Stubbins & Assocs.; Harry Weese & Assocs., archts.—Nov. 1968, pp. 123-124. St. Mary's College, St. Albert's Hall (Library), St. Mary's, California; Wolff, Zimmer, Gunsul, Frasca, Ritter, archts.—Sept. 1968, BTS, pp. 170-171. Student Quarters, Weesperstraat, Amsterdam, Holland; Herman Hertzberger, archt.—July 1968, pp. 113-118. Tougaloo College, Tougaloo, Miss.; Gunnar Birkerts and Assocs., archts.—Oct. 1968, pp. 129-137. Vocational Technical Institute, Southern Illinois University, Carbondale, Ill.; Gunnar Birkerts and Assocs., archts.—Oct. 1968, pp. 142-144
- Collins, Uhl & Hoisington, archts.; Volkswagen Sales and Service Bldg., Maplewood, N.J.—Oct. 1968, pp. 158-159
- Community Memorial Hospital, Edgerton, Wisc.; Potter Lawson Findlay & Pawlowsky, Inc. (successors to Law, Law, Potter & Nystrom), archts. Oct. 1968, BTS, p. 175.
- Computers. "Programing: demanding specialty in a complex world," by Edward J. Agostini—Sept. 1968, AB, pp. 93-94
- Cooney Residence, Sarasota, Fla.; Edward J. Seibert, archt.—Oct. 1968, pp. 149-151
- Costs. "HUD's In-City program develops hard data on systems"—Nov. 1968, AB, pp. 87-88
- County Federal Savings Bank, Westport, Conn.; Davis, Brody and Assocs., Archts.—Oct. 1968, pp. 155-157

## D

- Davis, Brody & Associates, Archts.; County Federal Savings Bank, Westport, Conn.—Oct. 1968, pp. 155-157
- Davis and Wilson, Inc., archts.; Lincoln General Hospital, Lincoln, Neb.—Oct. 1968, BTS, p. 172
- "Designing Hotels for Foreign Sites," by Joseph Salerno, archt.—July 1968, BTS, pp. 146-147
- Detroit, University of, Ford Life Sciences Complex, Detroit, Mich.; Glen Paulsen and Assocs., Inc., archts.—Sept. 1968, BTS, pp. 168-169

- De Vido, Alfred E., archt.; Palmer Residence, Dallastown, Pa.—Sept. 1968, pp. 161-162
- Dodge, F. W., 1968 mid-year construction outlook—July 1968, AB, p. 83. 1969 Construction Outlook—Nov. 1968, AB, pp. 81-84
- Dominican Santa Cruz Hospital, Santa Cruz, Calif.; Rex Whitaker Allen and Assocs., archts.—Oct. 1968, BTS, pp. 180-182
- Dorchester Apartments (5825 Dorchester), Chicago, Ill.; Skidmore, Owings & Merrill, archts. and engrs.—Sept. 1968, pp. 149-152

## E

- Eads Residence, Fort Smith, Ark.; Preston M. Bolton, archt.—Nov. 1968, pp. 148-149
- East Greenwich High School, East Greenwich, R.I.; Albert Harkness and Peter Geddes and The Architects Collaborative, Inc., archts.—Nov. 1968, BTS, pp. 164-166
- Editorials by Walter F. Wagner Jr.: "From talent to tax structure: We can't let up anywhere"—Dec. 1968, p. 9. "Getting them built is not pure fantasy, it's plain hard work"—Nov. 1968, p. 9. "The Housing Act: We know what it says, but what does it mean?"—Oct. 1968, p. 9. "Kassabaum takes on the tough, real problem of professionalism"—Sept. 1968, p. 9. "Vest-pocket excellence: can it be contagious?"—July 1968, p. 9. "The wrong criticism, in the wrong place, at the wrong time"—Aug. 1968, p. 9
- Ellerbe Architects, archts.; Fairview-Southdale Hospital, Edina, Minn.—Oct. 1968, BTS, p. 174. Rochester Methodist Hospital, Rochester, Minn.—Oct. 1968, BTS, p. 171
- Emerson Hospital, Concord, Mass.; Markus & Nocka, Inc., archts.—Oct. 1968, BTS, pp. 176-177

