



ARCHITECTURAL RECORD

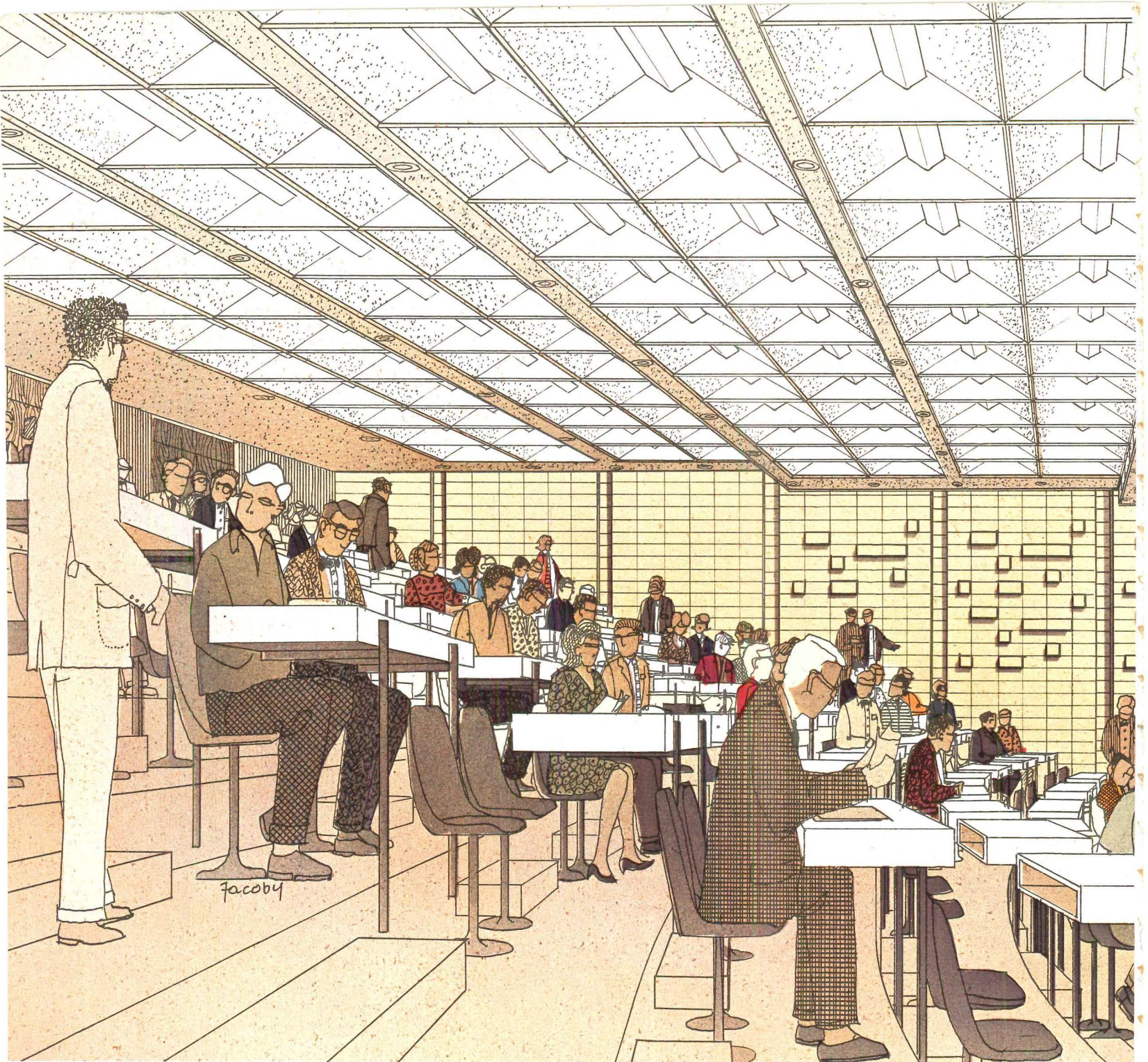
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BUILDING TYPES STUDY: COLLEGE BUILDINGS

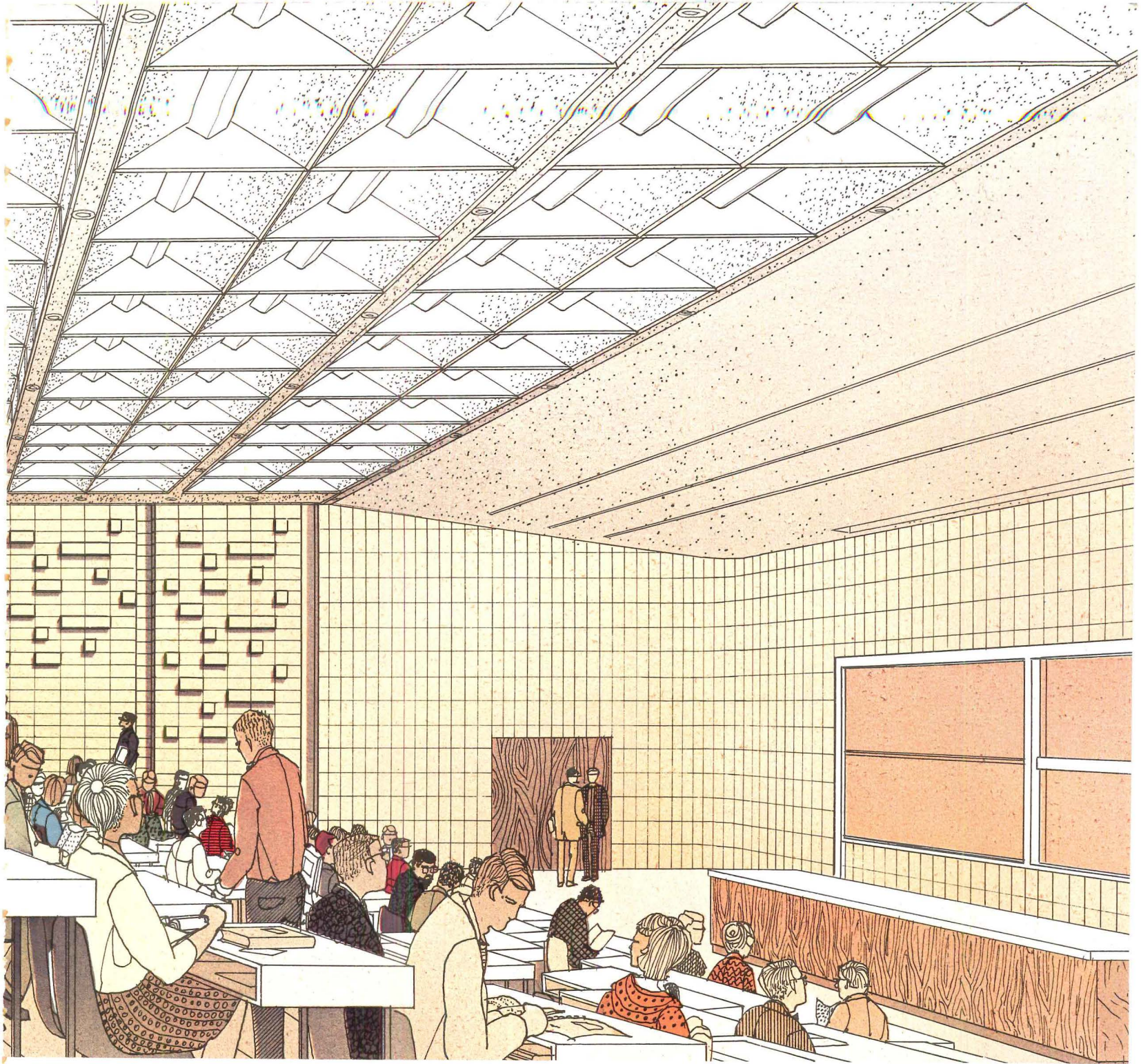
UPGRADING DOWNTOWN: URBAN DESIGN BY VICTOR GRUEN ASSOCIATES

"THE LIGHTING OF CITIES" BY WILLIAM M. C. LAM

SEMI-ANNUAL INDEX • FULL CONTENTS ON PAGES 4 & 5



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Architectural Engineering



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Senior Center, Bowdoin College, Brunswick, Maine. Architects: Hugh Stubbins and Associates. © Ezra Stoller Associates, Photographers

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Add one more problem (and challenge) to the many that face the profession as we build our brave new world. In the face of conservative estimates that our need for recreation facilities will triple by the year 2000 (indeed, increase tenfold in our urban centers), the Federal government has now swung its power (and its money, at the rate of a quarter billion dollars a year) into a massive drive to create new recreation on an unprecedented scale. Needed now: a great deal of fresh thinking on the problem by architects. Next month's Building Types Study explores the need and the unsolved problems, and shows some of the fine planning and design work already underway.

WILL URBAN RENEWAL WORK?

Urban renewal, planning and the role of design in these processes have all been subject lately to continuous and frequently rather severe criticism—too much of it, perhaps, both irresponsible and misinformed. As the beginning of a serious effort to evaluate the workings of these instruments in the re-shaping of our cities, the RECORD next month will present an illustrated analysis of where they have taken Philadelphia, the city most widely acclaimed for its planning efforts.

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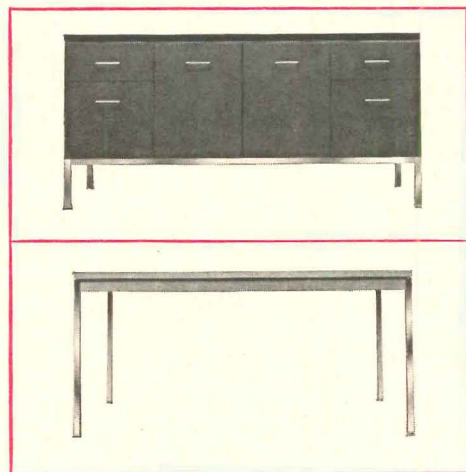
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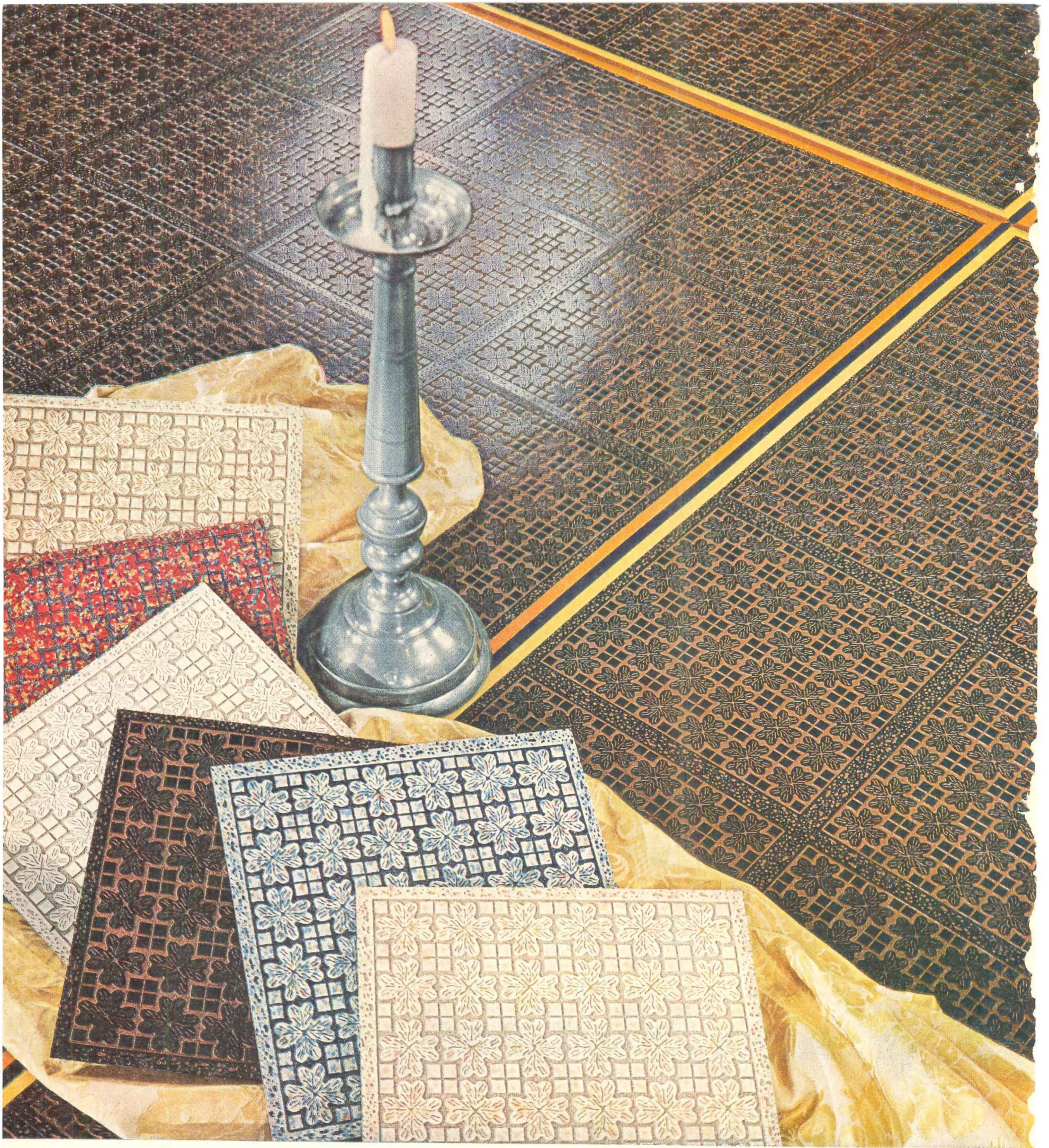


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The Architect as Mentor to a Tortured World

Bigness seems to be the biggest fact of our time, or our future. Bigger population, bigger cities, bigger buildings, bigger problems, not forgetting bigger paychecks. We are getting used to some rather ominous prefixes: mega, as in mega-structure; megallo, as in megalopolis; multi, as in multi-family, or multi-story, or multiversity. The idea of size, which once might associate with pride or achievement, now evokes frightening visions of being submerged in a mega-world.

When New York City is twice its present size—no, no, not for this small-town product. When office or apartment buildings get twice as big—well, I don't know; so far the designs I have seen do not look promising. When universities get as large as the one in Berkeley, well the youngsters are easily inflamed to rioting, rioting about they know not what, but very possibly about feeling submerged in numbers.

Well, this tortured world will have to live with its numbers. Cities *will* get twice as large (it's past time for birth control to block that); universities will get more multi; buildings will get more mega. Unless we increase the rate of killing each other off, population numbers will change our way of life. Perhaps torture is too strong a word, but I doubt it.

Where does the architect come in, and how do we award him the chair of "mentor?" Well, he gets the chair when he earns it, but clearly the architect is the one to undertake the assignment, the task of helping a tortured world. Our living environment is going to get ever more man-made, as distinguished from nature-made. The visual aspects of our surroundings will be man-made. It is no good just trying to escape to the countryside; there might not be any.

And it's no good merely being more artistic, if being artistic means merely vanity, or perhaps rebellious gesture.

It means the architect must devote

his full panoply of talents or instincts to creating a livable though crowded environment. He might start perhaps with his innate sense of order, and extend his well-developed skill at planning. He might devote to human necessities his knowledge of spatial organization and structural and mechanical possibilities. He might take a new look at words like "beauty," or "taste," or even "style," or go right on down the list through unity and rhythm and texture and so on.

The architect has always considered himself the expert in environmental matters. Maybe his expertise doesn't extend to all of the problems of mega-neighborhoods, but he is the only one trained in this direction. He will need the help of consultants in social and psychological areas, and presumably research studies will help clarify matters. And of course there must be other social and political efforts that have nothing to do with physical environment. But it is clear that the physical surroundings are all important. Good physical planning, for example, might reduce the multi-university to a series of colleges, as in the new Santa Cruz campus (ARCHITECTURAL RECORD, November 1964, pages 176-181). Good physical surroundings can contribute vitally to one's sense of enjoyment, or individuality, or peace, as of course nobody needs to be told.

The American Institute of Architects, through its outgoing president, Arthur Gould Odell, Jr., and its incoming president, Morris Ketchum, Jr., is proclaiming that the years ahead will be the Golden Age of Architecture.

We trust they are right. It should be a golden age, when a harassed people turns to the architectural fraternity for guidance, and when the architect is ready to build a better environment. The architect may indeed be the "mentor to a tortured world."

—Emerson Goble

STIRLING AND GOWAN WIN REYNOLDS AWARD



Brecht-Einzig

James Stirling and James Gowan, London architects, have been given the \$25,000 R. S. Reynolds Memorial Award for their design of the Engineering Building at Leicester University, Leicester, England. The award, administered by the American Institute of Architects, was formally presented June 1.

The jury consisted of William Stephen Allen, chairman; Marcel Breuer, Vernon DeMars, George Harrell, and Mario Pani.

Although its 1965 program requirements specifically freed the jurors from considering aluminum as any more than a "contributing factor" to an otherwise "significant work of architecture . . ." the jury felt that the use of aluminum in the structure was so basic to its realization as to make this award particularly appropriate.

The building itself is a concrete-frame structure faced with red brick and tile and glass. Aluminum glazing bars are used throughout the building to support glass and cladding panels. According to Mr. Stirling, the aluminum glazing bar was integral in the shaping of the complicated ceiling glazing and the slope-sided glass walls, thus enabling him "to break out of the strait-jacket and constricting limitations of normal curtain walling and other types of glazing."

The jury commended the architects for having "manipulated their sculptural forms to produce a distinguished work of architecture, a powerful expression of both the art and technology of our time."

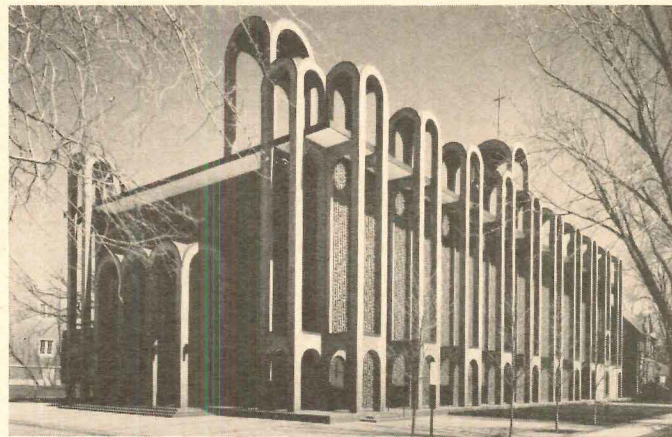
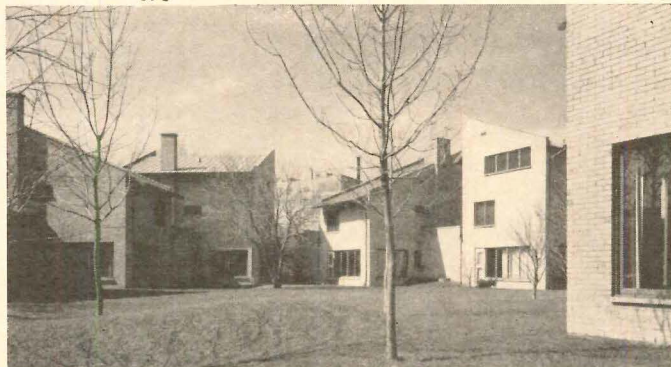
CHICAGO HOLDS ELEVENTH ANNUAL AWARDS PROGRAM

Two honor awards, shown here, 14 citations of merit for new buildings and three citations of merit for rehabilitation and remodeling, shown on pages 306, 310, 314, 330 and 334, were presented in the 11th annual architectural awards program sponsored by the Chicago Chapter of the American Institute of Architects and the Chicago Association of Commerce and Industry. The awards presentation chairman was Walter H. Sobel, A.I.A., president of the Chicago chapter. The 1965 honor awards committee chairman was Alfred S. Alschuler, Jr., A.I.A.

Members of the jury included Richard Bennett, F.A.I.A.; Bertrand Goldberg, A.I.A.; Max Abramovitz, F.A.I.A.; Arthur Rubloff, chairman of Arthur Rubloff & Company; and Thomas F. Waldron, president of the Chicago Federal Savings & Loan Association.

continued on page 306

Hedrich-Blessing, photos



Above: St. Anastasia Church, Waukegan, Illinois
Architects: I. W. Colburn & Associates

Structural Engineer: Frank Klein & Company

Mechanical and Electrical Engineers: Samuel R. Lewis & Associates

General Contractor: Hansen & Werhane

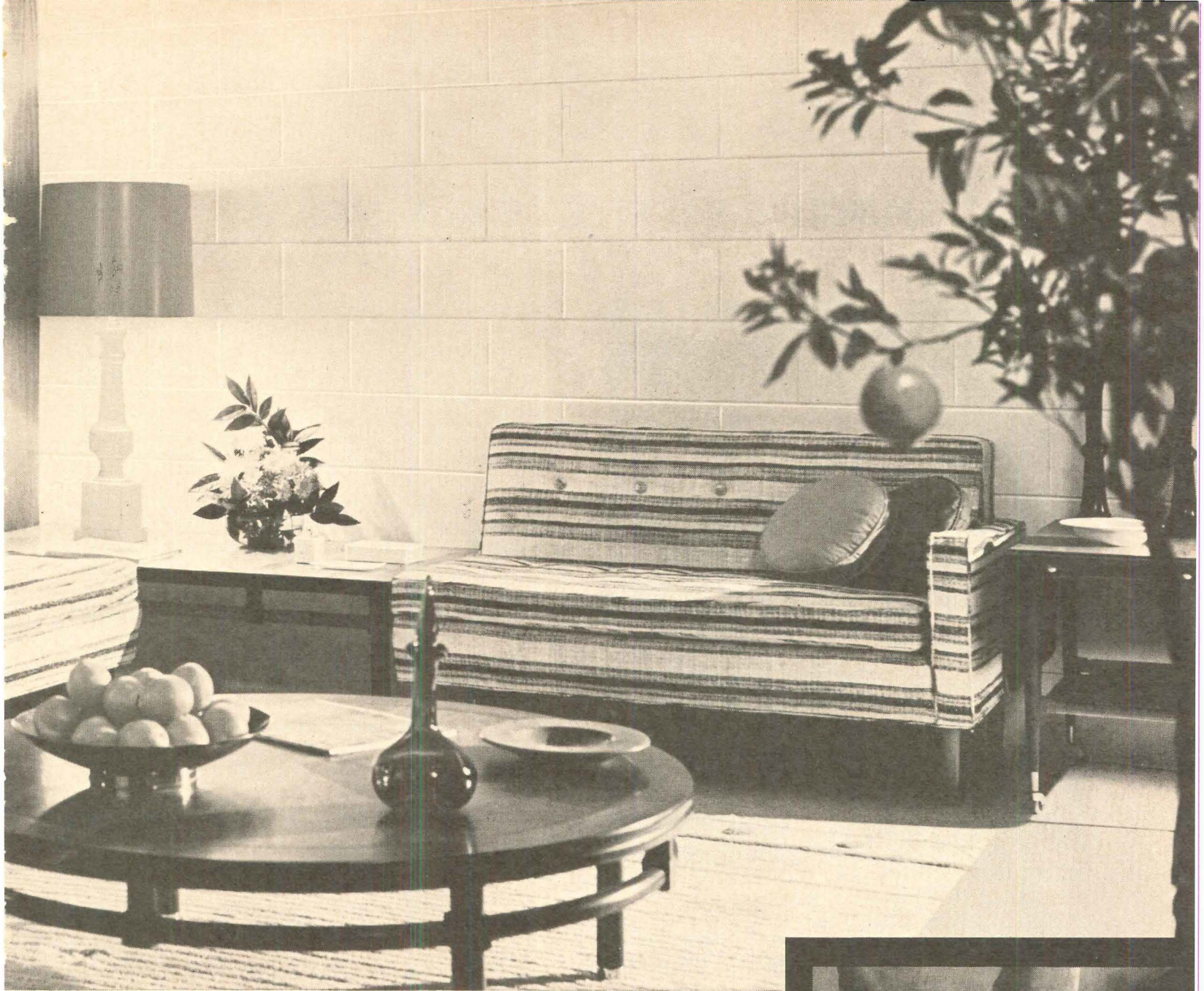
Left: The Chicago Theological Seminary Faculty Housing, Chicago

Architect: Edward D. Dart

Structural Engineers: Samartano & Robinson

Electrical Engineers: A & T Engineering

General Contractor: Young & Sons Construction Company



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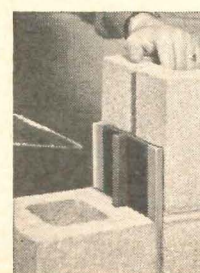
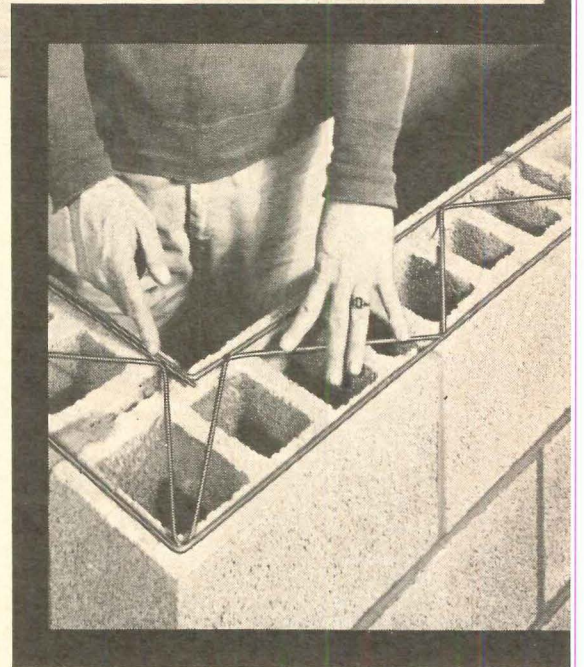
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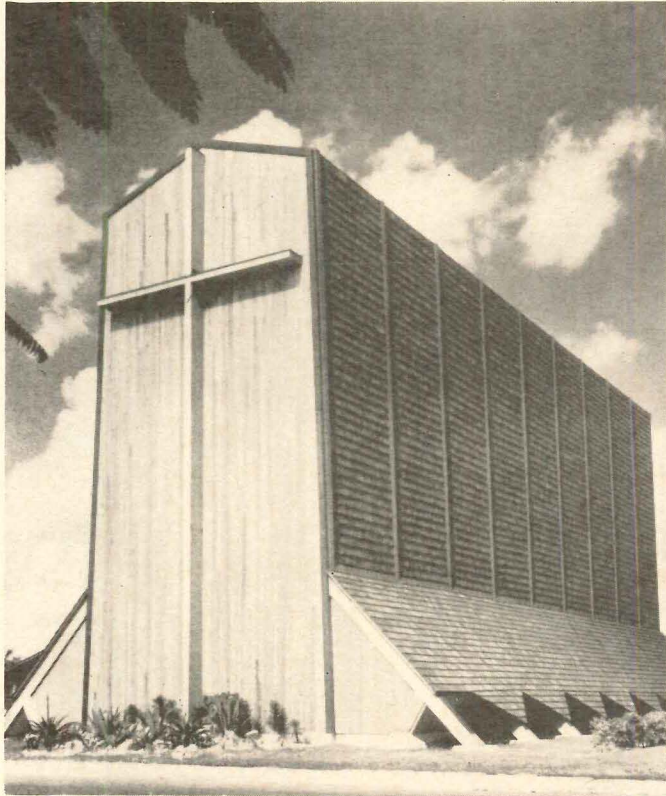
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EIGHT CHURCHES RECEIVE DESIGN AWARDS

Loren Kelley Photography, photos

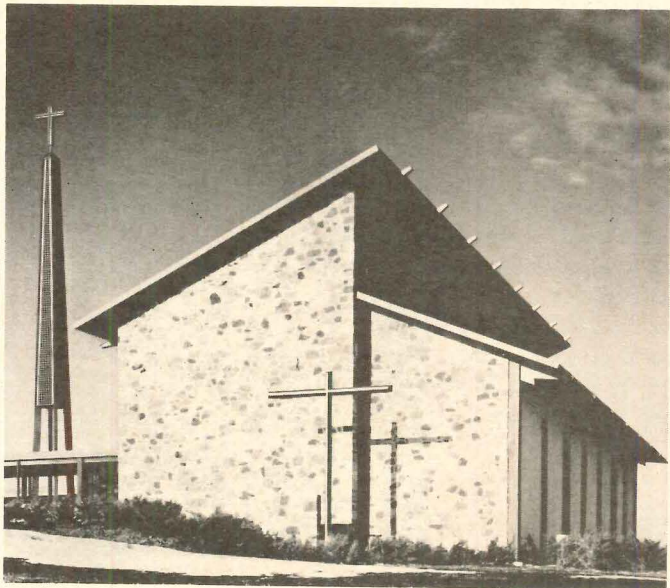


Hope Lutheran Church, Miami, Florida
Architect: Alfred Browning Parker
"Commended for economy in design; seems to satisfy theological program. Unusual shape, tall nave expresses purpose well."

Eight awards of equal importance "in recognition of total design which interprets the concepts of the particular faith" were presented at the final session of the 26th National Conference on Church Architecture held in Chicago on April 29. Joint sponsors of the conference were the American Society for Church Architecture; the Church Architectural Guild of America; and the Commission on Church Building and Architecture of the National Council of Churches.

Serving on the jury were Charles Rowe of Chicago, A.I.A., chairman; Rev. Dr. Martin Marty of Chicago, a Missouri Synod Lutheran clergyman and associate professor of church history at the University of Chicago; Professor John Replinger of the Department of Architecture at the University of Illinois; Richard M. Bennett of Chicago, F.A.I.A.; Mrs. Mildred C. Widber of Boston, author and secretary, Department of Education program, United Church of Christ; and L. Morgan Yost of Kenilworth, Illinois, F.A.I.A.

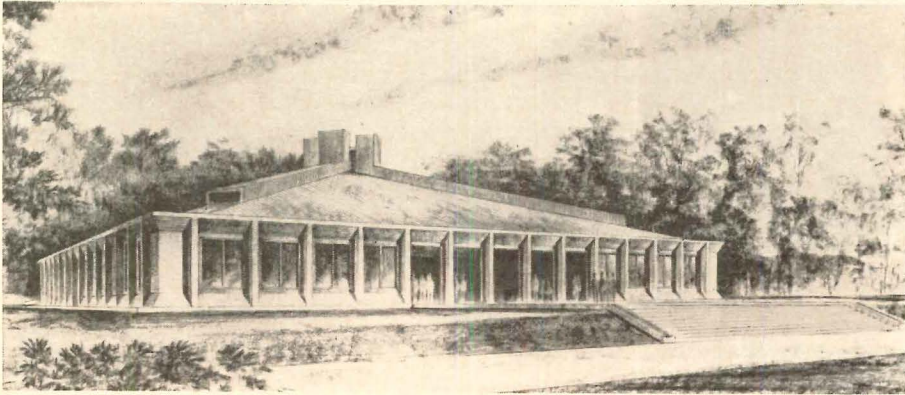
The jury tempered its recommendations by stating that none of the entries had as yet solved the pressing needs for "a closer relationship between educational space and the worship area." Mr. Rowe said, however, that the jury had chosen the awards mostly on the basis that the winning designs showed a growing awareness of the need for a more intimate relationship between worship and education.



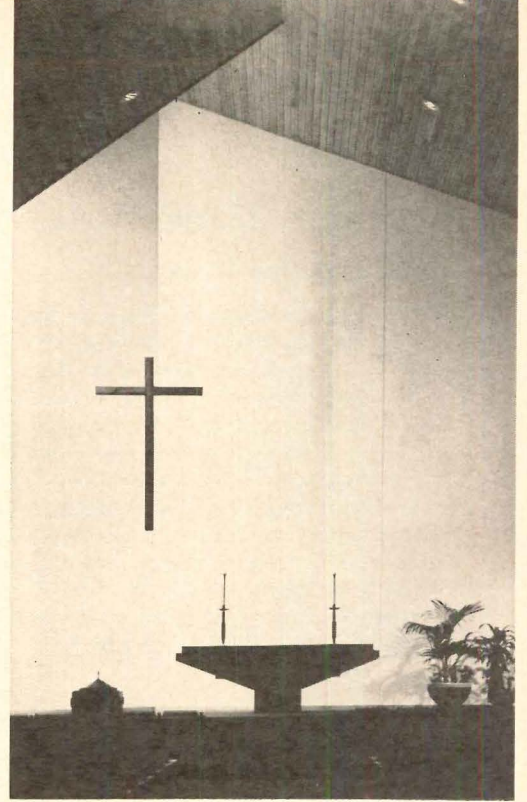
Chapel, Bethany Theological Seminary (Church of the Brethren, Oak Brook, Illinois)
Architects: Stude Dolan and Anderson
"Commended as the dominant structure in the seminary while adapting the exterior to rural setting."



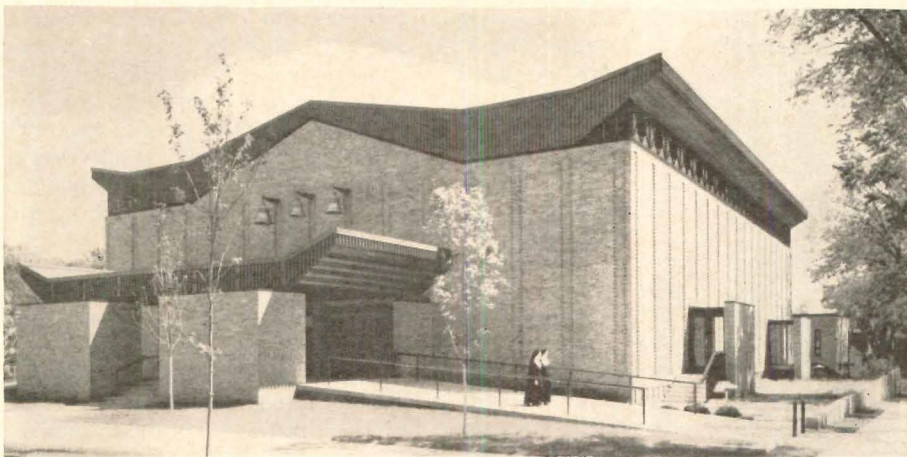
St. Joseph Catholic Church, Colfax, Illinois
Architects: Jack Sherman Baker and Robert P. Link
"Commended for fulfillment of tight budgetary requirements (\$70,000), large sense of dignity in design, Romanesque plan and architecturally beautiful proportion."



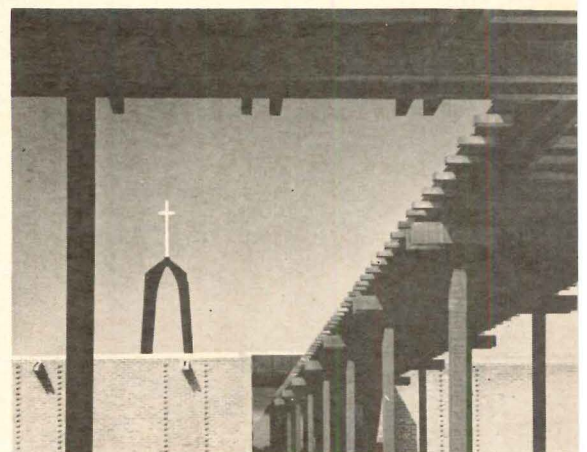
United Liberal Church (Unitarian-Universalists) Atlanta
 Architects: Toombs, Amisano and Wells
 "Commended for excellent planning, intimate relationship in education space, daring simplicity, ordered geometry."



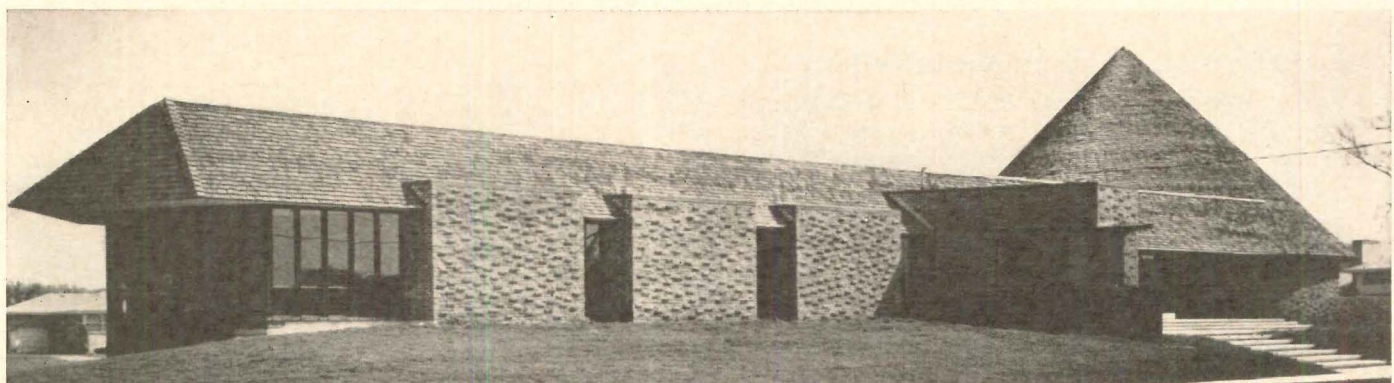
Central United Protestant Church, Richland, Washington
 Architects: Durham, Anderson, Freed
 "Commended for compelling strength in design."



Church of the Holy Name (Roman Catholic), Minneapolis
 Architects: Cerny Associates
 "Commended for being consistent with urban environment and for being well adapted to liturgical needs."



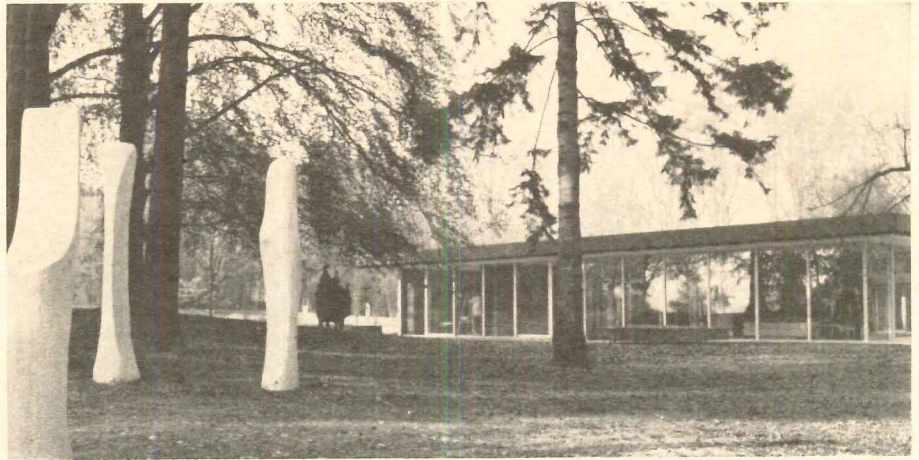
Shepherd of the Lakes Lutheran Church, Grayslake, Illinois
 Architects: Buderus and Sunshine
 "Commended for straightforward wood design, excellent in final composition, a spatial experience and providing for the future."



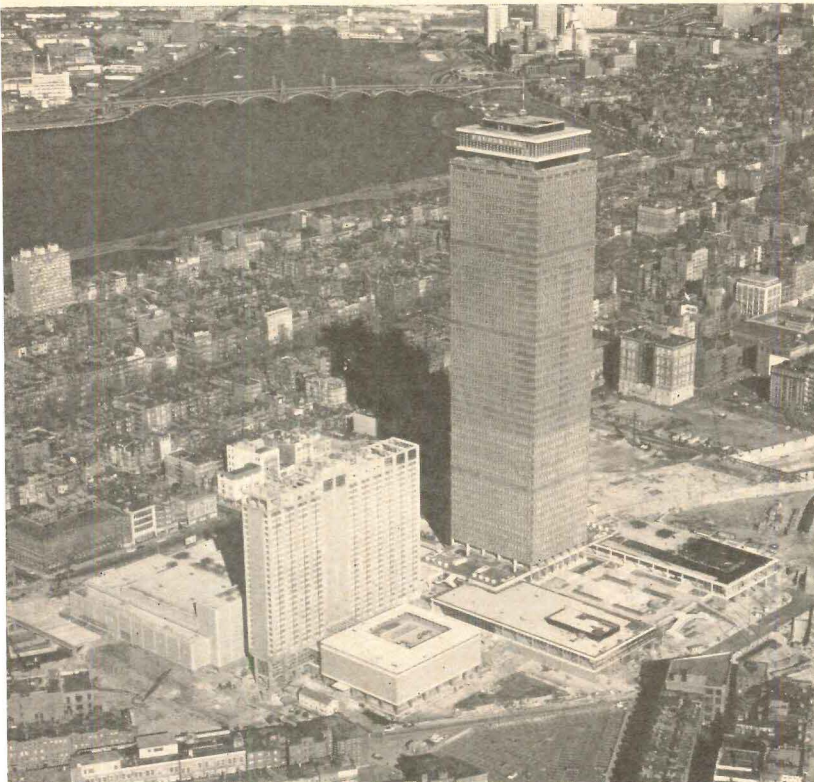
Good Shepherd Methodist Church, Park Ridge, Illinois
 Architects: Stade Dolan and Anderson
 "Commended for good relationship of educational space to sanctuary while paying special attention to liturgical interest—also for simplicity of geometry."

German Chancellor's House In Bonn

The recently completed residence for the Federal Chancellor of Germany in Bonn, now occupied by Chancellor Ludwig Erhard, is located in the gardens of the Palais Schaumburg, the German government's administrative center. The ascetic modern dwelling of concrete, steel and glass construction is a sophisticated contrast to the 1858 Palais. The residence will contain an eight-room apartment, swimming pool, library, music room, dining room, and two reception rooms. The architect is Sep Ruf.



Inter Naciones



Aerial Photos of New England

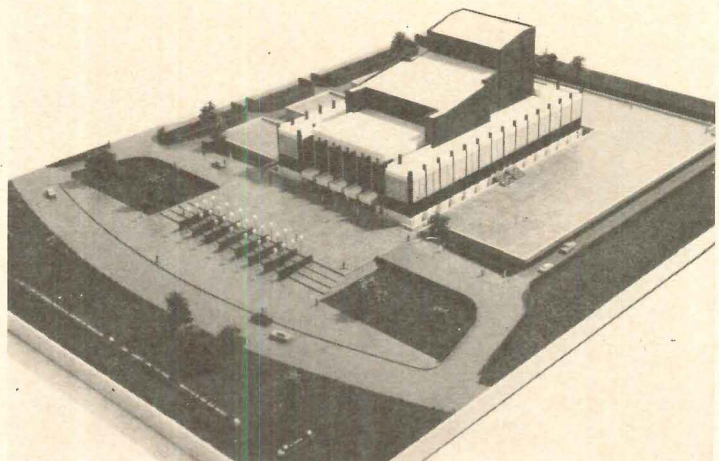
Prudential Center is Dedicated

The 52-story 750-foot-high Prudential tower and the 29-story 1,012-room Sheraton-Boston Hotel, both part of Boston's \$150 million Prudential Center, were dedicated in elaborate ceremonies on April 18, 19 and 20. Also in the center are the City of Boston War Memorial Auditorium, which was opened in February; two 26-story apartment buildings which are in foundation stages and plazas, subterranean and commercial areas in various stages of completion. Coordinating architects for the center section of the project, which includes the Prudential tower, were Charles Luckman Associates; associate architects were Hoyle, Doran & Berry; foundation engineers were Metcalf & Eddy; structural engineers were Edwards & Hjorth; mechanical engineers were Syska & Hennessy; the general contractors were a combine of Perini Corporation, Perini Ltd, and the Walsh Construction Company; and the foundation contractor was the George A. Fuller Company. Architects for the Sheraton-Boston Hotel were Charles Luckman Associates; foundation engineers were Metcalf & Eddy; mechanical and electrical engineers were Krey & Hunt; structural engineers were Seeley, Stevenson, Value & Knecht; and general contractor was the Turner Construction Company.

Auditorium in Saskatchewan

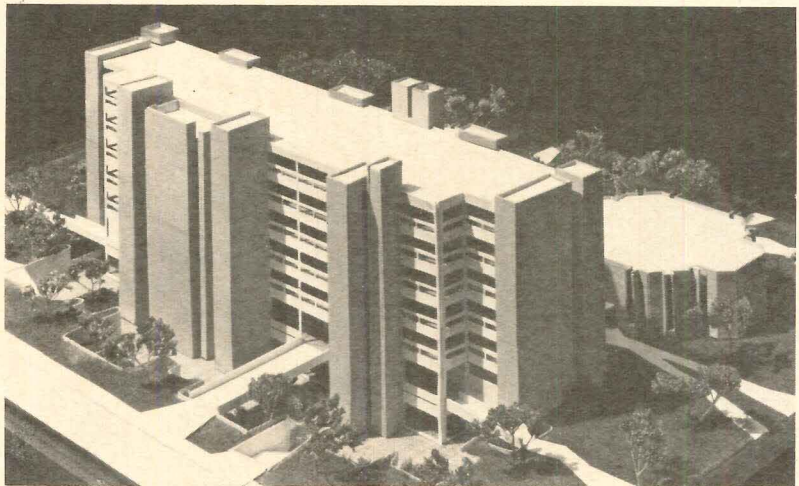
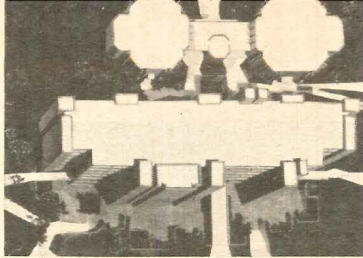
The Wascana Centennial Auditorium in Regina, Saskatchewan, designed by architects Izumi Arnott & Sugiyama, will feature a paved podium terrace along the sides and rear of the structure which will provide covered parking for 300 cars. Serving on the Wascana Center Architectural Advisory Board are architects Minoru Yamasaki and Pietro Beluschi and Professor John Russel, dean of the faculty of architecture at the University of Manitoba, and landscape architect Thomas Church. The auditorium will have a 2,000-seat theater on the main floor with a lift system to reduce its size to 1,300 seats. The lower floor will have two main areas—a 5,000 square foot rehearsal-recital experimental theater meeting room, and an 11,600 square foot convention room.

G. O. Dean



Classroom and Office Building at University of Houston

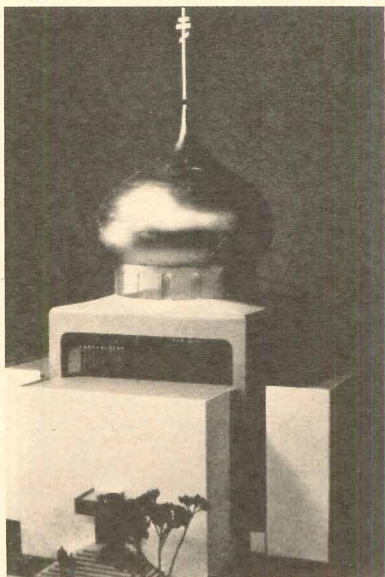
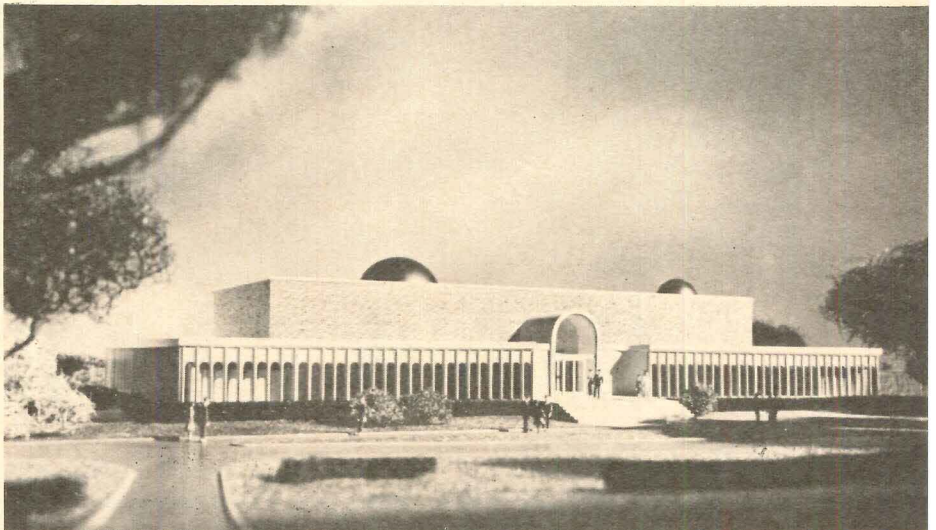
A combination classroom, office building and lecture center is part of a \$16 million construction program at the University of Houston. Houston architects Kenneth Bentsen Associates designed the building to have maximum flexibility by locating all fixed elements such as chases, stairs, elevators, toilet rooms and corridors on the periphery to allow changing space requirements on the interior. The 149,000 square foot, \$4 million structure will accommodate 3,500 students and faculty. The building will contain a 16,000 square foot sunken landscaped court.



Hope Leiper Studios photos

Yama at Princeton

Charles Peyton Hall, which will house the Department of Astrophysical Sciences at Princeton University, will have two telescope domes on its roof to contain a nine and one-half inch and a four-inch telescope for student work. The building, which is designed by architect Minoru Yamasaki, and for which ground was broken on April 19, is mainly financed by grants from the Ford Foundation and the National Science Foundation. The facade of the one and one-half-story structure, which has a lower floor somewhat below grade, will have a row of precast beige window panels. General contractor for the 33,290 square foot structure is William C. Ehret.



Church Interprets Traditional Forms

The Holy Transfiguration Russian Orthodox Greek Catholic Church planned for New Haven, Connecticut, has been designed by Architect Carl R. Blanchard, Jr., to interpret and adapt traditional and symbolic forms important to this religious group, to a contemporary building. Therefore, the 62-foot-square structure utilizes a Greek Cross plan and features a dome which rises to a height of 70 feet. The dome, which will be a steel frame structure with sprayed concrete, will rest on four poured-in-place columns, thus being a structure independent from the poured-in-place, textured concrete walls. The nave will accommodate 250 people.



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GLOBAL's been going to some of the best colleges for years. Only they've been learning from us! When it comes to quality of construction, freedom from maintenance worries, accessibility of parts, and hazing-proof ruggedness, we score top marks in every exam. Somewhere behind every ivy-covered wall there's a rest room. College knowledge dictates the finest installations—for architects and school administrators the security of a GLOBAL installation is its own award.

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Andover Hall Library
Harvard Divinity School, Cambridge, Mass.
Arch.: Shepley-Bulfinch-Richardson & Abbott

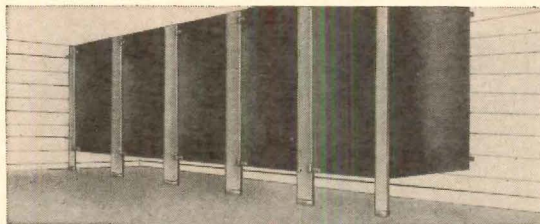
Juniata College Library
Huntingdon, Pa.
Arch.: Hunter-Campbell & Rea

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University of Missouri, Columbia, Mo.
Arch.: Hellmuth, Obata & Kassabaum, Inc.

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State University, Albany, N. Y.
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Denton Dormitories
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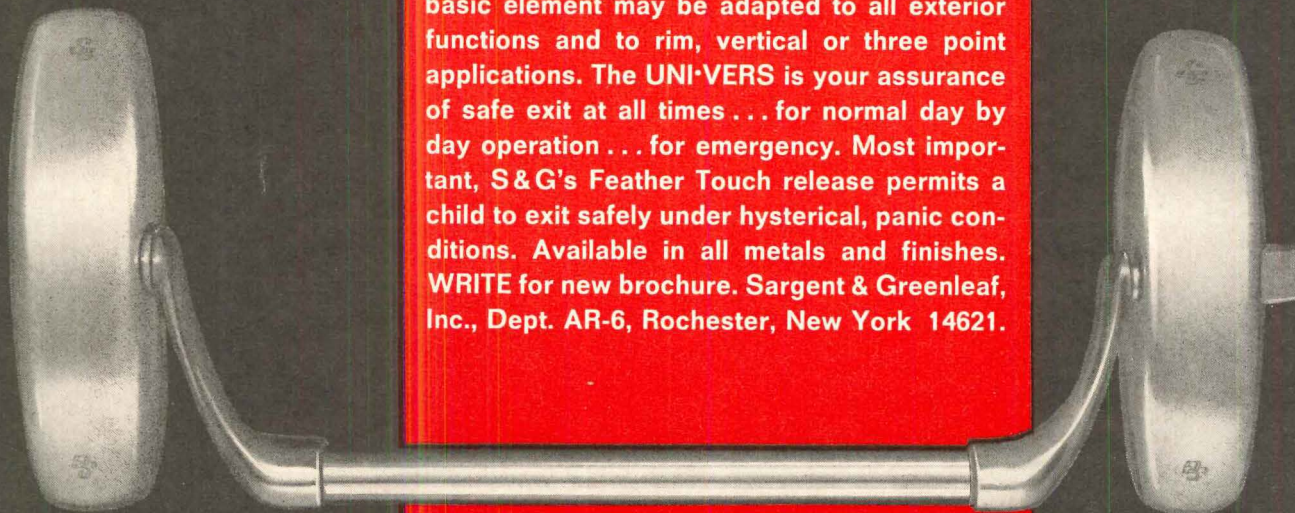


UNI·VERS

by

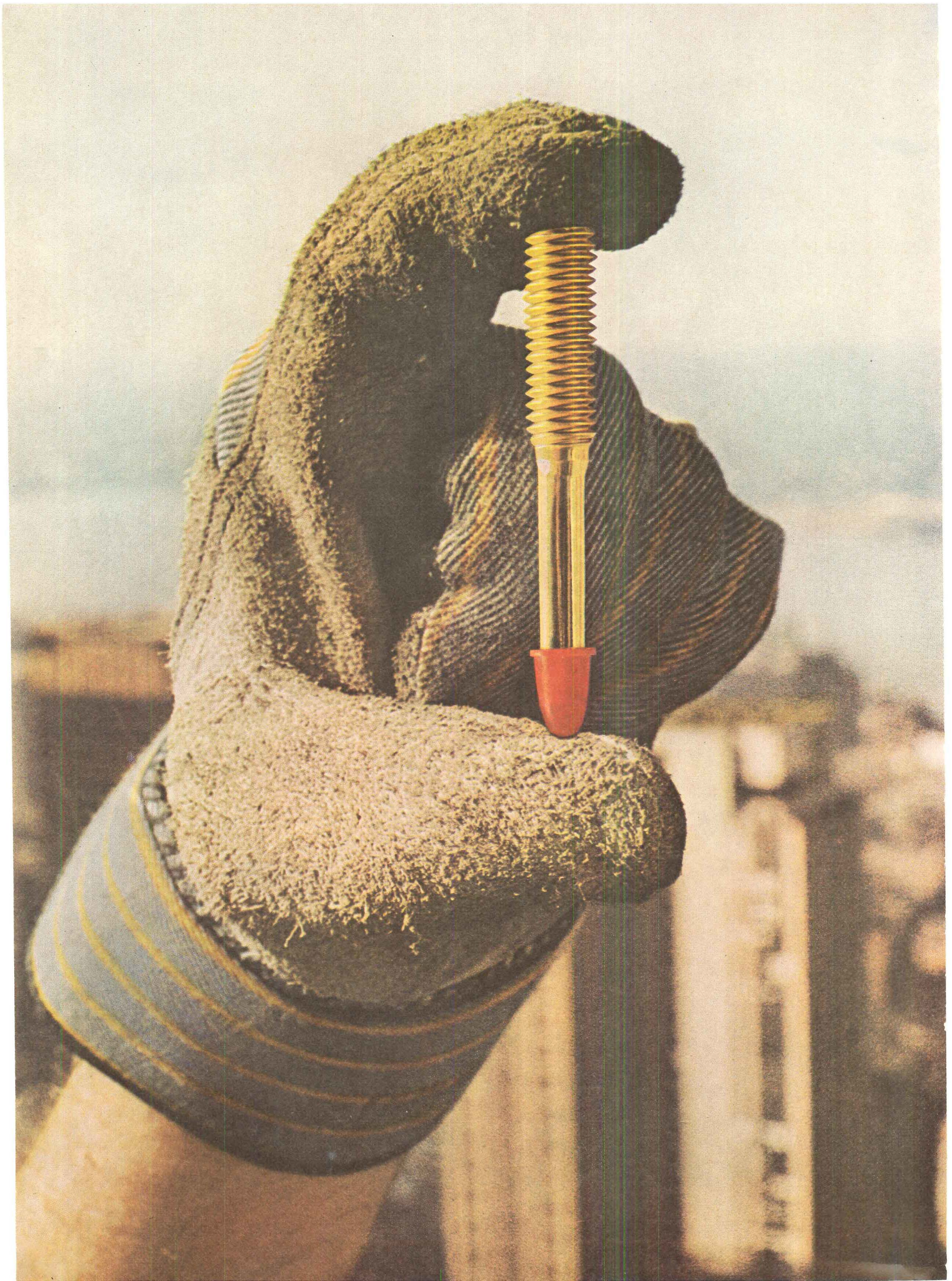
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You are looking at the snazziest fasteners since Union Pacific connected East and West with a gold-plated railroad spike.

This, however, is not a ceremonial gimmick. It's just our regular Ramset fastener. (Almost as common as nails in the building industry.)

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And the glamorous gold color? It's a coating of chromate. This, on top of zinc plate, gives our fastener *three times* more corrosion resistance than standard finishes.

(The fastener itself is made out of a new austempered steel which beefs up tensile strength to almost 310,000 psi—far greater than other fasteners.)

But the most important thing about a Ramset fastener is that it's fast.

It fastens steel to concrete, wood to concrete, wood to steel, and steel to steel *eight times* faster than ordinary varieties of fasteners that have to be drilled and plugged.

It means a worker can fasten, say, the miles of ducts needed for heating a skyscraper 50 stories high (ordinarily an eight-week job) in just three days.

If you ask us, this is what really makes our fasteners such beauties.

And, speaking of beauty, we *do* make some special genuine 14-carat gold fasteners.

Just the thing to dress up the opening ceremonies for your next building.

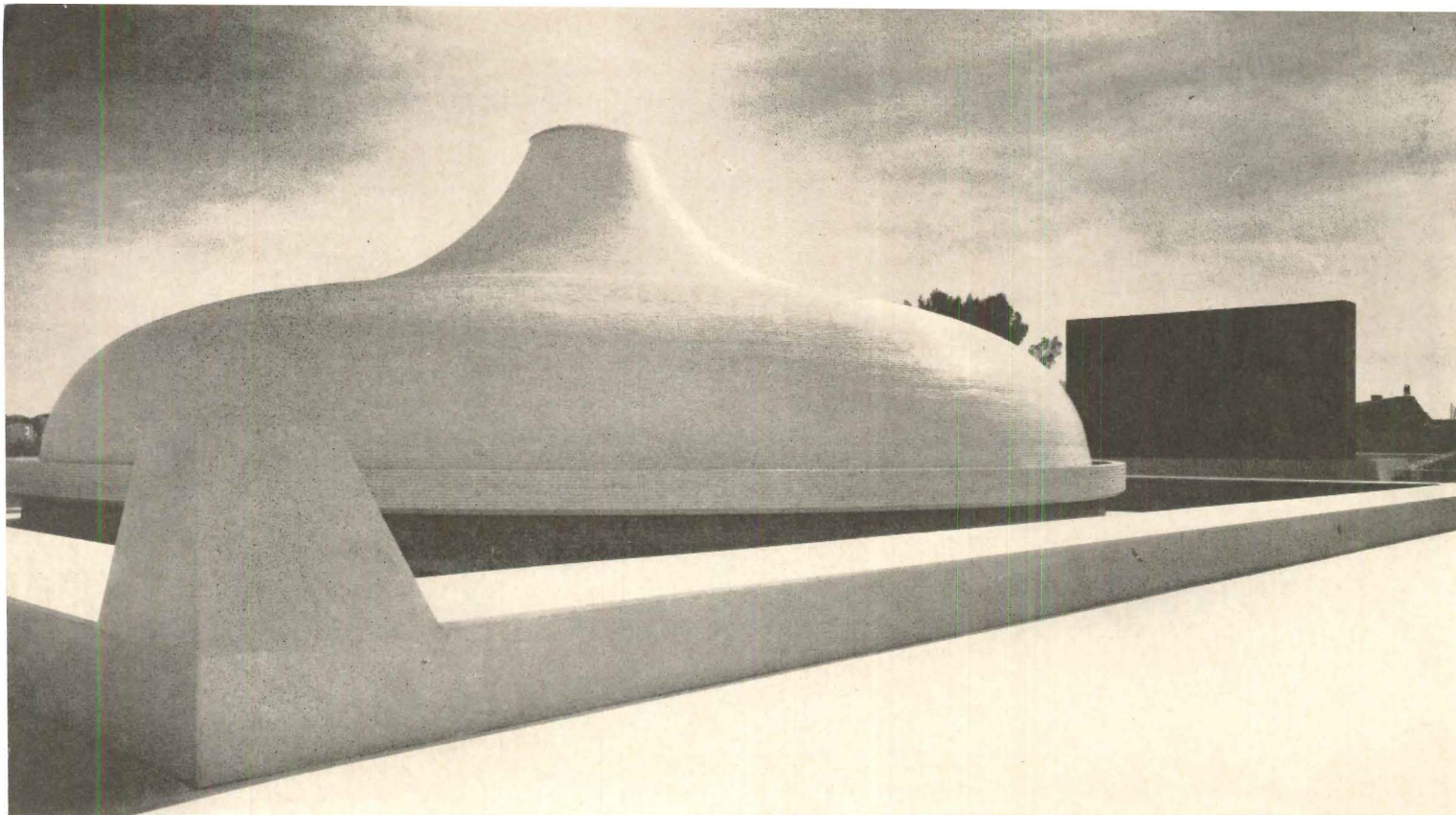
The Ramset man (in the Yellow Pages under "Tools") can fix you up.

With either kind.

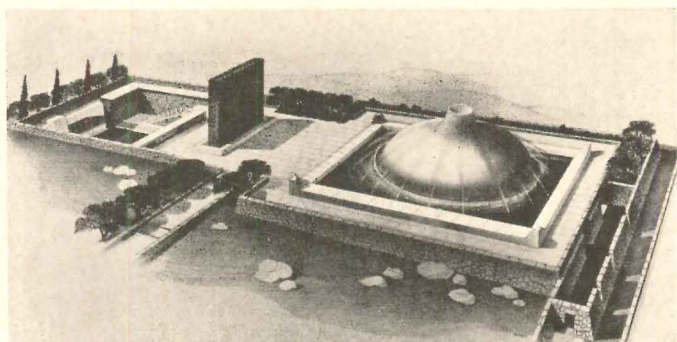
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Alfred Bernheim, photos



Buildings in the News:

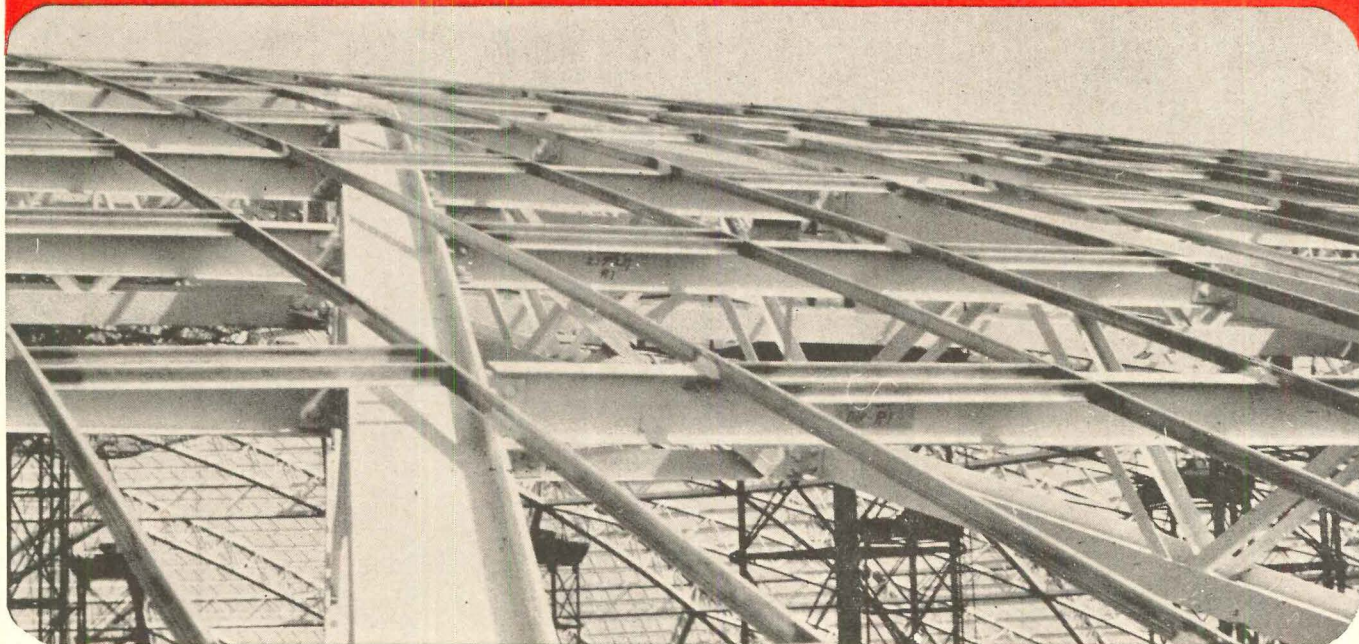
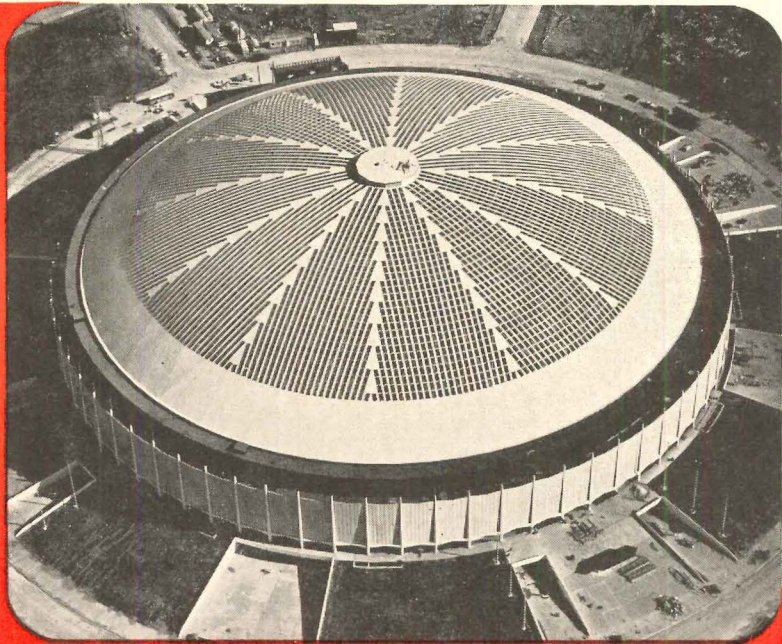
**"SHRINE OF THE BOOK"
IS DEDICATED IN ISRAEL**

"The Shrine of the Book," constituting "The D.S. and R. H. Gottesman Center for Rare Biblical Manuscripts," was dedicated in ceremonies on April 20 and 21. The Shrine, which is located on the site of the Israel National Museum, will permanently house four of the seven Dead Sea Scrolls and other rare Biblical manuscripts. The structure was designed by Frederick J. Kiesler and Armand P. Bartos, architects, of New York City. General contractor was Hillel Fefferman.

The structure itself, except for the dome, is largely underground, an idea suggested by the fact that the scrolls were found in a cave. From ground level four elements are visible—the dome, a plaza, a black basalt stone dedication wall, and a sunken patio. The dome emerges from a square pool of water and forms the center of a fountain. The sunken patio is flanked by a research library and the entrance-way, which is a long subterranean corridor consisting of a series of terraces, each of which will display Biblical manuscripts.

Under the double-parabolic dome, which is meant to suggest the cover of the stone jar in which the scrolls were discovered, the long Isaiah scroll will be unrolled around a huge drum. Other scrolls will be displayed in cases in the immediate area. The dome is cast concrete and is faced with specially designed and cut ceramic tiles. Under the main floor of the dome is an exhibition area in which archaeological objects relating to the Dead Sea Scrolls will be shown.

**ZINC
GALVANIZED
STEEL VS.
CORROSION
IN HOUSTON'S
NEW DOMED
STADIUM**



From the soaring dome above, to the drains in the earth below—in many key places throughout the new Houston stadium you'll find zinc guarding steel's strength against corrosion.

Zinc galvanized steel is used for the purlins and sub-purlins in the dome and welds were zinc coated. Asbestos bonded galvanized steel pipe is used in the drainage systems as well as galvanized iron. Casings for heating and cooling coils are galvanized steel as is high and low pressure duct-

work. Galvanized pipe and connections are used in the water softening equipment.

As a structural material, zinc galvanized steel provides the most practical combination of strength, corrosion resistance and economy. This combination has been proven over and over again in many different structures from culverts and guard rails to skyscrapers. It's a good combination to keep in mind when specifying materials.

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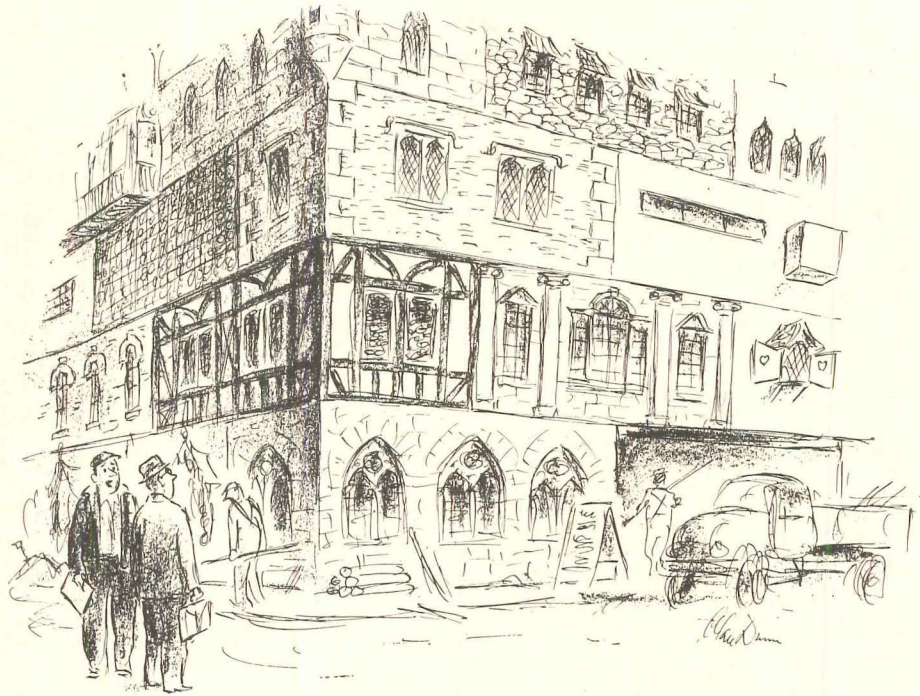
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Drawn for the RECORD by Alan Dunn

"This is the last word in condominiums—Each owner has his own architect—"

HARVARD HOLDS NINTH URBAN DESIGN CONFERENCE

"Education and Environment" was the theme of the ninth Urban Design Conference sponsored by the Harvard Graduate School of Design held in Cambridge on April 30 and May 1. At the opening session Oscar Handlin, Winthrop Professor of History at Harvard, gave the keynote address entitled "The New Urban Society." "Our urban planning controls have grown," said he, "not because government has larger schemes in mind, but in response to the complexities of small pressures. Where once growth and change was the result of a multitude of individual decisions it is no longer responsive to individual pressure. . . . We now have the means of controlling our urban environment but we lack the necessary understanding, and we have not established adequate goals. . . . We must plan for the change in character of our urban populations. . . . Until the 1920's American cities consisted of people whose early lives were spent in a rural environment. Their traditional points of view had a rural base. . . . Since the 1920's the city populations consist largely of people whose entire experience is urban and this should influence the way the resources of the city of the future will be used. . . . The capacity to deal

with urban problems will be increased because we will be bringing to them values derived from the urban experience."

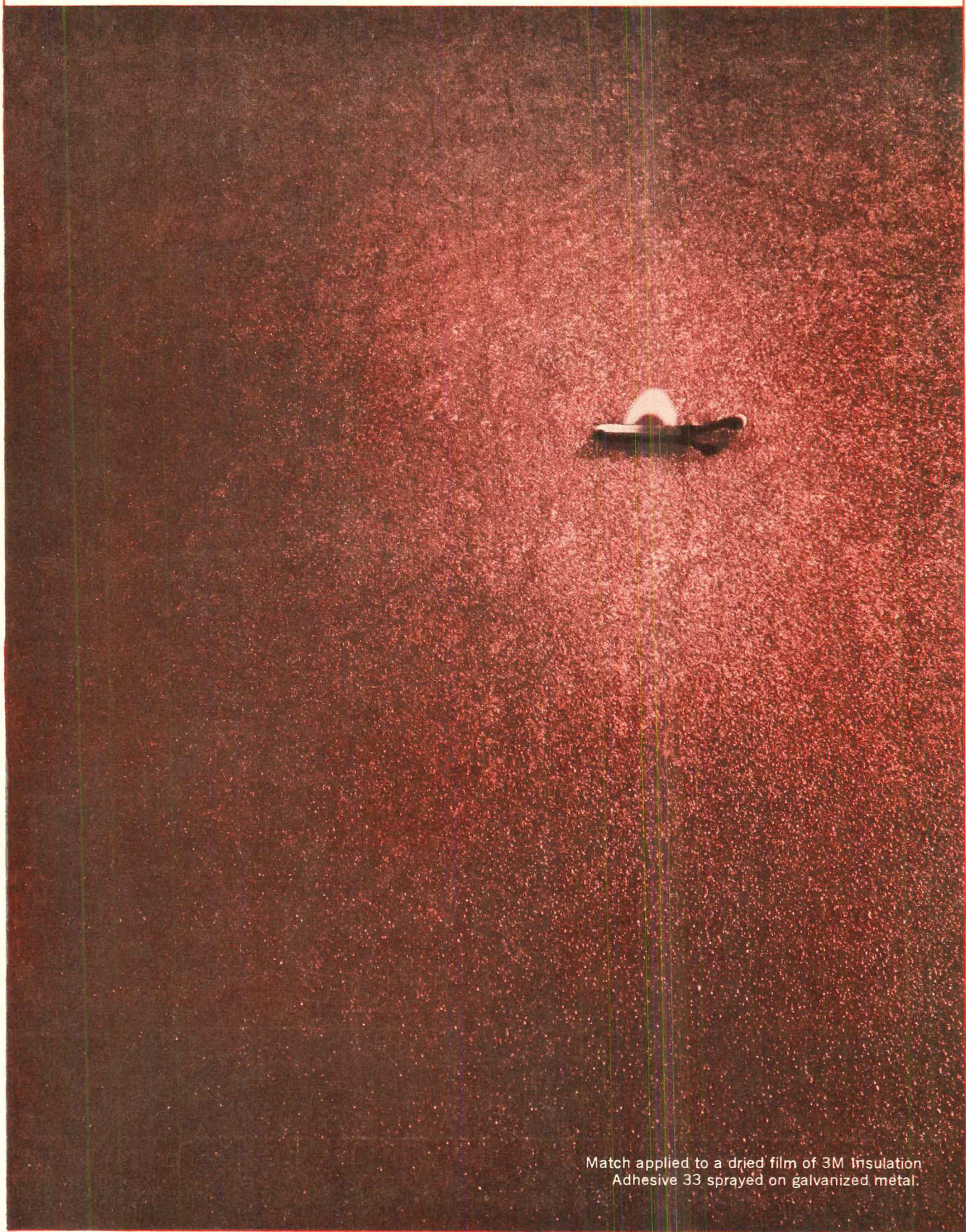
The first panel met to discuss "Better Cities for Whom?" The main speaker was Daniel Patrick Moynihan, Assistant Secretary of Labor and co-author of *Beyond the Melting Pot*. Douglas Haskell was one of the discussants along with Theodore R. Sizer, Dean, Graduate School of Education, Harvard University and a young architect and planner, Richard Hatch, director, Architects' Renewal Committee for Harlem. Moynihan began to define the ideological origins of the prevailing attitudes toward poverty in the U.S. He said: "Poverty became a serious problem when it began to inconvenience the middle class. Scandinavia has gotten rid of its slums, and so for the most part has France, England and Belgium. But this has not happened in the U.S.A. We have no adequate social insurance, nor adequate aid to education on a national scale. . . . There is a dichotomy in the American conception of the good life. It is based upon liberty and equality, but liberty is not the same thing as equality. . . . Many a man would give his life for liberty, but not for

equality. . . . Liberty is the middle class value par excellence . . . but those without their place in the sun favor equality, not liberty. For them liberty means that some get plenty and some get nothing. . . . We ignore this at the peril of our cities and our lives . . . for the poor, if they can't outsmart us can outbreed us. Equality must become an operating principle in our society and we can afford to make it so . . . we are rolling in money. Automation is an in-

continued on page 338

Charles W. Moore will become professor and chairman of the Department of Architecture at Yale University on July 1, succeeding Paul Rudolph, who has resigned. Mr. Moore, who has been chairman of the Department of Architecture at the University of California at Berkeley since 1961, is also senior partner in the San Francisco firm of Moore, Lyndon, Turnball, and Whitaker. **Mr. Rudolph** will open an office at 26 West 58th Street in New York City while continuing his small office at 6 Beacon Street in Boston.

ALL LIT UP AND NO PLACE TO GO!



Match applied to a dried film of 3M Insulation
Adhesive 33 sprayed on galvanized metal.

3M Brand Insulation Adhesive 33 rates zero on flame spread factor when tested against NBFU Standard 90-A ...the first of many reasons for specifying it!

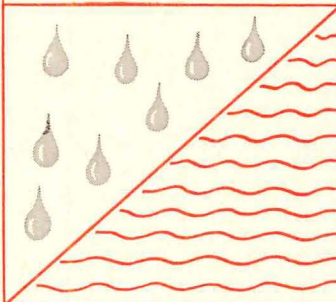
This zero we're proud to brag about. The flame spread rating of 3M Brand Insulation Adhesive 33 (Red) when applied to galvanized sheet metal and tunnel-tested against the National Board of Fire Underwriters Standard 90-A. Zero! The same score as for asbestos cement board! In this same test, Insulation Adhesive 33 rated a modest 3 both for smoke density and as a fuel contributing factor. Fact is . . . you won't find any rival insulation adhesive that equals these low scores.

Results of test conducted in accordance with ASTM E 84-61

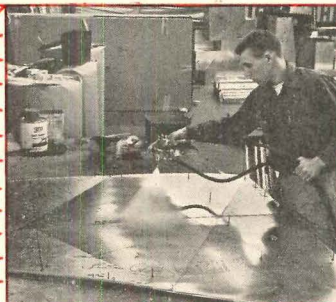
	Insulation Adhesive 33	Maximum accepted limits
Flame spread factor	0	25
Fuel contributed factor	3	non-propagating
Smoke density factor	3	50

And you won't find any rivals that compare in performance, ease and economy of application. Nubby spray texture, as shown in photograph, provides thousands of tiny dots of adhesive that penetrate into the insulation, grab hold for keeps. This spray pattern, plus high solids content, assures uniform high strength throughout bonded surfaces. Low-pressure spraying with Insulation Adhesive 33 cuts application time 10 to 1 over brushing, 5 to 1 over roll-coating.

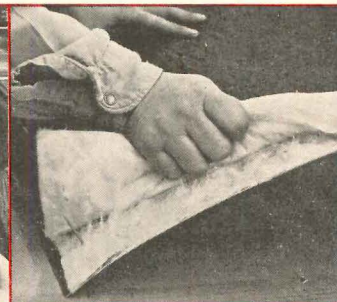
Check the additional advantages below, then send for complete data on new, improved Insulation Adhesive 33 and the full line of insulation adhesives and duct sealers from 3M—originators of low-pressure sprayable insulation adhesives. Write 3M AC&S Division, Dept. SBD-65, St. Paul, Minnesota 55119.



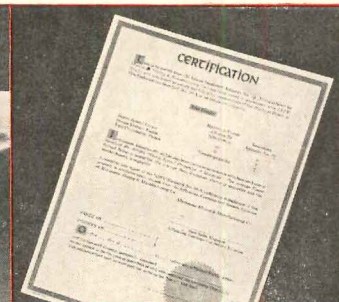
FULL-RANGE HUMIDITY, TEMPERATURE RESISTANCE. Insulation Adhesive 33 withstands high pressures, high velocities in ducts carrying both air conditioned and heated air. Long-term resistance to high humidity in temps from -20 to +250° F.



HIGH COVERAGE, MINIMUM LABOR! Using 3M-recommended spray system, a gallon of Insulation Adhesive 33 effectively bonds about 600 square feet of duct liner. Open time of 5 to 7 minutes permits spraying large areas quickly, conveniently.



IMMEDIATE TACK. Right-now strength. Here, just seconds after the bond was completed, the insulation delaminates, but the adhesive holds tight. It continues to hold tight even after extensive aging at high temps, does not become brittle.

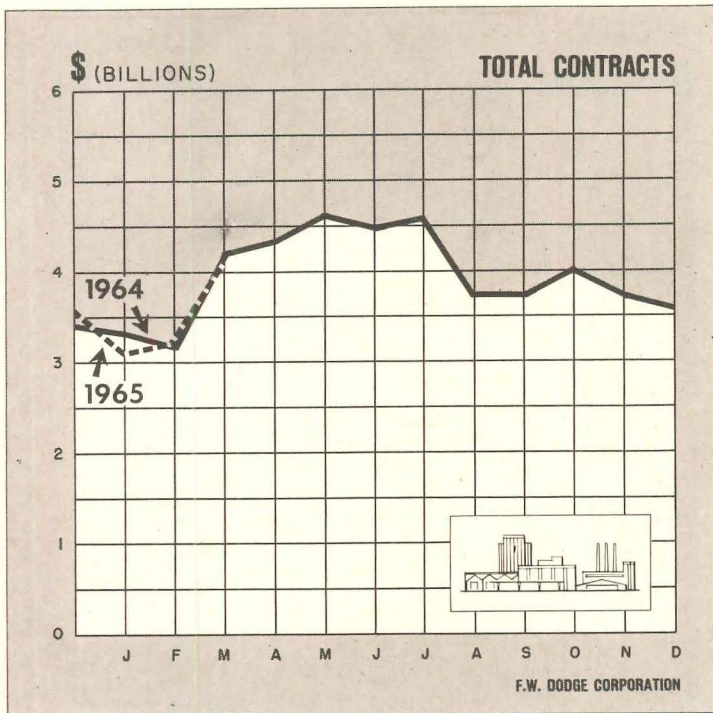


CERTIFICATION ON REQUEST! 3M will be glad to provide signed certifications that Insulation Adhesive 33 satisfies the requirements of NBFU Standard 90-A wherever desired to fulfill job, architect or code requirements.

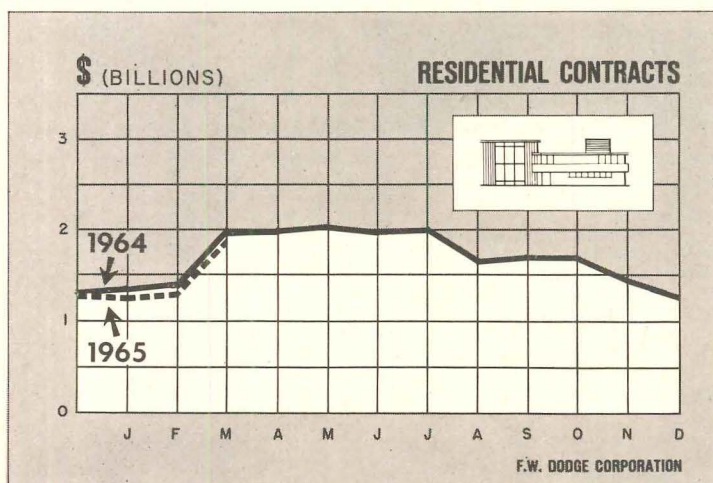
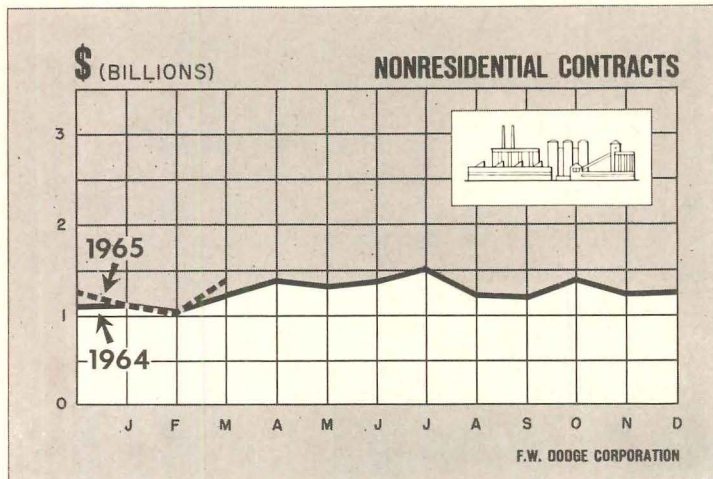
Adhesives, Coatings and Sealers Division **3M** COMPANY

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BUSINESS AND BUILDINGS IN 1965



Total contracts include residential, nonresidential and non-building contracts



For business in general, the opening quarter of 1965 was a humdinger. Total output (Gross National Product) forged ahead by an annual rate of more than \$14 billion—almost half again as much as the average quarterly increase during the entire four-year-long period of expansion. As for other broad measures of economic ebullience, Industrial Production (durable goods manufacturing, especially) moved up sharply, and for the first time since way back in 1957, we had a three month period in which unemployment averaged less than five per cent of the labor force. Consumers had record incomes to spend, and they were spending a bigger percentage of them.

In all, the first quarter of 1965 set a tough standard for future comparisons. It's all the more true because some features of the booming industrial activity that gave 1965 its flying start were rather unusual and short-lived. The automobile industry gave the economy a big lift by assembling cars at a rate which, if kept up all year, would total close to 10 million. But the auto makers were catching up on last fall's strike losses in the early months of this year, and have since cut output back to a more sustainable flow. And while the auto industry was making up for lost time, the nation's steel industry was trying to get ahead by pouring well-above-normal tonnage, while steel users were stockpiling it as a hedge against a May 1 strike.

These unusual and temporary sources of demand during the early months made most of the difference between mere continued growth and an exceptional advance. But their very self-limiting nature (autos are now pretty well caught up, and the threat of a steel strike has been postponed until September) means that the rate of business expansion is apt to slow down noticeably in the months ahead. It also means that with durable goods manufacturing out of the limelight for a while, other areas of economic activity—construction, in particular, will be looked upon to plug the gap.

A good indication of what the construction sector of the economy is currently contributing to total business expansion, and what it will be offering in the very near future, is given by the volume of new construction contracts tabulated so far this year. Depending on the type of construction work involved, contract activity usually leads spending for work being done by three to six months (although in some special cases, average lead-time can run considerably longer).

The Dodge Index of construction contract value (seasonally adjusted, 1957-59 = 100) averaged 139 during the early months of 1965. That put it slightly (two points) ahead of the average for all of 1964, but slightly behind the strong (144 average) closing quarter of last year. This means that through mid-1965, construction expenditures, though rising, hadn't yet generated enough momentum to fill the void.

Next month: the Dodge construction outlook for the second half of 1965.

George A. Christie, Chief Economist
F. W. Dodge Company
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Beauty and Permanence for a House of Worship



ST. ANDREWS PRESBYTERIAN CHURCH

Tucson, Arizona

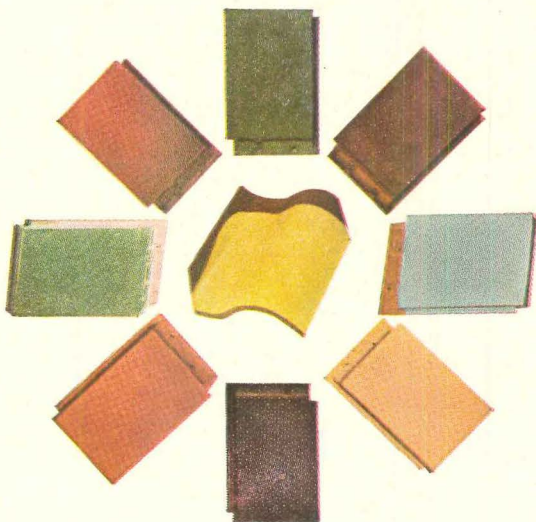
ARCHITECTS:

Cain, Nelson and Wares, P.C., Architects

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Building Construction Costs

By William H. Edgerton

Manager-Editor, Dow Building Cost Calculator,
an F. W. Dodge service

The information presented here permits quick approximations of building construction costs in 21 leading cities and their suburban areas (within a 25-mile radius). The tables and charts can be used independently, or in combination as a system of complementary cost indicators. Information is included on past and present costs, and future cost can be projected by analysis of cost trends.

A. CURRENT BUILDING COST INDEXES—APRIL 1965
1941 Averages for each city = 100.0

Metropolitan Area	Cost Differential	Current Dow Index		Per Cent Change Year Ago
		Residential	Nonresidential	
U.S. AVERAGE—21 Cities	8.5	267.6	285.1	+1.46
Atlanta	7.2	303.3	321.7	+2.12
Baltimore	7.9	268.7	285.9	+0.97
Birmingham	7.5	248.7	267.5	+1.89
Boston	8.5	241.6	255.7	+2.15
Chicago	8.9	269.3	311.6	+0.88
Cincinnati	8.8	257.5	273.7	+1.16
Cleveland	9.2	270.4	287.3	+1.54
Dallas	7.7	251.9	260.2	+0.70
Denver	8.3	274.2	291.5	+0.84
Detroit	8.9	268.8	282.2	+1.34
Kansas City	8.3	241.1	255.2	+1.28
Los Angeles	8.3	270.6	296.1	+1.57
Miami	8.4	265.5	278.7	+1.06
Minneapolis	8.8	269.9	286.9	+1.86
New Orleans	7.8	242.0	256.4	+0.76
New York	10.0	279.6	300.7	+2.76
Philadelphia	8.7	266.2	279.4	+0.69
Pittsburgh	9.1	251.9	267.8	+1.14
St. Louis	9.1	263.8	279.6	+2.99
San Francisco	8.5	343.0	375.2	+2.06
Seattle	8.4	244.2	272.9	+0.83

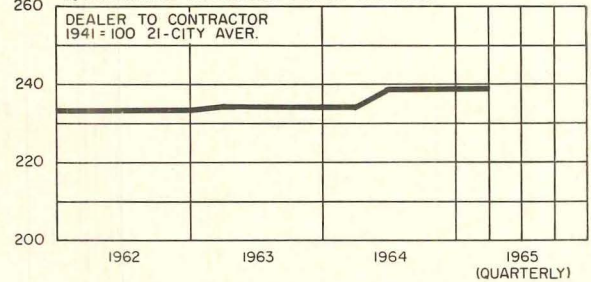
B. HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL BUILDING TYPES, 21 CITIES

1941 average for each city = 100

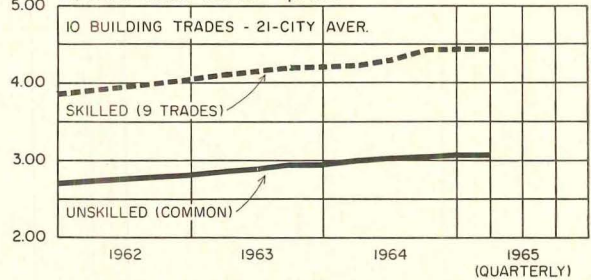
Metropolitan Area	1952	1958	1959	1960	1961	1962	1963	1964 (Quarterly)				1965 (Quarterly)				
								1st	2nd	3rd	4th	1st	2nd	3rd	4th	
U.S. AVERAGE 21 Cities	213.5	248.9	255.0	259.2	264.6	266.8	273.4	274.7	276.8	278.6	279.3	279.5				
Atlanta	223.5	277.7	283.3	289.0	294.7	298.2	305.7	310.0	312.3	313.4	313.7	313.9				
Baltimore	213.3	251.9	264.5	272.6	269.9	271.8	275.5	277.2	279.3	280.5	280.6	280.5				
Birmingham	208.1	233.2	233.2	240.2	249.9	250.0	256.3	258.0	259.9	260.1	260.9	261.2				
Boston	199.0	230.5	230.5	232.8	237.5	239.8	244.1	246.1	247.9	251.3	252.1	251.7				
Chicago	231.2	273.2	278.6	284.2	289.9	292.0	301.0	302.2	304.5	305.1	306.6	306.5				
Cincinnati	207.7	250.0	250.0	255.0	257.6	258.8	263.9	265.1	267.1	268.9	269.5	269.4				
Cleveland	220.7	257.9	260.5	263.1	265.7	268.5	275.8	276.3	278.4	282.0	283.0	282.3				
Dallas	221.9	230.5	237.5	239.9	244.7	246.9	253.0	253.7	255.6	255.6	256.4	256.9				
Denver	211.8	252.8	257.9	257.9	270.9	274.9	282.5	282.6	284.7	287.3	287.3	287.3				
Detroit	197.8	239.8	249.4	259.5	264.7	265.9	272.2	272.7	274.7	277.7	277.7	277.7				
Kansas City	213.3	235.0	239.6	237.1	237.1	240.1	247.8	246.2	248.0	249.6	250.5	251.2				
Los Angeles	210.3	253.4	263.5	263.6	274.3	276.3	282.5	284.0	286.1	286.1	288.2	288.9				
Miami	199.4	239.3	249.0	256.5	259.1	260.3	269.3	270.1	272.1	273.1	274.4	274.4				
Minneapolis	213.5	249.9	254.9	260.0	267.9	269.0	275.3	275.0	277.1	281.6	282.4	283.4				
New Orleans	207.1	235.1	237.5	242.3	244.7	245.1	248.3	247.1	248.9	249.3	249.9	250.5				
New York	207.4	247.6	260.2	265.4	270.8	276.0	282.3	284.8	286.9	289.7	289.4	290.2				
Philadelphia	228.3	257.6	262.8	262.8	265.4	265.2	271.2	271.1	273.1	274.5	275.2	275.5				
Pittsburgh	204.0	236.4	241.1	243.5	250.9	251.8	258.2	260.8	262.7	262.9	263.8	264.0				
St. Louis	213.1	239.7	246.9	251.9	256.9	255.4	263.4	266.8	268.8	271.4	272.1	272.9				
San Francisco	266.4	308.6	321.1	327.5	337.4	343.3	352.4	353.2	360.9	364.1	365.4	366.6				
Seattle	191.8	225.8	232.7	237.4	247.0	252.5	260.6	260.1	262.0	265.7	266.6	265.1				

HOW TO USE TABLES AND CHARTS: Building costs may be directly compared to costs in the 1941 base year in tables A and B; an index of 256.3 for a given city for a certain period means that costs in that city for that period are 2.563 times 1941 costs, an increase of 156.3% over 1941 costs. TABLE A. 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 first city are 25% higher than costs in second. Also, costs in second city are 80% of those in first (8.0 ÷ 10.0 = 80%) or 20% lower in the second city.

1. BUILDING MATERIAL PRICE INDEXES



2. BASE WAGE RATES \$/HR.



3. MONEY RATE & BOND YIELDS %

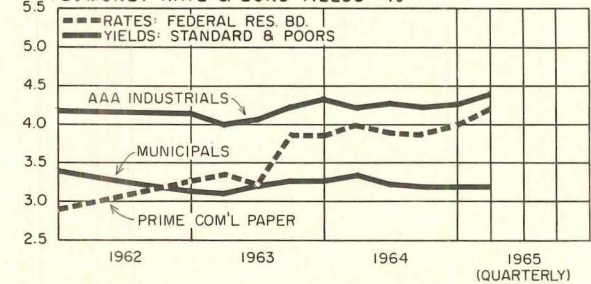
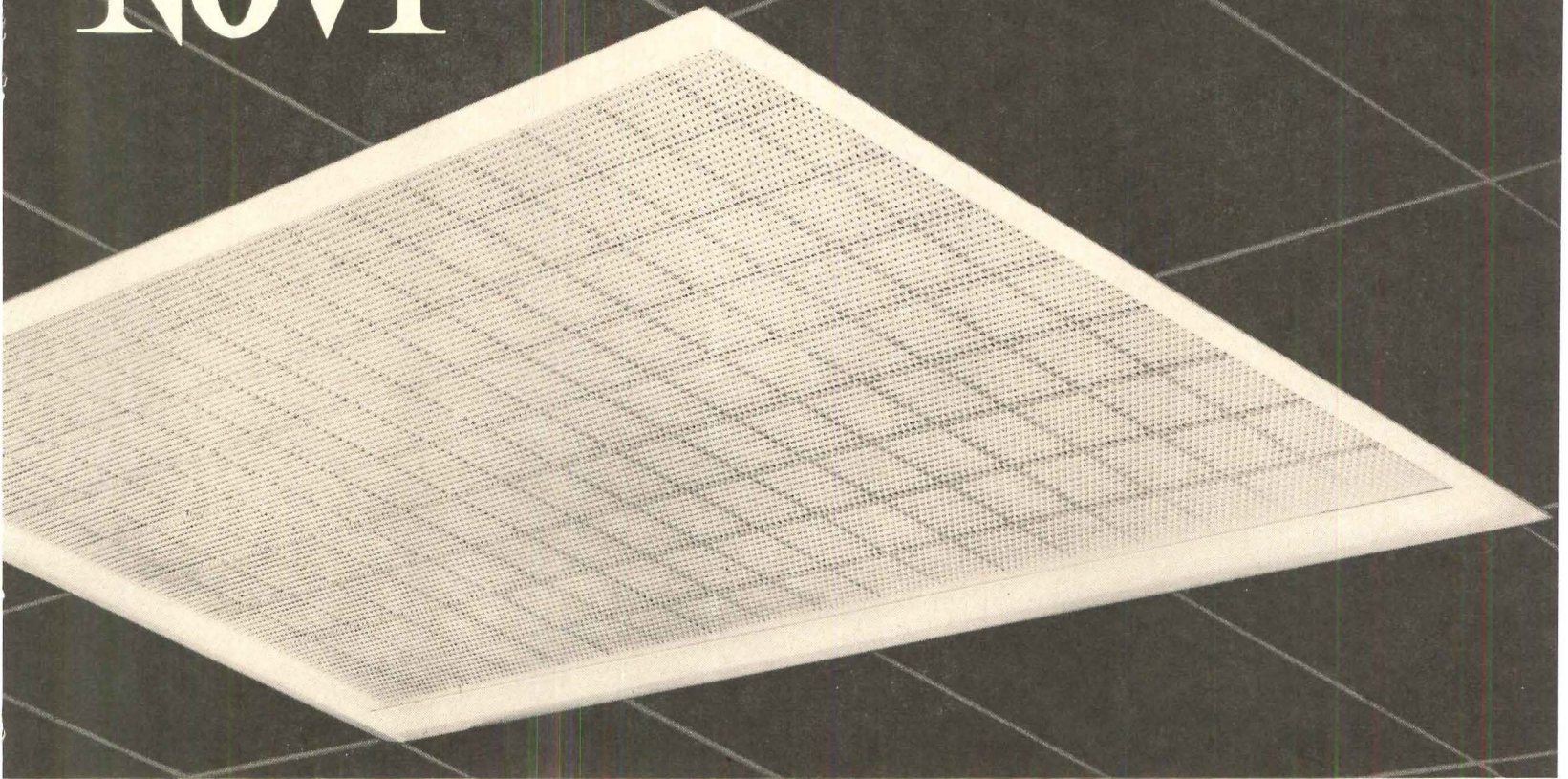


TABLE B. Costs in a given city for a certain period may be compared with costs in another period by dividing one index into the other: if index for a city for one period (200.0) divided by index for a second period (150.0) equals 133%, the costs in the one period are 33% higher than those of the other. Also, second period costs are 75% of those of the other date (150.0 ÷ 200.0 = 75%) or 25% lower in the second period. CHART 1. Building materials indexes reflect prices paid by builders for quantity purchases delivered at construction sites. CHART 2. The \$1.20 per hour gap between skilled and unskilled labor has remained fairly constant. CHART 3. Barometric business indicators that reflect variations in the state of the money market.