## F

- Fairmont Clinic, Fairmont, W. Va.; E. Todd Wheeler and The Perkins and Will Partnership, archts.—Aug. 1968, p. 120
- Fairview Southdale Hospital, Edina, Minn.; Ellerbe Architects, archts. and engrs.—Oct. 1968, BTS, p. 174
- Fee structures, "Chicago Chapter A.I.A. plots fees against complexity."—Oct. 1968, AB, pp. 87-88
- Fenway North Motor Hotel, Revere, Mass.; Salsberg & LeBlanc, archts.—July 1968, BTS, pp. 138-139
- Fewkes, John, Tower (Chicago Teachers Union), Chicago, Ill.; Harry Weese & Assocs. Archts.—July 1968, pp. 109-112
- Foreign Architecture. Australia: Seidler Residence, Killara, Australia; Harry Seidler, archt.—Aug. 1968, pp. 114-116; England: Ronan Point, London, England, illustration for AE article "Failure of a high-rise system: how safe should the structure really be?"—Nov. 1968, pp. 169-170; Germany: Neuen Nationalgalerie, Berlin, Germany; Mies van der Rohe, archt.—Nov. 1968, pp. 115-122; Holland: Montessori Primary School, Delft; Herman Hertzberger, archt.—July 1968, pp. 119-120. Student Quarters, Weesperstraat, Amsterdam; archt. Herman Hertzberger—July 1968, pp. 113-118; Mexico: Three installations of the XIX Olympiad, Mexico City: Swimming Pool and Gymnasium, Sports Palace, Aztec Stadium—Nov. 1968, News, pp. 42-43; Pakistan: Five polytechnic institutes at Barisal, Bogra, Pabna, Rangpur and Sylhet, East Pakistan; Muzharul Islam and Stanley Tigerman—Sept. 1968, pp. 153-160; Thailand: Hotel Siam Inter-Continental, Bangkok; Joseph Salerno-Tippetts-Abbott-McCarthy-Stratton-Walter Prokosch, archts.—July 1968, pp. 146-147
- Franzen, Ulrich & Assocs., archts.—Martha van Rensselaer Hall, Cornell University, Ithaca, N.Y.—Dec. 1968, pp. 107-112

- "From talent to tax structure: we can't let up anywhere," Editorial by Walter F. Wagner Jr.—Dec. 1968, p. 9
- Frost Associates, archts.; Morningside School, New York City.—Nov. 1968, BTS, pp. 152-153

## G

- Gabrielsen, William C. "People movers: an appraisal of secondary transportation systems and a guide to their selection"—Aug. 1968, BTS, pp. 132-133
- Genitempo Residence, Houston, Tex.; Preston M. Bolton, archt.—Nov. 1968, pp. 144-145
- Georg Jensen Center for Advanced Design, New York City; Warren Platner, archt.—Sept. 1968, pp. 143-148
- "Getting them built is not pure fantasy, it's plain hard work," Editorial by Walter F. Wagner Jr.—Nov. 1968, p. 9
- Glen Oaks Community College, St. Joseph County, Mich.; Gunnar Birkerts and Assocs., archts.—Oct. 1968, pp. 138-141
- Goleman & Rolfe, with Pierce & Pierce, archts., Houston Intercontinental Airport, Houston, Tex.—Aug. 1968, BTS, pp. 134-138
- Grand Central Tower, New York City; Marcel Breuer and Assocs., archts.—July 1968, News, p. 36
- Grand Valley State College, Allendale, Mich. (Collegiate Commons, Student Dormitories, Boiler House); Meathe, Kessler and Assocs., Inc., archts.—Aug. 1968, pp. 97-104
- Greenwich Academy, Upper School, Greenwich, Conn.; The SMS Partnership, archts.—Nov. 1968, BTS, pp. 158-159
- Greer School Infirmary, Millbrook, N.Y.; Gary Lindstrom & Assocs., archts.—Aug. 1968, p. 118
- "Guidelines for using fibrous glass ducts in larger types of buildings," by J. M. Barnhart—Nov. 1968, AE, pp. 175-178