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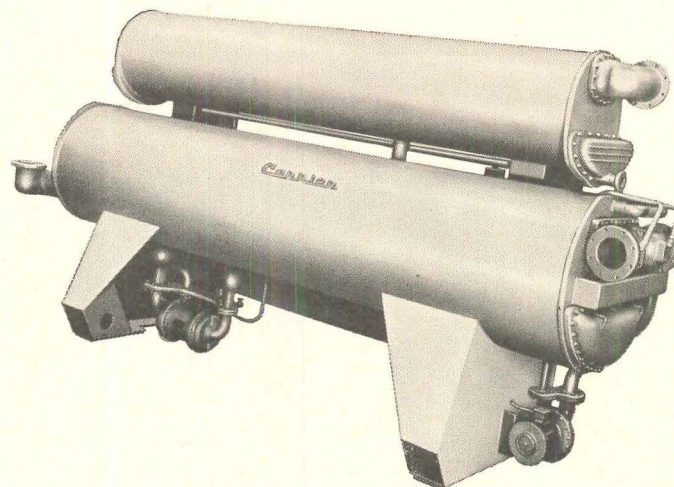


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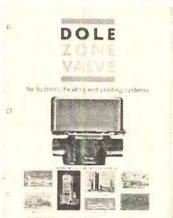
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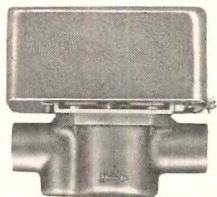
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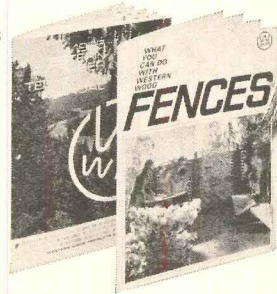
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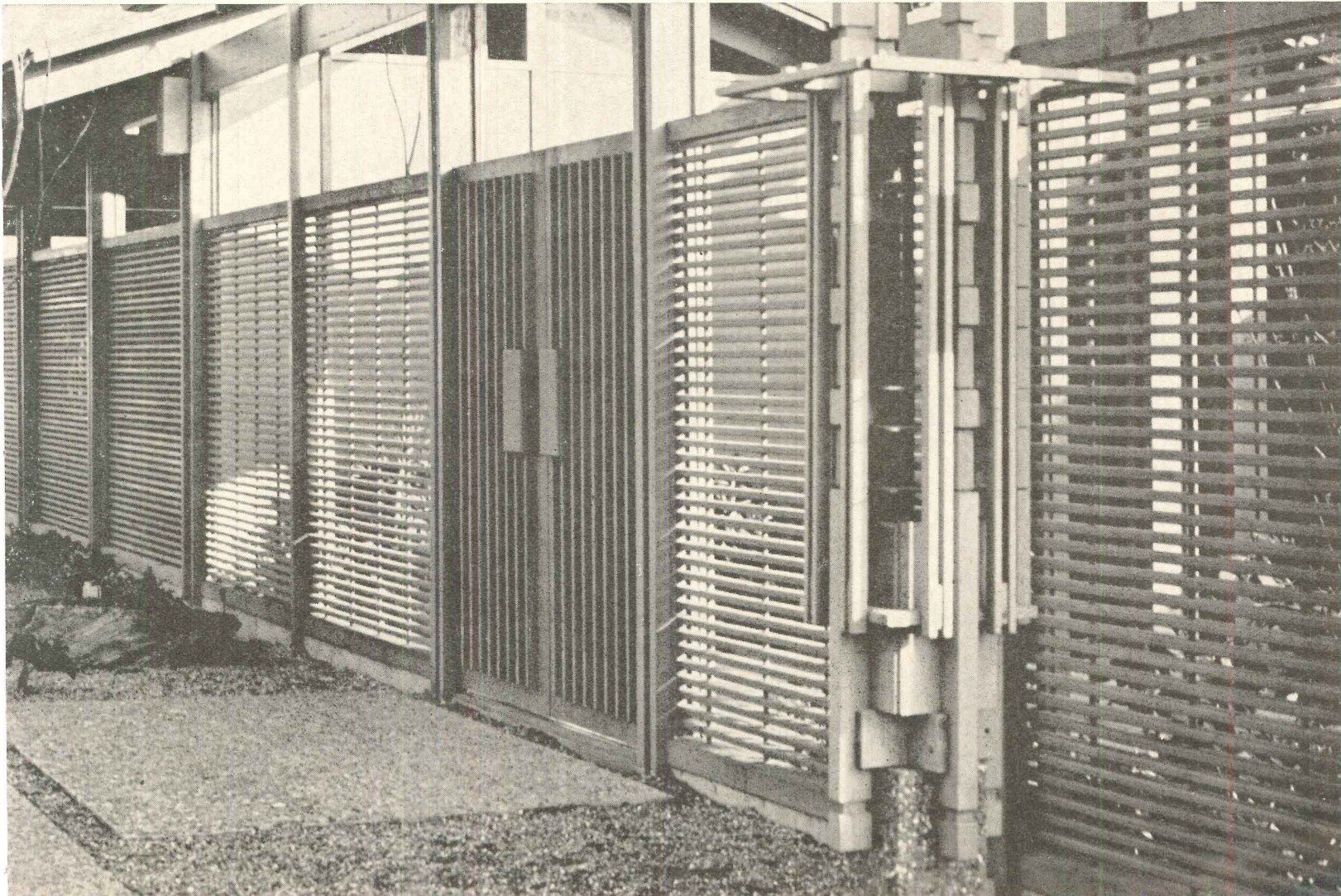
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Required Reading

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of special interest to architects and engineers

The Landscape

LANDSCAPE ARCHITECTURE: AS APPLIED TO THE WANTS OF THE WEST. *By H.W.S. Cleveland. Edited by Roy Lubove. University of Pittsburgh Press, Pittsburgh, Pa. 15213. 59 pp. \$2.95.*

LANDSCAPE ARTIST IN AMERICA: THE LIFE AND WORK OF JENS JENSEN. *By Leonard K. Eaton. The University of Chicago Press, 5750 Ellis Ave., Chicago 37, Ill. 240 pp., illus. \$10.00.*

MODERN GARDENS AND THE LANDSCAPE. *By Elizabeth B. Kassler. The Museum of Modern Art, New York, N.Y. Distributed by Doubleday and Co., Inc., Garden City, N.Y. 96 pp., illus. \$5.95.*

A Review

By Raymond Lifchez

In spite of every effort to erase the past, Modern Architecture still enjoys the positive influence of theorists of the denigrated nineteenth century. The reappearance of numerous writings on city planning theory testifies that we are still intrigued, that we are still somehow needful of their vision. How often one now refers to the genius of an Olmsted who gave to American cities an orientation to the land which before him had been reserved to the whimsey of the European aristocratic idler. Aside from

An architect now an assistant professor of architecture at the Columbia University School of Architecture.

PARK REPORTS, few worthy documents from this period on landscape architecture are now in print. Fortunately for us, writings by H.W.S. Cleveland, Olmsted's colleague, are now republished.

As a discussion of landscape architecture, Cleveland's book, written in 1873, poses some important questions. It is not a nineteenth century morality on the godliness of conservation or the inviolability of nature. Cleveland's determination to consider topography and the formal configurations of the city plan together, rather than as separate *esthetic* problems, his realization of the importance of the link between the humble establishment and the site—and most pertinent of all—his ideal of the city within a park rather than the park as *hortus conclusus* within the city, call to mind the pronouncements of Howard and Le Corbusier.

Jens Jensen, of the generation after Cleveland but continuing in the tradition of his American predecessors, is brought back to public recognition with Leonard K. Eaton's monograph. Danish born Jensen, arriving in Chicago at its moment of splendor (1886) when architecture was briefly wedded to the machine with happy expectancy, was an insistent advocate of "Nature unimproved." As a landscape architect of Chicago's West Side Park System, he gave to that city, as well as to numerous private estates, a magical environment now beautifully recaptured in the photographs of the book,

This Month's Books

REVIEWS

Alfred Bendiner, Bendiner's Philadelphia 54

H.W.S. Cleveland, Landscape Architecture: As Applied to the Wants of the West 46

Leonard K. Eaton, Landscape Artist in America: The Life and Work of Jens Jensen 46

Maxwell Fry and Jane Drew, Tropical Architecture 54

Elizabeth B. Kassler, Modern Gardens and the Landscape 46

BOOKS RECEIVED 59

which are *its* chief merit together with the accompanying captions mainly taken from Jensen's own writings. Although he was ostensibly not a city planner, Jensen saw the park as a reflection of the city, i.e., a setting for human activity; and his concern with both is reflected in his perturbed observations: "Most of our cities have grown under the supervision of the politician or the speculator, and neither has the ability to know what makes a livable city. To guide the city so that it will retain a livable atmosphere is the real purpose of town planning."

The third book, MODERN GARDENS AND THE LANDSCAPE, is a useful, handsome review of contemporary architectural landscape design throughout the world. A concise historical introduction serves as a background for the selected material; excellently illustrated and documented. The book presents various realizations of the harmony between architecture and nature, man and environment, which were also the concern of the previously discussed architects. Significantly, these three volumes reflecting current architectural interests have their philosophical origin in the eighteenth century English humanist attitude toward nature and individualism. It is gratifying to realize that within all the apparent architectural contradictions of the last 165 years, there are still identifiable constants in our vocabulary of concerns.

continued on page 54



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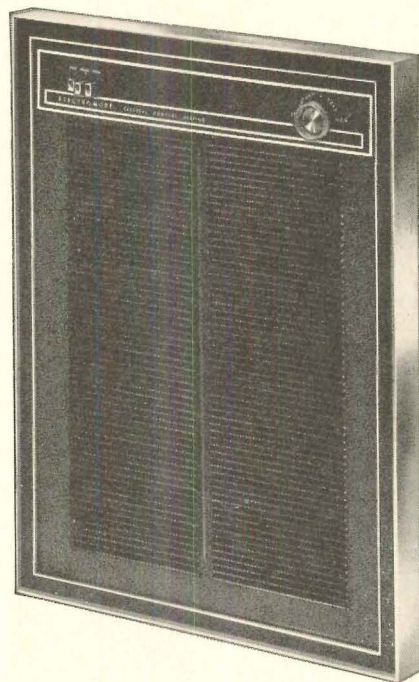
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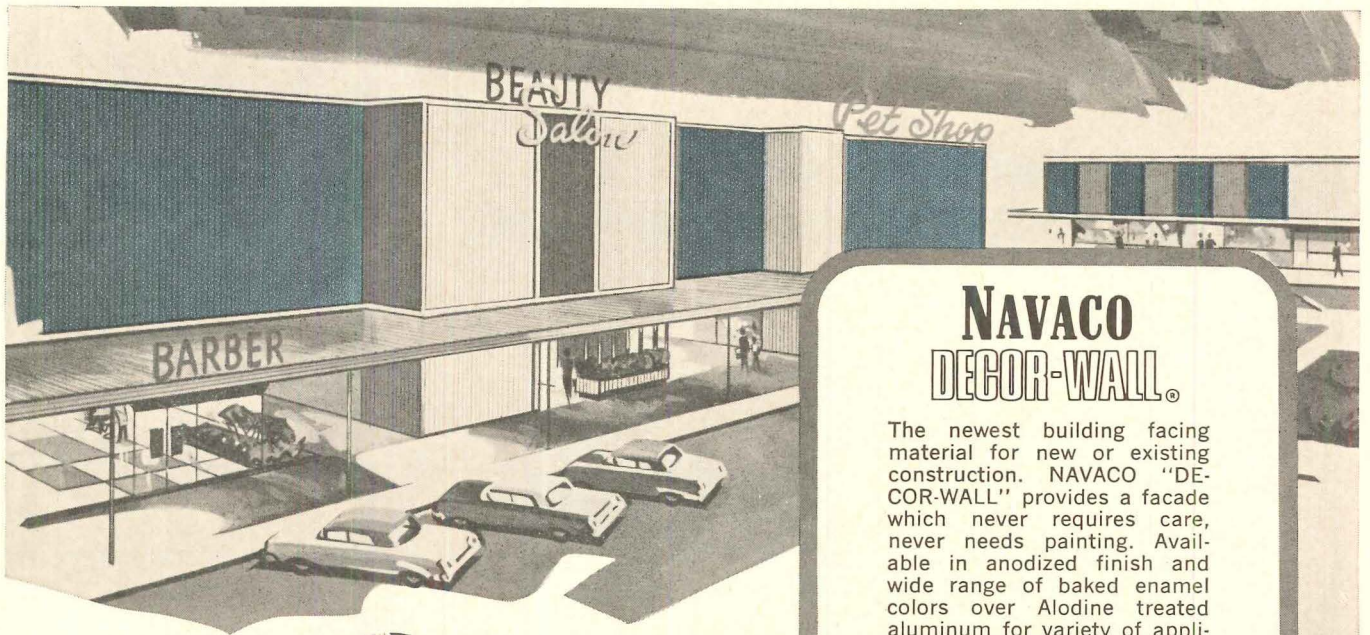
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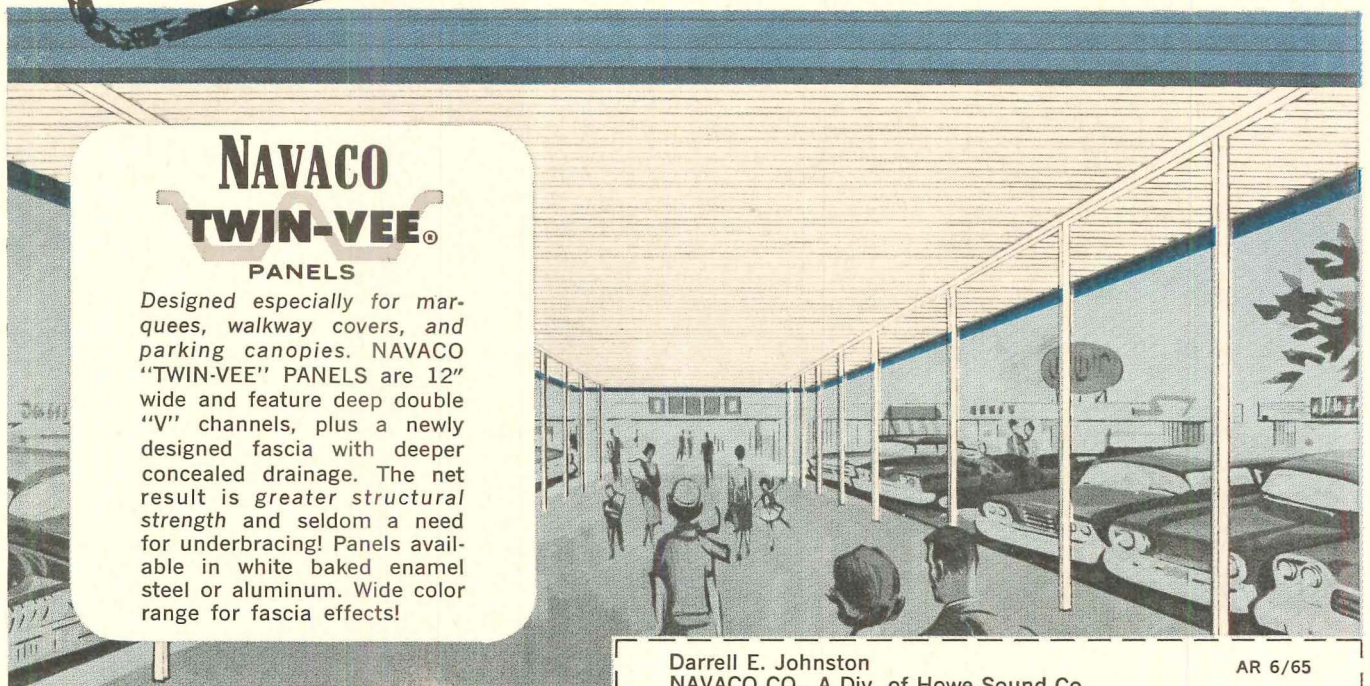


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Lightweight Apartment Structure Has New High-Strength Welded Steel Frame, New Hi-Stress Concrete Decks

New heat-treated alloy steels were used in the all-welded frame of the Dell House, Baltimore, and, along with lightweight Flexicore decks, cut weight and materials significantly.

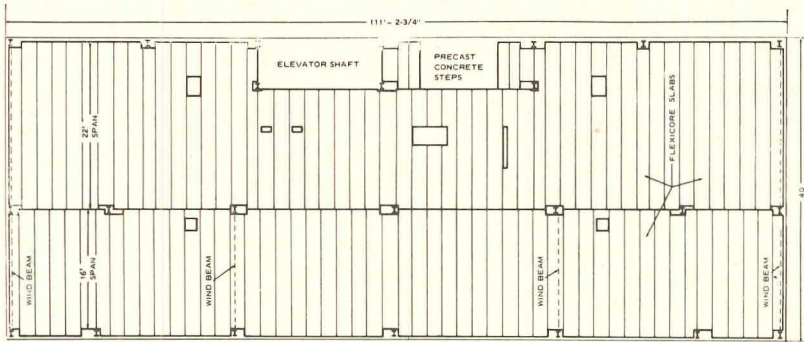
Lightweight steel V-60 was used for columns up to the third floor and V-50 from four to nine. A standard structural grade was used for columns from 9 to 16. Welding eliminated bolts and permitted narrower flanges on beams; 10-inch, for example, instead of 12. Also, flanges are thinner because of the high-strength steel.

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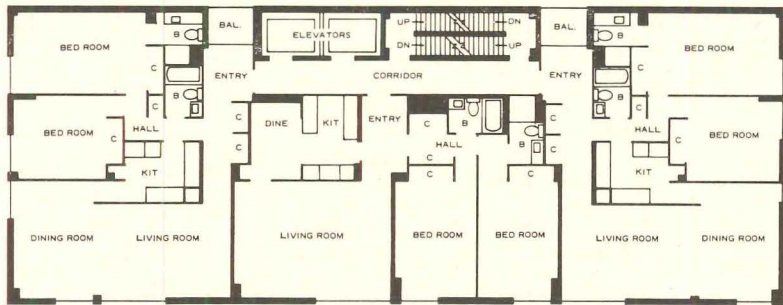
Architects are Jewell and Wolf; structural engineers are Perry and Lamprecht; both of Baltimore. For complete technical report on Dell House, FF 103, write The Flexicore Co., Inc., Dayton, Ohio 45401 or look under "Flexicore" in the white pages of your phone book.



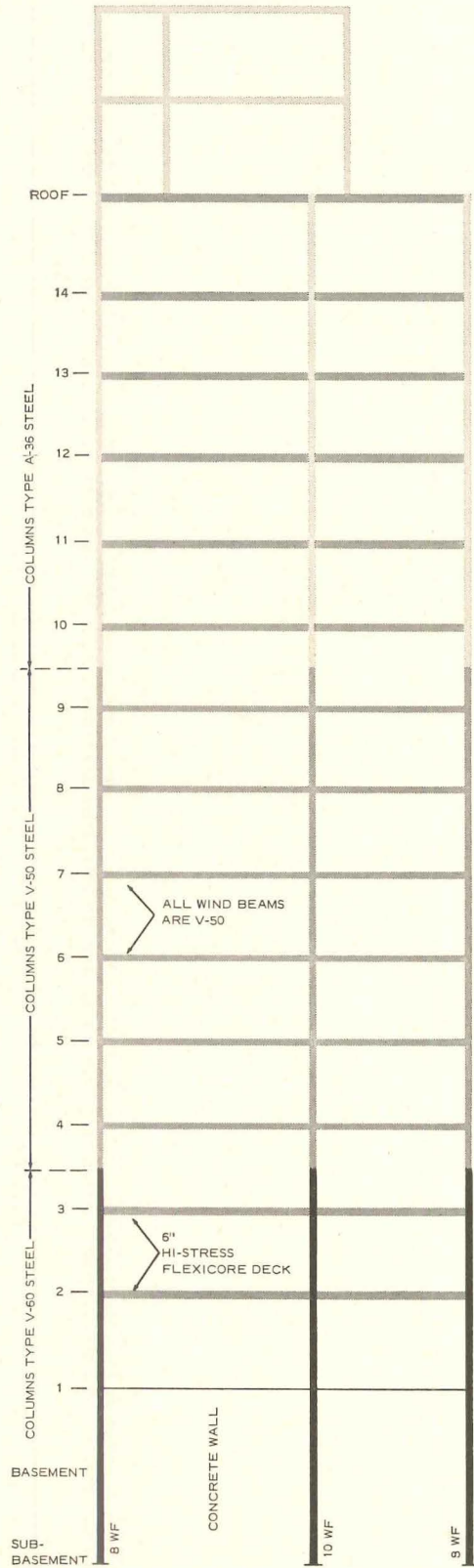
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FLOOR PLAN. All apartments have two bedrooms and two baths. Rent is about \$325 per month. Ceilings are painted Flexicore slabs.



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Three types of steel used on columns.



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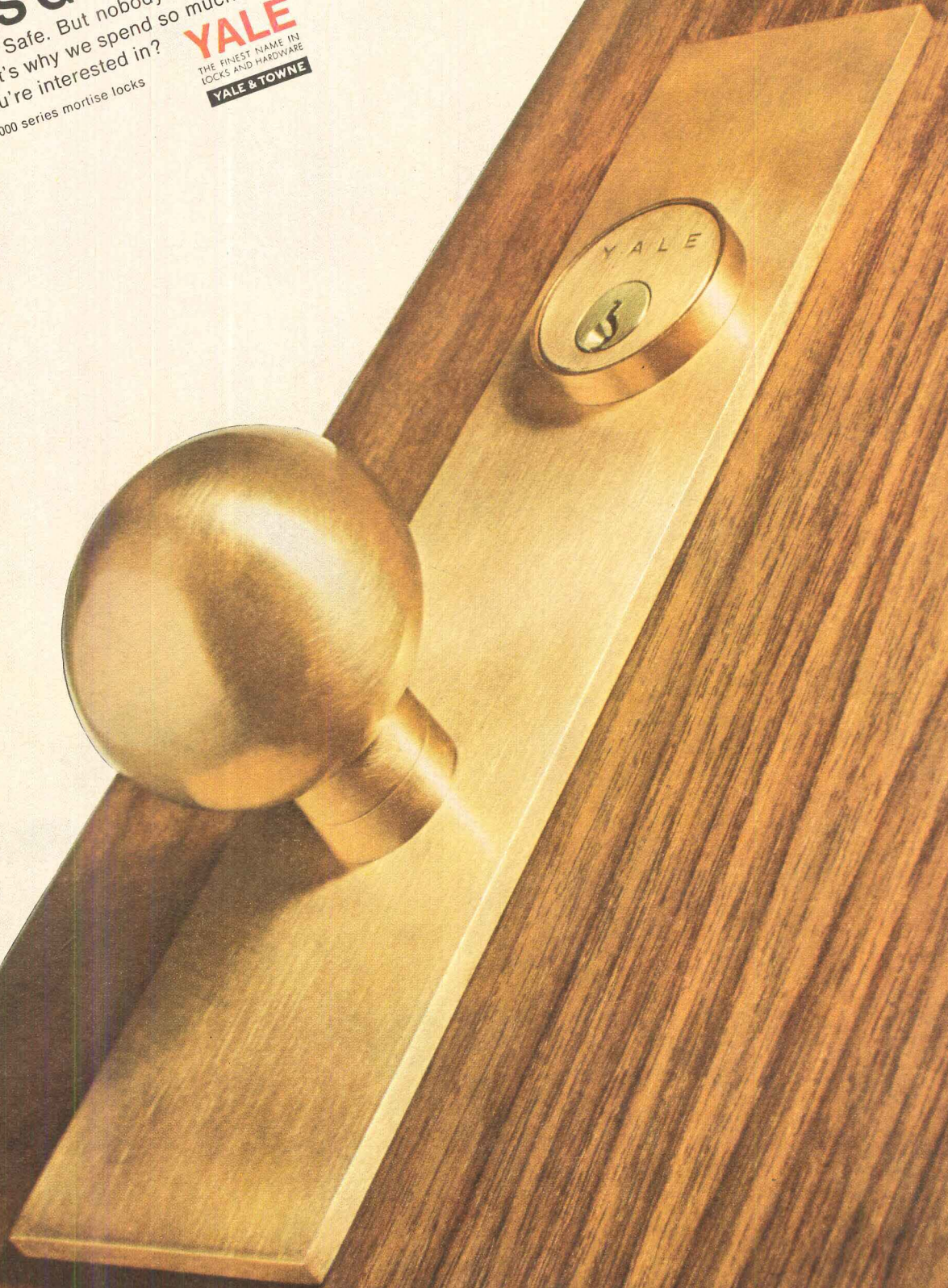
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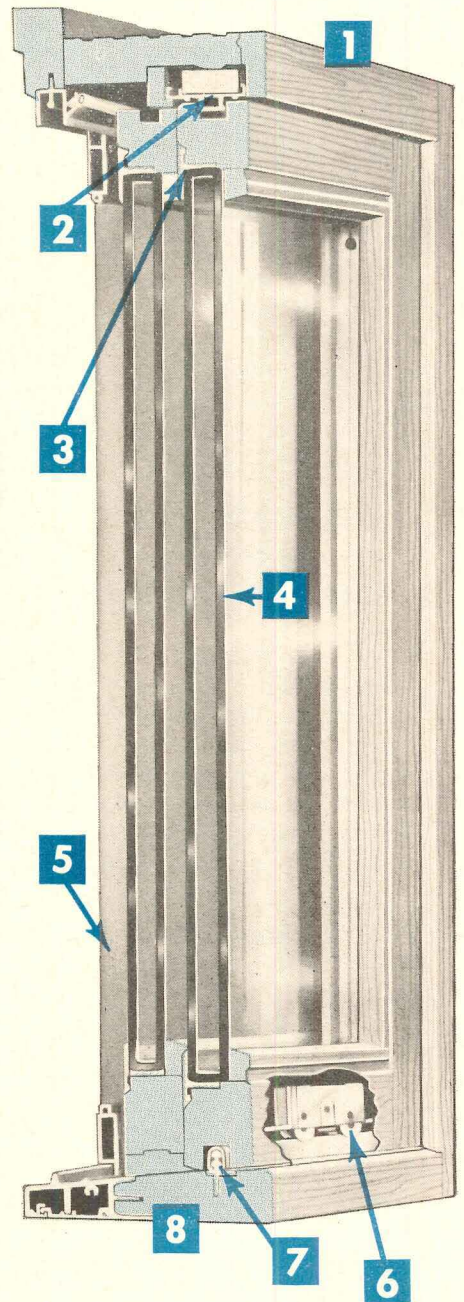
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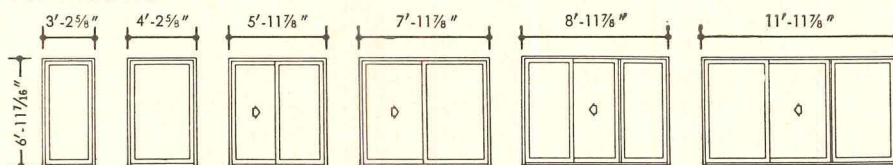
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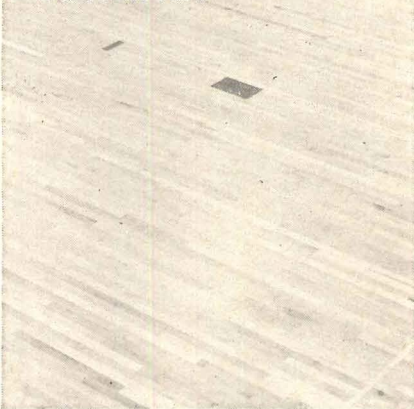
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Required Reading

continued from page 46

Architect's-Eye-View

BENDINER'S PHILADELPHIA. *By Alfred Bendiner. A. S. Barnes and Company, 11 East 36th St., New York, N.Y., 175 pp., illus., \$4.95.*

In this fine collection of illustrated pieces on Philadelphia, the late Alfred Bendiner captures—as perhaps only an architect could—the essence of many buildings and institutions that help to form the character of the city.

All of the pieces appeared first in the Sunday Magazine of the Philadelphia *Bulletin*, and they include such landmarks as City Hall and the Academy of Music as well as commentary on contemporary Philadelphia architecture. Sketches of other Philadelphia institutions such as Leary's Book Store and the Devon Horse Show are also included in this collection of 72 pieces. Bendiner's excellent drawings will be familiar—and beloved—to many, and his accompanying text is always clever.

Tropical Buildings

TROPICAL ARCHITECTURE. *By Maxwell Fry and Jane Drew. Reinhold Publishing Corporation, 430 Park Ave., New York, N.Y. 10022. 264 pp., illus. \$17.50.*

A compendium of information on design and technical problems in the dry and humid tropics. The authors are well-known English architects with wide experience in such areas. They worked with Le Corbusier on Chandigarh and presently maintain offices in Ghana and Nigeria. They explain the problems to be encountered in areas where there are 200 inches of rainfall a year, or where the temperature reaches 130° and dust storms blow through any crevice. The conditions that produce comfort in the humid tropics, i.e., wide roof overhangs to protect from the rain, and open walls to allow every breeze to penetrate, would bring misery in

continued on page 59

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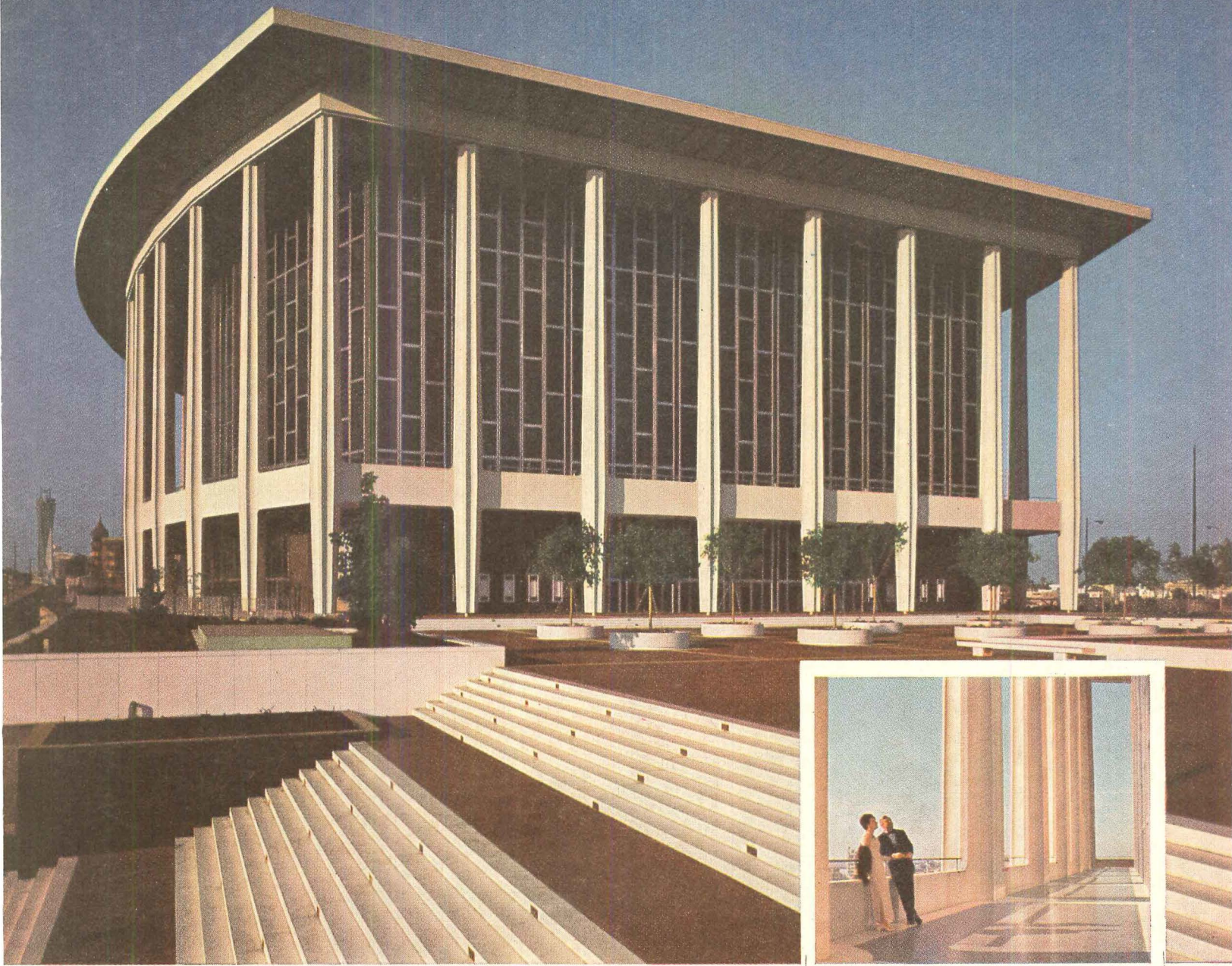
THE RACKLE COMPANY OF TEXAS
P. O. Box 15008, Houston 20, Texas

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11240 Peoria Street, Sun Valley,
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P. O. Box 208, South Omaha, Neb.



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Los Angeles Music Center's Memorial Pavilion / Los Angeles, California | Architects: Welton Becket and Associates / General Contractor: Peter Kiewit Sons' Company

Mo-Sai in a timeless performance of beauty and strength: Double tapered and fluted columns of glistening Mo-Sai precast concrete surround the Los Angeles Music Center's Memorial Pavilion. The Mo-Sai columns were precast under controlled factory conditions in nine sections of three pieces each. The sections were then held in place with steel bands around a steel pipe core and filled with concrete, binding the components into a solid structural unit. The 87-foot-high columns are a classic example of functional beauty. At second-floor level there is an intricately curved transition between tapered columns and Mo-Sai

spandrels . . . a real achievement in precasting because of the many varying dimensions.

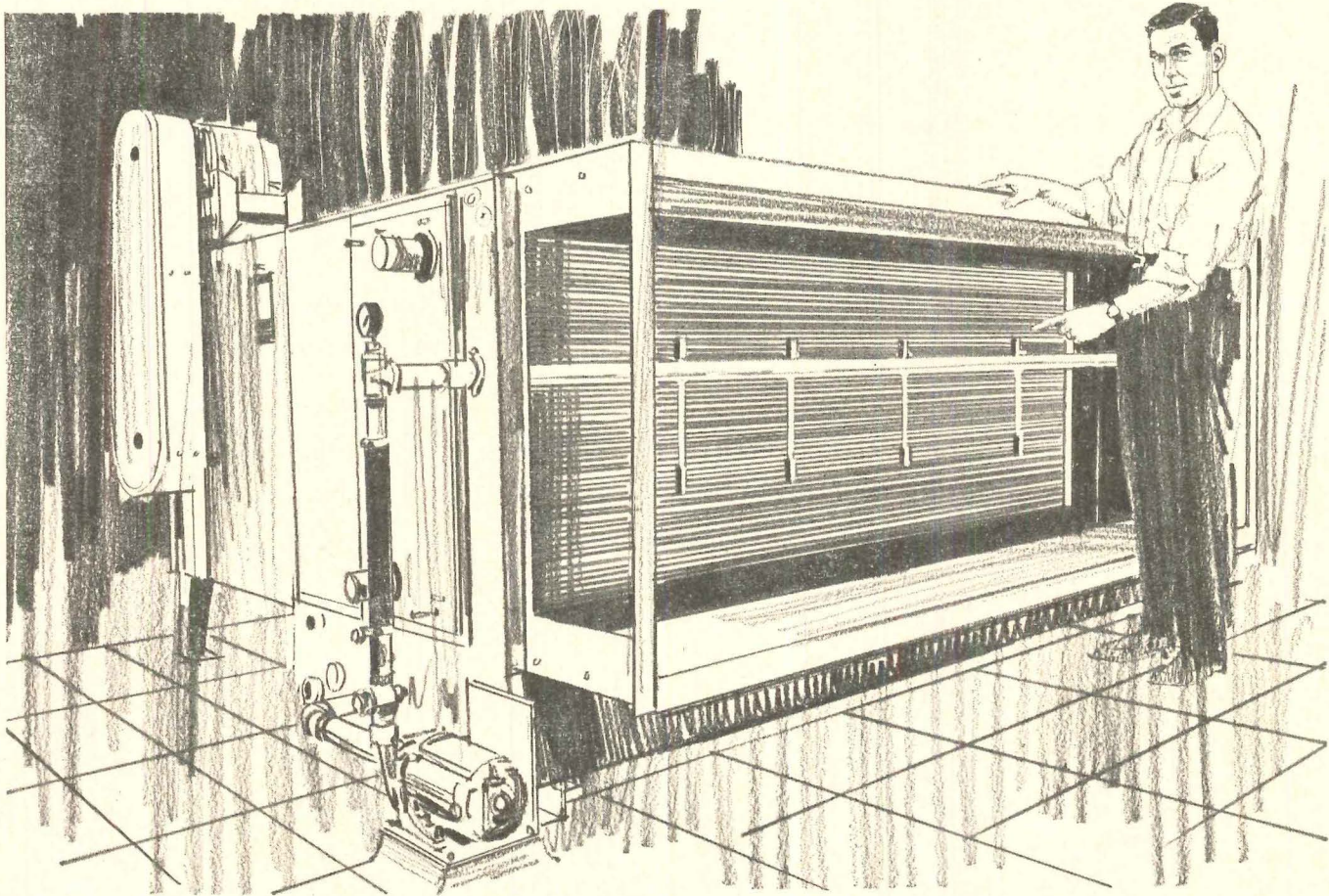
Architect Welton Becket expressed his intention of creating a building of timeless beauty that would have a fresh look 100 years from now . . . Mo-Sai is the timeless material.



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For complete engineering, application and installation data, see your local McQuay representative, or write for Sprayed Coil Seasonmaster Catalog #570.

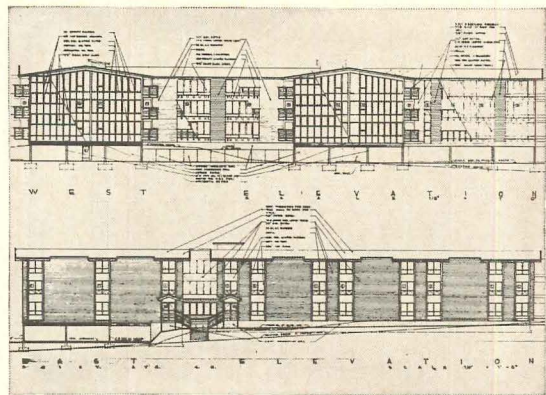
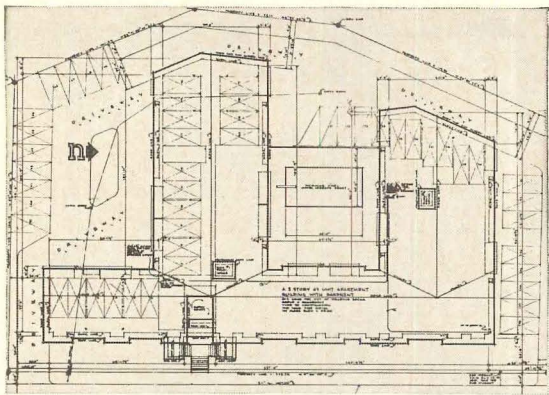
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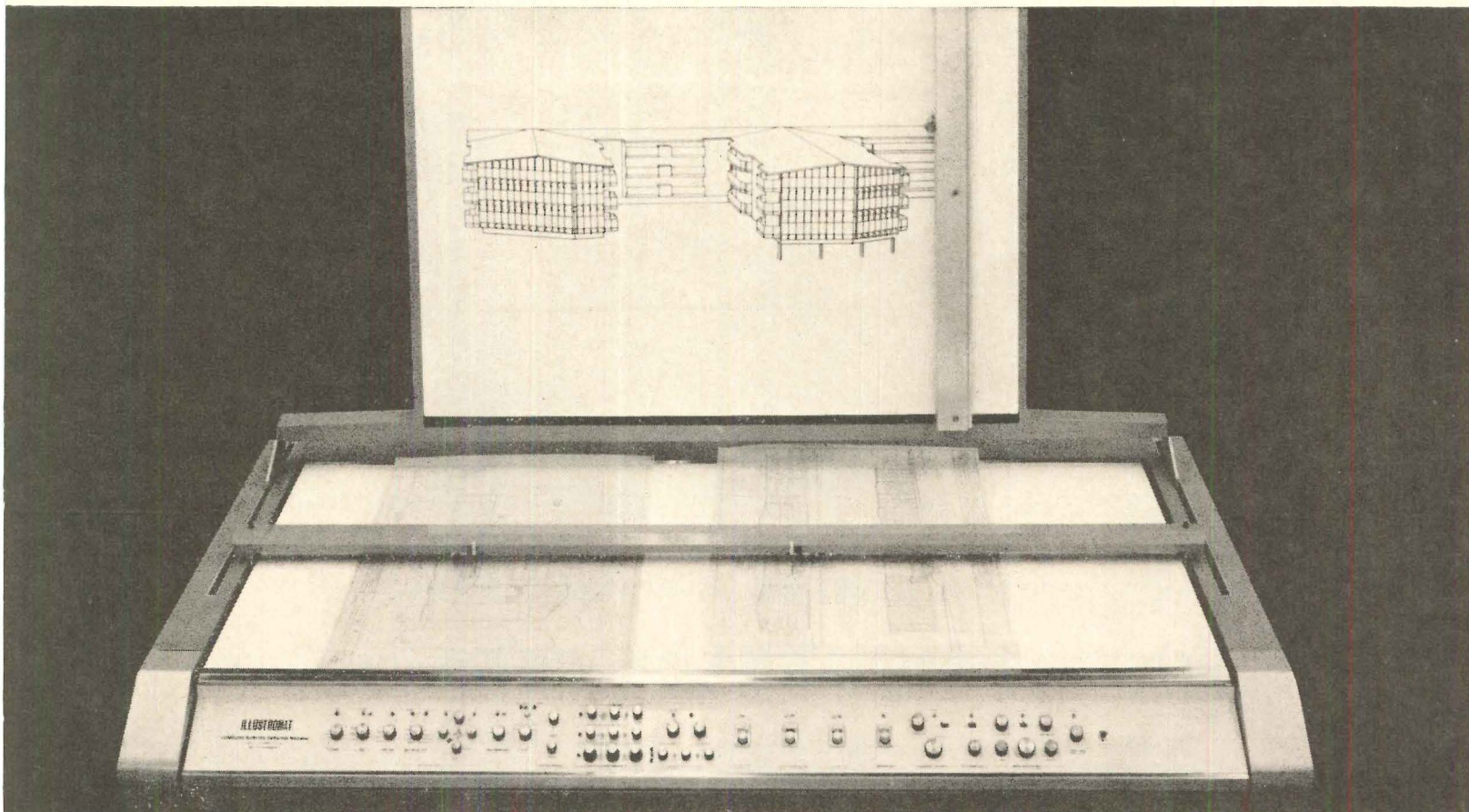
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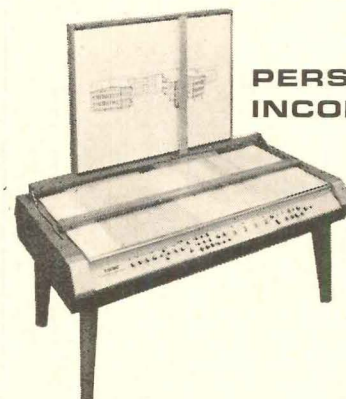
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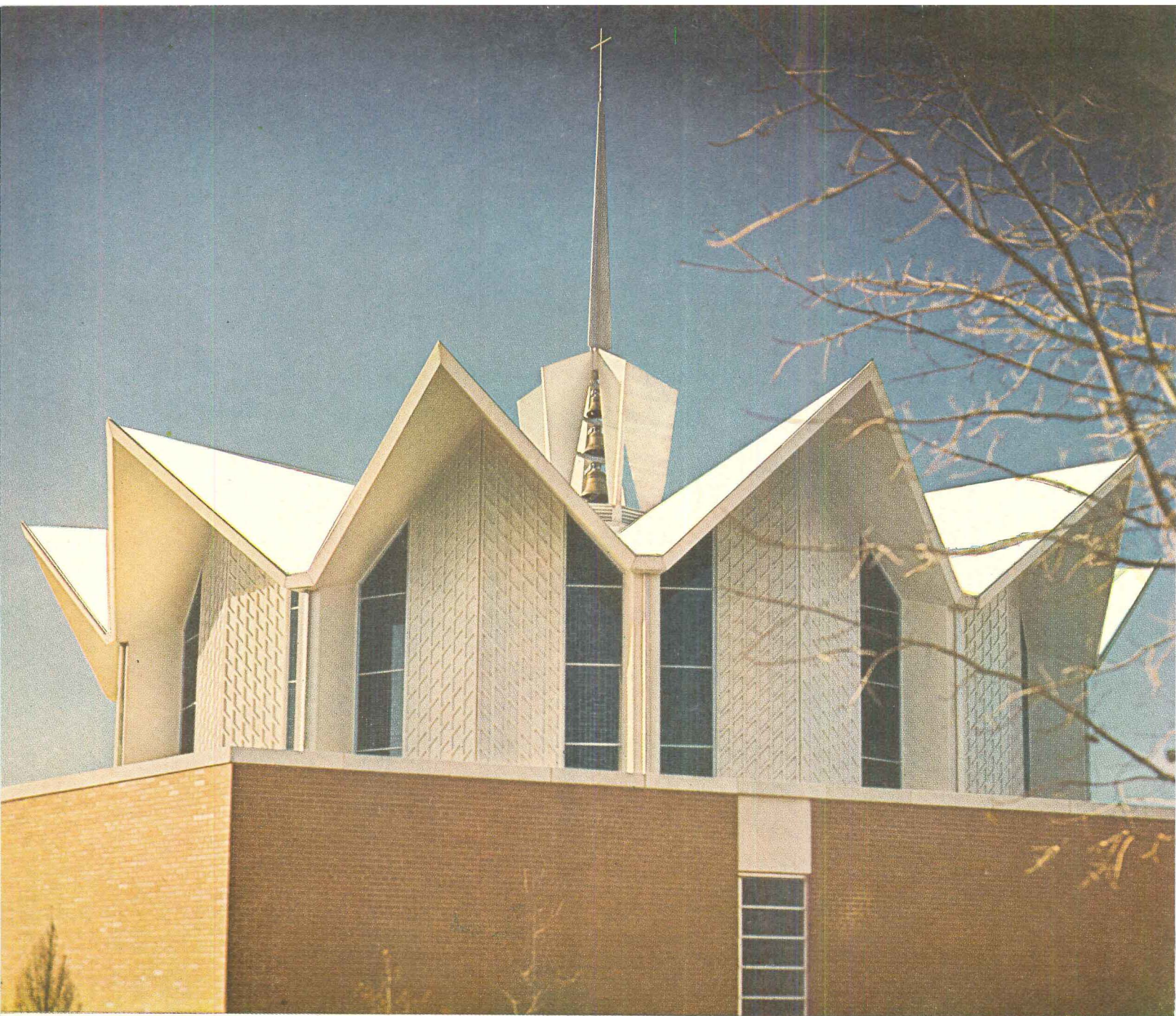
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Required Reading

continued from page 54

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Alan Raphael

Books Received

RESORT HOTELS: PLANNING AND MANAGEMENT. By E. Abraben. Reinhold Book Division, 430 Park Ave., New York, N.Y. 10022. 200 pp., illus. \$22.50.

LABORATORY SHEAR TESTING OF SOILS. American Society for Testing and Materials, 1916 Race St., Philadelphia 3, Pa. 505 pp., illus. \$24.50.

THE ARCHITECTURAL INDEX. Edited by Ervin J. Bell. The Architectural Index, P.O. Box 945, Sausalito, Calif. 60 pp. \$5.00.

I QUATTRO PRIMI LIBRI DI ARCHITETTURA. By Pietro Cataneo. Gregg Press, Inc., 171 East Ridgewood Ave., Ridgewood, N.J. 120 pp., illus. \$12.75.

NEW BUILDING WITH FALLOUT PROTECTION. By the Department of Defense, Office of Civil Defense, Department of the Army, Washington, D.C. 20310. 104 pp., illus. No charge.

THE HOUSE IN THE COUNTRY. By Nan Fairbrother. Alfred A. Knopf, Inc., 501 Madison Ave., New York, N.Y. 10022. 237 pp. \$5.95.

PRINCIPLES OF HOSPITAL DESIGN. By Hugh and John Gainsborough. The Architectural Press, 9-13 Queen Anne's Gate, London S.W.1. 279 pp., illus. 45s.

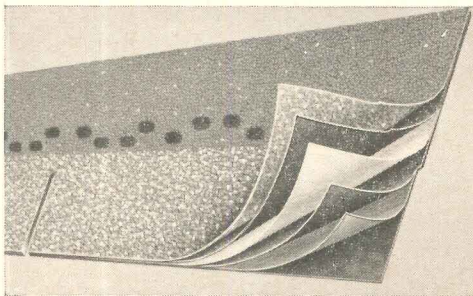
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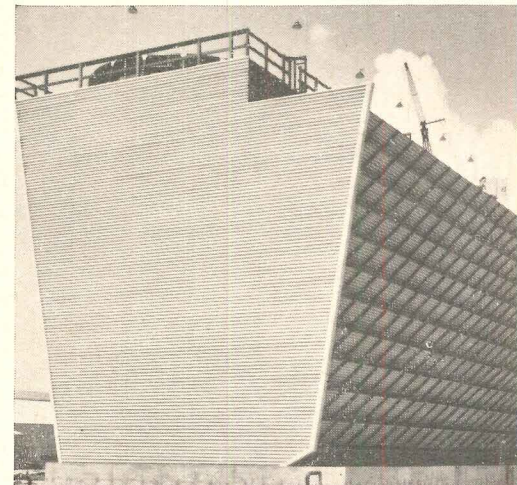
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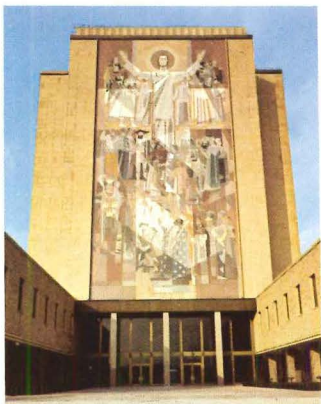
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University of Notre Dame Memorial Library; Architect: Ellerbe, St. Paul, Minn.; Aluminum fabricator: Adams & Westlake Company; KALCOLOR® licensee: The H. A. Leed Company

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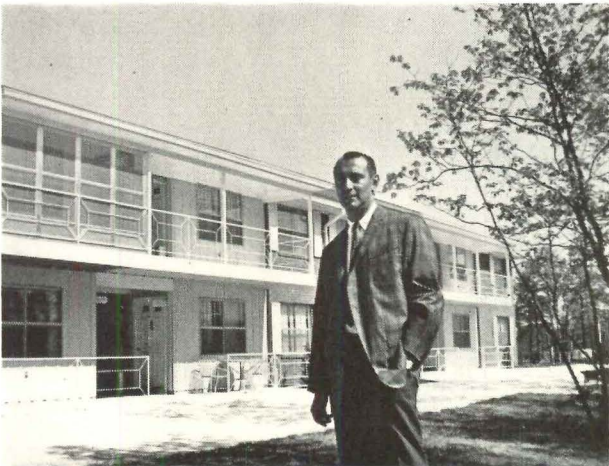
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of Robert Schmertz**



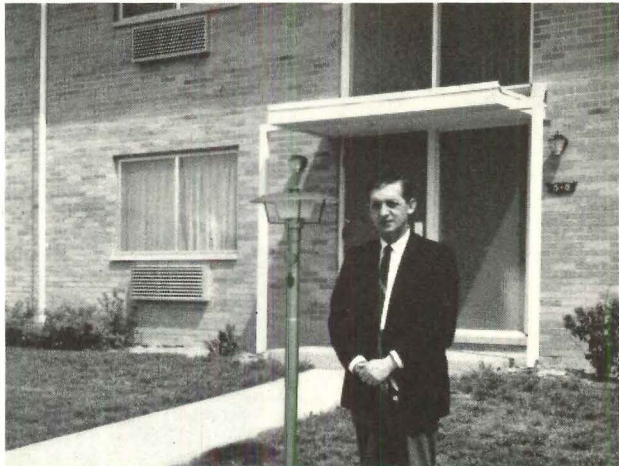
"Our apartments, which range up to 1,000 sq. ft. and have as many as four rooms, are laid out so that we prefer 1½- and 2-ton G-E Central Systems to give us even distribution of cooling through ductwork at a low operating cost," says Bob Schmertz of Leisure Village, Lakewood, N. J.



"Because some folks feel the heat more than others, they appreciate the fact that with individual central systems, each apartment has its own separate climate control.

"Of course," Mr. Schmertz says, "we chose G.E. in the first place because we know G.E. makes the most reliable products. And with G.E.'s top engineering design, we can count on the most dependable equipment. We're selling well, thanks in great part to G.E."

**Quiet,
low-cost G-E
Zoneline Air Conditioners
solved Ben Cogen's
Sherwood Park Apartments
cooling problems**



"G-E Zoneline through-the-wall air conditioners are amazingly quiet, and their low-installation costs fit our needs perfectly," says Ben Cogen, owner of handsome, new low-rise apartments in Lima, Ohio. "Zonelines are attractive, too, both on the exterior and the interior."



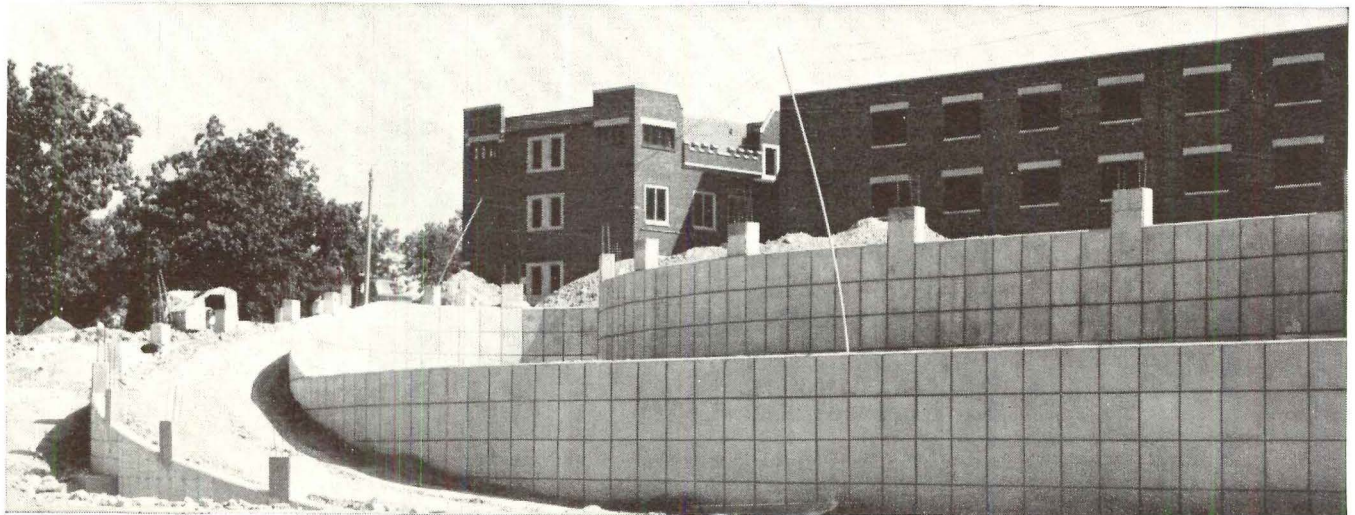
"Our apartments are laid out so that a single G-E Zoneline can air condition our three-room suites, and two G-E through-the-wall units take care of our larger four-room apartments. Each tenant can control the temperature in his own apartment. If repairs are needed, it requires shutting down just one unit, and it slides out of its through-the-wall case in seconds. Actually, we're so satisfied with G-E Zonelines, we're putting 40 more in our new apartments."

There's a General Electric air conditioning system that's right for your installation. Get full details from your G-E representative or write Air Conditioning Department, General Electric, Appliance Park, Louisville, Kentucky.

GENERAL  ELECTRIC

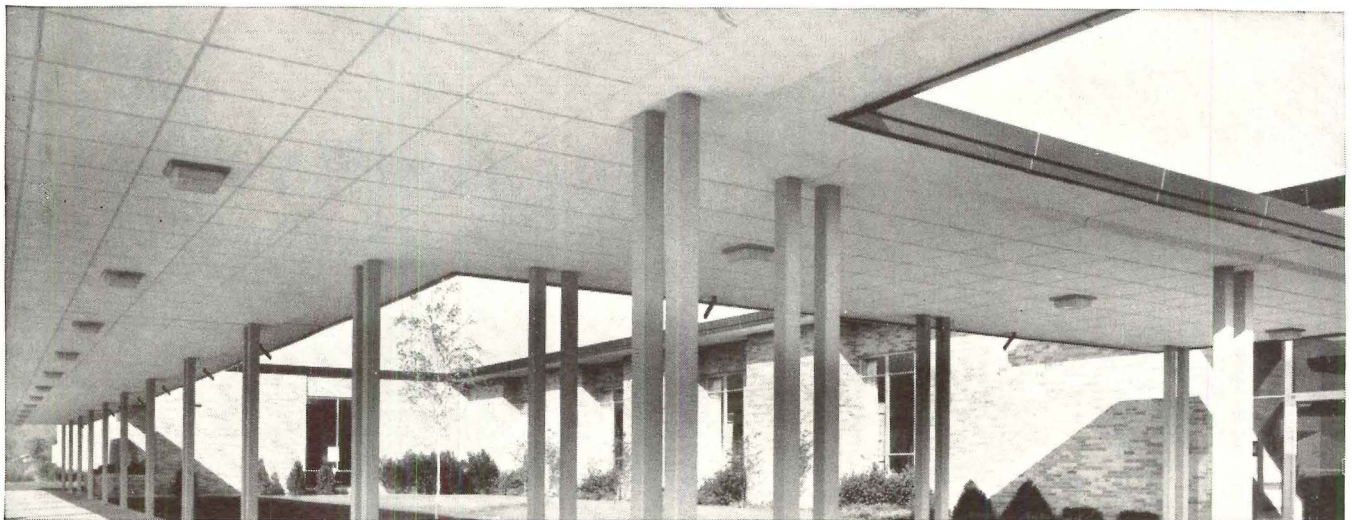
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For more data, circle 47 on Inquiry Card ➤

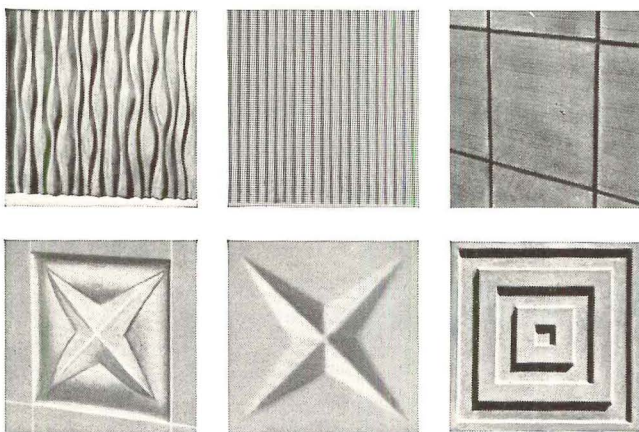


Addition to St. Pashal's School and Friary. Rustication strips used vertically and horizontally.

CLEAN TRIM LINES ABOVE AND BELOW



Elizabeth Seton High School, South Holland, Illinois used steel rustication strips on under side of canopy.



Low cost architectural concrete

RESEARCH INSURES RESULTS

Practicability and construction economy are fundamental to good design. Through research and testing, we develop architectural finishes poured in form liners of plastic, cardboard, and plastic-coated plywood. To insure results, we research in the laboratory, test on the job site.

We invite your suggestions and welcome your inquiries on new product development and existing techniques.

Week after week, year after year, Symons Research Laboratory develops new products and techniques for architectural concrete, poured-in-place.

Utilizing Symons Steel-Ply Forms as the basic system, the research objective is to help architects achieve the ultimate goal of outstanding design with construction economy.

THERE'S NO SUBSTITUTE FOR CONCRETE

Concrete, strong from the beginning, grows stronger every year. As much as 20% increase in strength has been noted in the first five years. Because there is no substitute for strength, there is no substitute for concrete.

Concrete is less costly than other materials. It's maintenance free. It offers complete freedom of design. That's why concrete, today, is the preferred building material.

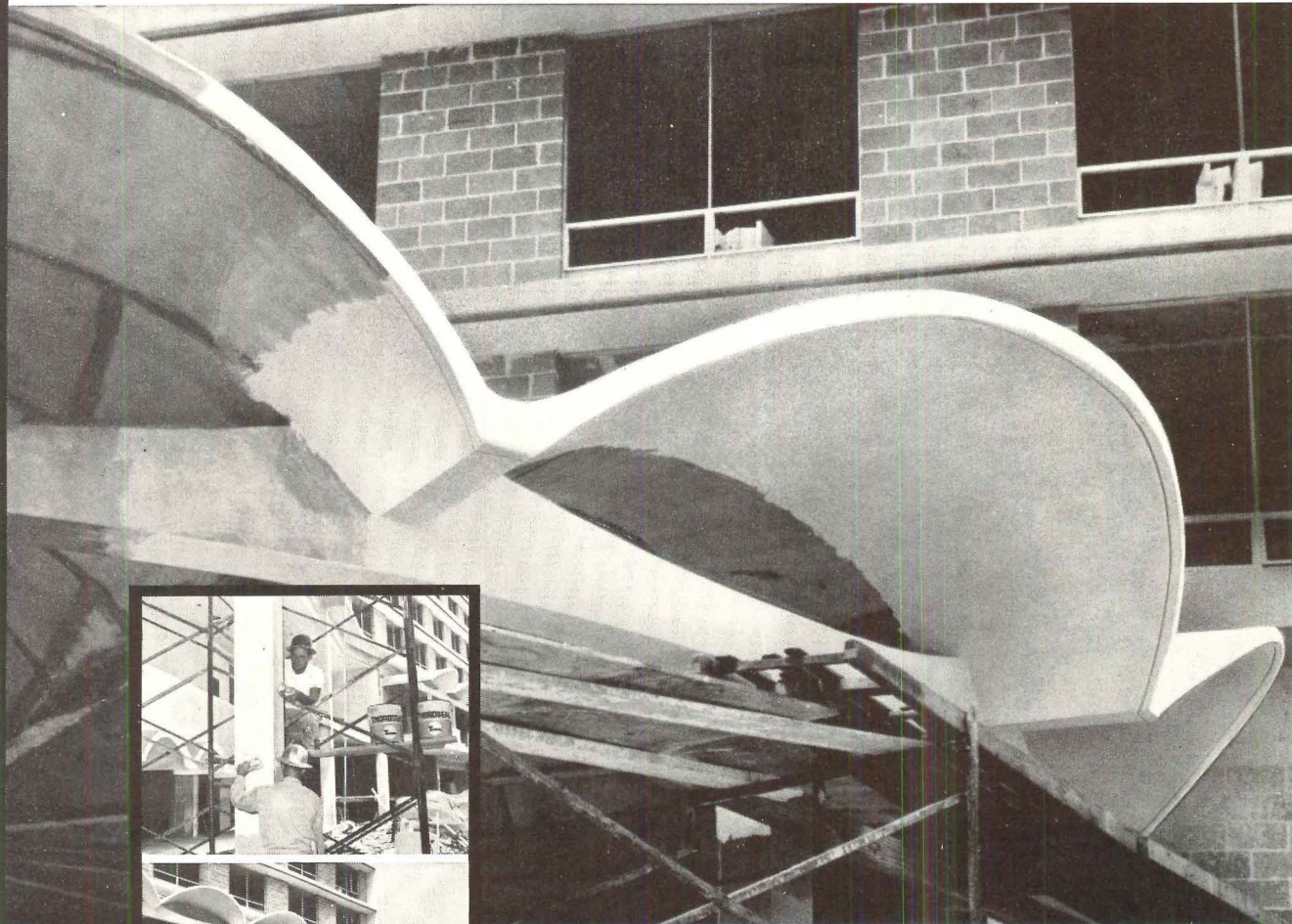


CONCRETE FORMING EQUIPMENT
SYMONS MFG. COMPANY
 122 EAST TOUHY AVE., DES PLAINES, ILL. 60018
 CYPRESS 6-2251 • CHICAGO PH: SPRING 5-5060

MORE SAVINGS WITH SYMONS

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THOROSEAL applied as concrete rub cuts costs and WATERPROOFS as it adds finished beauty...



Parliament House Motor Motel, Birmingham, Ala. Gen. Cont.: Brice Bldg. Co., Birmingham, Ala.

THOROSEAL plus Acryl 60—a job-proven, lifelong waterproofing—the **only** complete finish for concrete and masonry surfaces that makes sense—saves dollars! Creates no drag or crazing, permanently fills and seals all surfaces becoming part of the surface itself!

Visitors to Birmingham will be impressed by the clean look, the uniform whiteness of the attractive Motor Motel pictured above—thanks to the remarkable qualities of THOROSEAL plus Acryl 60, applied here by trowel and float on exposed concrete.

For more information about Thoro System Products, write for Circular #17.

S T A N D A R D D R Y W A L L P R O D U C T S , I N C .

DEPT. 65 AR-4 NEW EAGLE, PA

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**For barefoot comfort . . . new Tapiflex!
Carpet-soft, vinyl-tough, easy to care for.**

Tapiflex is the vinyl floor covering you never have to wax. Or polish. Or scrub. It's non-porous so about all it needs is sweeping, or vacuum cleaning, and an occasional damp mopping. Upkeep costs come down . . . floors stay good looking.



There has never been a floor covering quite like it! Tapiflex — Europe's largest-selling floor covering — combines the resilient softness of carpet with tough, 100% vinyl. It gives you the best of both . . . and needs less care than either! With Tapiflex . . .

You get quiet — The resilient live-fiber base of Tapiflex soaks up sound, silences heels, children, other sources of noise. Coefficient of sound insulation C.S.T.B. $\alpha = 21$ db.

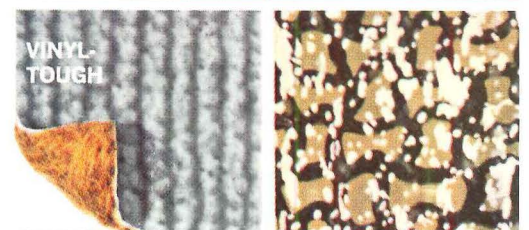
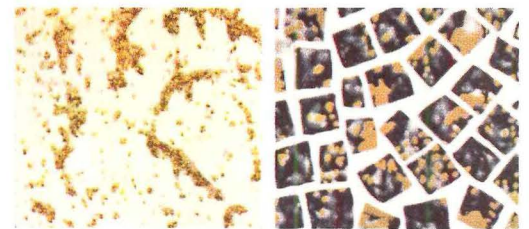
You get endurance — Not even Paris subway traffic — 32 million people strong! — could wear out Tapiflex! Actual wear: .0008" after 15 months!

You get easy upkeep — A damp mopping cleans Tapiflex. It is non-porous . . . never needs waxing or polishing. Floor care — and upkeep costs — are negligible.

You get skid-resistance — Tapiflex is non-skid even when it's wet! And because it never needs wax, polishing never creates a safety hazard.

You get dent-resistance — Tapiflex bounces back! High heels . . . furniture legs . . . other causes of dents in floors have little or no effect on Tapiflex. Tapiflex is available in 25 colors and patterns for any commercial or residential installation. For more information, see Sweet's File 13e/Ta or A.I.A. File No. 23-G. Write for brochure and samples to TAPIFLEX DIVISION, THE FELTERS COMPANY, 210 SOUTH STREET, BOSTON, MASS. 02111. Tapiflex is also available in Canada.

**New Tapiflex: So carefree
it never needs waxing!**

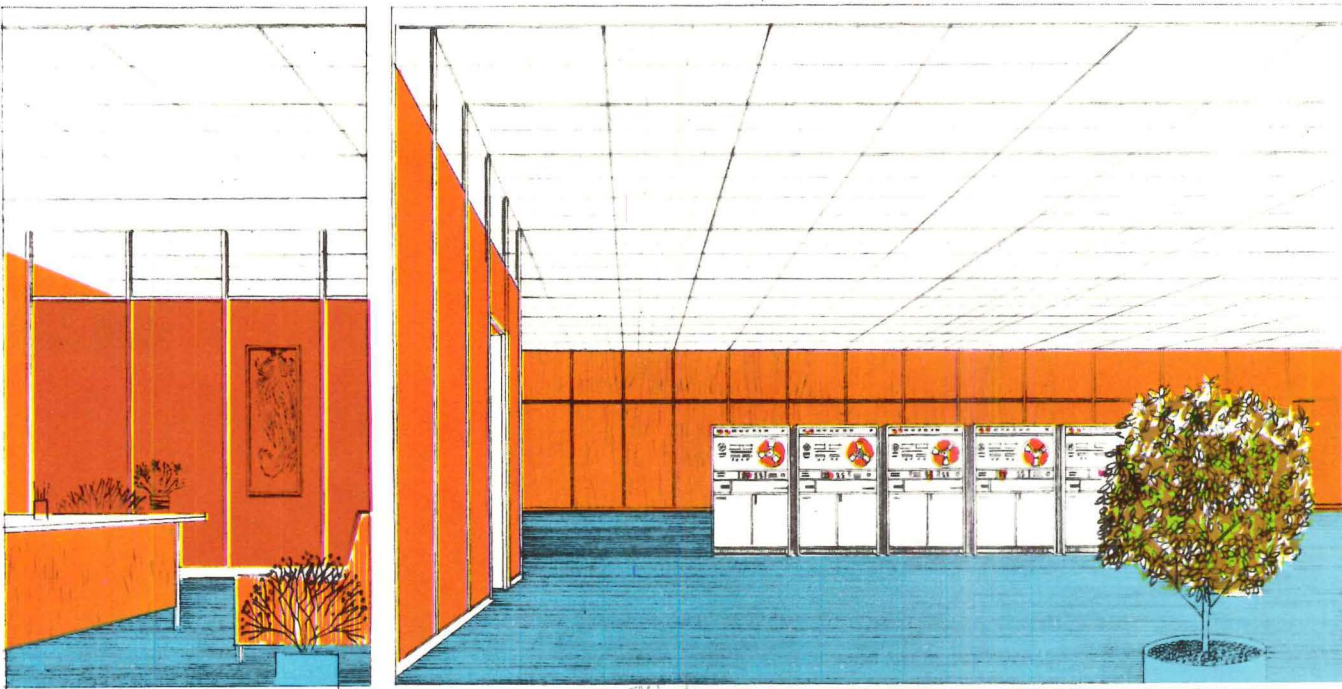


**CARPET-
SOFT**

For more data, circle 71 on Inquiry Card

**Would you pay
\$1.00 more
for
an integrated ceiling
that includes
lighting, air supply and return,
acoustical absorption and attenuation,
and
partition support in every module —
all installed?**

**Then take 3 minutes to read about
QUARTETTE
it's worth it!**



Projects completed or currently under construction: National Life Insurance Co., Montpelier, Vermont | Massachusetts Mutual Life Insurance Co., Springfield, Massachusetts; Architects: Hoyle, Doran and Berry, Boston; Electrical Engineers: Thompson Engineering Co., Boston; Mechanical Engineers: Cleverdon, Varney and Pike | New York State Electric & Gas Corp., Ithaca, Oneonta and Auburn, New York; Architects and Engineers: Gilbert Associates, Inc., Reading, Pennsylvania | American Fletcher National Bank, Computer Center, Indianapolis, Indiana; Architects: Reid, Quebe, Thompson & Associates Inc., Indianapolis, Indiana; Engineers: Scharres Associates, Indianapolis, Indiana.

quartette®

a
totally new
ceiling concept
that combines
lighting,
acoustical control,
air distribution
and
partition support
in
each
module

In design and efficiency, Quartette is a giant step toward achieving perfect indoor environment control for large space areas. In each module is a complete, integrated unit housing light, acoustics, air distribution and partition support components. Interlinked modules, each performing its area functions, provide the ultimate achieved to date in unrestricted, always flexible physical and visual office comfort.

Quartette incorporates permanent materials of the highest quality, engineered without compromise to provide the finest possible environment. Quartette is installed at a price comparable to using unrelated components that are not designed to function as a complete unit. Systems that can cost the building owner many times the original investment when the time comes to readapt to changing conditions.

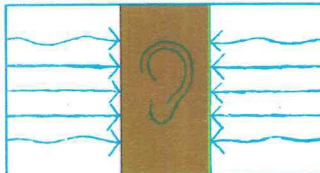
Quartette allows clients to rearrange, add or subtract partitions at any time without affecting light, air or sound conditioning.

Unobtrusive in appearance

Quartette provides subtle changes in brightness and texture as one gazes around a room, replacing monotony with visual pleasure. As superbly functional as it is esthetic; as adaptable to demanding specifications as any architect-engineer could wish; its advantages so outstandingly satisfactory that those who have installed Quartette specify "repeat" application in future projects. Here are some of the valid reasons for Quartette's enthusiastic reception.

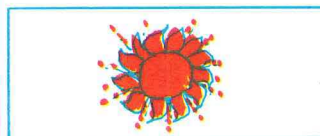
Unlimited Size Variations

There are no standard size Quartette modules. Modules are designed to meet your project requirements. That's why Quartette can provide for attractive, efficient comfort control regardless of areas. Luminous Ceilings Inc. performs all fabricating operations thus providing for unlimited variations in application to exactly meet your design. Quartette is extremely flexible and is appropriate for use in every area of a building.



Full Acoustical Control

Each Quartette module is covered with lay-in sections of metal-sheathed acoustical material. Non-sifting nodular glass wool acts as a sound absorber and the solid metal top isolates sound between modules. Maximum sound absorption of .65-.75 and attenuation of 39.3 decibels is achieved. This construction assures permanently flat no-warp, no-sag panels and a permanent plenum seal. At least 80% of the ceiling is always sound-absorbing material, regardless of module size and light intensity, for inter-office privacy. Panels are easily lifted and slid aside without tools for full plenum access.



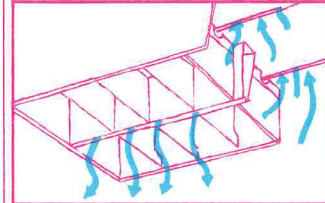
Predictable Natural Lighting

Quartette modules provide up to 400 foot candles or more with minimum wattage, maximum comfort. Controlled lamp ambient temperature assures maximum light output. Adjustable variations in lamp shielding prevent glare and maintain excellent visual identification potential. The light reflection of acoustical panels: is maximum and permanent, and contributes to Quartette's high lighting efficiency. Interiors read well. Corners, objects, textures, colors, true dimensions are pleasantly but accurately defined. Brightness is completely predictable and

equal to task, yet subtly uneven, as in nature. Architects and engineers agree it is the finest lighting they have ever experienced.

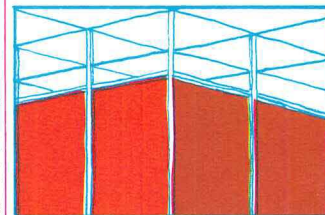
Comfort Controlled Air Distribution

Every Quartette module is an independent source of the complete environment. Heated or cooled ducted air supply is fully controlled, flows evenly and draft-free from every module through an extruded aluminum lineal air diffuser that permits a full 180° adjustable air pattern and complete volume control, including blank off. Modules are linked to ducts by flexible air hose, eliminating cold, overheated or stagnant air zones. Adjustable air return is self-cleaning, returning 50% to 80% of lighting heat over-the-lamp returns.



Full Partition Support

Quartette is built for partitioning, with full partitioning flexibility incorporated into every module. Any modular size or sizes, square or rectangular, can be achieved with complete function control — light, air, sound and partition support. Utilizes standard movable partition panels, in standard fashion, with limitless possibilities for floor arrangements. Provides maximum strength and rigidity, requires no special tools.

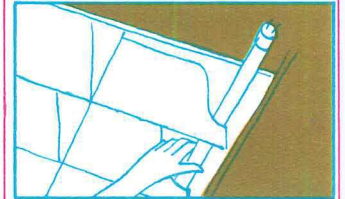


Maximum Redesign Flexibility

To create an executive office, a conference room, a reception area — or to achieve a change in esthetics — calls for extreme flexibility . . . an advantage which Quartette possesses in abundance. Interior partitions can be changed and rearranged at any time without disturbing the ceiling or its function. Quartette configurations can also be altered at any time in various ways: with Texture-Luminous panels, plastic or glass lenses, light diffusers — providing complete and attractive change. In appearance and scale, an entirely different ceiling; in function, all Quartette benefits are still working.

Simple Maintenance and Care

Easily maintained with no removal of parts. May be cleaned with a damp cloth. Lamps are readily accessible for replacement, also without removal of any parts. Permanent materials are engineered without compromise — result: a system that will always be the finest, yet require minimum care. Air circulation makes light self-cleaning. Quartette is always efficient, always flexible, never dated.

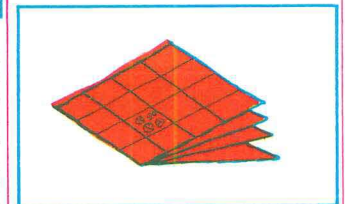


One-Source Responsibility

Luminous Ceilings Inc. installs Quartette and accepts full responsibility for detailing, manufacturing and installing Quartette in accordance with your plans, into your buildings. We furnish supervision to direct the work of our local sub-contractors. Our responsibility to the owner can come directly from the owner or through the general contractor, depending on how the various trade contracts are written. In assuming this responsibility we can assure the specifier that the system performs completely as designed. No division of responsibility or jurisdiction confuses the work. (Scope of work is detailed in Quartette booklet.)

Additional Features

Sprinkler heads can be mounted flush at module corner post, which can contain pipe up to one-inch outside diameter. Emergency lighting through separate circuits can be accomplished as indicated on electrical plans, when desired. Other additions can easily be incorporated, such as public address systems, fire detectors. (See Quartette booklet for details.)



Send for Quartette Booklet now

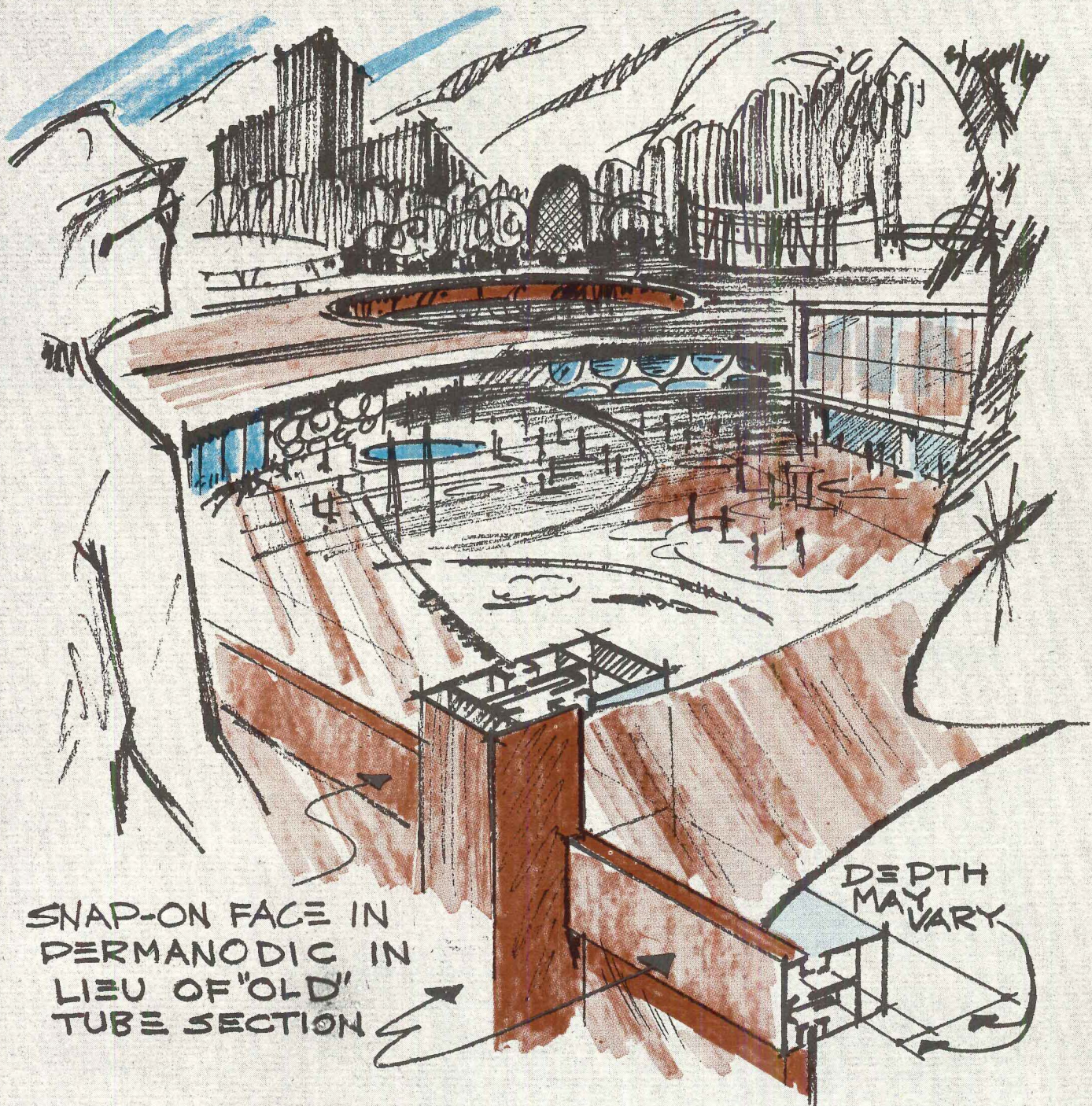
Upon receipt of your request, on your letterhead, we will be pleased to send you a copy of our Quartette booklet containing complete construction, engineering and specifications data on Quartette, the newest and outstanding development in beautiful controlled environment ceilings.

Send for your copy today.

Luminous Ceilings Inc.

3701 N. Ravenswood Avenue
Chicago, Illinois 60613
935-8900 (312)

MANUFACTURERS OF LUMINOUS CEILINGS, INTEGRATED CEILINGS, COMMERCIAL AND INDUSTRIAL LUMINAIRES



SNAP-ON FACE IN
PERMANODIC IN
LIEU OF "OLD"
TUBE SECTION

DEPTH
MAY
VARY

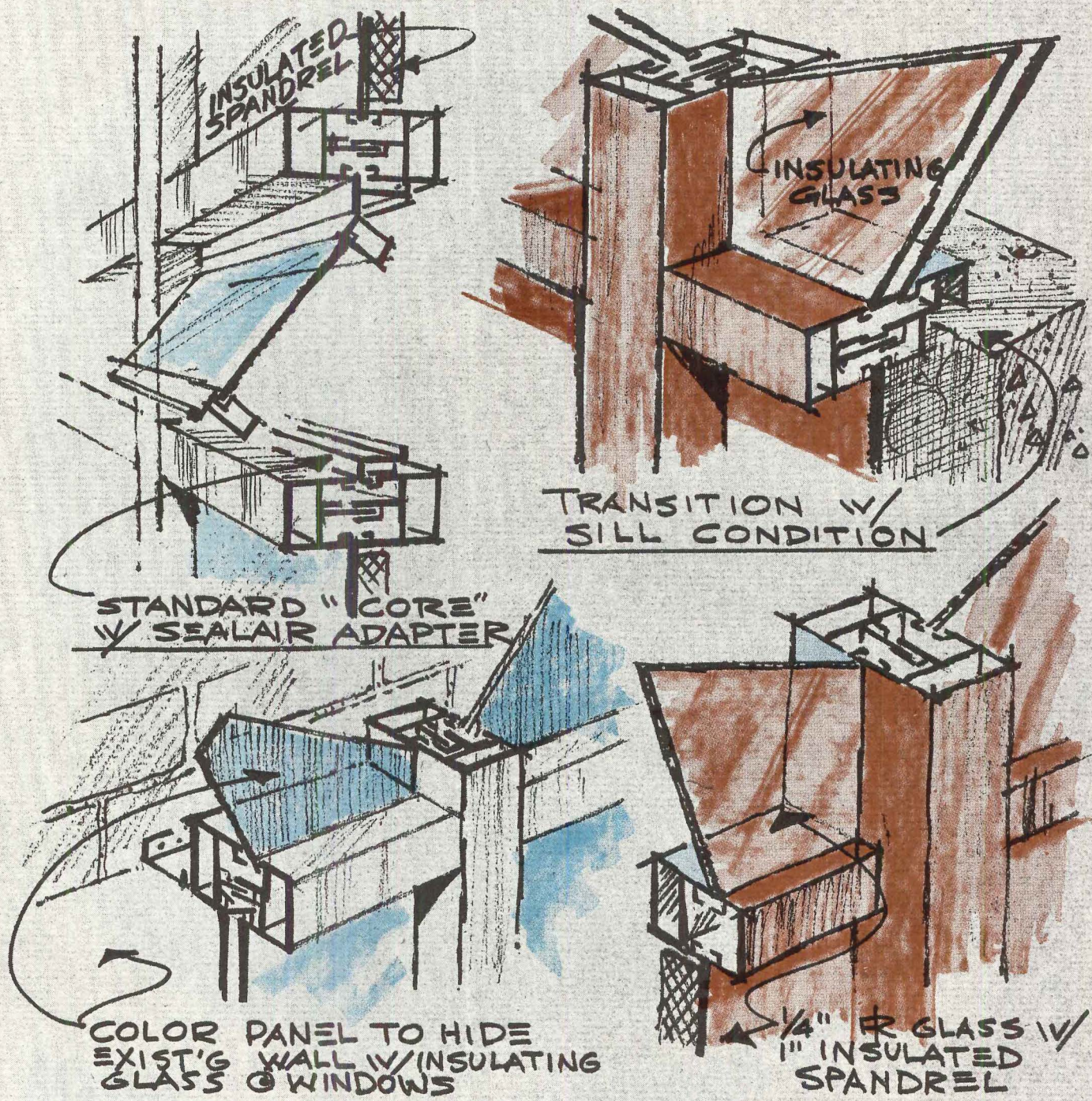
Look at what you can

This patented Aluminum Exterior Building System is a flexible design tool. Permits you to create a variety of grid fronts—each with a unified appearance—for new construction or remodeling applications. Better looking—with crisp, clean lines—and weathering advantages.

We think you'll like working with Core almost as much as a sculptor does with clay, because of the many effects it permits you to create. Where would you like the glass? Up front?

Middle? Back? Does your design call for equal or varying reveals? Do you want to accent the vertical mullions or give equal prominence to the horizontals?

This versatile system also permits you to go from ¼ inch glass to 1 inch panels. It accommodates Kawneer entrances, concealed operators and closers, V-6 facings, Colorwall, Sealair windows, insulating glass and panels—all with uniformity. This is true even on tough remodeling jobs, which might otherwise look like a hodge-podge. And Core's "Snap and Lock"



do with KAWNEER CORE

face glazing eliminates the unsightly clutter of exposed screw and stops. This feature also results in speedier erection and a very favorable installed cost.

*Interesting effects with Permanodic**— Kawneer Permanodic hard color finishes add warmth to your design. You can harmonize with colored lites of glass, panels, and facings. Core permits you to do this economically by combining colored Permanodic finished face members with Alumilite finished gutters.

Want more information about Core? Write for

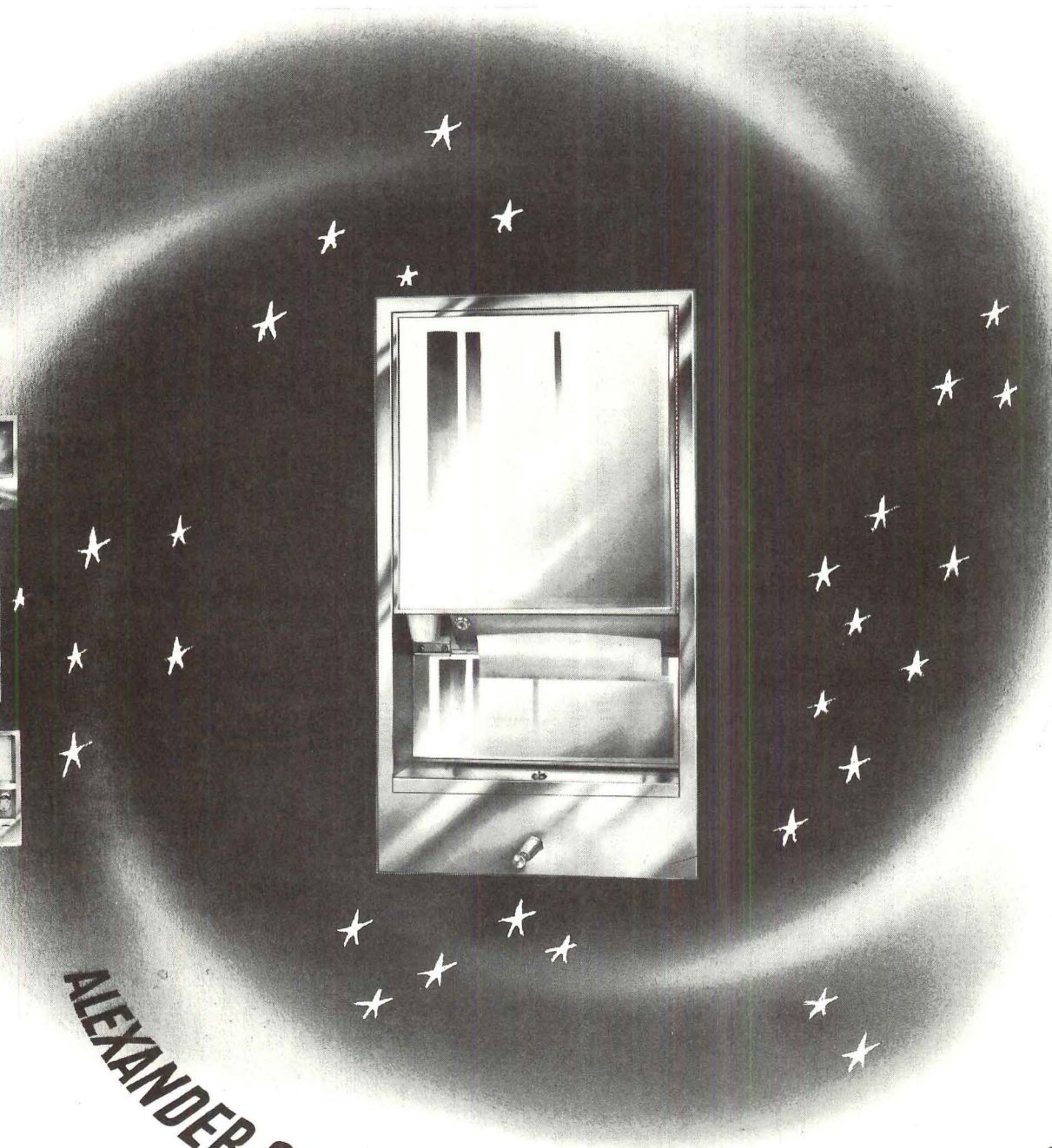
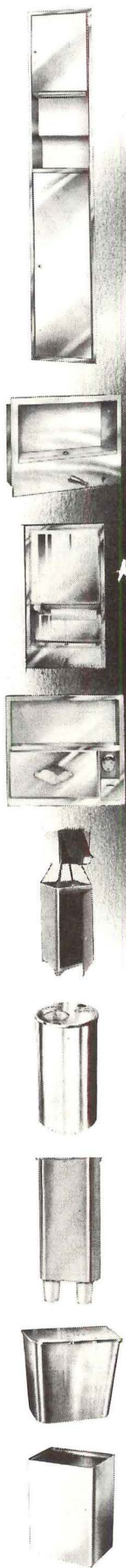
File No. C-64. Address Kawneer Core, 1105 N. Front Street, Niles, Michigan.



Kawneer Company, a Division of American Metal Climax, Inc. Niles, Michigan • Richmond, California • Atlanta, Georgia • Kawneer Company Canada, Ltd., Toronto, Ontario • Kawneer de Mexico, S.A. de C. V., Mexico City, Mexico • Kawneer Company (U. K.) Ltd., London • Kawneer GmbH, Rheydt, Germany • Showa Kawneer, Tokyo, Japan

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new five purpose unit

- ▶ TOWEL DISPENSER
- ▶ SOAP DISPENSER
- ▶ CUP DISPENSER
- ▶ GLASS MIRROR
- ▶ HANDY SHELF

one does the work of five . . .

Why go in orbit over space (or lack of it)? Specify our new model 489 all-purpose Space Saver. This sleek, recessed, wall-hugger is made with typical Alexander craftsmanship. Stainless steel type 304 throughout with architectural satin finish. It features our new universal lip for dispensing all types of towels without adapters.

Remember: Space can be beautiful (and efficient) when it's filled with modern, dependable D. J. Alexander recessed units.

See Sweets catalog ^{26e}AL for complete line of matching recessed units . . . or write for free brochure.

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World's Leading Manufacturer of Stainless Steel Receptacles

Sometimes DEVOE is called on to do jobs beyond just supplying paint.

It doesn't scare us.

We proved this again when Louisiana State University built its striking new Union Building. The architects needed top quality paints for critical areas. The products they specified: a broad range of DEVOE paints—for all exterior and interior cement, for all the wooden stairs and hand railings, and for all interior sand-finish walls and blocks. It was a prudent choice—DEVOE is famous for having the *right* finish for every surface.

Equally important, however, were the services of the *Man from Devoe*. For the architects and painting contractor involved with this handsome academic facility, this meant receiving the right materials on the job—in sufficient quantity and at the right time.

Wouldn't *you* like the assurance of dependable service along with outstanding products? Then DEVOE paint is for you, too. Just write or phone our nearest office to contact the *Man from Devoe*.

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Louisiana State University Union Bldg., Baton Rouge, La.; Architects: Desmond-Miremont & Associates, Baton Rouge, Mathes Bergman and Associates, New Orleans and Wilson and Sandifer, Shreveport, La.; Painting Contractor: Frank J. Matthew Co., Baton Rouge.



hydraulic Automagik...the revolutionary new Dock Ramp that does everything but unload the truck!

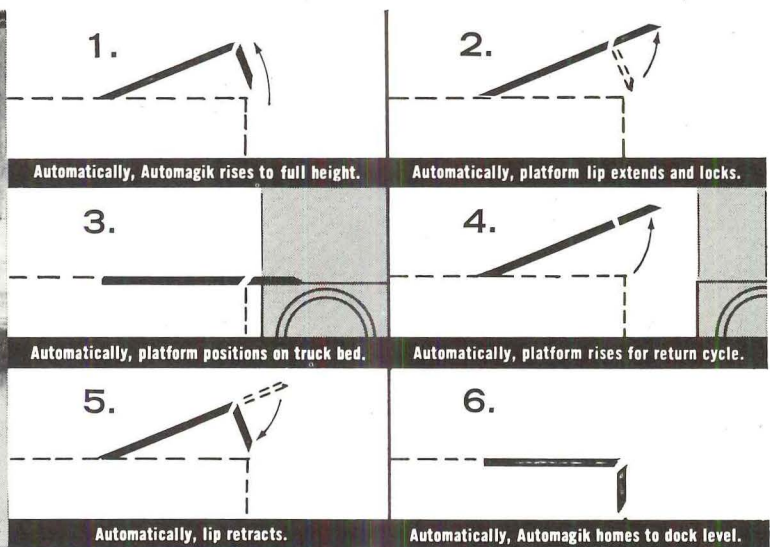
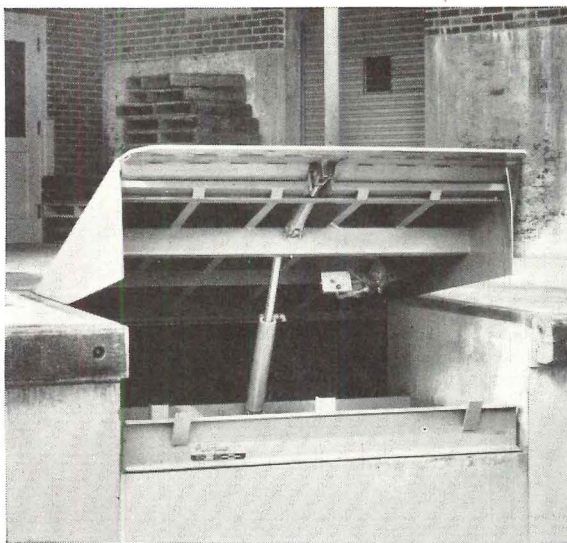
COMPLETELY AUTOMATIC
COMPLETELY HYDRAULIC
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 New patented Contromatic Valve monitors and controls every phase of Automagik operation... assures perfect performance, perfect safety throughout!

Only one manual operation is required with hydraulic Automagik... pressing the starter button! Automagik does the rest... all by itself, without any further supervision.

The automatic platform lip is extended and locked, the ramp is positioned on the truck bed... automatically. Autoquip's new Contromatic Valve keeps Automagik in position, regardless of truck bed deflection or out-of-level. When operation is completed, Automagik automatically retracts and homes to dock-level position, perfectly aligned for cross-traffic.

Easy to install, too! Automagik comes as one complete self-contained package. All that's needed for installation is a pit, curbing and electricity. Planning a new installation or modernizing an existing area, better check on the revolutionary hydraulic Automagik!



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Natural light . . . through domes of PLEXIGLAS



ARCHITECT: ALDEN B. DOW ASSOC., INC., MIDLAND, MICHIGAN

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The Kalamazoo (Michigan) Nature Center is one of the latest in a growing number of dome structures, glazed with PLEXIGLAS® acrylic plastic, constructed to provide a natural environment indoors. Light and heat control is attained through the use of transparent gray #2064 PLEXIGLAS, one of a full range of transparent tints available to satisfy varying requirements for light transmittance, glare control and solar heat reduction.

The light weight, impact resistance and formability of PLEXIGLAS make possible light, simple dome structures, keeping construction costs low. Large spans provide a clear view to the outdoors and an attractive exterior appearance. The resistance to weathering and the color stability of PLEXIGLAS have been proved through more than 20 years of outdoor use.

Write for our new brochure, "Natural Light Through Domes and Arches of PLEXIGLAS."

**ROHM
&
HAAS**
PHILADELPHIA, PA. 19105



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Who says lockers have to be dull?



Look what we've done to them! Spectrum 45 Lockers...45 colors!