## H

- Halpern Residence, Houston, Tex.; Preston Bolton, archt.—Nov. 1968, pp. 139-142
- Hardwicke, David Warren and Partners, archts.; Motor House, The Terrace Wing, Williamsburg, Va.—July 1968, BTS, p. 142
- Hawaii. Building Types Study 391: Planning for leisure—Dec. 1968, pp. 121-136
- Harkness, Albert and Peter Geddes and The Architects Collaborative, Inc., archts.—Nov. 1968, BTS, pp. 164-166
- Hastings, Robert F., article "Proposal: a new and comprehensive system for design and delivery of buildings"—Nov. 1968, pp. 135-138
- Heating. "Guidelines for using fibrous glass ducts in larger types of buildings," by J. M. Barnhart—Nov. 1968, pp. 175-178
- "Heat pump system suited to electric rates: three examples"—Dec. 1968, AE, pp. 137-142
- Helen Cox Jr. H. S., Harvey, La.; Charles Colbert, archt.—Nov. 1968, BTS, pp. 162-163
- Hertzberger, Herman, archt.; Montessori Primary School, Delft, Holland—July 1968, pp. 119-120. Student Quarters, Weesperstraat, Amsterdam, Holland—July 1968, pp. 113-116
- Hoffman-LaRoche Administration Building, Nutley, N.J.; Lundquist & Stonehill, archts.—July 1968, pp. 121-126
- Hospitals. Building Types Study 389—Oct. 1968, pp. 167-182. Angleton-Danbury District Hospital, Brazoria County, Tex.; Neuhaus & Taylor, archts.—Oct. 1968, BTS, p. 173. Community Memorial Hospital, Edgerton, Wisc.; Potter Lawson Findlay & Pawlowsky, Inc. (successors to Law, Law, Potter & Nystrom), archts.—Oct. 1968, BTS, p. 175. Dominican Santa Cruz Hospital, Santa Cruz, Calif.; Rex Whitaker Allen and Assocs., archts.—Oct. 1968, BTS, pp. 180-182. Emerson Hospital, Concord, Mass.; Markus & Nocka, Inc., archts.—

Oct. 1968, BTS, p. 176-177, Fairview-Southdale Hospital, Edina, Minn.; Ellerbe Architects, archts.—Oct. 1968, BTS, p. 174. Lincoln General Hospital, Lincoln, Neb.; Davis and Wilson, Inc., archts.—Oct. 1968, BTS, p. 172. "Needs, trends, and costs of hospitals and health facilities," by Wilbur R. Taylor—Oct. 1968, pp. 167-169. Rochester Methodist Hospital, Rochester, Minn.; Ellerbe Architects, archts.—Oct. 1968, BTS, p. 171. St. Joseph Hospital, Denver; Robert G. Irwin, archt.—Oct. 1968, BTS, p. 170. William W. Backus Hospital, Norwich, Conn.; E. Todd Wheeler and The Perkins & Will Partnership, archts.—Oct. 1968, BTS, pp. 178-189

Hotels. Building Types Study 386, Hotels, Motor Hotels, Resort Hotels—July 1968, pp. 133-148. Fenway North Motor Hotel, Revere, Mass.; Salsberg & LeBlanc, archts.—July 1968, BTS, pp. 138-139. Howard Johnson Motor Hotel, Anaheim, California; William L. Pereira & Assoc., archts.—July 1968, BTS, p. 140. Motor House, The, Terrace Wing, Williamsburg, Va.; David Warren Hardwicke and Partners, archts.—July 1968, BTS, p. 142. Hotel Siam International, Bangkok, Thailand; Joseph Salerno-Tippetts-Abbott-McCarthy-Stratton-Walter Prokosch, archts.—July 1968, pp. 146-147. Village Inn Motor Hotel, Birmingham, Mich.; Luckenbach/Durkee & Assocs., Inc., archts.—July 1968, BTS, p. 141