Eliminate the "long gray line" in *your* school design with new Republic Spectrum 45 Lockers. Your choice of 45 durable, baked enamel hues, to blend with and complement any school interior colors—and lift everyone's spirits! Colors that educators have asked for—and you're not limited in choice of locker style either. Ask for built-ins, freestanding, single-tiered, double-tiered, or box lockers, in a total of 91 different sizes, in the colors you like best.

No delay in deliveries, and you'll be getting famous quality Republic Locker construction—double-flanged, with extra steel throughout, double-leaf hinges (three of them, two inches wide), big rubber silencers, plus extra thorough five-step rust inhibiting.

Ask your MAN FROM MANUFACTURING or write today for complete printed information on Spectrum 45 Lockers—the most exciting thing that's ever happened to lockers!



MANUFACTURING DIVISION
REPUBLIC STEEL CORPORATION
Dept. AR-1051-A, Youngstown, Ohio 44505

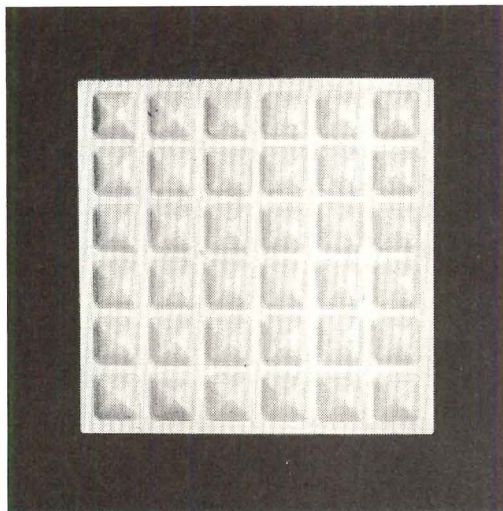


CALL THE MAN FROM
MANUFACTURING!

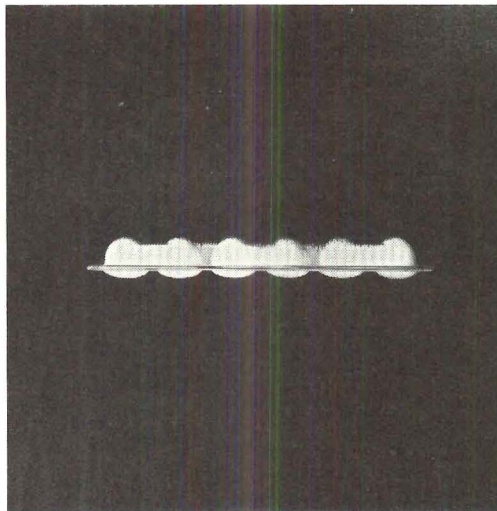
Please send catalog and color chart on new Spectrum 45 Lockers to:

NAME _____ TITLE _____
SCHOOL OR COMPANY _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

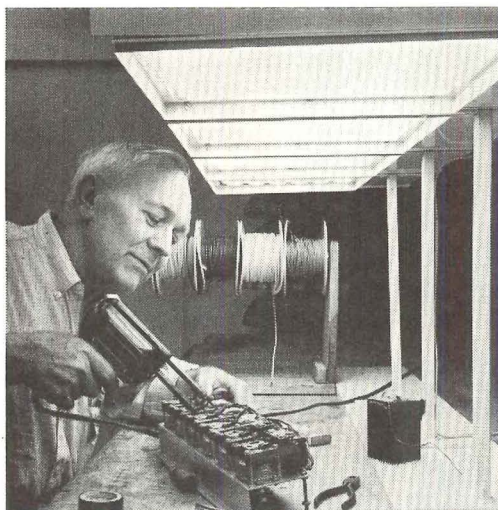
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It's square



It's thin



It's concentrated

It's the General Electric Panel Fluorescent lamp

New. The Panel Fluorescent lamp. A thin one-foot square of highly concentrated fluorescent light.

New. The Panel F lamp can economically provide a concentrated "area source" of light for many critical industrial lighting applications, for quality control bench lighting, and supplementary lighting for all types of work areas.

New. The Panel Deluxe color. Provides a deluxe warm color without the usual loss of efficiency. Panel Deluxe

delivers 4200 lumens (95% of the output of Cool White) of rich, flattering light and provides good color rendition.

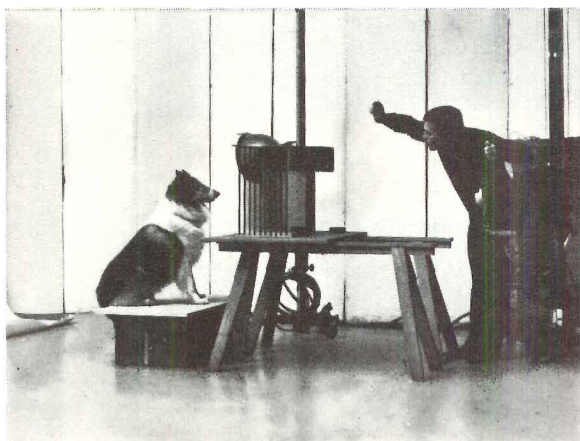
Now. Available from your General Electric Large Lamp Agent. Many commercial fixtures for the Panel F lamp are available, too. Find out how you can use the Panel Fluorescent lamp wherever efficient, concentrated light is required. Write General Electric Company, Large Lamp Department C-511, Nela Park, Cleveland, Ohio 44112.

Progress Is Our Most Important Product





**You're looking at a collie named Caesar
through 10 pieces of PPG Float Glass.**



It's as though nothing is between the collie and the camera lens. This clarity is the reason why PPG Float—the new glass from Pittsburgh Plate Glass Company—is attracting the interest of automakers, mirror manufacturers and architects.

PPG Float is made by floating liquid glass upon a lake of molten metal. The result is a new approach to perfection in glass. Many 1965 cars are already using PPG Float Glass. You'll be seeing more of it wherever the last word in clarity is called for. Pittsburgh Plate Glass Company, One Gateway Center, Pittsburgh, Pennsylvania 15222.

Left: This is how the photograph at top was taken through 10 pieces of PPG Float Glass.

Pittsburgh
Plate Glass
Company,
Pittsburgh, Pa.



PPG makes
the glass
that makes
the difference

a specification from Hillyard . . .

FOR SEALING AND CURING NEW CONCRETE AND TERRAZZO

PRODUCT NAME: HILLYARD CEM-SEAL®

DESCRIPTION:

CEM-SEAL is a modified chlorinated rubber in a volatile aromatic solvent. It forms a clear membrane surface barrier that holds the moisture in the mix for a prolonged curing period to complete hydration. Produces water-tight, dense, hard concrete. At the same time, it protects against the penetration of moisture, stains or other soil as other trades complete construction. CEM-SEAL can be used on vertical installations.

SPECIFICATION AND HOW TO APPLY:

One man, who need not have special training, can apply CEM-SEAL with a sheepskin applicator or ordinary sprayer. CEM-SEAL can be applied as soon as the slab can bear weight, and dries traffic-ready in four hours.

COVERAGE:

500 to 700 square feet per gallon. Only one coat needed.

ADVANTAGES:

Resilient floor tile, paint or surface finish may be applied when slab is thoroughly dry (free from moisture) and providing that preparatory steps are carefully followed.

SAVINGS:

Man hours and material costs are greatly reduced when compared to curing methods using—wet spraying, covering with building paper, wet sand, straw, burlap or plastic membrane.

EXCEPTIONS:

Do not use Cem-Seal on concrete slab that is to receive Bonded or Monolithic Terrazzo.

TECHNICAL DATA:

NVM — 20%. Complies with ASTM C156-55T, water retention efficiency of liquid membrane-forming compounds for curing concrete. Also conforms to ASTM C309-58 Type I as required by the National Terrazzo and Mosaic Association. Pittsburgh Testing Laboratory: Water Retention at 3 days—Average of 3 controlled tests—98.38%.

GUARANTEE:

When applied in accordance with manufacturer's directions, it is guaranteed to meet all claims made for it in the proper curing of concrete and terrazzo floors.

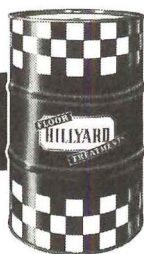
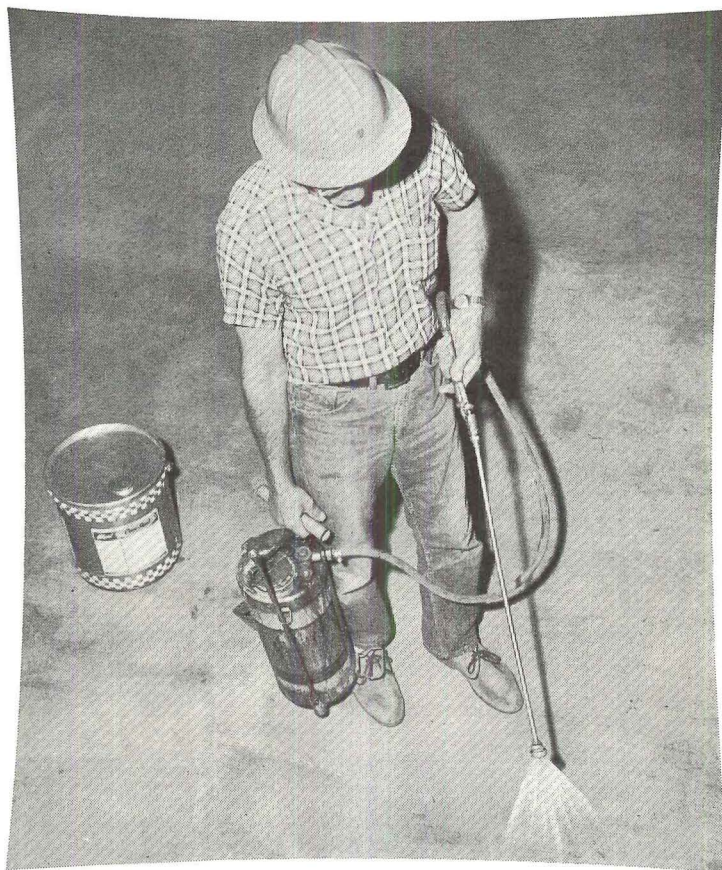
MAINTENANCE:

This is not a wearing surface but will leave concrete smooth and easy to maintain and free from "dusting" and efflorescence.

REFERENCES:

Hillyard A.I.A. File No. 25G
A.I.A. Building Products Register
Sweets Architectural File.

A trained professional Hillyard Architectural Consultant will demonstrate CEM-SEAL for you, at no obligation. He serves "On Your Staff—Not Your Payroll." Write, wire or call collect.



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design for tomorrow's dimensions

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Let your imagination soar with the beauty and dignity of Panelfold's unlimited selection of genuine wood veneers . . . exotics, too! Need rugged school-type duty? Try our new FORMICA® clad partitions, available in an exciting array of fine wood grain finishes and attractive decorator colors. Worried about costs? Don't be. Panelfold planned ahead here, too . . . because, surprisingly enough, our pricing is competitive with products of lesser quality. Now see Sweets, or write us. *Discover how genuinely good wood can be . . . with Panelfold!*

PANEFOLD WOOD FOLDING DOORS AND PARTITIONS SCALE/4 STOCK SCALE/4 SCALE/8 SCALE/12 SONIC/WAL®
1090 E. 17th St., Hialeah, Fla. International Licensees: Austria, E. Khüny & Co.; Great Britain, Lenscrete, Ltd.; New Zealand, Dominion Chair Co., Ltd.; Spain, Ribas y Pradell s.a.



TOP: Bayview Dining Room, Dupont Plaza Hotel - Henry End, A.I.D. • LEFT: Pompano Park - Homer A. Shrewsbury, Jr., A.I.D. • RIGHT: Doral Hotel and Country Club - Interiors by Tom Lee, Ltd., New York, Melvin Grossman, A.I.A.



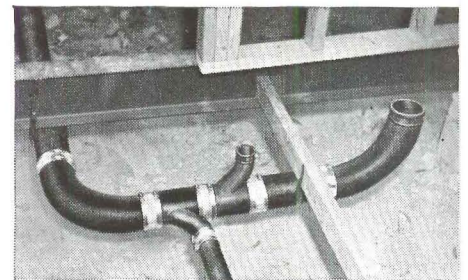
What's New?

Homes of tomorrow will have many of the features you'll find today in this Manufactured Home of the Year, open to visitors in Washington, D.C.

One such feature of interest to architects, equipment specifiers, and builders is the Φ NO-HUB® System Cast Iron plumbing drainage piping, including house sewer. Though new, Φ NO-HUB has been thoroughly tested for serviceability above and below

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Φ NO-HUB installs neatly below floors and inside 2x4 walls. The flexible and compact joint allows convenient make-up.

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CAST IRON SOIL PIPE INSTITUTE

1824-26 Jefferson Place, N.W., Washington, D.C. 20036

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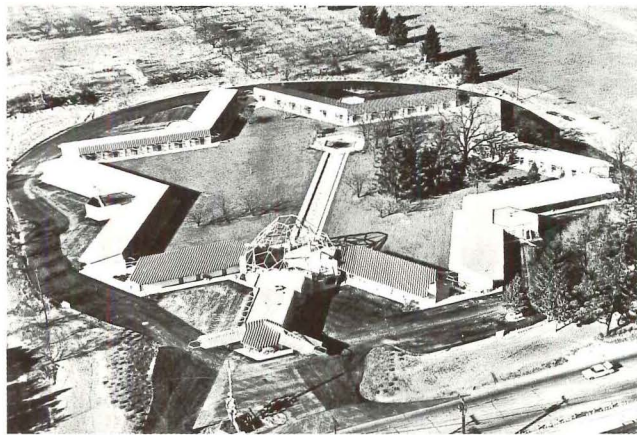
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COLOR, TERNE METAL, and the ARCHITECTURE of ENJOYMENT

From Chartres to Taliesin, color has been a fourth dimension in western architecture, an element of delight which lends human scale to the purely functional. And with today's increasing emphasis on sheer enjoyment as a positive element in design, color again becomes of major consequence to the architect, a trend which is reflected in the almost parallel revival of visually significant roofs.

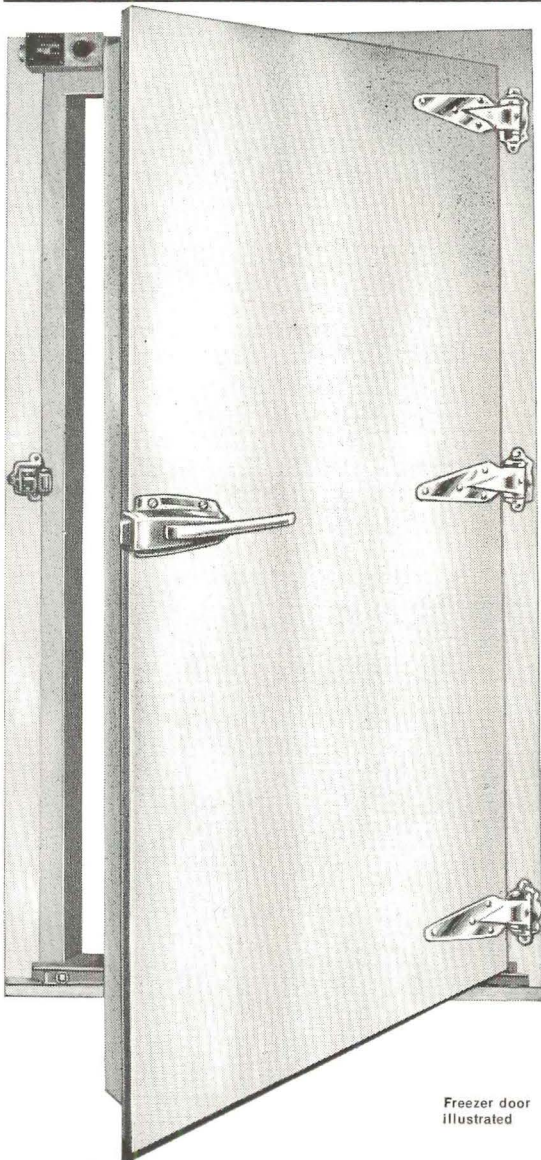
For such roofs are superbly adapted to an imaginative utilization of the entire chromatic spectrum. And wherever they are employed, Follansbee Terne has the unique advantage among architectural metals of providing an unlimited range of color at relatively modest cost.



Snow Flake Motel
St. Joseph, Michigan
Architects:
Taliesin Associated
Architects,
Frank Lloyd Wright
Foundation
Roofing Contractor:
Baroda Hardware Co.
Baroda, Michigan

Jamison Food Service Doors Carry NSF Approval

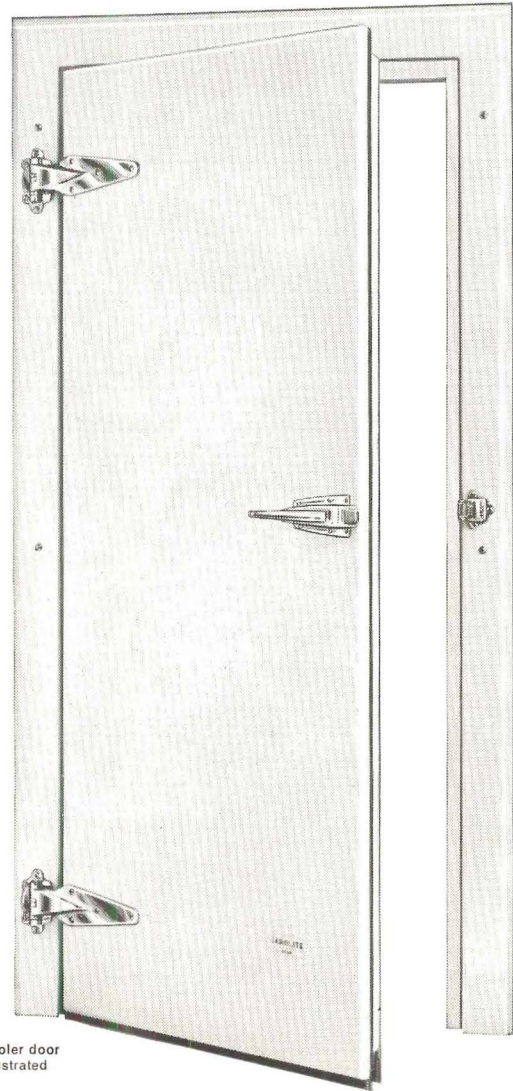
National Sanitation Foundation Testing Laboratory, Inc. awards seal of approval to Jamison Metal Clad and Jamolite® Food Service Doors as meeting High Public Health Standards



Freezer door illustrated

New Metal Clad Food Service Door is available in either stainless steel or clear anodized aluminum cladding.

- door and frames completely metal clad
- compact design—cooler and freezer doors only 4" thick
- safety release supplied as standard equipment on walk-in doors
- Jamison Frostop® to prevent icing supplied with freezer doors
- lightweight efficient insulation is foamed-in-place polyurethane



Cooler door illustrated

Jamolite Lightweight Plastic Food Service Door is impervious to moisture and vapor—will not warp

- flush fitting—for easy cleaning, better appearance
- foamed-in-place polyurethane insulation—only 4" thick for cooler and freezer doors
- weighs only 4.5 lbs. per square foot less hardware and frame
- safety release supplied as standard equipment
- Frostop supplied with freezer doors

Write today for all the facts on these NSF approved Food Service doors to Jamison Cold Storage Door Co., Hagerstown, Md.

JAMISON

COLD STORAGE DOORS

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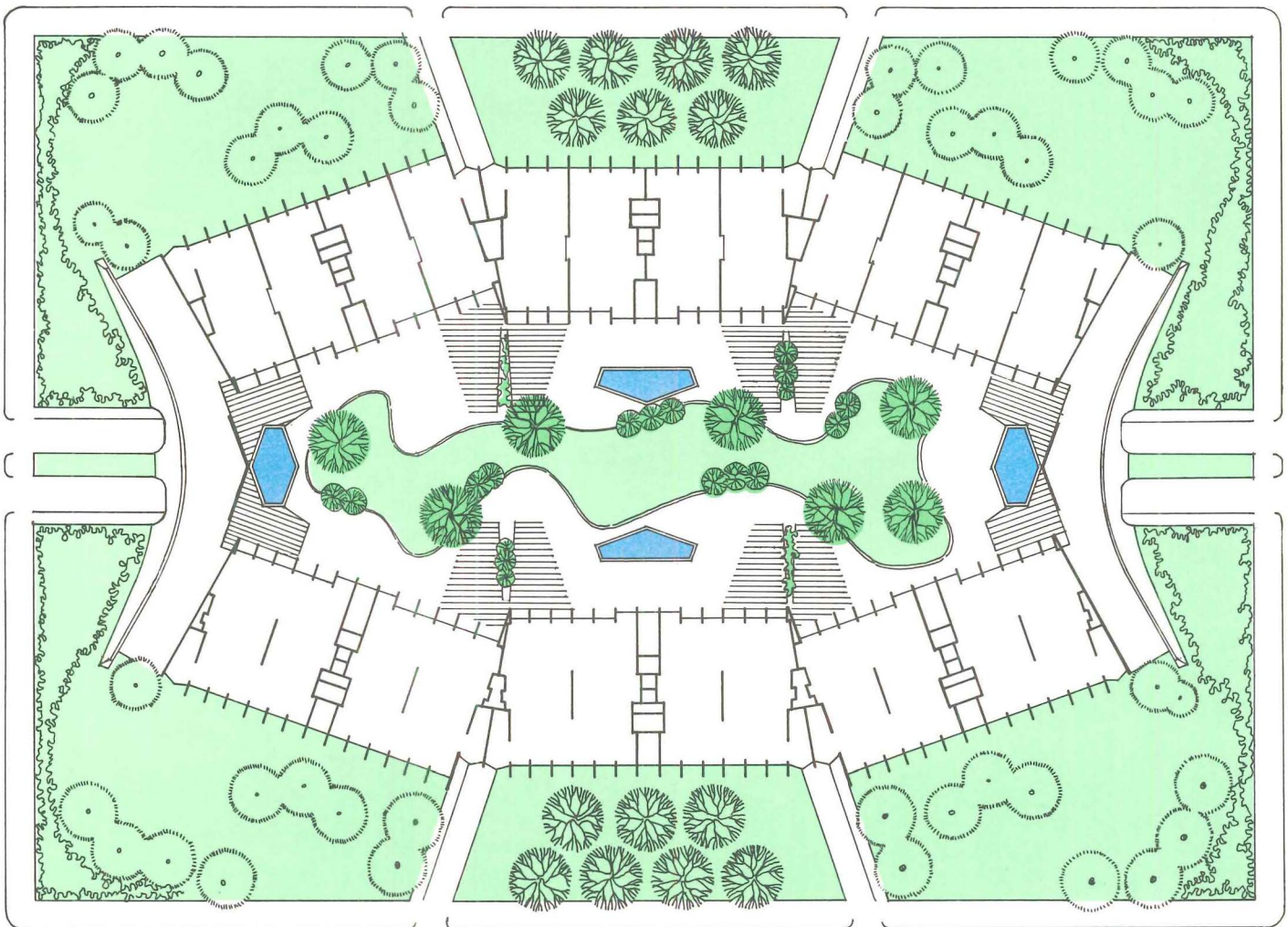
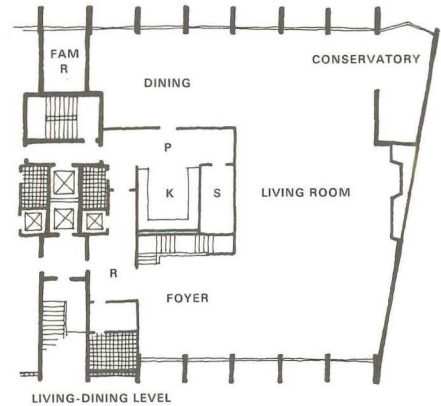
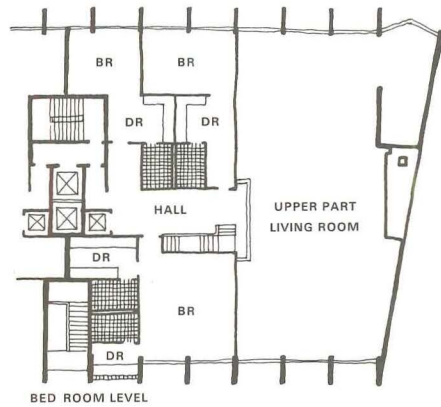
New design freedom in the **Open World** of L·O·F glass

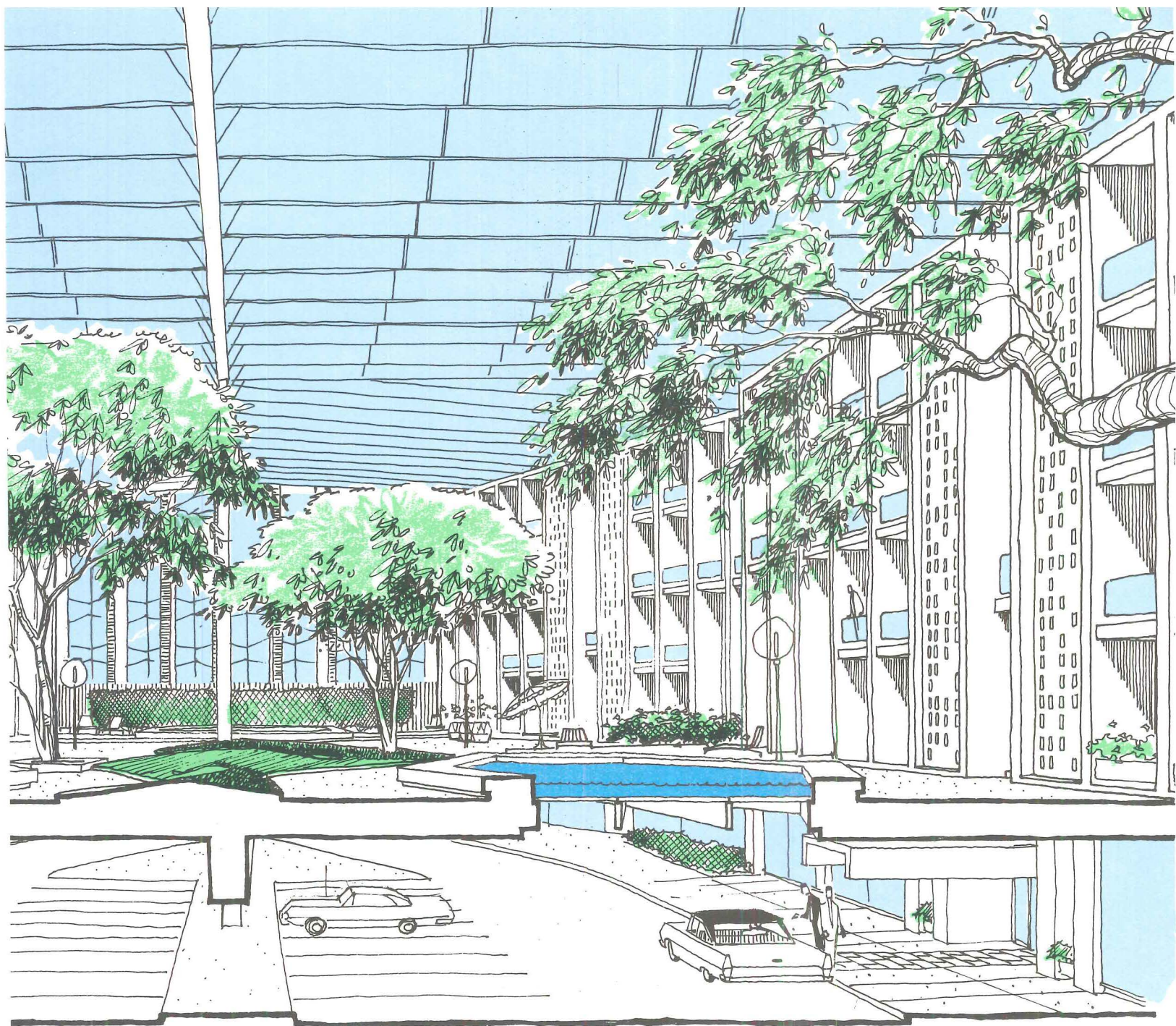
Schwarz & Van Hoefen design gracious living for the well-to-do

Luxury with privacy is the hallmark of this "Open World" design. It can provide privacy and serenity for those who can afford it, and many families can—whether as a rental apartment or a condominium.

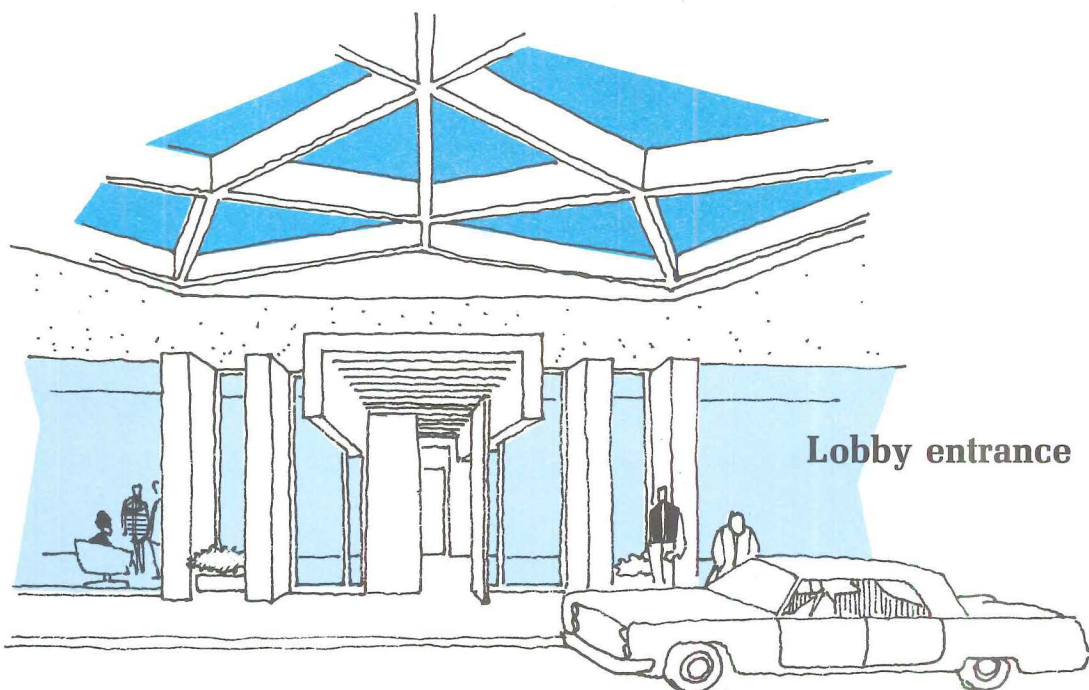
The landscaped courtyard diagramed is a story above ground level and is accessible only from the apartments. It becomes a private retreat for the occupants. A wired glass skylight (see next page) and air conditioning will create a climate that's always spring.

MADE IN U.S.A.





Sectional view through courtyard and interior street below



MADE IN U.S.A.





A leisurely "outdoor" life all year round

Shallow reflection pools in the courtyard are designed with $\frac{3}{4}$ " tempered heavy-duty plate glass bottoms to pass shimmering daylight to the entrance concourse below.

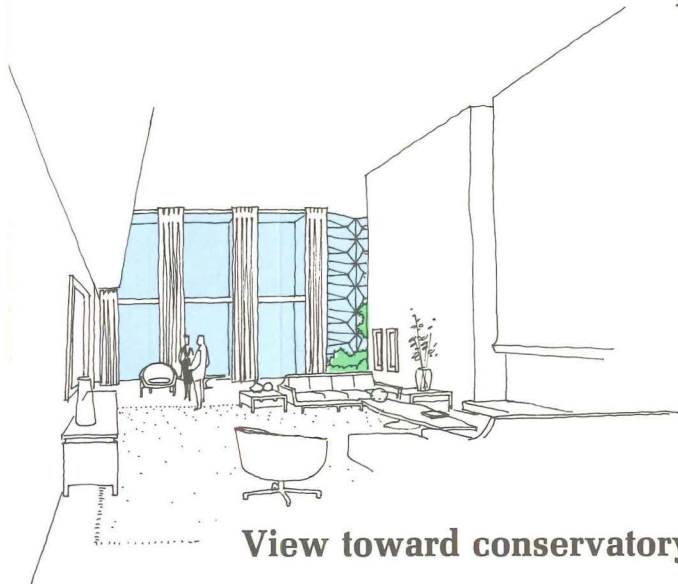
The lobby entrance leads to a general reception area and to hobby and specialty shops. Occupant

parking and car-washing facilities are underneath, below grade level.

Each suite of rooms is two stories high with sliding glass doors opening to the courtyard and to the balconies above. Balcony railings of tempered rough plate glass will sparkle colorfully in the sunlight.



Living room



View toward conservatory

Spacious two-story living rooms face the courtyard and have exterior walls of twin-ground plate glass. Balcony rails may be either tempered rough plate or patterned glass, according to each occupant's taste.

Other luxurious attractions are skylighted conservatories within the apartments.

The perimeter of the buildings is glazed with *Thermopane*® insulating glass, made with *Parallel-O-Bronze*® plate glass as the outer pane.

This exploration into Open World design was commissioned by L·O·F and delightfully executed by Schwarz & Van Hoefen, A.I.A., of St. Louis, Missouri. Glass makes it possible. L·O·F makes it practical.

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POLISHED PLATE GLASS

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Twin ground for windows and mirrors

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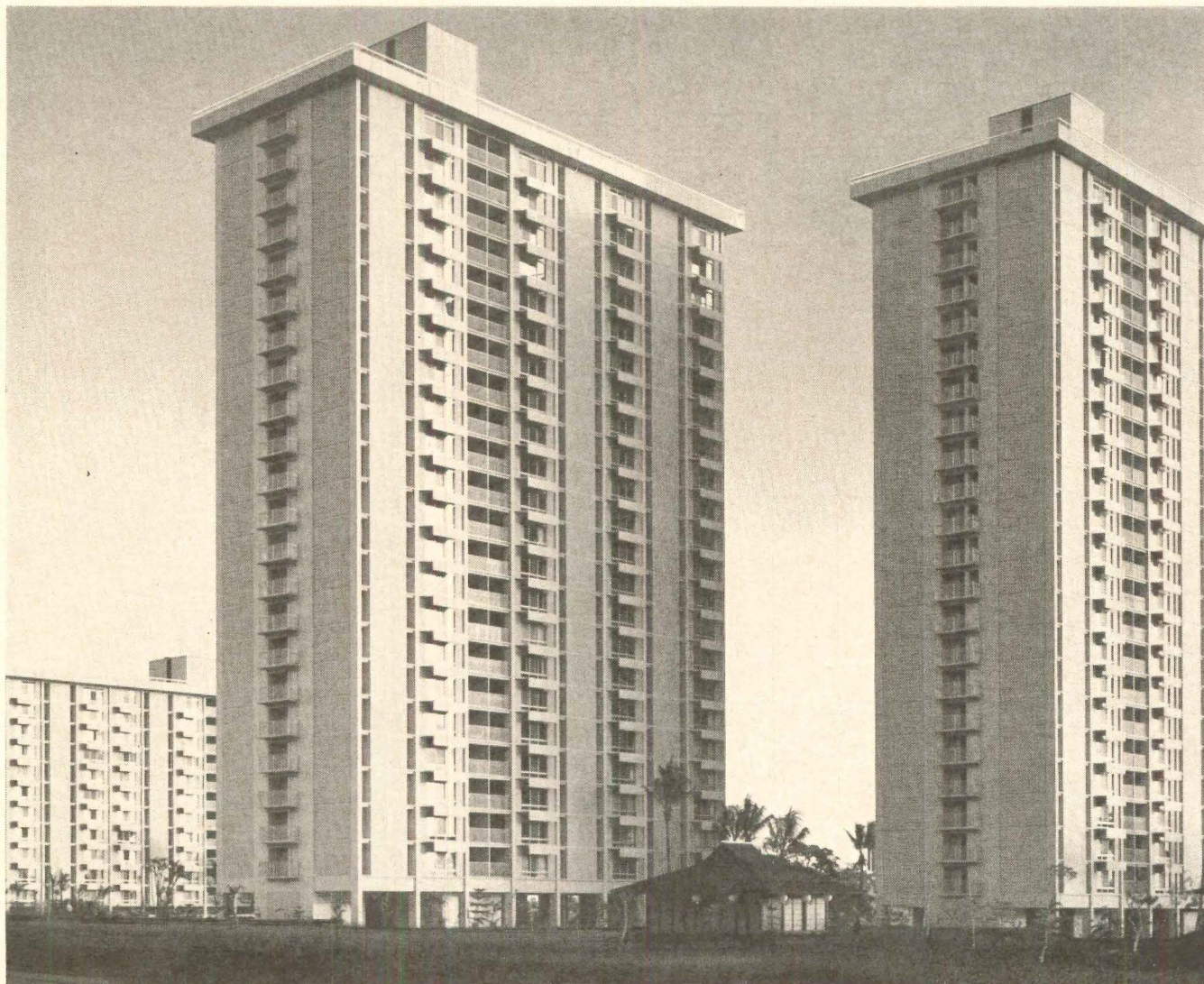
Doors and sidelights

WINDOW GLASS—uniform quality

PATTERNED & WIRED GLASS

L·O·F makes a particular kind of glass for every purpose in Open World design. Refer to Sweet's Architectural File, or call your L·O·F glass distributor or dealer, listed under "Glass" in the Yellow Pages. Or write to Libbey·Owens·Ford Glass Company, 811 Madison Avenue, Toledo, Ohio 43624.

Libbey·Owens·Ford
Toledo, Ohio



Queen Emma Gardens, Honolulu, Hawaii.
 Architect and Engineer: Minoru Yamasaki
 and Associates, Birmingham, Michigan.
 Contractor: E. E. Black, Ltd., Honolulu.

NEW YAMASAKI APARTMENT; 3 DIFFERENT DAP® SEALANTS USED.

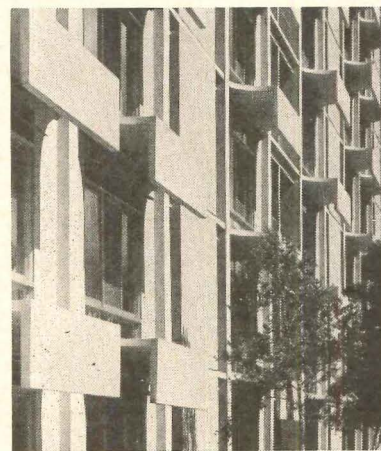
Overlooking Nuuanu Valley, the Koolau Mountains and famed Diamond Head, the Queen Emma Gardens development is just minutes from the heart of Honolulu. Architect Minoru Yamasaki designed this series of luxury apartments which commands a spectacular view of land, sea and sky. Tenant privacy in the 580 units is effectively provided by the architect; no apartment looks directly into another except across the distance of a full city block.

Important sealing jobs in this outstanding project were assigned to DAP sealants. DAP Flexiseal® polysulfide polymer compound was used for exterior caulking. Balanced Modulus makes Flexiseal a most dependable sealant for the toughest jobs.

Sliding doorways, which open into lanais, were sealed with DAP Butyl-Flex® butyl-rubber caulk... an easily-applied 1-part sealant with 5 times the service life of conventional caulks. DAP '1012'® Compound was used for glazing windows. Specially developed to match the color of aluminum sash, '1012' needs no paint.

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SEALANTS



Close up of window exterior detail. DAP '1012' Glazing Compound keeps joints between glass and frame snug despite Oahu's tropical showers and brisk tradewinds.

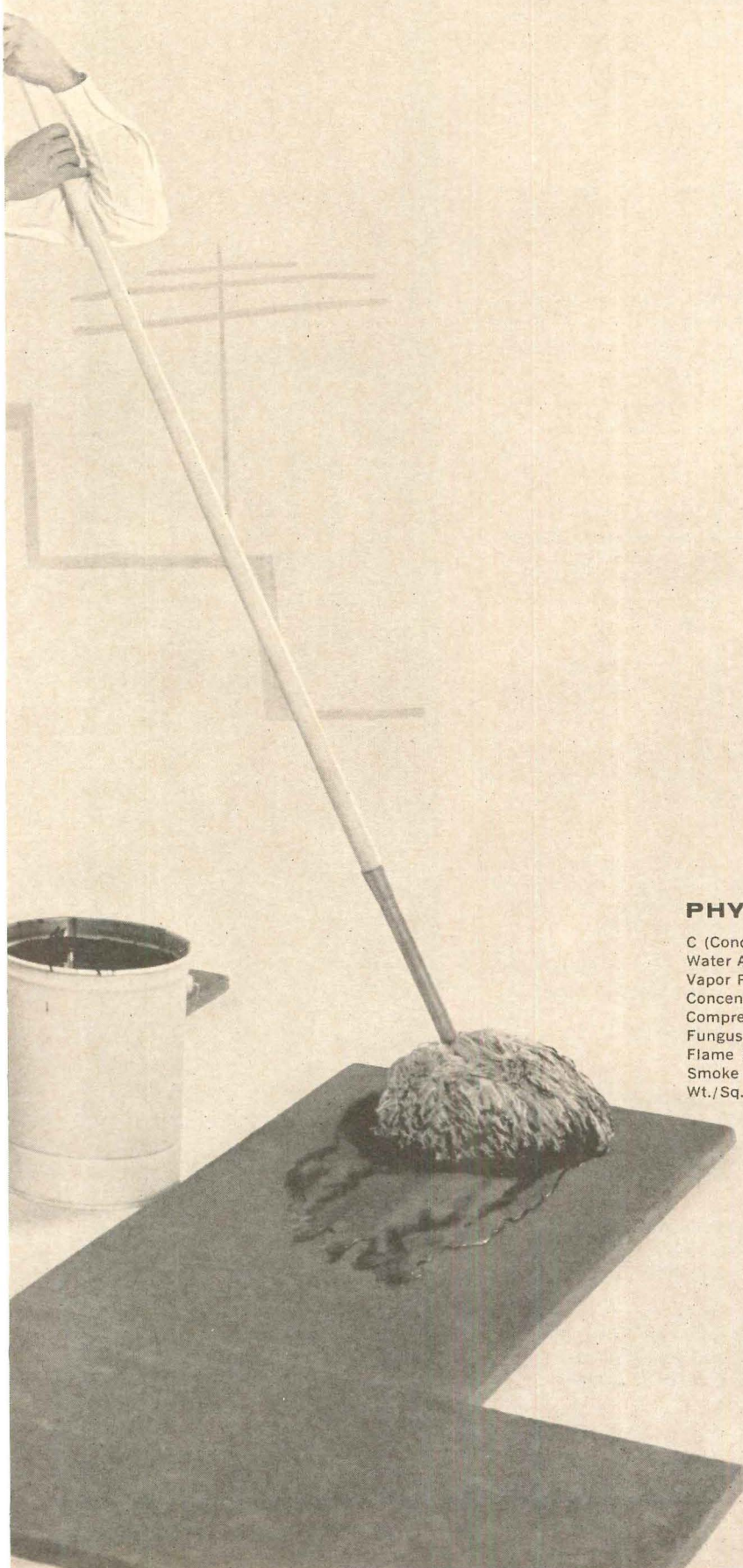
DAP INC., GENERAL OFFICES: DAYTON, OHIO 45431, SUBSIDIARY OF *Plough, Inc.*

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Who put a seal into this act?





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Permalite rigid roof insulation, with its new Sealskin surface

How do you *improve* an insulation board that's already lightest, toughest, most moisture-resistant, non-combustible, permanent, most efficient?

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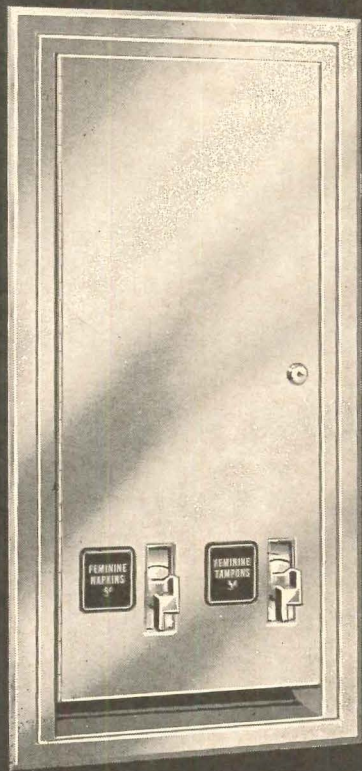
Samples on request from Building Products Dept., Great Lakes Carbon Corporation, 333 North Michigan Ave., Chicago, Illinois. Permalite Sealskin or Permalite Standard rigid roof insulation for UL constructions 1 & 2 and Factory Mutual Class 1 metal deck construction.

PHYSICAL DATA: Permalite Rigid Insulation Board

C (Conductance Value) 1" Nominal Thickness	0.36
Water Absorption (% by Volume)	1.5 @ 2 Hrs. Total Immersion (No Capillarity)
Vapor Permeability	15 perms @ 73° F. and 51% Relative Humidity
Concentration Load Indentation	1/16" @ 77 lbs.
Compression Resistance	185 PSI (50% Consolidation)
Fungus Resistance	Complete
Flame Spread	25 (Non-combustible)
Smoke Developed	0-5
Wt./Sq. Ft./1" Thick	0.8 lbs. Approx.



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Equipment

Required Reading

continued from page 59

ARLINGTON NATIONAL CEMETERY. *By Gene Gurney. Crown Publishers, Inc., 419 Park Avenue South, New York, N.Y. 10016. 138 pp., illus. \$3.95.*

MUSEUMS, U.S.A.: A HISTORY AND GUIDE. *By Herbert and Marjorie Katz. Doubleday & Company, Inc., 277 Park Ave., New York, N.Y. 10017. 395 pp., illus. \$6.50.*

EARLY DOMESTIC ARCHITECTURE OF CONNECTICUT. *By J. Frederick Kelly. Dover Publications, Inc., 180 Varick St., New York, N.Y. 10014. 210 pp., illus. Paperbound, \$3.00.*

WITH EVERY BREATH YOU TAKE. *By Howard R. Lewis. Crown Publishers, Inc., 419 Park Ave., South, New York, N.Y. 10016. 322 pp., illus. \$5.00.*

BUILDING CONSTRUCTION HANDBOOK. *Edited by Frederick S. Merritt, McGraw-Hill Book Company, 330 W. 42 St., New York, N.Y. 10036. 842 pp., illus. \$19.50.*

THE PERSONAL TOUCH IN INTERIOR DECORATING. *By Betty Pepis. Popular Library, Inc., 355 Lexington Ave., New York, N.Y. 10017. 199 pp., illus. Paperbound, \$.95.*

ENGINEERING WITH NUCLEAR EXPLOSIVES. *Proceedings of the Third Plowshare Symposium. Clearinghouse for Federal Scientific and Technical Information, National Bureau of Standards, U.S. Department of Commerce, Springfield, Va. 396 pp. \$4.50.*

ROMBOLA BY ROMBOLA. *By John Rombola. A.S. Barnes & Company, 11 E. 36th St., New York, N.Y. 10016. 160 pp., illus. \$10.00.*

THE URBAN SCENE. *By Leo F. Schnore. The Free Press, The Macmillan Company, 60 Fifth Ave., New York, N.Y. 10011. 374 pp. \$7.50.*

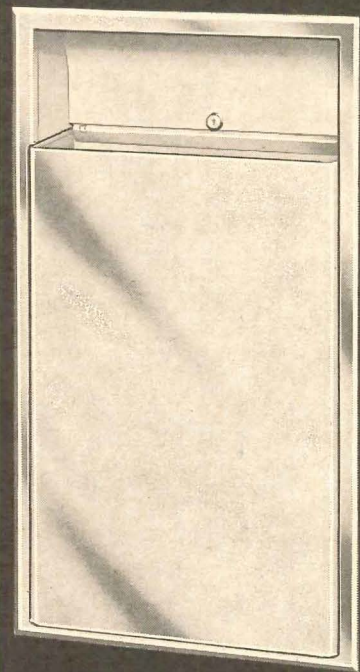
CHICAGO'S FAMOUS BUILDINGS. *Edited by Arthur Siegel. The University of Chicago Press, 5750 Ellis Ave., Chicago, Ill. 60637. 230 pp., illus. Paperbound, \$1.00.*

A DESCRIPTION OF THE VILLA OF MR. HORACE WALPOLE AT STRAWBERRY HILL, TWICKENHAM, MIDDLESEX. *Gregg Press, Inc., 171 East Ridgewood Ave., Ridgewood, N.J. 168 pp., illus. \$20.50.*

ANGLO-SAXON ARCHITECTURE, *Volumes I and II. By H. M. and Joan Taylor. Cambridge University Press, American Branch, 32 E. 57th St., New York, N.Y. 10022. 734 pp., illus. \$35.00.*

HOMES, TOWNS AND TRAFFIC. *By John Tetlow and Anthony Goss. Faber & Faber Ltd., 24 Russell, Square, London W.C.1. 224 pp., illus. 45s.*

BROOKLYN BRIDGE, FACT AND SYMBOL. *By Alan Trachtenberg. Oxford University Press, 417 Fifth Ave., New York, N.Y. 10016. 182 pp., illus. \$5.75.*



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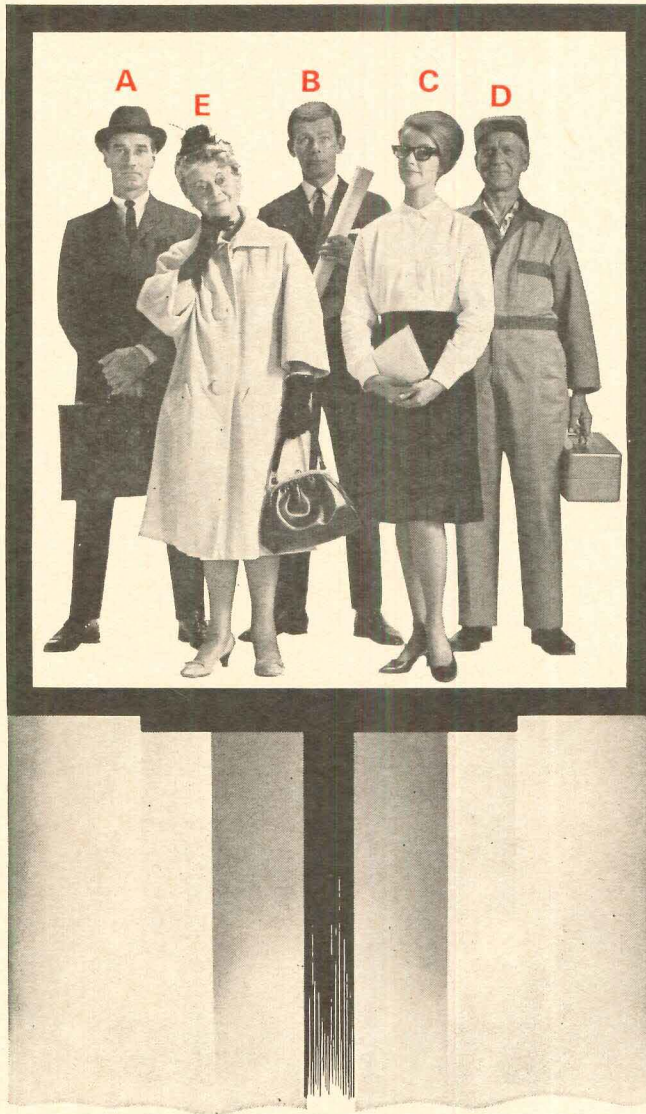
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Hydraulic Elevators cost less to buy . . . to install . . . to operate . . . to maintain. Controls are designed for simplicity.



B Architect "A sensible investment for a good many buildings up to 7 floors . . . Hydraulic elevators require no penthouse construction . . . work equally well in apartment houses, office buildings and factories . . . Take any kind of cabs and doors."

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All modern elevators are safe madam . . . but we agree with you about the smooth ride and good looks of a Turnbull Hydraulic Elevator.



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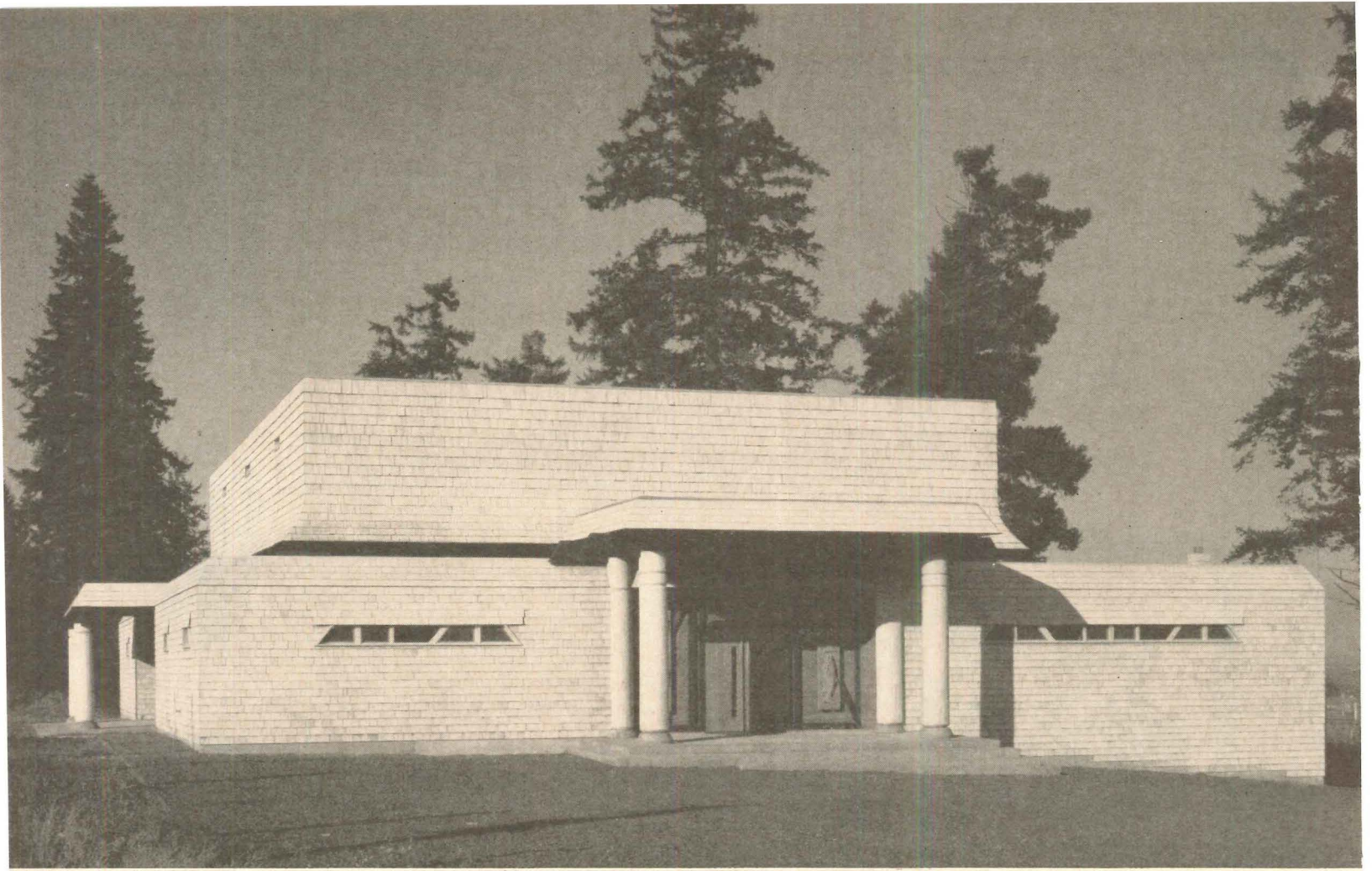
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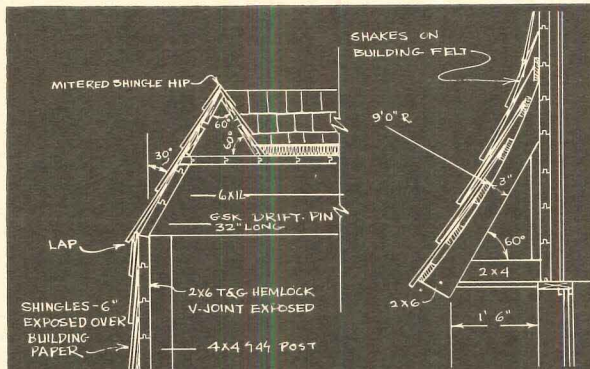
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Highly adaptable:
Red Cedar Shingles and Handsplit Shakes

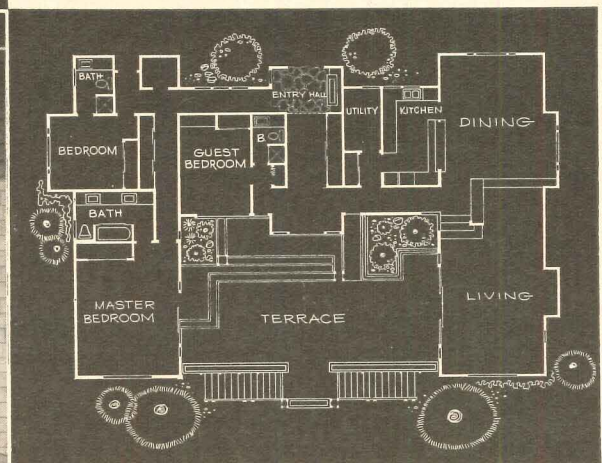
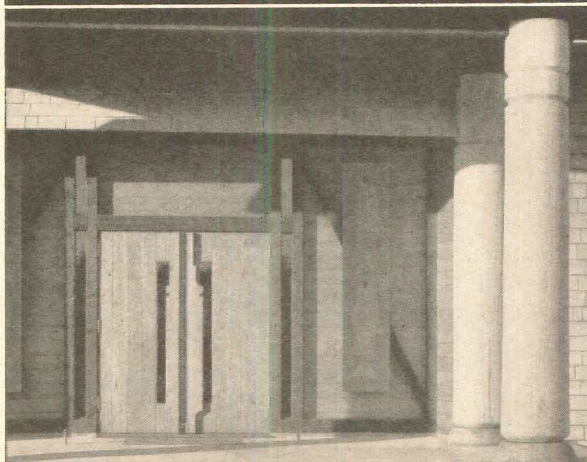


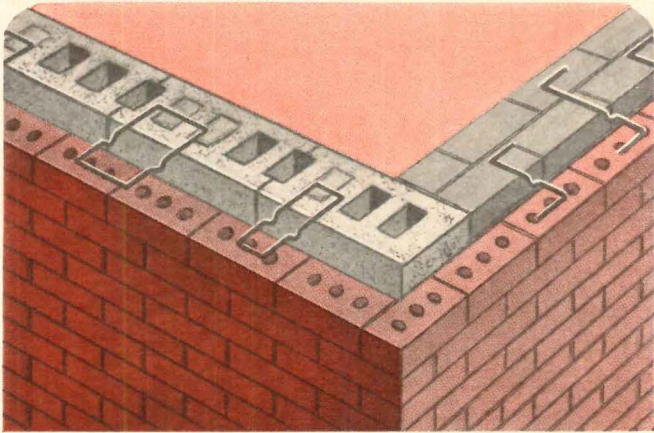
Red cedar shingles and handsplit shakes have a disarming way of looking right almost anywhere. They can blend in quietly. Stand out. Or — if you want — they'll do something in between. The Swinomish Indian Community Hall (left) is rustic but dignified right down to its shingled eyebrow windows. The Lake Tahoe vacation home, on the other hand, sports a roof that seems to say, "Park your Homburg and relax." And the practical advantages are no less impressive than the aesthetic. Red cedar shingles and handsplit shakes are strong, lightweight, durable and dimensionally stable as well as insulative. If you'd like more information, just write us, the Red Cedar Shingle and Handsplit Shake Bureau, 5510 White Bldg., Seattle, Wash. 98101. (In Canada: 1477 West Pender St., Vancouver 5, B.C.)



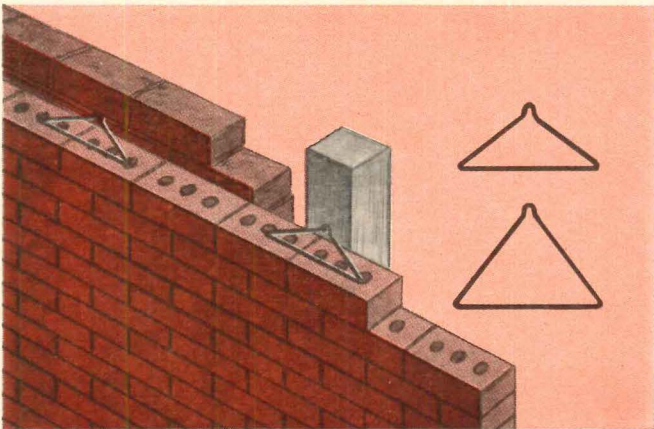
Architect Henry Klein specified Certi-Split 24" x 1/2" - to - 3/4" handsplit-resawn shakes with 9" exposure for the upper sidewalls, and Certigrade No. 1 shingles, 16" long with 6" weather exposure below. The central tribal meeting room can be used as a basketball court, while border rooms contain kitchen, locker and Indian artifact display facilities.

The vacation house at Lake Tahoe, designed by architect James D. Morton, is roofed with Certigrade No. 1 shingles, 16" long, with a 4 3/4" weather exposure.

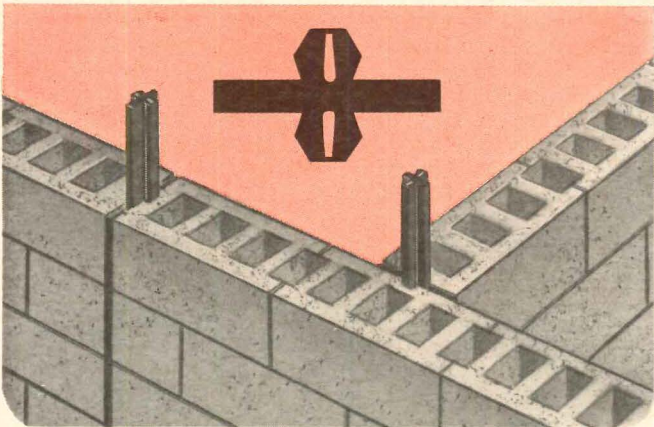




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NAIL-ON BRICK TIES For anchorage to wood or existing masonry walls.



TITEWALL Flexible rubber control joint.

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Reference:
CSI File Div. 4
A.I.A. File 3M-5F
1965 Sweets' File 4h/Aa
1964 A.I.A. BPR 4.05 A-B
1965 CE Spec. Data file S-a



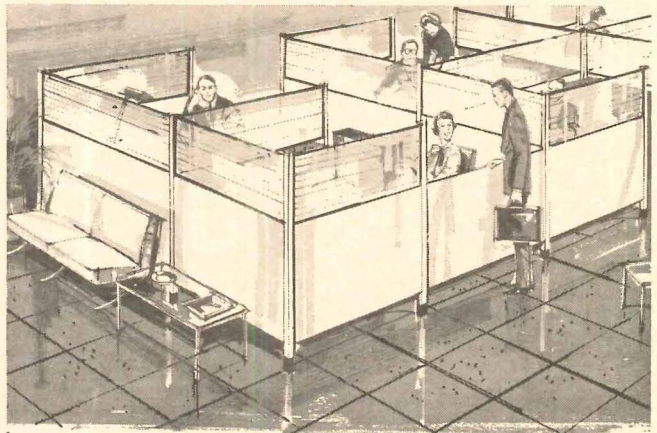
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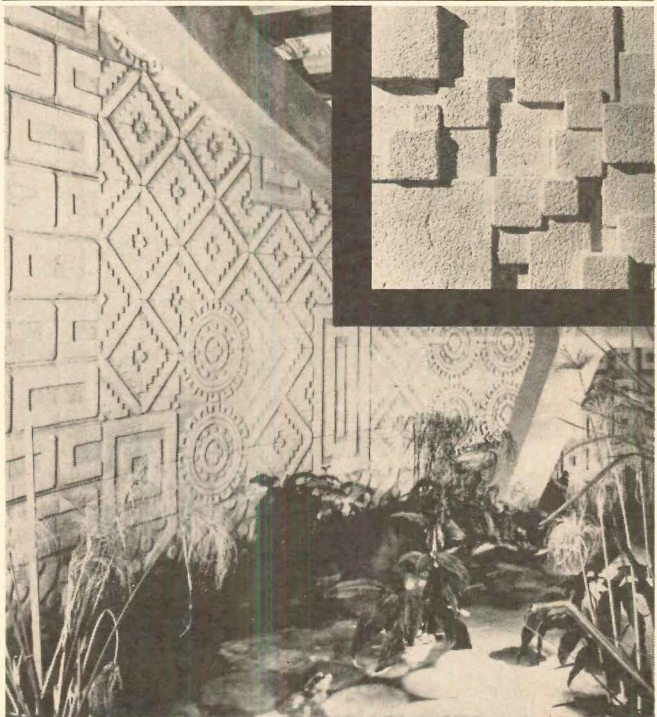


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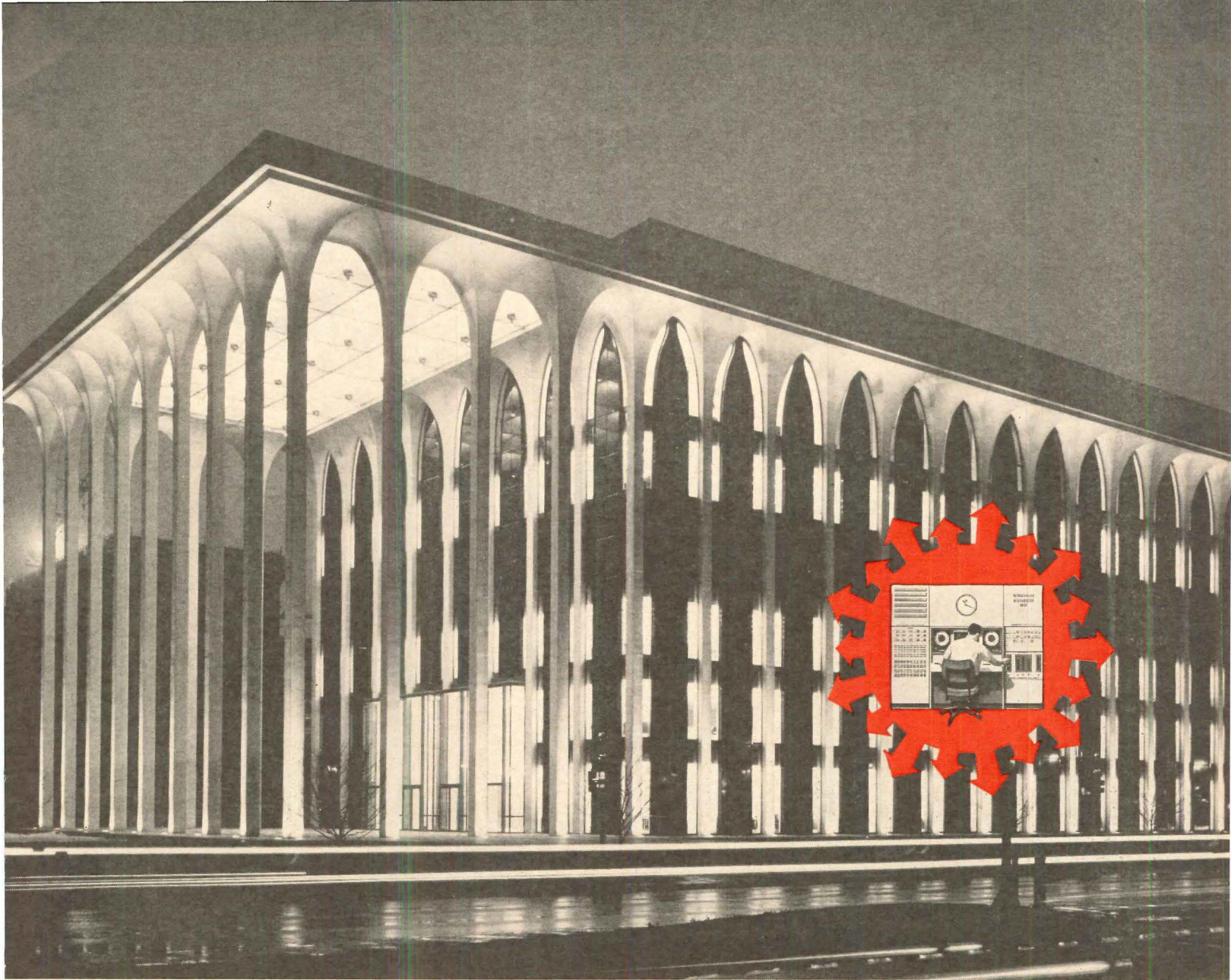


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Northwestern National Life Insurance Company, Minneapolis, Minn. Architect: Minoru Yamasaki & Associates

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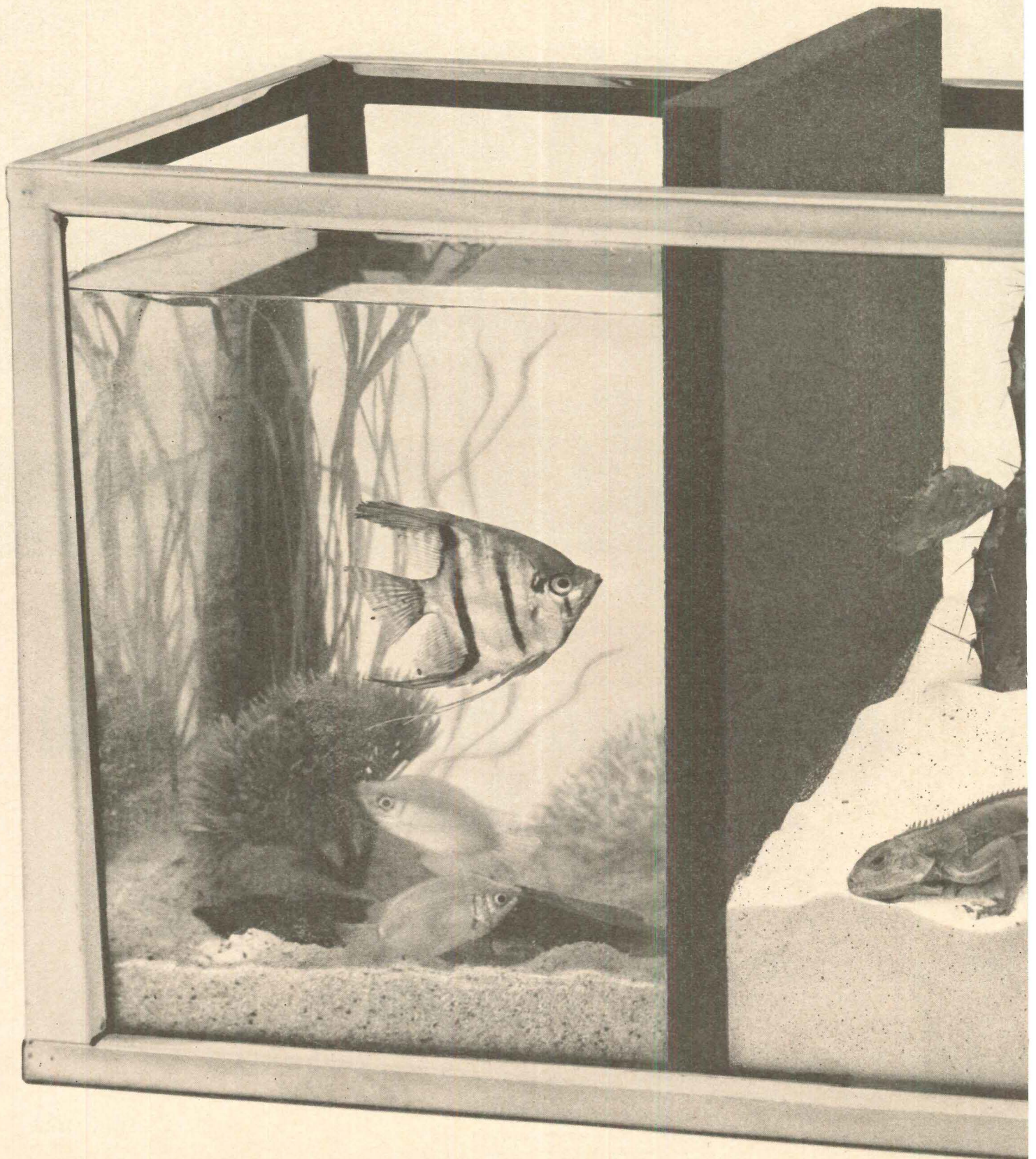
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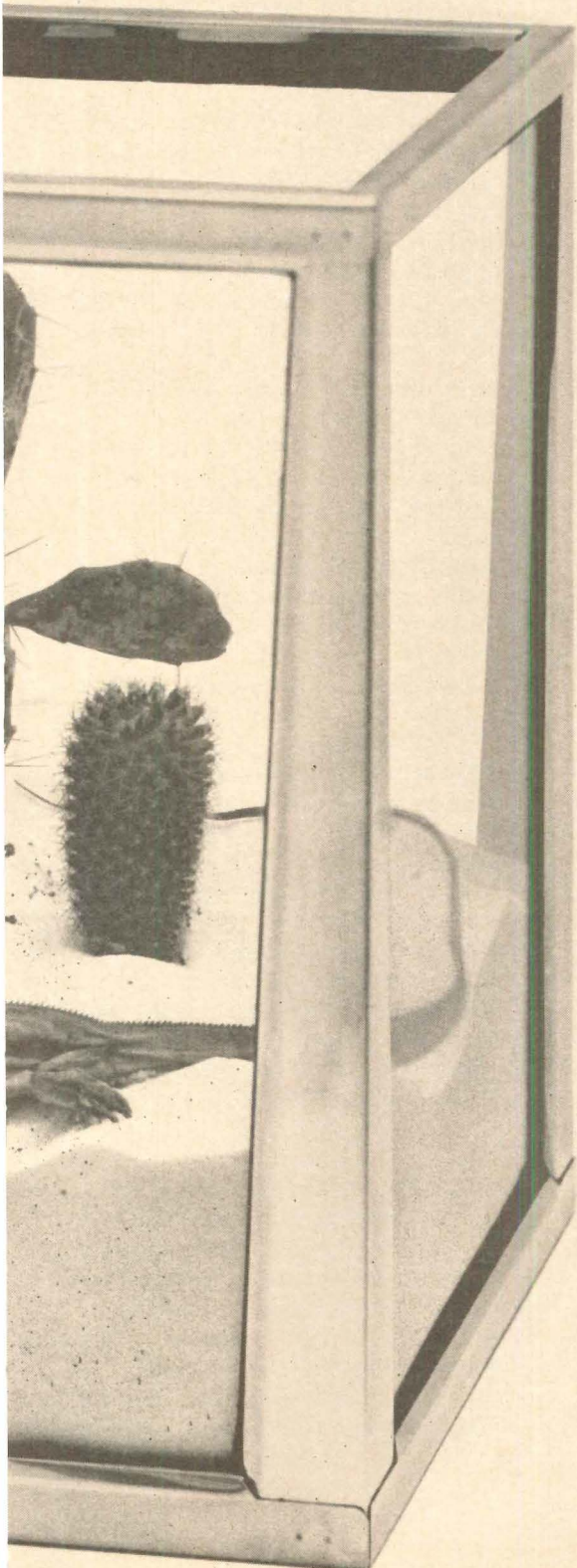
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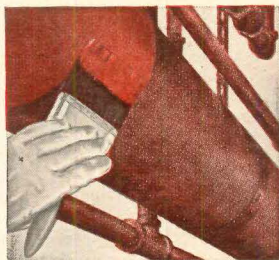
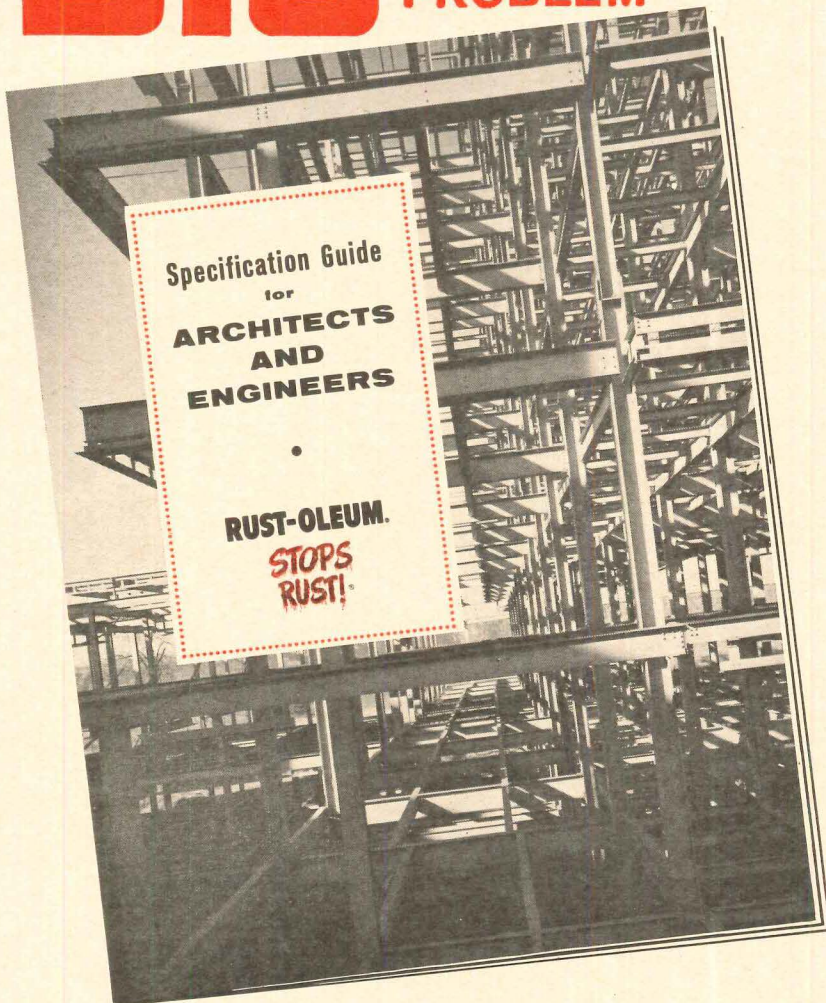
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On the Calendar

June

6-9 Fifth National Lighting Exposition—New York Coliseum, New York City

9-11 Conferences on "Modern Wood Structures," American Society of Civil Engineers, co-sponsored by the American Institute of Architects, the American Railroad Engineers and the American Society for Testing and Materials—Pick-Congress Hotel, Chicago

11-12 Annual Meeting, National Council of Architectural Registration Boards—Sheraton-Park Hotel, Washington, D.C.

13-18 68th Annual Meeting, American Society for Testing and Materials—Purdue University, Lafayette, Ind.

14-18 Annual Convention, American Institute of Architects, and XI Pan American Congress of Architects—Sheraton-Park Hotel, Washington, D.C.

16-18 American Society of Civil Engineers Conference on Quality in Engineered Construction—Sheraton-Jefferson Hotel, St. Louis

20-24 58th Annual Meeting, Air Pollution Control Association—Royal York Hotel, Toronto

21-25 1965 International Design Conference—Aspen, Colo.

27-30 1965 Annual Meeting and Products Exhibition, American Society of Landscape Architects—Statler-Hilton, Hartford

28ff Institute on Nuclear Defense Design, sponsored by the Office of Civil Defense, the Association of Collegiate Schools of Architecture and the American Society for Engineering Education—Aspen Institute for Humanistic Studies, Aspen, Colo.; through July 23

30ff Annual Meeting of the National Society of Professional Engineers—Western Skies Motor Hotel, Albuquerque, N.M.; through July 3

July

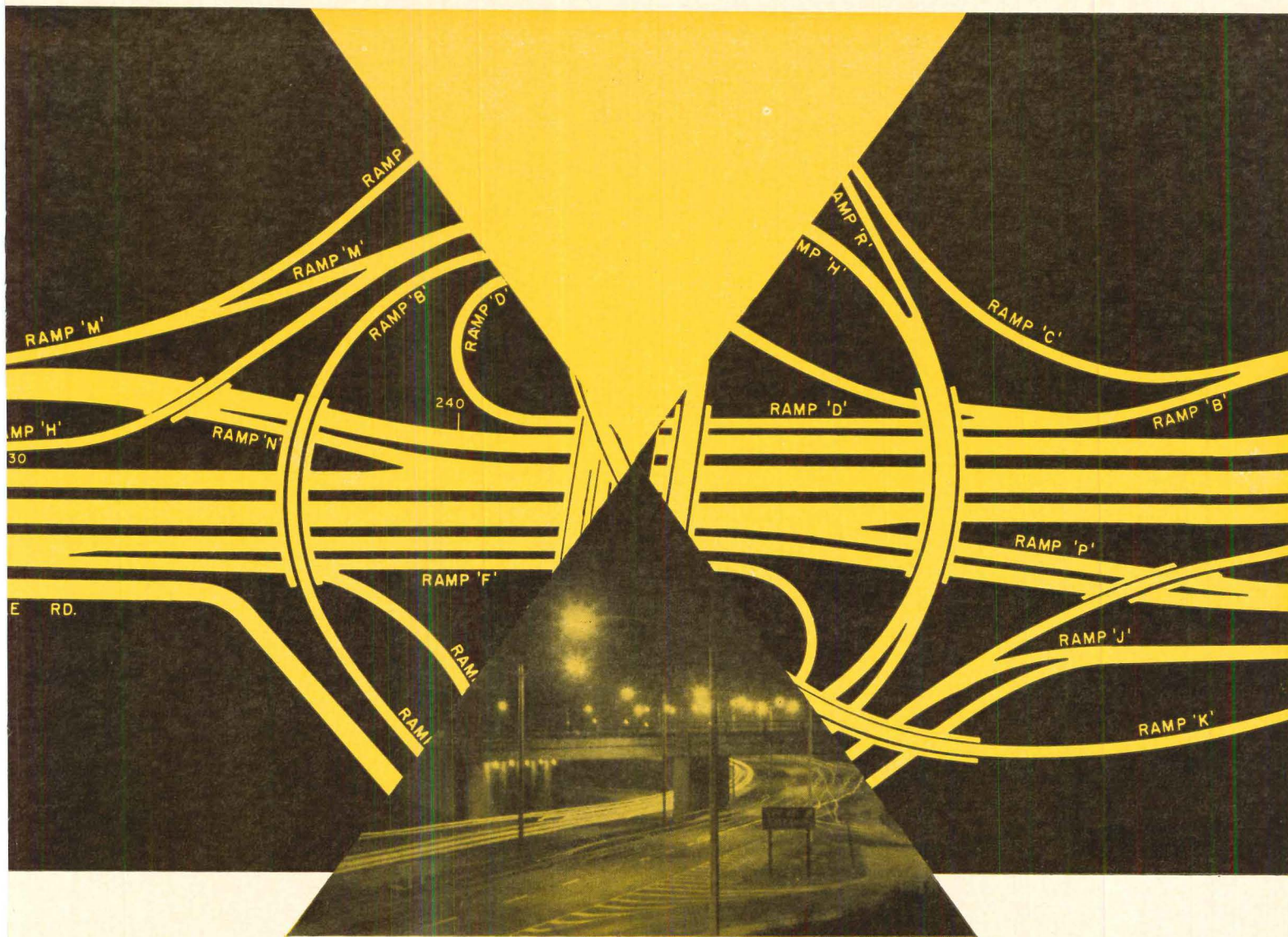
2-3 General Assembly, Union Internationale des Architectes—Paris

3-9 Tenth Annual International Seminar on Finnish Architecture and Design—Jyväskylä, Finland

5-7 72nd Annual Meeting, The American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.—Portland Hilton

continued on page 110

for lighting challenges without precedent



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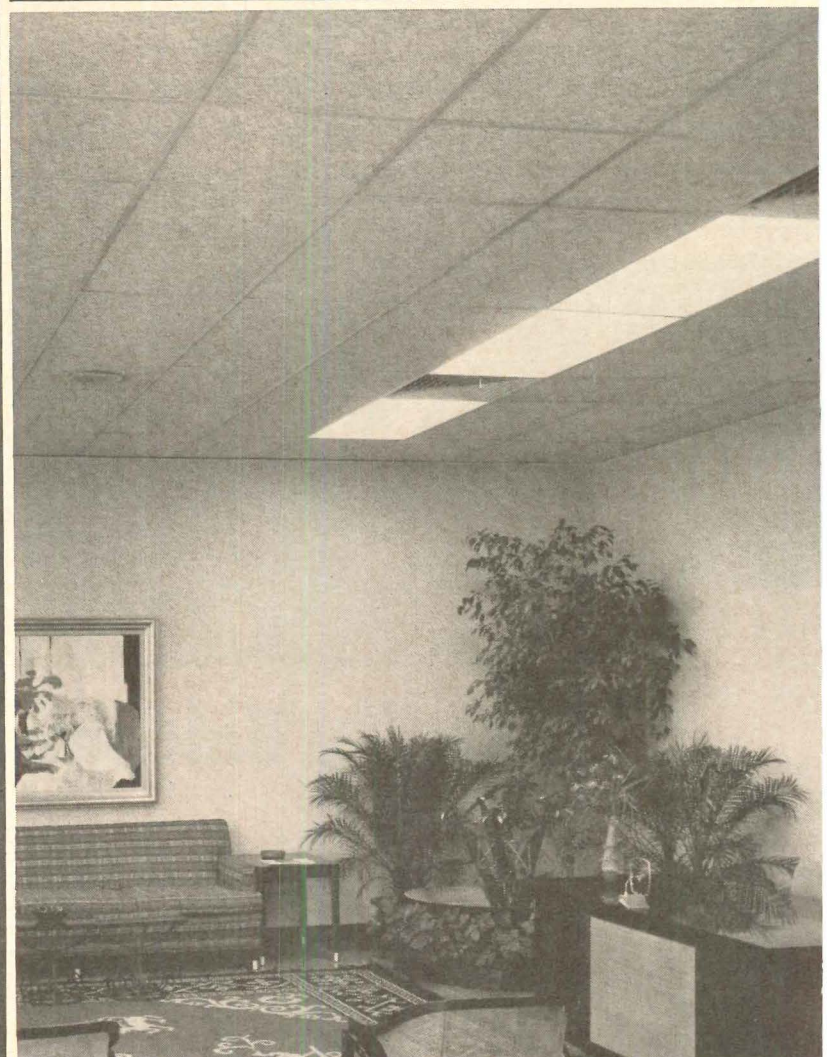
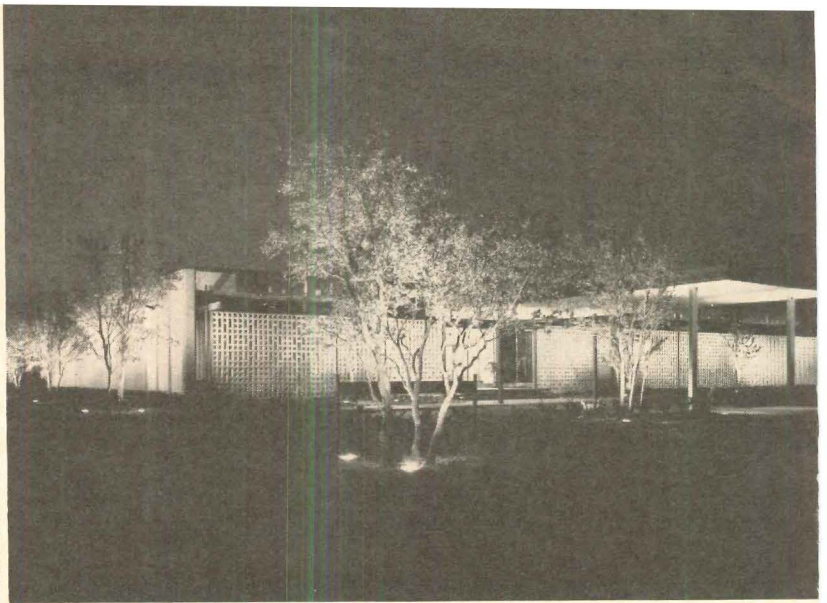
1120 Ave. of the Americas, New York 36, N.Y.

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The Southland Corporation, Dallas, Texas. Architects: Fisher & Spillman.

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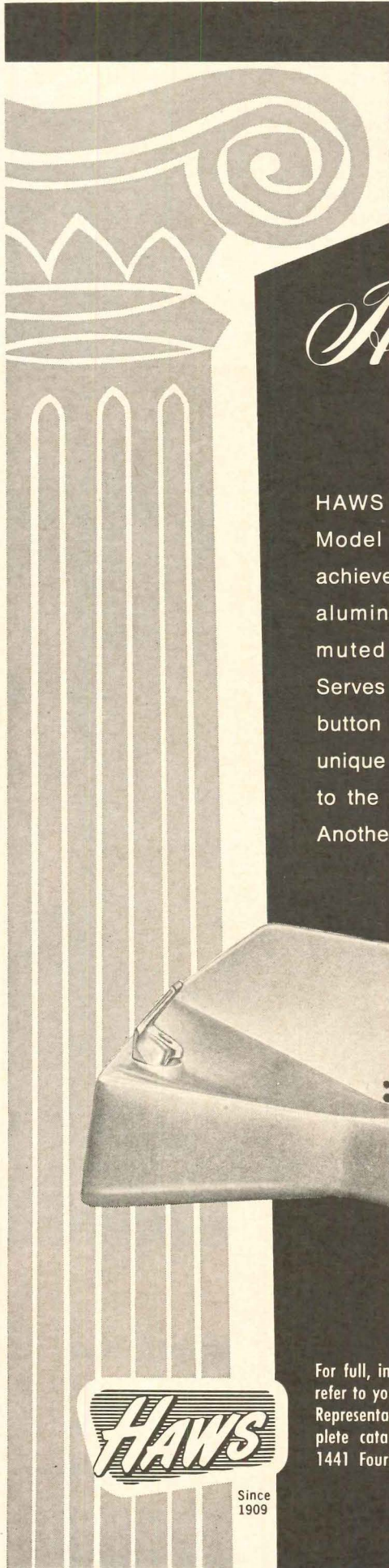
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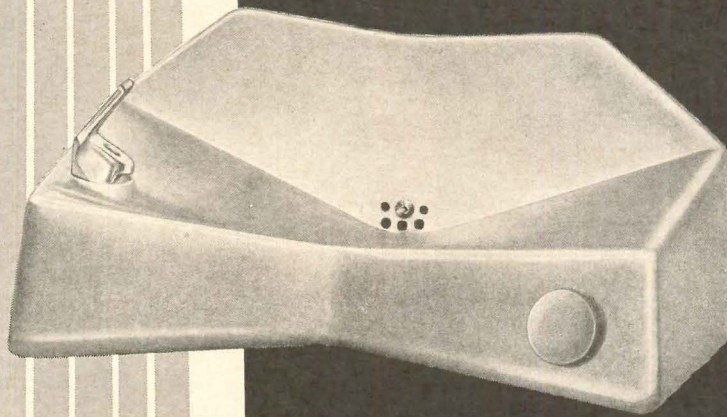
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On the Calendar

continued from page 106

Hotel, Portland, Oreg.

5-9 World Congress, Union Internationale des Architectes—Paris
 20-24 First of an annual series of International Seminars on Ekistics and the Future of Human Settlements, organized by the Graduate School of Ekistics—Athens

August

18-21 Annual Conference, Northwest Region, American Institute of Architects—Glacier National Park, Mont.

Office Notes

Offices Opened

Bolt, Beranek and Newman, Inc. of Cambridge, Mass., New York City, Chicago and Los Angeles, has announced the opening of a new office at 15808 Wyandotte St., Van Nuys, Calif. 91406

John T. Law, A.I.A., has opened an office for the practice of architecture and planning at 290 Mapache Drive, Portola Valley, Calif.

New Firms, Firm Changes

Abraham Waronoff, A.I.A., has been re-elected president and treasurer, and **Donald C. Alles, A.I.A.**, elected vice president and secretary of **Architectural-Engineering Services, Inc.**, Detroit.

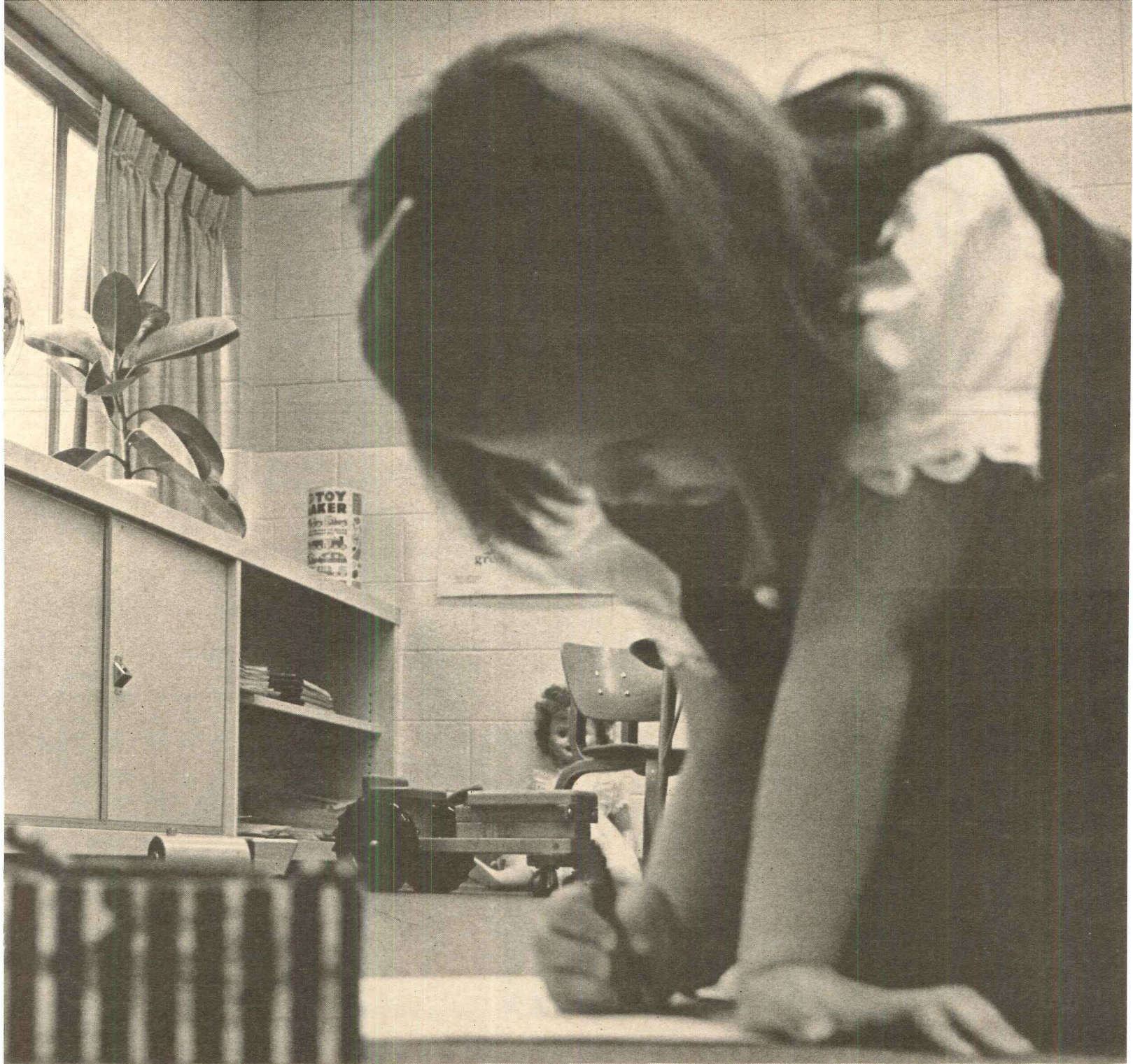
Conrad Buff III, Donald C. Hensman, Richard K. Fleming and **Charles S. McCune** have formed the partnership of **Buff & Hensman, Architects & Associates**, 1225 Linda Rosa Ave., Los Angeles.

Chastain and Tindel, Inc., consulting engineers, Atlanta, has elected **Karl T. Decker, Jr.** as vice president and **Thomas B. Harrell, Jr.** as associate in the firm.

The Engineers Collaborative, consulting engineers, Chicago, has appointed **Edward S. Hoffman** and **Charles James McDonald** as partners, **Rafael C. Cordero** and **Charles G. Novak** as associate partners, **Arthur G. Jones, David V. Remely** and **Esen Tokay** as participating associates; **Thomas F. Naughton** and **John J. White** as project engineers.

continued on page 130

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why Central chose Modine Valedictorian

This reason's name is Jenny. Some of the other reasons are Janet, Charlie, Kim . . .

After all, they're the most important reasons why anyone should choose a modern Valedictorian unit ventilator for classrooms. It creates a perfect environment for them—comfortable, and healthful, too.

That's because Valedictorian is designed to handle the *entire* air

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A built-in "weather center" controls Valedictorian's unique full damper system. It stays sensitively alert to the class' needs and responds with fresh, filtered air at the right temperatures — before Jenny or any of the other "reasons" even begins to feel discomfort.

The response is automatic.

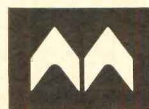
By the way, Valedictorian is so quiet you can whisper over it. Listen to one and hear for yourself.

The name is Valedictorian. It comes from Modine in a rainbow of decorator-color enamel and vinyl finishes. And it costs a lot less than you might think.

How many reasons do you have to use Valedictorian in your school?

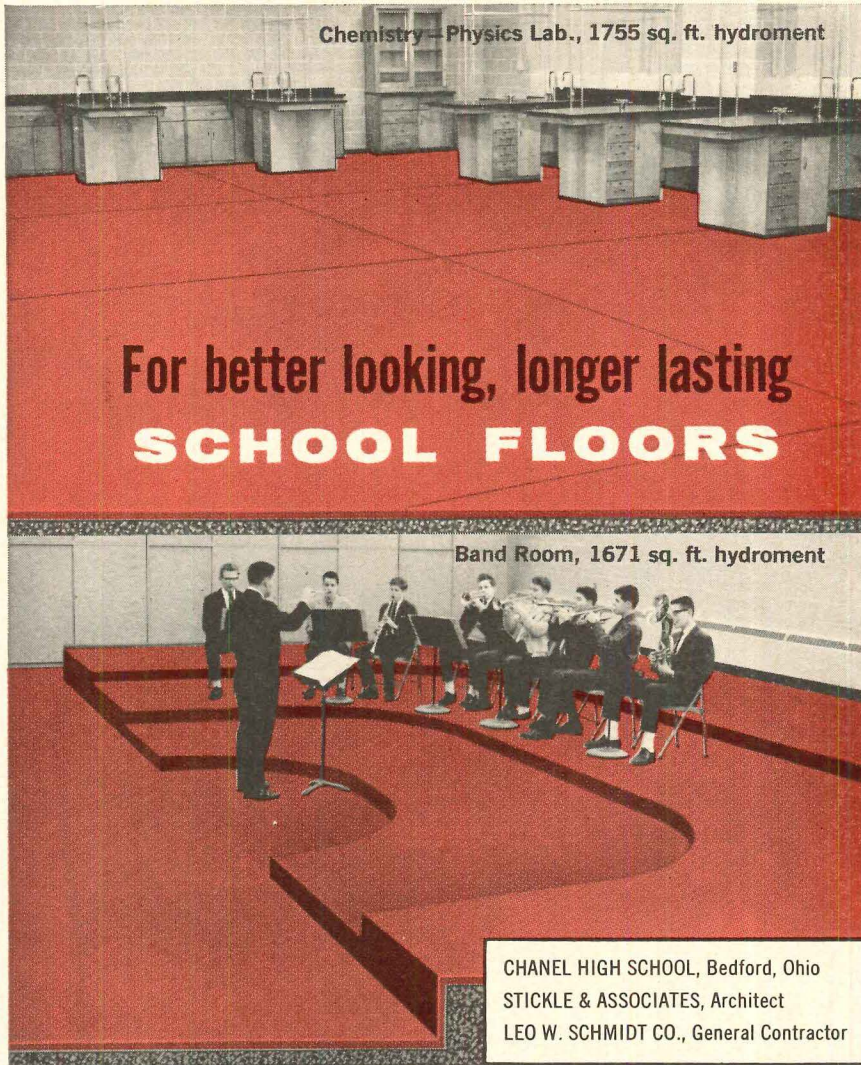
V1524

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Office Notes

continued from page 110

Herbert Kaplan has been made head of the specifications and cost control department of **John Hans Graham and Associates**, Arlington, Va.