Houses. Cooney Residence, Sarasota, Florida; Edward J. Seibert, archt.—Oct. 1968, pp. 149-151. Residence in Malibu, Calif.; Thornton M. Abell, archt.—Dec. 1968, pp. 117-120. Eads Residence, Fort Smith, Ark.; Preston M. Bolton, archt.—Nov. 1968, pp. 148-149. Genitempo Residence, Houston; Preston M. Bolton, archt.—Nov. 1968, pp. 144-145. Halpern Residence, Houston; Preston M. Bolton, archt.—Nov. 1968, pp. 139-142. (Townhouse). Hudson Residence, Houston; Preston M. Bolton, archt.—Nov. 1968, pp. 146-147. Kriezel House, Long Island, N.Y.; Herbert Beckhard with Stanley Abercrombie and Donald Cromley, archts.—July 1968, pp. 129-132. (Townhouse). Loy Residence, Houston; Preston M. Bolton, archt.—Nov. 1968, p. 150. Palmer Residence, Dallastown, Pa.; Alfred E. De Vido, archt.—Sept. 1968, pp. 161-162. Residence in Jamaica, The West Indies; Charles P. Parker, archt.—Aug. 1968, pp. 111-113. Porter Residence, Sharon, Conn.; Oppenheimer, Brady & Assocs., archts.—Oct. 1968, pp. 152-154. Ranch House, Wallis, Texas (Hunting Lodge); Preston M. Bolton, archt.—Nov. 1968, p. 143. Renfield Residence, Chester, N.J.; Richard Meier, archt.—Dec. 1968, pp. 113-116. Seidler Residence, Killara, Australia; Harry Seidler, archt.—Aug. 1968, pp. 114-116. Residence for Mr. and Mrs. William V. Warren, Jr., Denver; Carl Groos, Jr., archt.—Sept. 1968, pp. 163-164

Housing. "Brick bearing walls keep costs in line for low-cost housing."—Aug. 1968, AE, p. 150. "The Housing Act: We know what it says, but what does it mean?"—Edit. by Walter F. Wagner, Jr., Oct. 1968, p. 9

Houston Intercontinental Airport, Houston. Goleman & Rolfe and Pierce & Pierce, archts.—Aug. 1968, BTS, pp. 134-138

Howard Johnson Motor Hotel, Anaheim, Calif.; William L. Pereira & Assocs., archts.—July 1968, BTS, p. 140

HUD. Department of, Headquarters Building, Washington, D.C.: Marcel Breuer and Herbert Beckhard, Nolen Swinburne and Assocs., archts.—Dec. 1968, pp. 99-106. "HUD's In-City program develops hard data on new systems."—Nov. 1968, AB, pp. 87-88

Hudson Residence, Houston; Preston M. Bolton, archt.—Nov. 1968, pp. 146-147

Hunting Lodge, Wallis, Tex.; Preston M. Bolton, archt.—Nov. 1968, p. 143

## I

Insulation. "Urethane foam insulation suits electrically-conditioned apartments"—Aug. 1968, BC, p. 155

Irwin, Robert G., archt.; St. Joseph Hospital, Denver.—Oct. 1968, BTS, p. 170

## K

"Kassabaum takes on the tough, real problem of professionalism," Editorial by Walter F. Wagner, Jr.—Sept. 1968, p. 9

Kivett & Myers, archts.; Ravenwood Elementary School, Kansas City, Mo.—Nov. 1968, BTS, pp. 154-156

Kling, Vincent G., archt., Philadelphia International Airport, Philadelphia.—Aug. 1968, BTS, pp. 139-141

Kona Hilton Hotel, Kona, Hawaii; Wimberly, Whisenand, Allison and Tong, archts.—July 1968, BTS, p. 148

Kriezel House, Long Island, N.Y., Herbert Beckhard, archt.—July, 1968, pp. 129-132

## L

Lapidus, Alan H., archt.; "Planning the Successful Resort Hotel"—July 1968, BTS, pp. 143-145

Levy Clinic, Houston; Neuhaus & Taylor, archts.—Aug. 1968, p. 119

Libraries. St. Albert's Hall, St. Mary's College, St. Mary's, Calif.; Wolff, Zimmer, Gunsul, Frasca, Ritter, archts.—Sept. 1968, BTS, pp. 170-171. Library and General Studies Building, Rochester Institute of Technology, Rochester, N.Y.—Nov. 1968, pp. 128-129

Lifchez, Raymond. "Buildings Designed as 'Street'." Portfolio of Herman Hertzberger work; Student Quarters, Weesperstraat, Amsterdam, Holland; Montessori Primary School, Delft, Holland—July 1968, pp. 113-120. Report on buildings for XIX Olympiad, Mexico City, Mexico—Nov. 1968, News, pp. 42-43

Lighting. "Lighting that does much more than provide illumination"—Aug. 1968, AE, pp. 147-149

Lincoln General Hospital, Lincoln, Neb.; Davis and Wilson, Inc., archts.—Oct. 1968, BTS, p. 172

Lindstrom, Gary & Assoc., archts., Greer School Infirmary, Millbrook, N.Y.—Aug. 1968, p. 118

Loy Residence, Houston; Preston M. Bolton, archt.—Nov. 1968, p. 150

Luckenbach/Durkee & Assocs., Inc., archts., Village Inn Motor Hotel, Birmingham, Mich.—July 1968, BTS, p. 141

Lundquist & Stonehill, archts., Hoffman-LaRoche Administration Building, Nutley, N.J.—July 1968, pp. 121-126

Lutheran School of Theology at Chicago, Chicago; The Perkins & Will Partnership, archts.—Sept. 1968, BTS, pp. 174-179

## M

Markus & Nocka, Inc., archts.; Emerson Hospital, Concord, Mass.—Oct. 1968, BTS, pp. 176-177

Marson, Bernard A., archt.; Medical and Administration Center, Islip, N.Y.—Aug. 1968, p. 121

McCue, Gerald & Assocs., Inc., archts.; Berkeley Marina, Berkeley, Calif.—Oct. 1968, pp. 160-161

Meathe, Kessler and Associates, Inc., archts.; Collegiate Commons, Student Dormitories, Boiler House, Grand Valley State College, Allendale, Mich.—August 1968, pp. 97-104

Medical and Administration Center (International Production Service and Sales Employees' Union) Islip, N.Y.; Bernard A. Marson, archt.—Aug. 1968, p. 121

Medical Buildings. Greer School Infirmary, Millbrook, N.Y., Gary Lindstrom & Assoc., archts.; Levy Clinic, Houston, Neuhaus & Taylor,

archts.; Fairmont Clinic, Fairmont, W. Va., E. Todd Wheeler and The Perkins and Will Partnership, archts.; Medical and Administration Center, Islip, N.Y., Bernard A. Marson, archt.; Clinic for Professional Center, Inc., Lafayette, Ind., E. H. Brenner, archt.—Aug. 1968, pp. 117-122

Meier, Richard, archt.; Renfield Residence, Chester, N.J.—Dec. 1968, pp. 113-116

Mies van der Rohe, Ludwig, archt.; Neuen Nationalgalerie, Berlin, Germany—Nov. 1968, pp. 115-122

Model Cities. "33 more communities get HUD Model Cities grants"—Oct. 1968, AB, p. 81

Morningside School, New York City; Frost Assocs., archts.—Nov. 1968, BTS, pp. 152-153

Motor House, The, Terrace Wing, Williamsburg, Va.; David Warren Hardwicke and Partners, archts.—July 1968, BTS, p. 142

Museum. Neuen Nationalgalerie. Berlin, Germany; Mies van der Rohe, archt.—Nov. 1968, pp. 115-122

## N

Neuen Nationalgalerie, Berlin, Germany; Mies van der Rohe, archt.—Nov. 1968, pp. 115-122

Neuhaus & Taylor, archt., Levy Clinic, Houston—Aug. 1968, p. 119

"New Forces at Work on the In-City Hotel", by William B. Tabler, July 1968, BTS, pp. 134-137

Newark Airport, Newark, N.J.; The Port of New York Authority, archts.—Aug. 1968, BTS, pp. 142-144

Noise Control. "Some particular problems of noise control"—Sept. 1968, Special report No. 8, pp. 185-192

## O

Office Buildings. Grand Central Terminal proposed office tower, New York City; Marcel Breuer and Assocs., archts.—July 1968, p. 36. Hoffmann-LaRoche Headquarters Building, Nutley, N.J.; Lundquist & Stonehill, archts.—July 1968, pp. 121-126. John Fewkes Tower, Chicago, Harry Weese & Assocs., archts.—July, 1968, pp. 109-112. Scott, Foresman and Company, Corporate Headquarters, Glenview, Ill.; The Perkins & Will Partnership, archts.—Oct. 1968, pp. 145-148. Architects' office building, Minoru Yamasaki & Assoc., archts.; Troy, Mich.—Sept. 1968, pp. 137-143