Edward L. Holland, Architect, is the successor to **Gleeson & Mulrooney, Architects**, Philadelphia.

Wright B. Houghland, Carlton S. Abbott and Stanley W. Abbott have formed the office of **Wright B. Houghland and Associates**, architects, 438 Duke of Gloucester St., Williamsburg, Va.

Harry G. Widener, Jr., C.P.A., has been made a partner and **Donald A. Winkelmann** a senior associate in the Seattle architectural and engineering firm of **Naramore, Bain, Brady & Johanson**.

E. Paul Kelly, A.I.A., has become a partner in the firm to be known as **Ostwald and Kelly, Architects**, Berkeley, Calif.

The Perkins & Will Partnership, Chicago, New York City and Washington, D.C. has appointed **Edward C. Colin, A.I.A.**, **Albin B. Kisielius** and **Wesley V. Pipher** partners in the firm.

Elliot Saltzman, A.I.A., **William B. Gleckman, A.I.A.** and **Jack F. Zubli** are the members of a new firm **Saltzman, Gleckman Associates, Architects**, New York City.

Peter Van Dijk, A.I.A., has been made an associate of **Schafer, Flynn & Associates**, architects, Cleveland.

Schauder and Martin, Architects, of Toledo has appointed **Roland Y. Engler** an associate in the firm.

Swanson Associates, architects, engineers and planners, Bloomfield Hills, Mich. has added **Lynn W. Fry, A.I.A.**, to the staff as a consultant in the field of college and university planning.

New Addresses

Leo Kornblath Associates, International Telephone and Telegraph Building, 1707 L St., N.W., Washington, D.C.

Roger Lee Associates, One Jackson Place, 633 Battery St., San Francisco.

Edward Mahlum, A.I.A., architect, 109 W. Harrison St., Seattle.

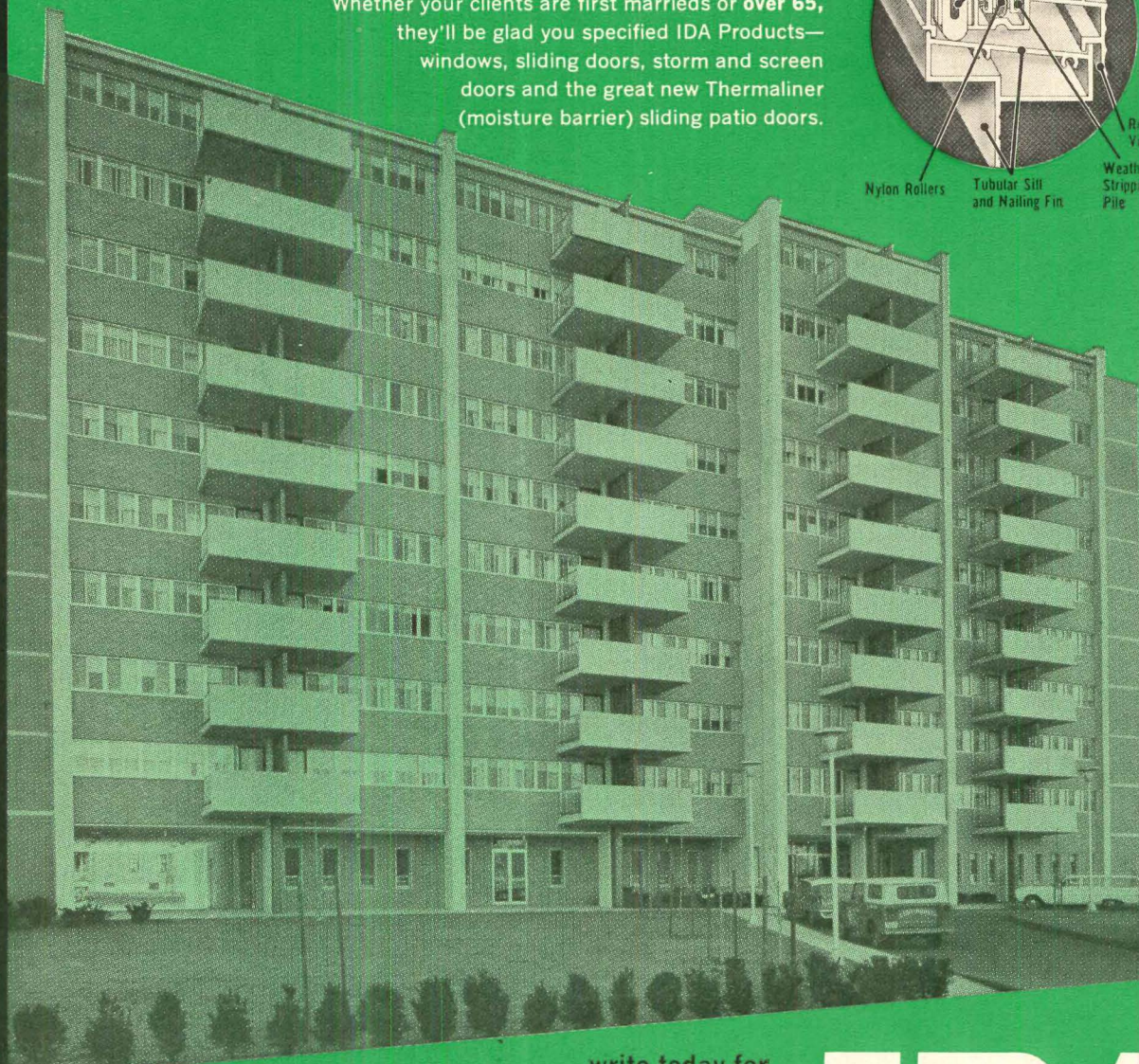
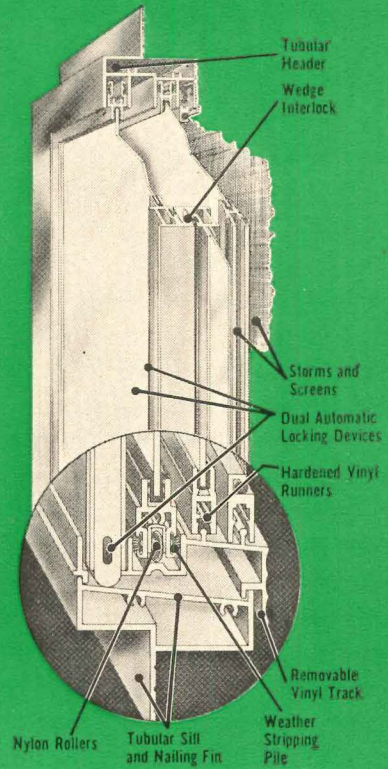
Edgar Wilson Smith, architect, 3838 S.W. Corbett Ave., Portland, Ore. 97201.

over 65 reasons to specify IDA Slidarol Windows

This is the recently completed housing development for the elderly at Woonsocket, R.I. Projects like this impose severe burdens on the architects and builders—primary criteria has to include ease-of-use, minimum maintenance, attractive design and economical cost.

IDA Slidarol Horizontal-Rolling Aluminum Windows proved to be the total answer . . . and more. The architect liked their easy design integration, their functional good looks. The builder appreciated how IDA Windows (factory assembled with continuous frame) reduced rough-opening problems, slashed installation time. Everybody loved their budget-stretching cost.

Whether your clients are first marrieds or over 65, they'll be glad you specified IDA Products—windows, sliding doors, storm and screen doors and the great new Thermaliner (moisture barrier) sliding patio doors.



For The Housing Authority of The City of Woonsocket, R. I.,
Architect: Castellucci, Galli and Planka Assoc., Providence,
General Contractor: Green Manor Construction Co.,
Ida Distributor: G. Fred Swanson Inc., Providence.

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No. 18 / AIR-ENTRAINED

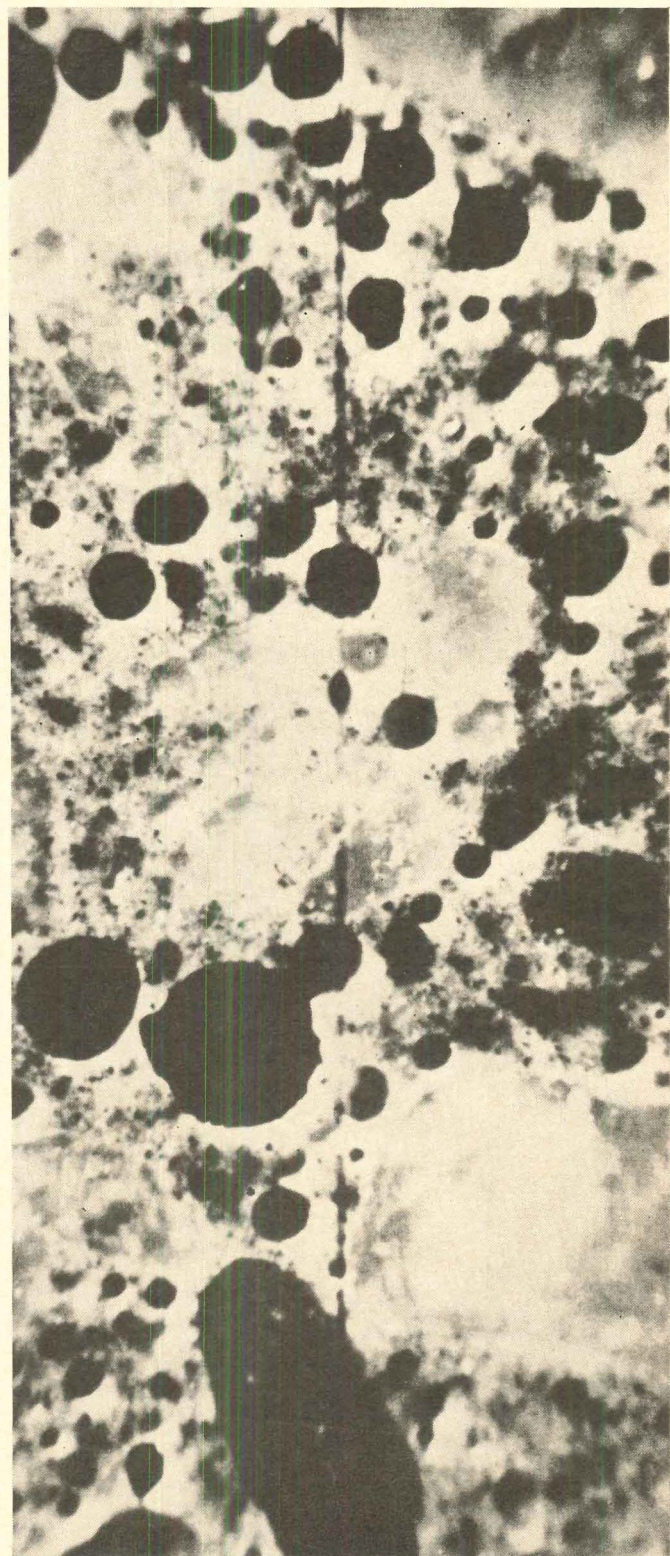
The principal reason for using intentionally entrained air in concrete is to improve its resistance to freezing and thawing. Field practice has shown that the amount of air indicated in Table 1 should be specified for air-entrained concrete to provide adequate resistance to deterioration from freeze-thaw cycles and from scaling due to de-icing chemicals.

Air entrainment provides additional important and beneficial effects in both fresh and hardened concrete. Workability is improved and there is less segregation and bleeding. Air-entrained concrete has superior water tightness and greater resistance to sulfates and sea water.

Air-entrained concrete is produced by using either an air-entraining cement or an air-entraining agent during the concrete mixing.

Unlike trapped air voids, intentionally entrained air bubbles are extremely small—diameters range from about a thousandth of an inch to about a hundredth of an inch. These bubbles are not interconnected and are well distributed throughout the paste (water + cement + air). Fig. 1 shows a photograph of hardened air-entrained concrete as it appears through a microscope. Strength of air-entrained concrete is principally dependent on the voids-cement ratio, as shown in Fig. 2. However, the increased workability with air entrainment permits a reduction in water content. If cement content is held constant, the increase in strength due to the reduction of water tends to offset the loss of strength from entrained air. In fact, with smaller maximum size aggregate more water can usually be removed when air is entrained. This may result in an increase in strength.

The greatest advance in concrete technology of the past thirty years, air entrainment is today recommended for concrete for nearly all purposes.



← 0.01 in. →

FIG. 1. A greatly magnified section of air-entrained concrete. Black round areas are air bubbles formed by air-entraining agent. Pieces of aggregate shown are sand particles.

CONCRETE

Clip for a.i.a. file 4-a

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Portland Cement Association

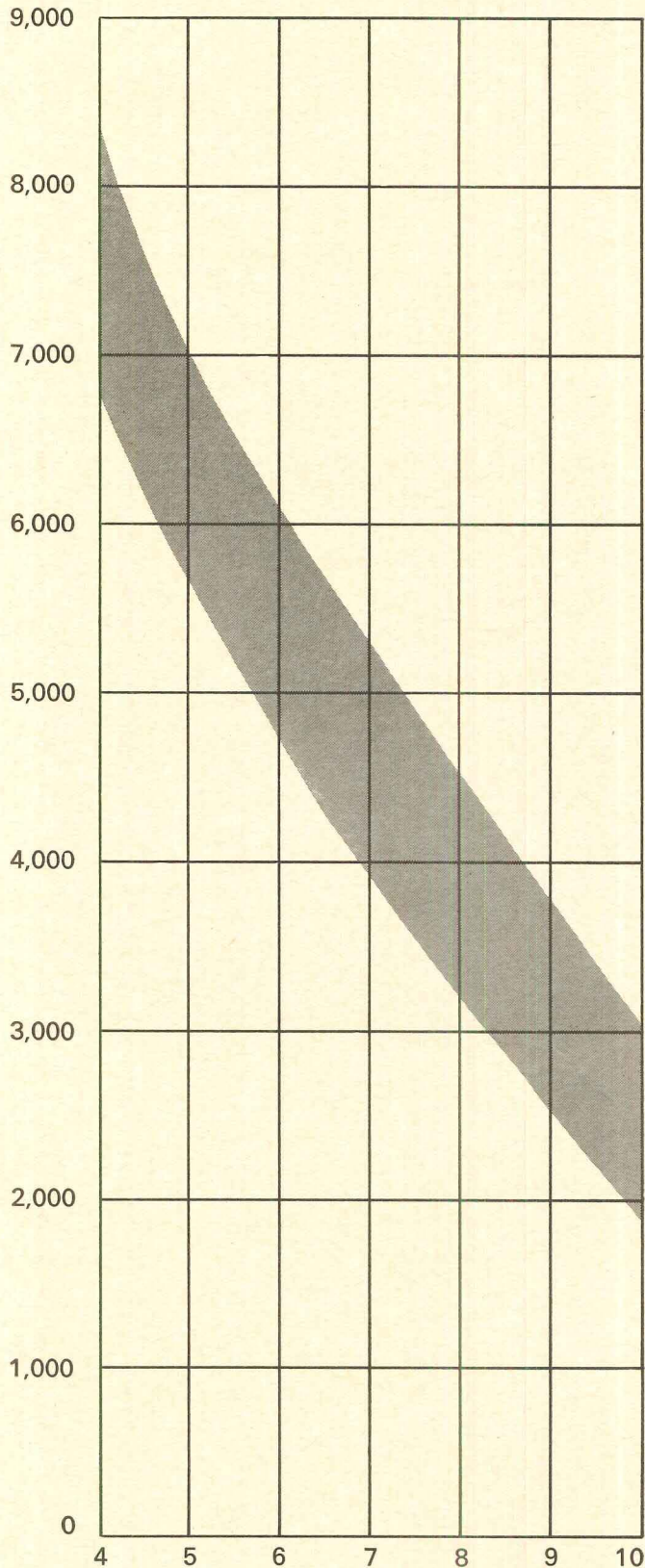


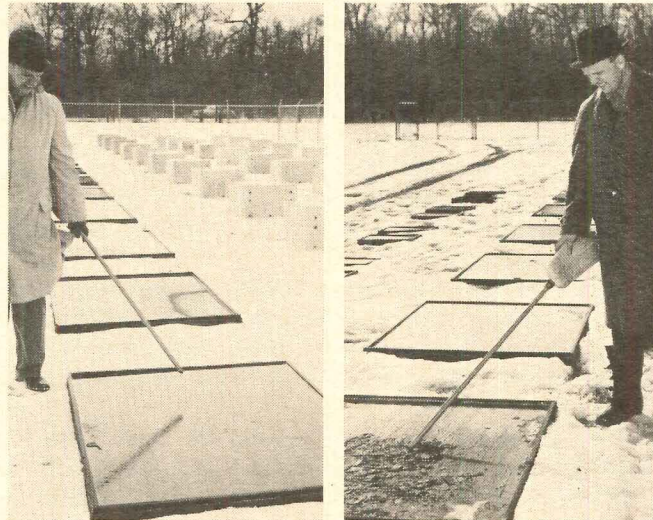
FIG. 2. Relationship between 28-day compressive strength and the voids-cement ratio. "Voids" is the total volume of water *plus* entrained air.

TABLE 1

RECOMMENDED AIR CONTENTS FOR CONCRETES SUBJECT TO SEVERE EXPOSURE CONDITIONS

Maximum size coarse aggregate, inches	Air content, per cent by volume
1½, 2, or 2½	5 ± 1
¾ or 1	6 ± 1
¾ or ½	7½ ± 1

NOTE: Air contents are expressed in terms of per cent by volume of the concrete. For convenience, it can be considered that the air is entrained only in the mortar fraction of the concrete. Concreted made with small-size aggregates require more mortar; greater air contents, therefore, are required for the same protection. Expressed in terms of the mortar fraction passing the No. "4" sieve, the air content should be about 9% by volume.



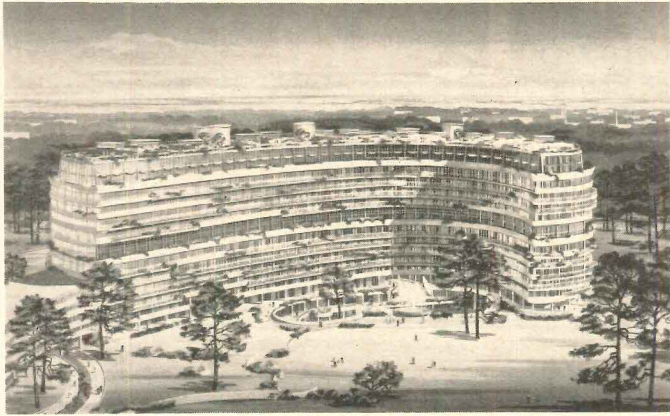
Test plot at PCA laboratories shows how air entrainment prevents scaling. Slabs containing 6% entrained air (left) show no scaling after five winters of severe exposure and heavy salting. Nearly all of the non-air-entrained slabs (right) have scaled. For further details write for free information sheet, "Air-Entrained Concrete." (U.S. and Canada only.)

Portland Cement Association

Dept. A6-8, 33 W. Grand Ave., Chicago, Illinois 60610

An organization to improve and extend the uses of concrete, made possible by the financial support of most competing cement manufacturers in the United States and Canada

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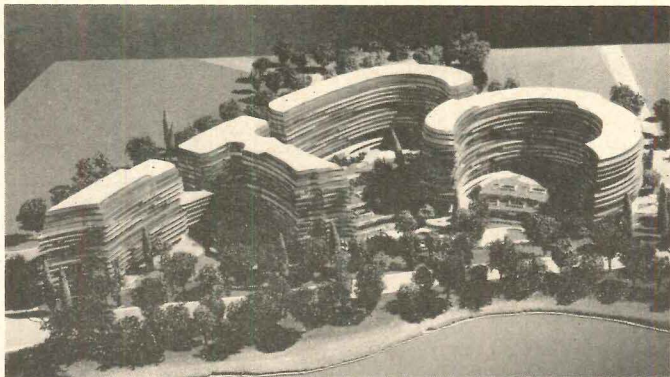
WATERGATE COMPLEX HAS NEARLY 1,000 APARTMENTS

The Watergate multi-use development in Washington, D.C., bordering the Potomac River, will have three cooperative apartment buildings and a residential hotel-office building. The \$66 million complex was designed by Italian architect Luigi Moretti and the Washington firm of Corning, Moore, Elmore and Fischer. Landscape architect is Boris Timchenko and the general contractor for Watergate East and the office building-residential hotel now under construction is Magazine Brothers Construction Company. Project financing is by the John Hancock Mutual Life Insurance Company, arranged by the Donald H. Richardson Company of Washington.

There will be nearly 1,000 units, ranging in price from \$20,000 to more than \$200,000, in the three apartment building. In Watergate East (above) there are 167 different floor plans. The seventh and eighth floors of the building are combined for duplex apartments. Most apartments will have long wrap-around balconies, and the curvilinear shape of the structure will allow maximum frontage on the Potomac.

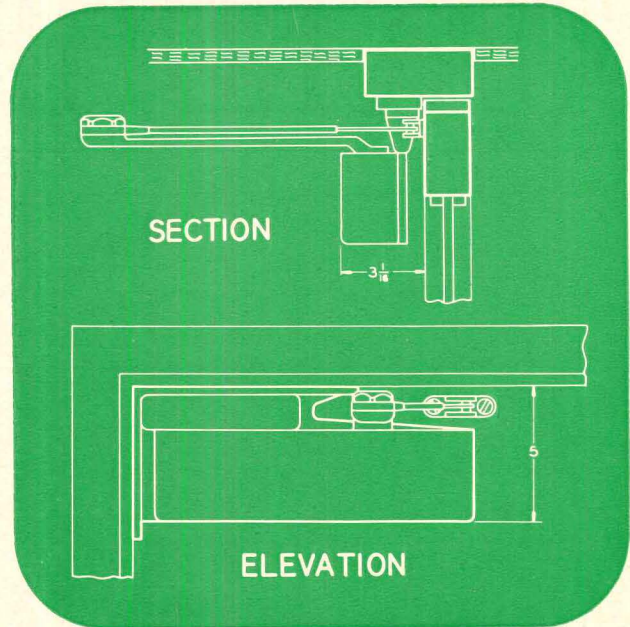
The office building will contain 200,000 square feet of space and occupancy will be limited to professional and nonprofit groups. The residential hotel will have 340 rooms. The entire project will include three restaurants and four swimming pools.

Parking will be provided underground for 1,200 automobiles with no above-ground vehicular traffic permitted. The landscaping will be irregular and "romantic" on the river side of the complex. On the side of the complex facing the city the landscape will be formal.



Top center is Watergate East. At right is Watergate South, and at left is Watergate West, also cooperative apartments. Next to Watergate West is the office-residential hotel.

Del. Ankers Photographers



Application Details

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Viewed from the lobby with doors closed, the closers are not conspicuous.

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LCN

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A Division of Schlage Lock Company

Canada: LCN Closers of Canada, Ltd.,
P. O. Box 100, Port Credit, Ontario

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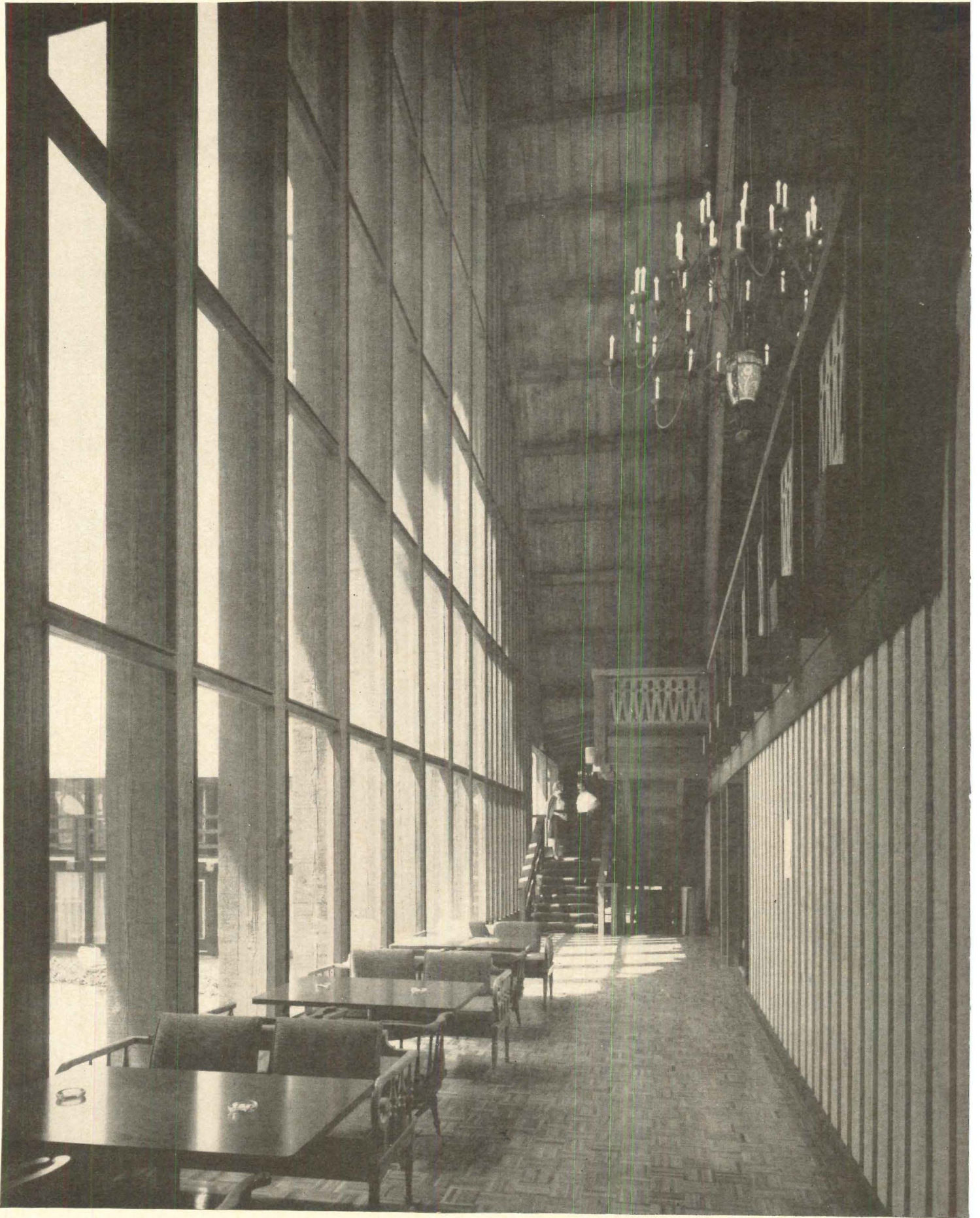
Modern Door Control by
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SMOOTHEE® Door Closers

University Center Building
Northern Illinois University
De Kalb, Illinois

Gilbert A. Johnson, Kile, Seehausen
& Associates, Architects

LCN CLOSERS, PRINCETON, ILLINOIS
Application Details on Opposite Page

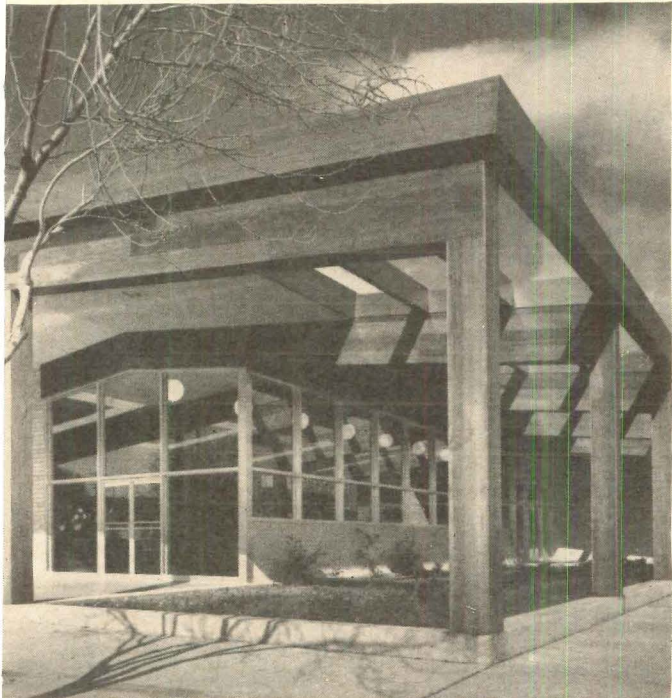




The grandeur of wood is seen in the beamed cathedral ceiling, the imposing A-frame, wood windows, stairs, and railings of "The Abbey," Fontana, Wisconsin. Architects-Engineers: A. Epstein & Sons, Inc., Chicago.

To match a mood and fulfill a function

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There's a wide variation among the moods and functions of banks, motor hotels, and funeral homes . . . yet, the beauty of wood enhances all these, and other light commercial structures, in a special way. As the mood and function change, so does wood.

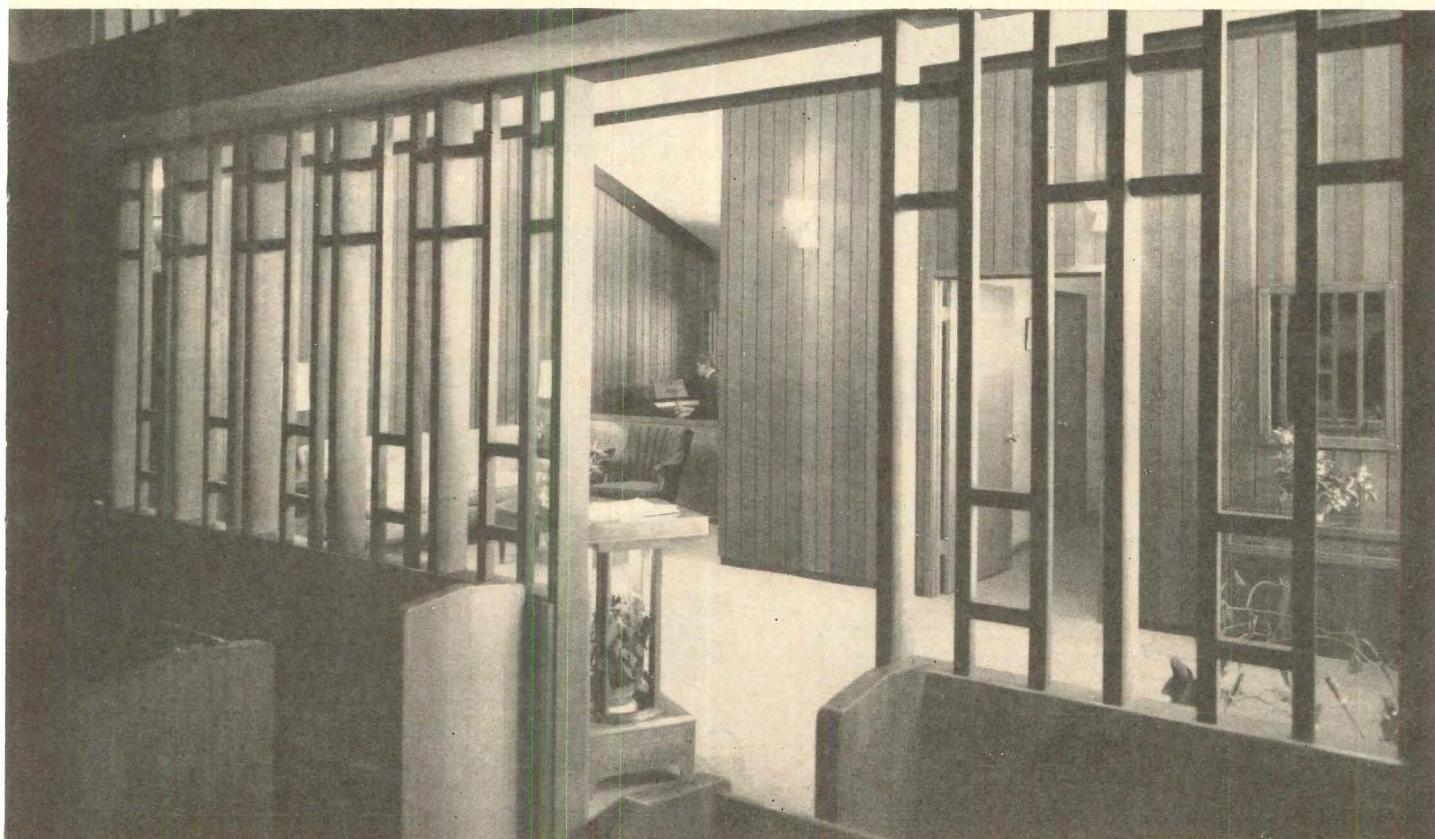
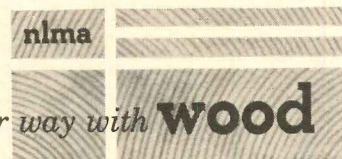
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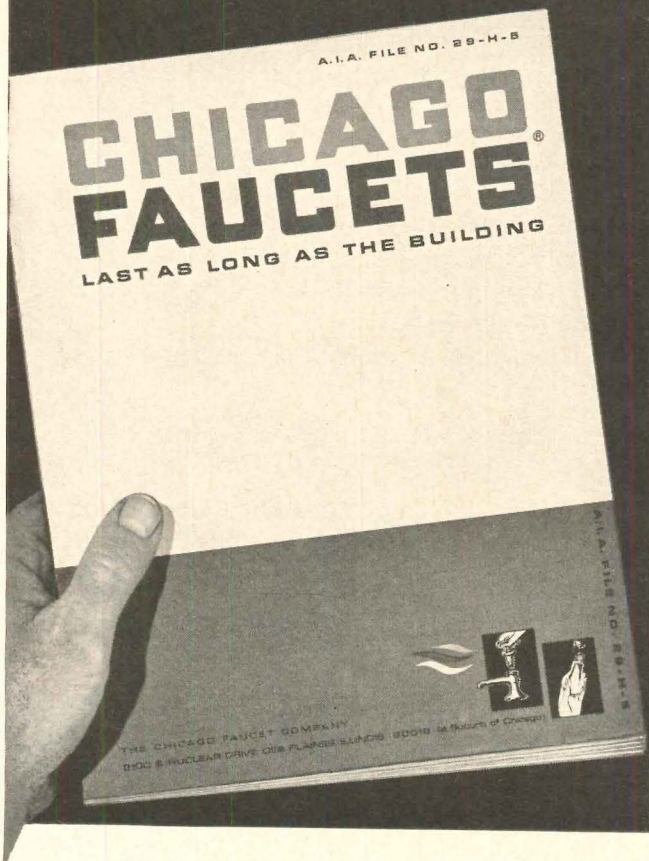
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Wood paneling and appointments create and maintain the proper mood for funeral services. The subdued brightness and the welcome warmth of redwood are apparent. Architects: Beland, Gianelli & Associates, A.I.A.

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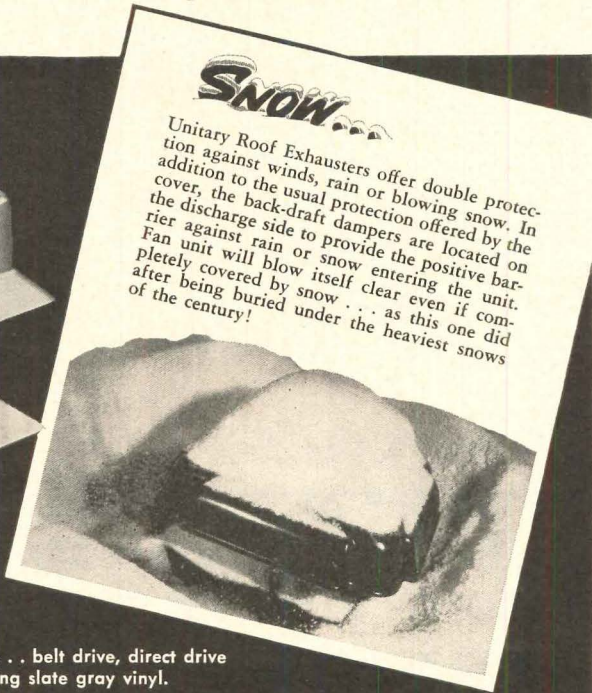
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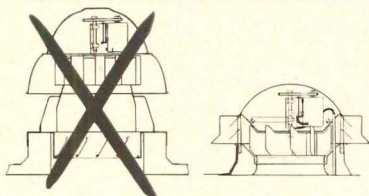
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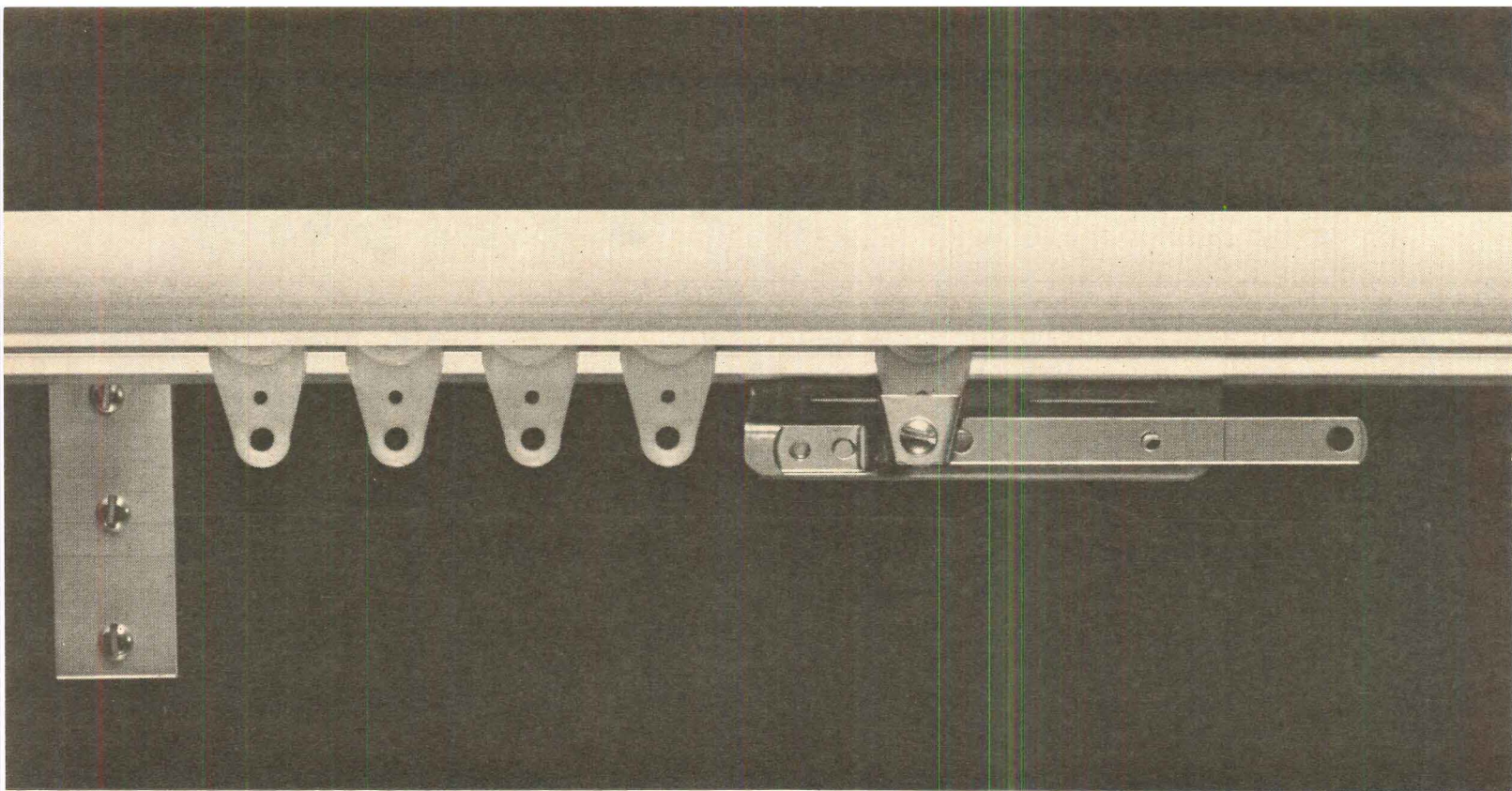
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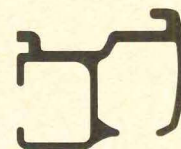
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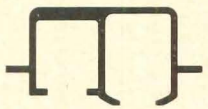
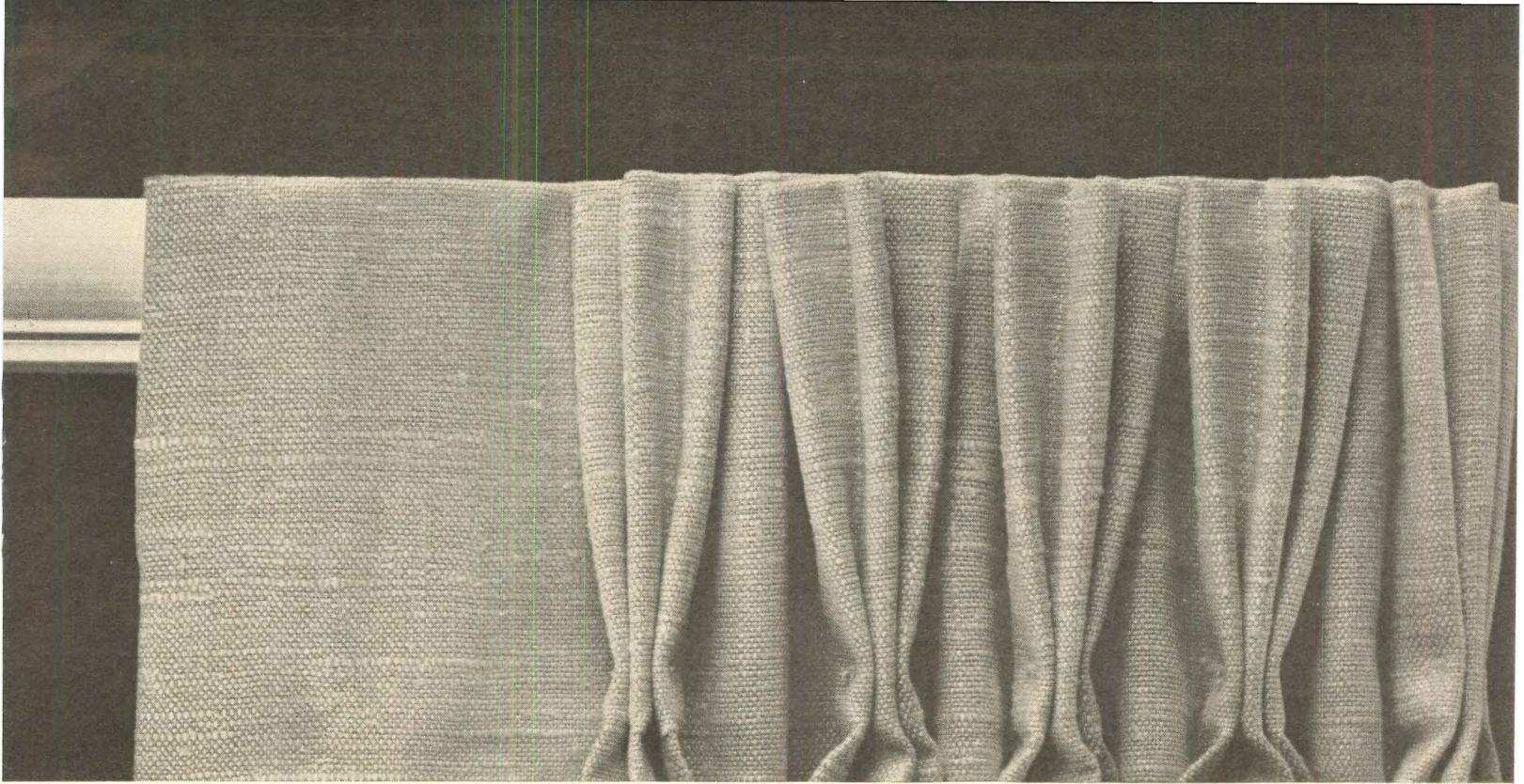
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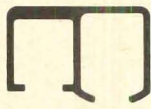


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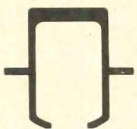
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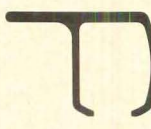
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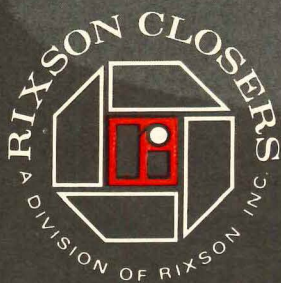
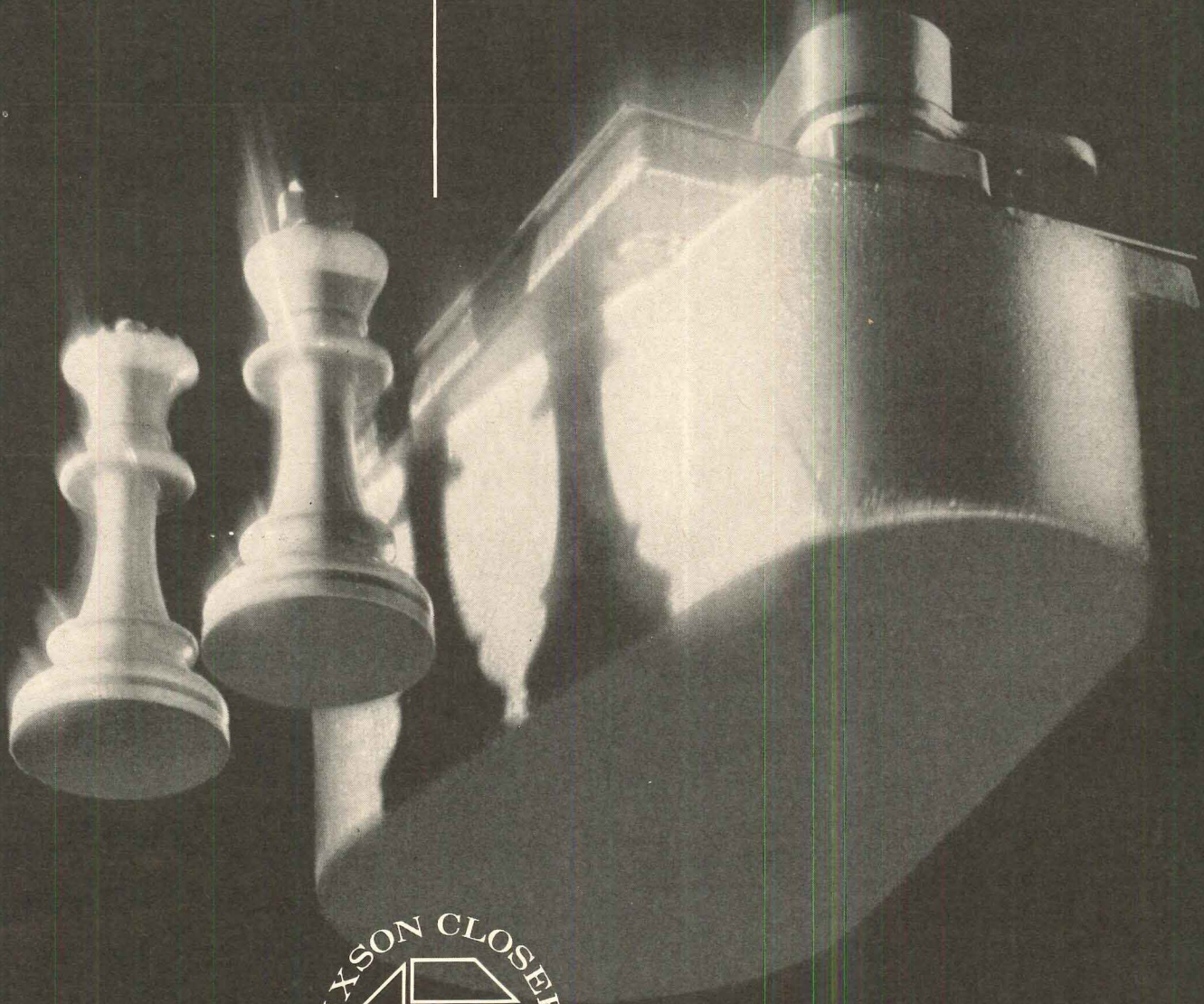
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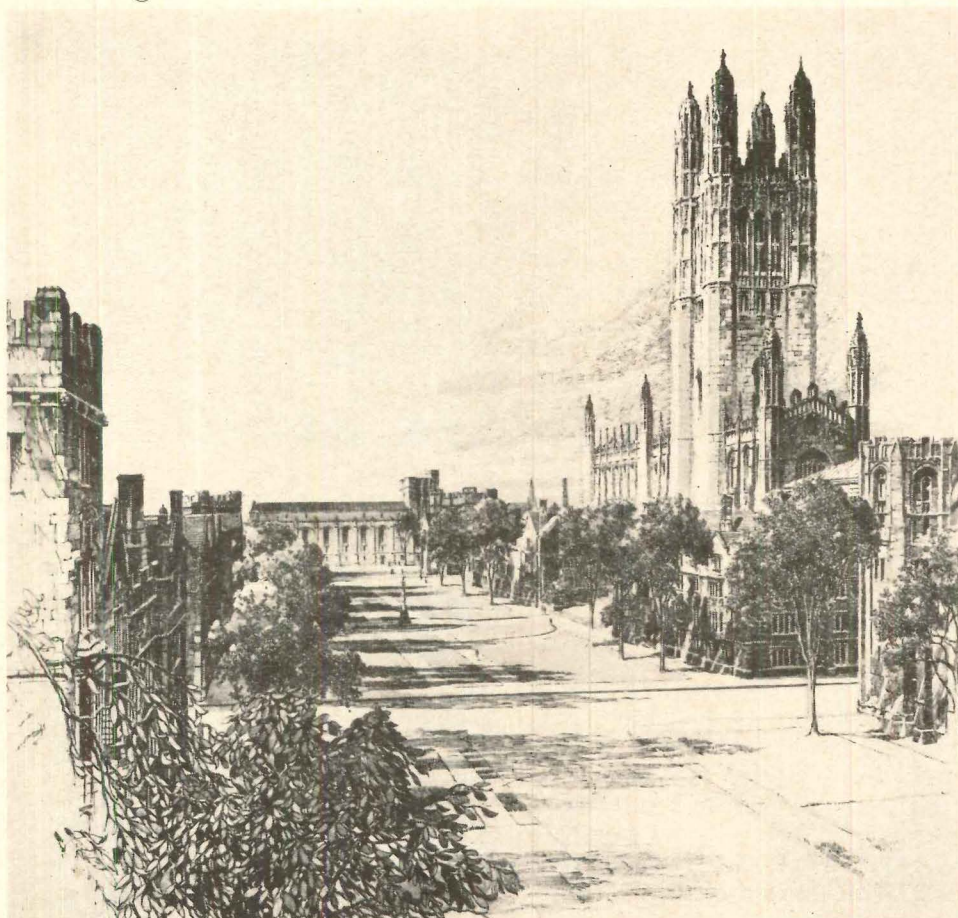


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COLLEGE BUILDINGS SHOULD BE PART OF UNIFIED CAMPUS DESIGN

By Jonathan Barnett

This drawing of campus quadrangle, made by the office of John Russell Pope in a bygone and leisurely era, probably expresses the concept of a college more clearly to more people than most modern college buildings do. Few would, or could, design such architecture today, let alone find anyone who would be able to pay for it. But when an architect sets to work on a new college building, he is likely to find that the unified and consistent designs of men like Pope have left a strong mark, on both the existing campus and the public image of what college architecture should be.