Olympiad XIX. Three installations of the XIX Olympiad, Mexico City, Mexico: Swimming Pool and Gymnasium, Sports Palace, Aztec Stadium—Nov. 1968, News, pp. 42-43

Oppenheimer, Brady & Associates, archts.; Porter Residence, Sharon, Conn.—Oct. 1968, pp. 152-154

## P

Palmer Residence, Dallastown, Pa.; Alfred E. De Vido, archt.—Sept. 1968, pp. 161-162

Parker, Charles P., archt.; Residence in Jamaica, The West Indies—Aug. 1968, pp. 111-113

Paul B. Habans Elementary School, Algiers, La.; Charles Colbert, archt.—Nov. 1968, BTS, pp. 160-161

Paulsen, Glen and Assocs., Inc., archts., Ford Life Sciences Complex, University of Michigan, Detroit—Sept. 1968, BTS, pp. 168-169

Pereira, William L. & Assoc., archts.; Howard Johnson Motor Hotel, Anaheim, Calif.—July 1968, BTS, p. 140

Perkins & Will Partnership, The, archts.; Lutheran School of Theology at Chicago, Chicago—Sept. 1968, BTS, pp. 174-179; Scott, Foresman and Company Corporate Headquarters, Glenview, Ill.—Oct. 1968, pp. 145-148; with E. Todd Wheeler, archt.: Fairmont Clinic, Fairmont, W. Va.—Aug. 1968, p. 120; William W. Backus Hospital, Norwich, Conn.—Oct. 1968, BTS, pp. 178-179

Philadelphia International Airport, Philadelphia; Vincent G. Kling and Assoc., archts.—Aug. 1968, BTS, pp. 139-141

Pierce & Pierce, with Goleman & Rolfe, archts.; Houston Intercontinental Airport, Houston—Aug. 1968, BTS, pp. 134-138

"Planning the Successful Resort Hotel", by Alan H. Lapidus, archt.—July 1968, BTS, pp. 143-145

The Port of New York Authority. Newark Airport, N.J.—Aug. 1968, BTS, pp. 142-144

Porter Residence, Sharon, Conn.; Oppenheimer, Brady & Assocs., archts.—Oct. 1968, pp. 152-154

Potter Lawson Findlay & Pawlowsky, Inc. (successors to Law, Law, Potter & Nystrom), archts.; Community Memorial Hospital, Edgerton, Wisc.—Oct. 1968, BTS, p. 175

"Practical considerations in designing audio-visual facilities", by Raymond H. Wadsworth—July, 1968, AE, Special Report no. 7, pp. 149-160

Practice. "Chicago Chapter A.I.A. plots fees against complexity"—Oct. 1968, AB, pp. 87-88.

"Proposal: A new and comprehensive system for design and delivery of buildings," by Robert F. Hastings—Nov. 1968, pp. 135-138

Princeton Report. "Well-building hath three conditions . . . but environmental design has 216 tasks"; a review by Jonathan Barnett of the A.I.A. report on education—Oct. 1968, pp. 163-166

Princeton University Gymnasium, Princeton, N.J.; Walker O. Cain & Assocs., archts.—Oct. 1968, AE, pp. 183-188

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"Resort Hotel on a Hawaiian Island", by George J. Wimberly, archt.—July 1968, BTS, p. 148

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Santa Cruz County Governmental Center, Santa Cruz, Calif.; Rockwell and Banwell, archts.—Aug. 1968, pp. 105-110

Schools. Building Types Study 390—Nov. 1968, pp. 151-166. East Greenwich High School, East Greenwich, R.I.; Albert Harkness and Peter Geddes and The Architects Collaborative, Inc., archts.—Nov. 1968, BTS, pp. 164-166. Greenwich Academy, Upper School, Greenwich, Conn.; The SMS Partnership, archts.—Nov. 1968, BTS, pp. 158-159. Helen Cox Jr. H.S., Harvey, La.; Charles Colbert, archt.—Nov. 1968, BTS, pp. 162-163. Montessori Primary School, Delft, Holland; Herman Hertzberger, archt.—July 1968, pp. 119-120. Morningside School, New York City; Frost Assocs., archts.—Nov. 1968, BTS, pp. 152-153. Paul B. Habans Elementary School, Algiers, La.; Charles Colbert, archt.—Nov. 1968, BTS, pp. 160-161. Ravenwood Elementary School, Kansas City, Mo.; Kivett & Myers, archts.—Nov. 1968, BTS, pp. 154-156. Wittenberg Science and Mathematics Center, South Kent School, South Kent, Conn.; The SMS Partnership, archts.—Nov. 1968, BTS, p. 157

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Special Reports. No. 7: "The practical considerations in designing audio-visual facilities"—July 1968, pp. 149-160. No. 8: "Some particular problems of noise control"—Sept. 1968, AE, pp. 185-192

Structure. "Brick bearing walls keep costs in line for low-cost housing"—Aug. 1968, AE, p. 150. "Failure of a high-rise system: how safe should the structure really be?"—Nov. 1968, AE, pp. 169-170

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## V

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"Vest-pocket excellence: Can it be contagious?"—Editorial by Walter F. Wagner, Jr.—July 1968, p. 9

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Wagner, Walter F., Editorials, "From talent to tax structure: we can't let up anywhere"—Dec. 1968, p. 9. "Getting them built is not pure fantasy, it's plain hard work"—Nov. 1968, p. 9. "Housing Act: We know what it says, but what does it mean?"—Oct. 1968, p. 9. "Kassabaum takes on the tough, real problem of professionalism"—Sept. 1968, p. 9. "Vest-pocket excellence: Can it be contagious?"—July 1968, p. 9. "The wrong criticism, in the wrong place, at the wrong time"—Aug. 1968, p. 9

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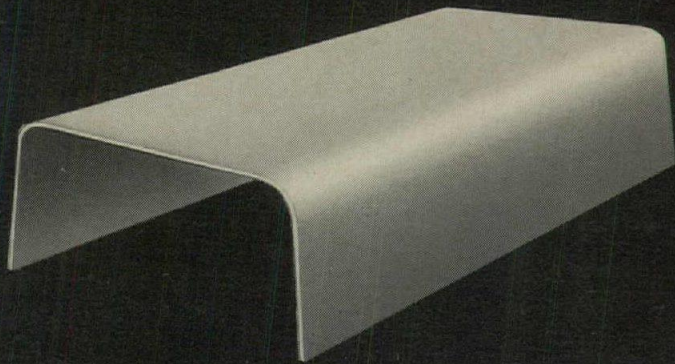
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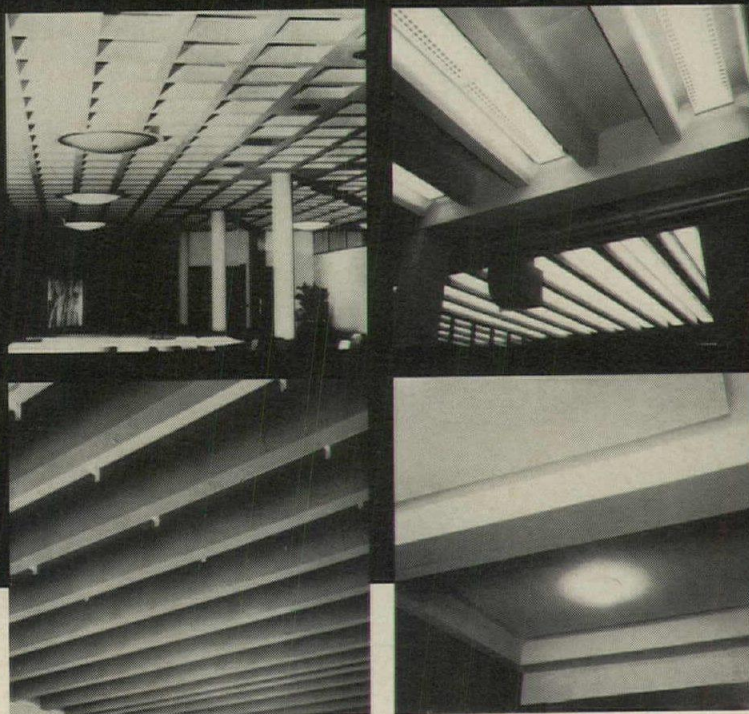


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