True, there are those who feel that the concept of a college building as a distinctive architectural type is simply a sentimental notion, and can see no reason why a dormitory should be basically different from a motel or Y.M.C.A., a dining hall from a restaurant, or a classroom building from a high school. Such an attitude is in the tradition of the universities of Germany and France, where the club and café have always been the centers of student life, and not the buildings of the institution itself. It is also the position of the doctrinaire modernist, who believes that form should only follow tangible functions, and of those hard-headed individuals who feel that cost per square foot is the only truly significant architectural problem.

The American attitude towards the college experience, as a privileged and protected transitional phase, is, however, an attitude that is indeed highly charged with sentiment, at least in comparison with the more pragmatic Continental approach to higher education.

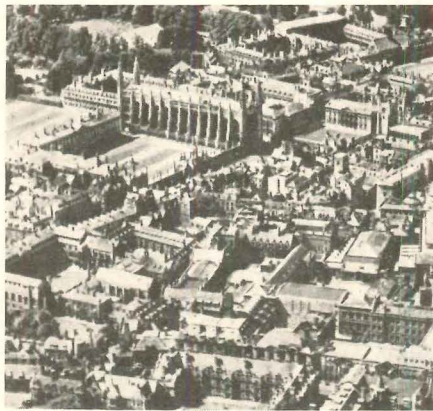
As the college student is not just attending courses, but participating in a way of life, the campus takes on a distinctive identity as the place where all important student activities occur. It inevitably becomes the focus of sentiment, the scene of the "bright college years" which the student identifies as his own (or revolts against) and to which the graduate returns with nostalgia.

The college building as a distinctive building type is thus inseparable from this concept of the college as a campus. A campus building can never be an ordinary problem, because it is part of a complex situation fraught with emotional significance.

The Campus Ideal

The college quadrangles at Oxford and Cambridge have long been considered to be the embodiment of the campus ideal, because they possess a special sense of place to such a high degree. Each seems to be a separate little enclave, sheltered from the world, with its own distinct history and associations. Some of this quality is, of course, simply the result of the close association between the colleges and the monastic orders during the middle ages, that made the court and cloister an integral part of the colleges' design. Much more than is generally recognized, however, this special sense of place was consciously cultivated during the late eighteenth and early nineteenth century. It was the so-called "picturesque" sensibility of that time that first saw these drafty medieval relics, and the uncompleted fragments of grandiose baroque plans, as "courts peopled with forgotten hours;" and it was the buildings and the landscape gardening of this period which transformed these colleges into architectural compositions that conveyed a sense of a special way of life, lived continuously over many centuries.

This effect was achieved by carefully considering the impression that a building, or a group of buildings, would make upon the person looking at them. The spectator's viewpoint towards architecture, which the eighteenth century talked about in terms of picturesque composition, and we tend to talk about (often fatuously) in terms of "sequences of spaces" and the "interpenetration of solid and void," turned out to be the crucial aspect of campus design as



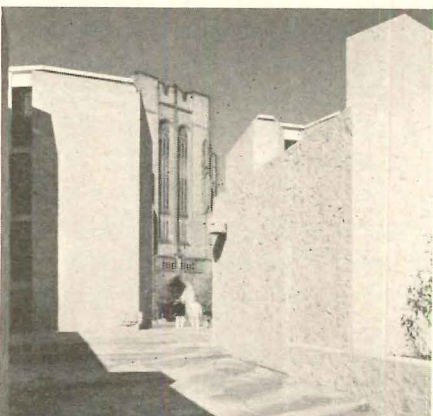
The colleges at Cambridge possess a special sense of place to a high degree



The early American campus was a plot of land occupied by isolated buildings



Some think that new buildings need not relate directly to the old



Saarinen's Stiles and Morse Colleges fit with Yale's older buildings

John Russell Pope and his contemporaries understood it, and as we still understand it today.

It was an element distinctly not present in the first American college buildings. With a few oft-cited exceptions, like Ramée's plan for Union College and Jefferson's buildings for the University of Virginia, the early American campus was simply a plot of land occupied by a number of isolated buildings, related to each other in the most simple-minded manner. It was not until the middle of the nineteenth century, with the growth of the concept of college life, that Americans began trying to create a specifically collegiate atmosphere in their academic buildings. These first attempts frequently took the form of more or less literal representations of structures at Cambridge and Oxford, which, while they may occasionally look quite charming to modern eyes, did not capture the essential quality of the great English universities. It was not until architects understood that continuities of color, mass and scale, the alternation of large and small spaces, and the effects of light and shadow, were of far more fundamental significance than variations of historical detail, that they were able to design buildings that conveyed the atmosphere they desired. Quadrangles at universities like Stanford, Chicago, Princeton and Yale were also architectural achievements of a high order, even if their expressive vocabulary is now considered somewhat artificial and theatrical.

A Lesson Repeated

The lesson learned in these buildings had to be repeated all over again for modern architecture. Some of the college designs completed in the early fifties have become permanent embarrassments because of their assumption that, if they solved their own problems, their relation to other buildings would take care of itself. Even worse were the buildings that relied on a perfunctory nod and bow in the direction of whatever historical style had been followed on the campus, as if "style" by itself were all that were needed.

Even where the basic problems were understood, the decisions were difficult and the pitfalls many. Harvard and Brandeis are two good cases in point: one the nation's oldest uni-

versity, with a famous campus full of well-loved buildings; the other, one of the first new campuses growing up where no college had been before.

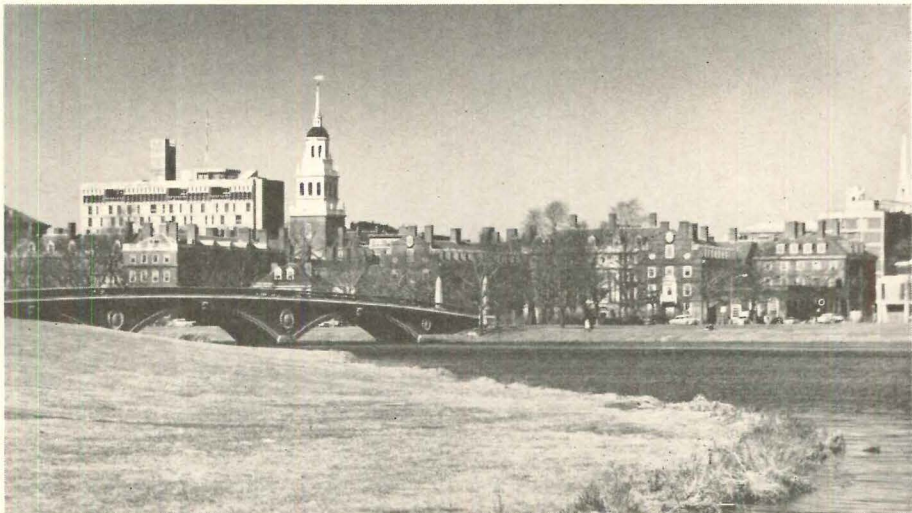
Harvard, once a place of rosy brick and white woodwork, its low enclosing courts punctuated by occasional cupolas and delicate spires, now owns the only Le Corbusier building in captivity on the North American continent, and has also constructed a number of powerful white tower blocks that differ in both texture and scale from the genteel historicism of an earlier day. This juxtaposition of opposites is part of a deliberate attempt to create a new architectural order considered more appropriate to the twentieth century, but this order has not yet emerged.

Brandeis, which possessed a master plan by Eero Saarinen that would have given it a clear physical identity, neither followed its outlines nor does it seem to have kept to any substitute. As a result, although there are many excellent buildings on the campus, they compete with each other and neutralize, to some extent, their individual good qualities. As one visiting architect put it: "Brandeis is a zoo."

Other campuses have been more fortunate. Yale's new buildings are diverse; but Yale had a strong existing texture, and the new buildings, such as Saarinen's Stiles and Morse Colleges, were carefully designed to fit. Only the Rare Book Library, trapped between "classic" and "gothic" neighbors, was unable to fully resolve its site relationship, although the problem was minimized by reducing the building's apparent bulk as much as possible.

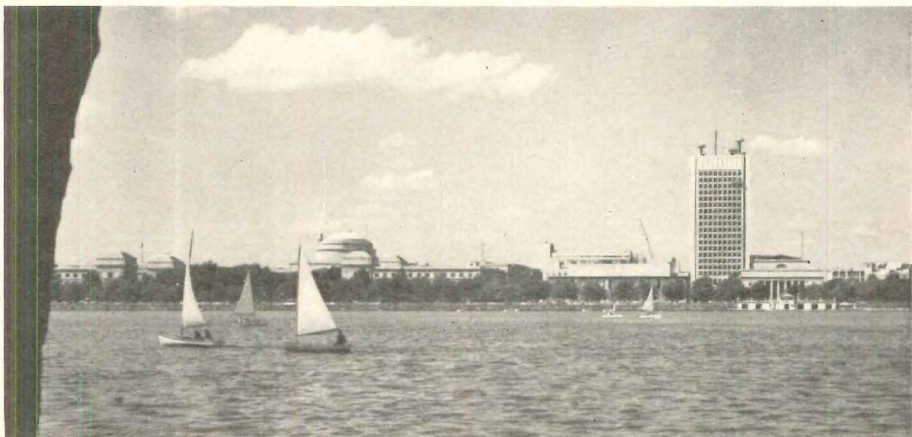
M.I.T., whose new buildings had been each unlike the other, has shown with I. M. Pei's new Earth Sciences Building that it is possible to add a radically new element which nevertheless is entirely faithful to the spirit of the older work. Pei's building is not an addition to the campus but a part of it.

Such success is relatively rare, however. The problem of the college building as a part of a college campus is a difficult one, capable of many different solutions, and susceptible of many different types of failure. Each building on the following pages approaches the problem in a somewhat different way. The extent to which each is successful is the subject of this study.



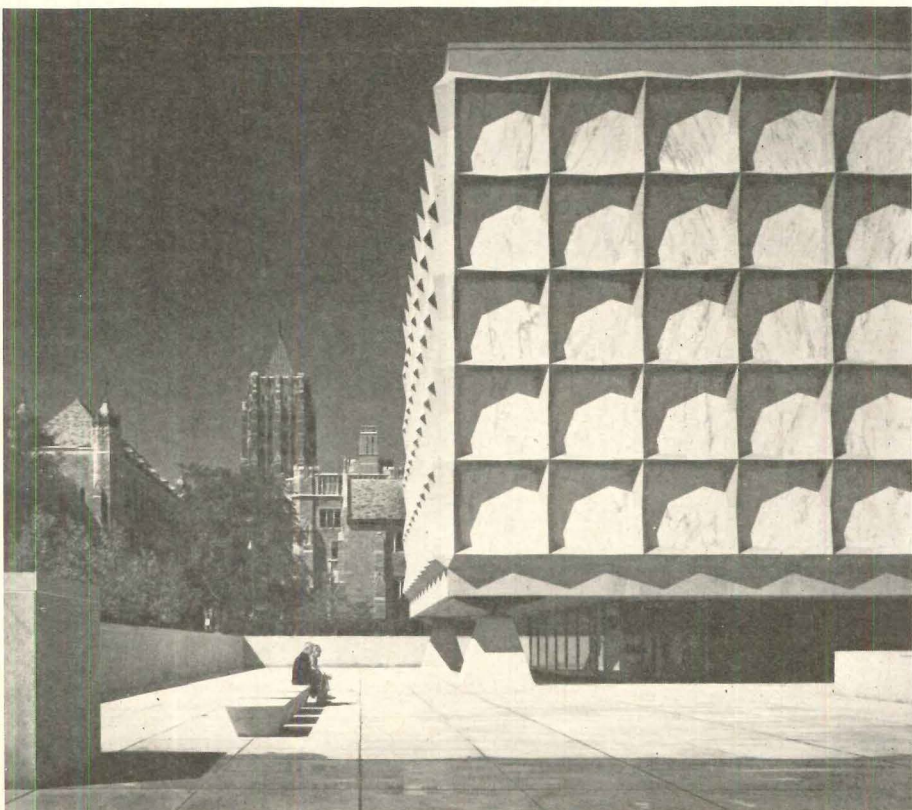
Louis Reens

Harvard is now a juxtaposition of opposites; no new order has yet emerged



Joseph W. Molitor

Pei's Earth Science Building at M.I.T. is faithful to the spirit of the older work



© Ezra Stoller

Yale's Rare Book Library: The site problem is minimized but unresolved



IVORY TOWER FOR BOWDOIN COLLEGE

Hugh Stubbins' design for the new Bowdoin Senior Center gives form to an educational experiment

The presence of a tall tower on the campus of a small college in rural Maine arises from special provisions of an original educational program. Bowdoin is a college with an unusually strong fraternity system. Something like 97 per cent of the students belong to one of the 12 campus chapters, and they are pledged to them three days before freshman classes begin. When the college decided to expand from 775 to 925 students, the administration found an opportunity to modify the fraternities' influence on Bowdoin's educational atmosphere.

After much discussion, it was decided that the seniors, who might well be ready for a change from fraternity life, should be separated from the rest of the campus and allowed to live, eat, and study within their own individual complex of buildings, in close contact with faculty members and distinguished visitors.

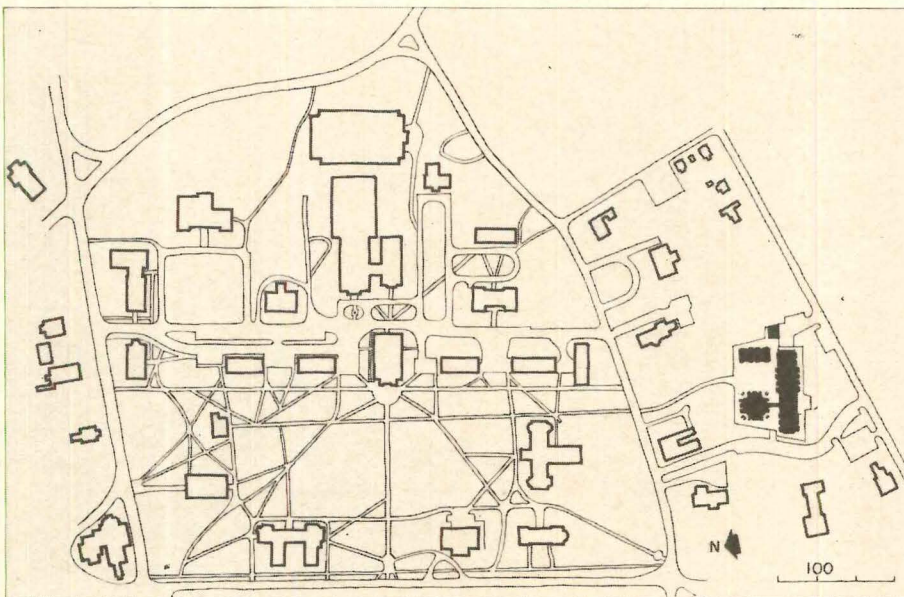
Stubbins' buildings give form to this concept in a very clear and direct way. The student rooms occupy a 16-story tower, one of the tallest buildings in Maine and a real landmark in the generally flat area in which the college is located. The tower stands just outside the main campus quadrangle and is so sited that there is a clear view from one to the other. The tower thus becomes a symbolic structure, standing aside from the campus and yet overlooking it, which would seem to be an exact statement of its purpose and basic relationship.

The students have individual study bedrooms arranged in suites, with a common room for each group of four, and four such suites to a floor. The common rooms occupy the corners of the tower, with the bedrooms and bathrooms in between. As the bathrooms actually connect bedrooms



Main entrance to the Senior Center.

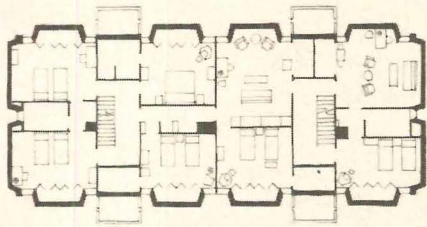
Photos © Ezra Stoller



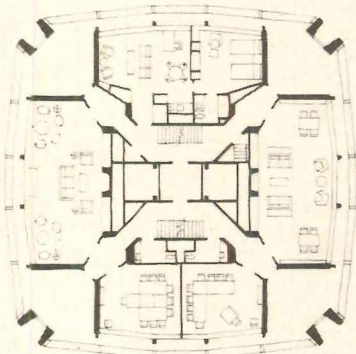
Plan of Bowdoin campus: Senior Center is at right



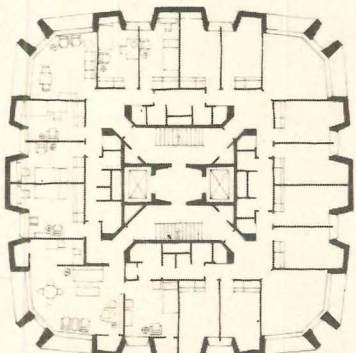
The courtyard, looking towards the dining room



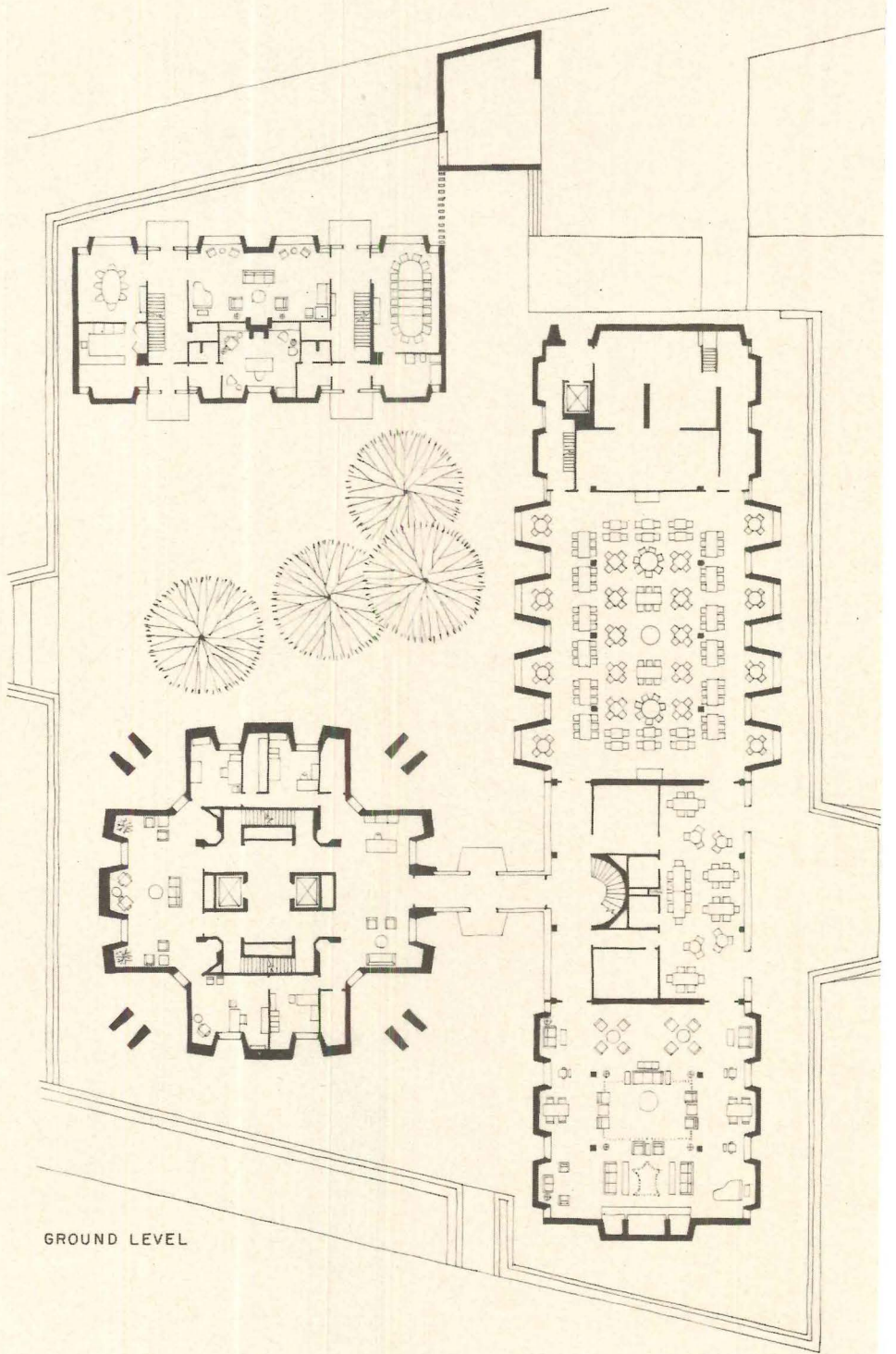
SECOND FLOOR



PENTHOUSE FLOOR



TYPICAL FLOOR



GROUND LEVEL

10

from different suites, the whole floor is tied together into a single unit, permitting flexibility in the actual size of the student living groups.

The tower building also contains seminar and conference rooms, lounges, a small library, accommodations for lecturers and other visitors, and the administrative offices for the Center. One of the two subsidiary buildings is a faculty residence, with apartments for the director and other participants in the program; the other contains the main lounge, dining room and kitchen.

The architectural vocabulary of the Senior Center is based upon the expression of individual and personal elements. The angular brick walls of the tower enclose alcoves for the students' desks, making the study area the controlling element of the facade. Similarly, the strong pattern of projecting bays along the dining room walls forms private alcoves for small tables sheltered from the main dining area. The large cornices that unify all three of the buildings, and the raised terrace on which the buildings stand, serve to impose order on these individual elements. This type of formal analysis can be taken too far, and frequently is, but the point is simply that the architecture is founded upon elements that, if not exactly functional necessities, are nevertheless legitimate expressions of the basic nature of the building.

As Professor William B. Whiteside, the director of the Senior Center, put it in a symposium on undergraduate environment held at Bowdoin in 1962: "Mr. Stubbins has tried to bring to this program a physical plant which will support it, which will reinforce it, and which will make it easier for us to do what we are attempting to do with the students . . ."

Senior Center, Bowdoin College, Brunswick, Maine. Architects: Hugh Stubbins and Associates, Inc.—Hugh Stubbins, architect, Norman I. Paterson, project manager, Peter Woytuk, collaborating in design, John Lee Wacker, collaborating in landscape. Structural engineers: LeMessurier Associates, Inc.; mechanical engineers: Buerkel & Co., Inc.; electrical engineers: Thompson Engineering Co.; food service equipment consultants: Crabtree, Dawson & Michaels; interior furnishings consultants: Contract Interiors, Inc.; general contractor: George A. Fuller, Inc.



The main dining room



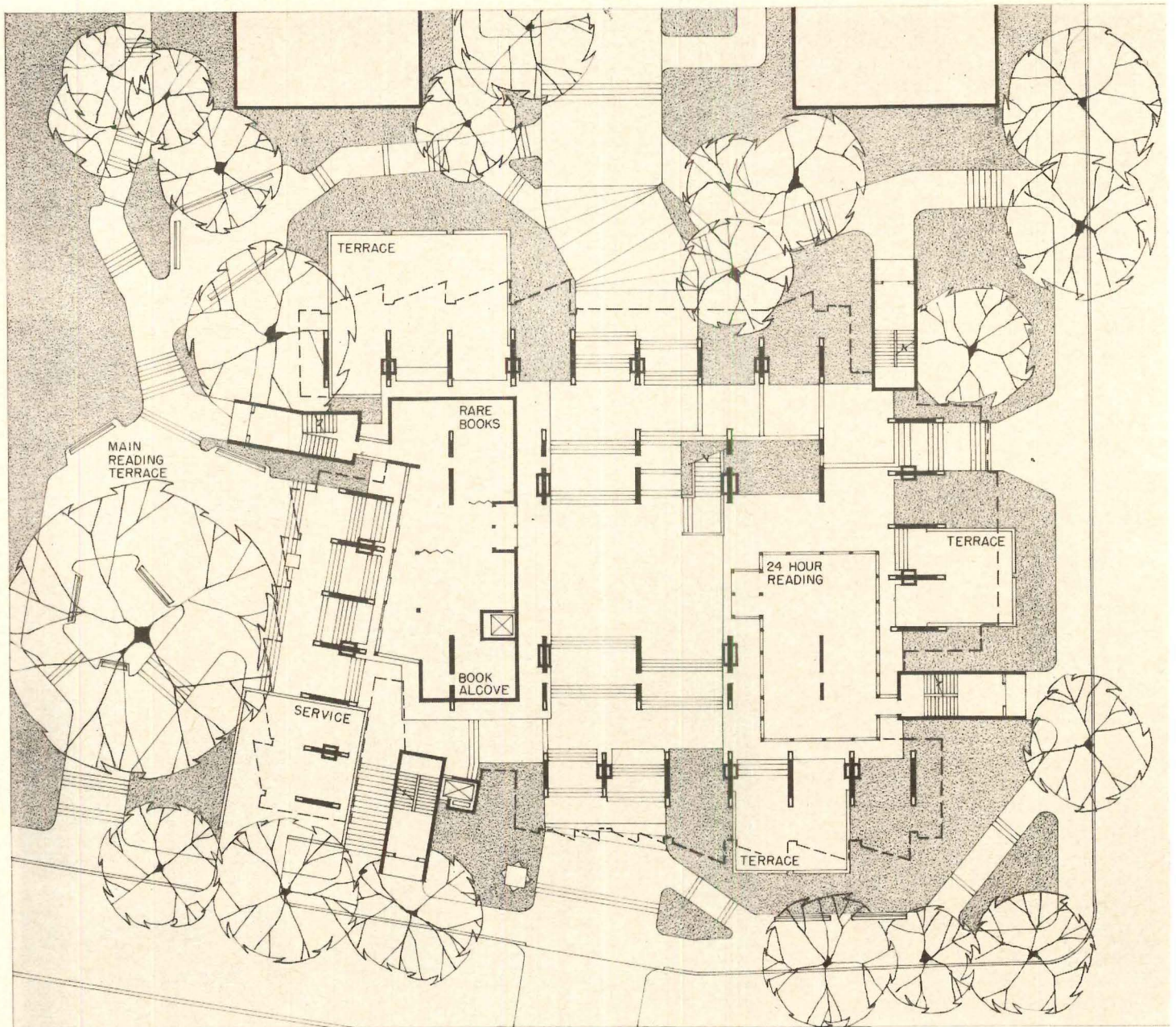
The main lounge



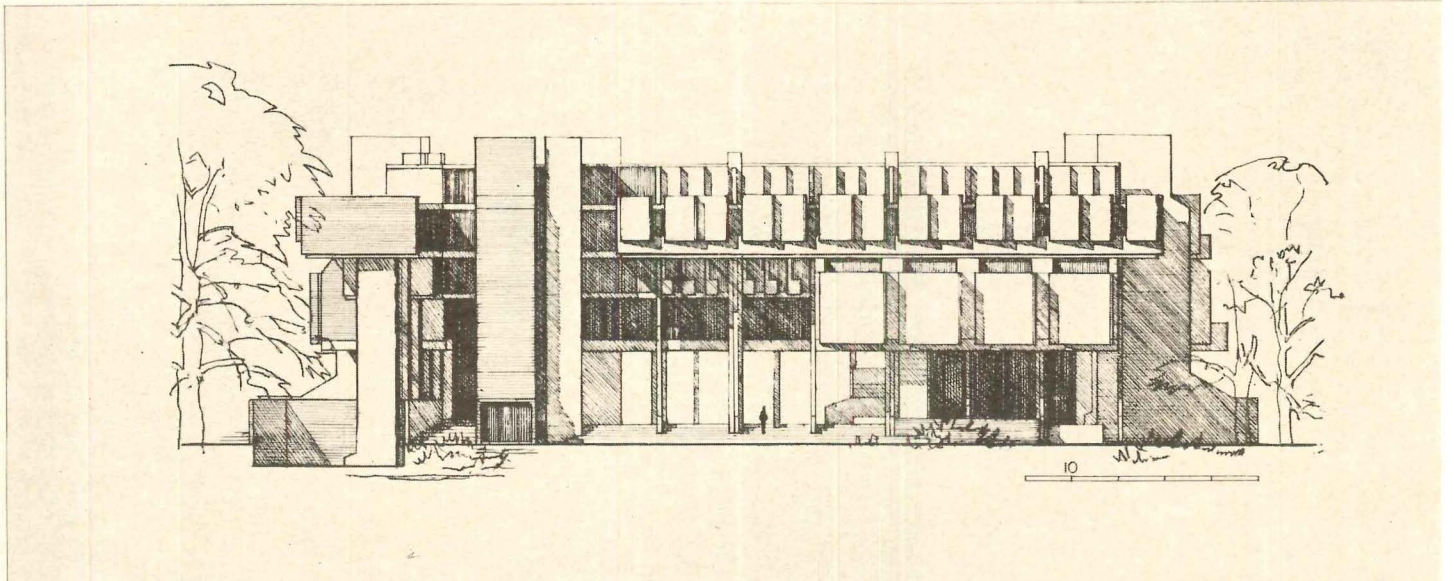
A typical student bedroom



Lounge at top of tower



Floor plan at grade. Rare book room is also memorial to Goddard



Strongly modeled entrance facade will hold its own against Gothic neighbors

FOCAL POINT AT CLARK UNIVERSITY

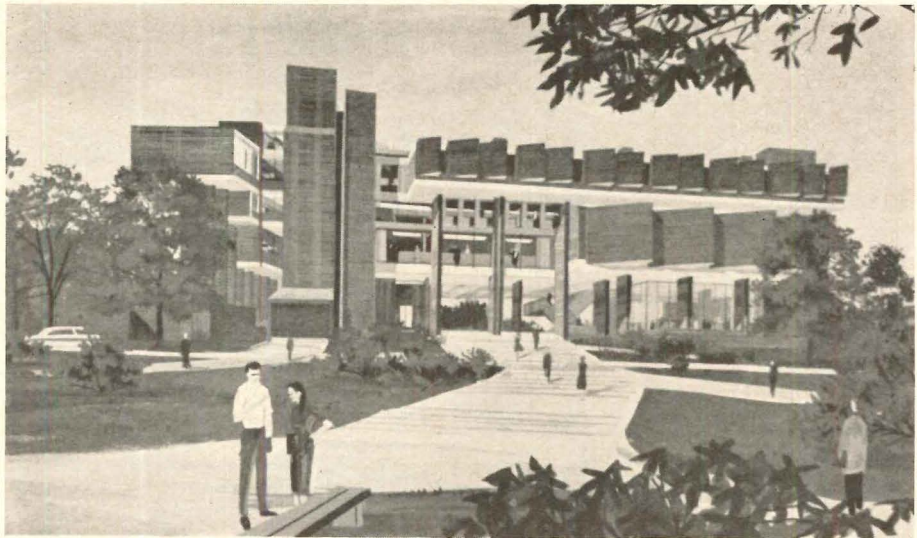
The Goddard Library
by John Johansen
carries out campus plan by
The Architects Collaborative

The Architects Collaborative, when they drew up their master plan for Clark University, selected a hill in the center of the campus as the site for the new university library. They chose it because they felt that the book collection, as the heart of the academic process, should have a central and prominent location; and the University accepted the site, despite the fact that it meant tearing down the President's house, which then occupied the spot.

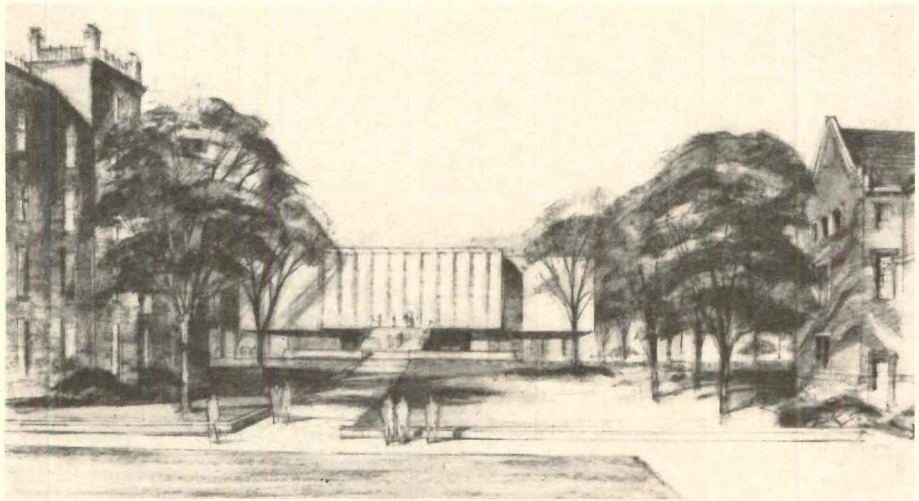
TAC, as part of the presentation of its master plan, had made some generalized sketch designs for the library; and, as they had placed it at the head of a residential complex, had indicated the possibility that the building should be both a solid object closing the quadrangle and a gateway as well. When John Johansen was selected as the architect for the library, he took up this idea and enlarged upon it, making it far more expressive, monumental and dramatic. The whole building was raised up on piers, and the space beneath became not only a gateway, but an agora, a meeting place in warm weather, and a symbolic center at other times.

The ground floor space is also made to house elements of the program that do not bear a close connection to the rest of the library: a study room that can be left open 24 hours a day, a rare book collection, and a memorial room dedicated to Robert H. Goddard, a pioneer of rocket technology who once taught at Clark, and for whom the building is named. The main reading room, catalog and circulation desk are on the floor above, reached by a broad and monumental staircase.

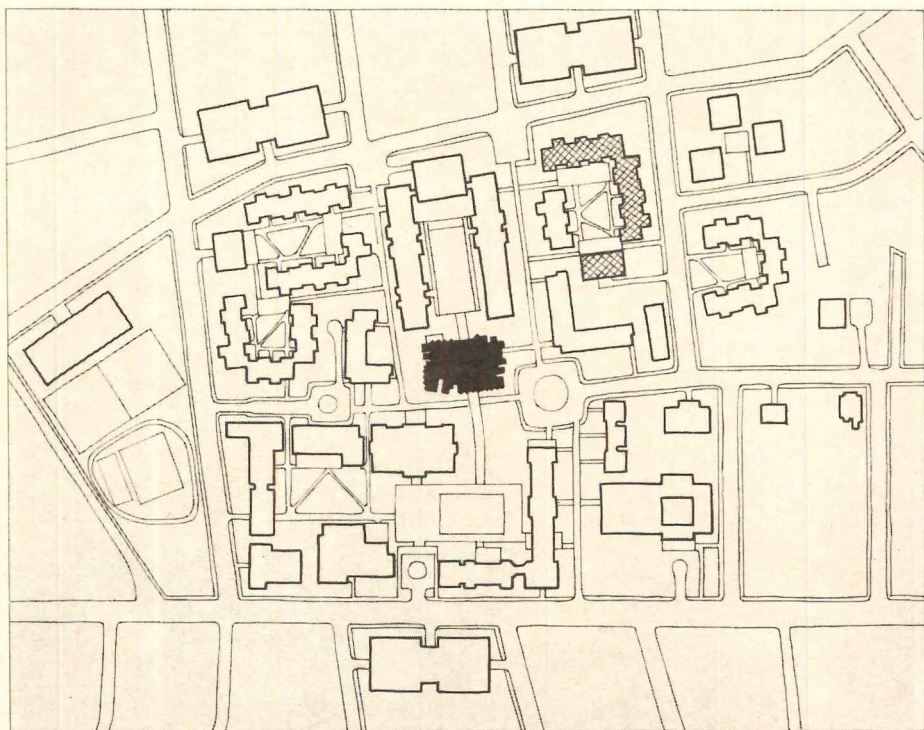
The architect sees this building as a central treasury, containing books, encircled by subsidiary elements that



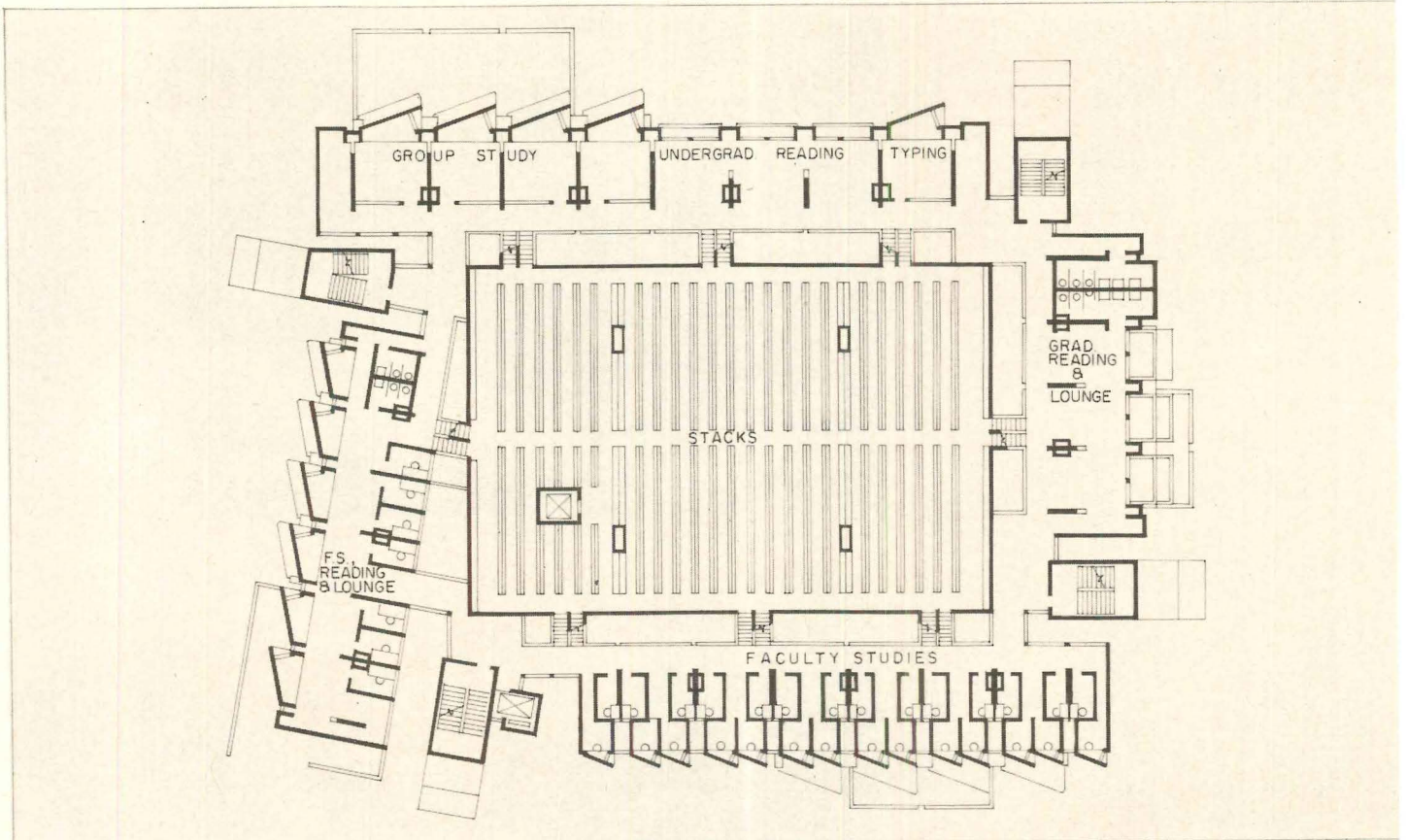
Main entrance to the library from the center of the campus



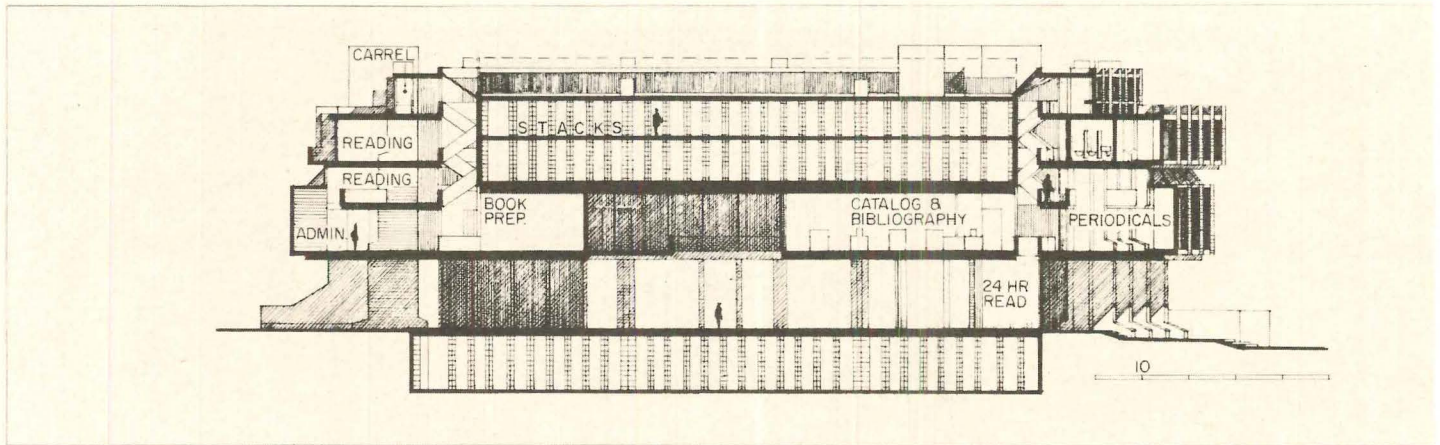
View of library in TAC's master plan presentation



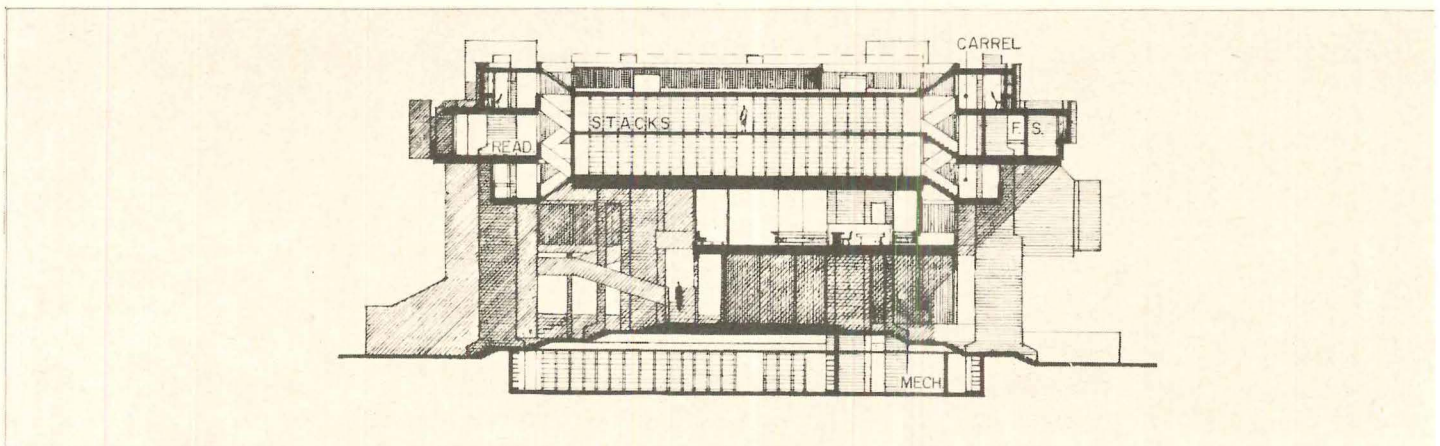
Master plan showing position of library. Dormitory quadrangle (crosshatched) appeared in May issue of ARCHITECTURAL RECORD on pages 157-168



Typical floor plan showing relationship of stacks to subsidiary elements



Longitudinal section shows how natural light is brought deep into the interior



Progression of spaces from open ground floor to small carrels at top of building

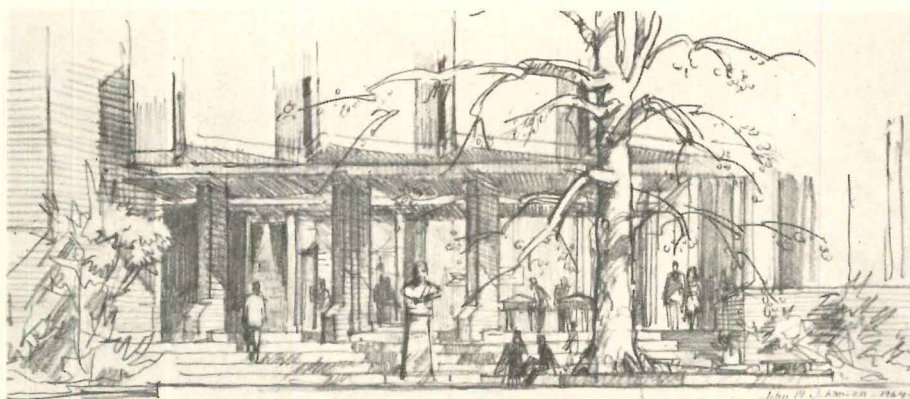
are gathered around it by a sort of magnetic attraction. As the neighboring roads and buildings also exercise a magnetic attraction, so to speak, these surrounding elements are somewhat out of parallel with each other, in order to accommodate themselves to the various "pulls" upon them. Whatever the validity of this poetic explanation, the irregular site is very neatly resolved, and the splaying out of one side of the building accentuates its function as a gateway—opening wide to draw people in.

The various elements of the building are each strongly articulated and given a distinct expressive character. The encircling blocks are separated from the book stack by wells which bring natural light deep into the interior of the building. Within these blocks, the various types of reading and office areas have a sharply delineated form of their own, a saw-tooth profile designed to bring in daylight without glare.

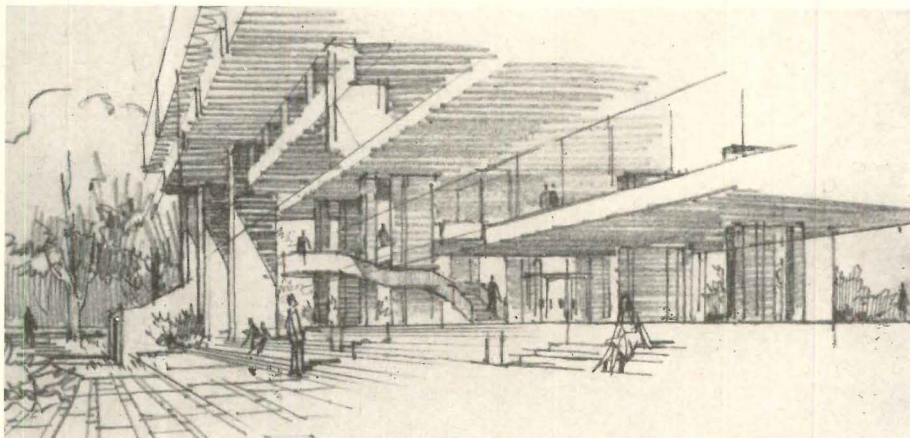
The stair towers also have a distinctive shape, produced by their final flight being brought outward. This expelling motion must be considered purely expressive, because, as books must be checked out at the circulation desk, the stairs would be used as exits only in an emergency.

The stair towers point up this building's essential philosophy: architecture conceived in terms of frozen motion. The various parts are seen as caught in the act of assembling around the book stack, and the visitor moves through them, either passing under the building or walking up the entrance stairs through an ever-changing perspective. The simple act of taking a book from the stack to a desk or carrel becomes a dramatic journey on a staircase thrown across a well. The ultimate justification is not in terms of function, or even expression, but solely in terms of experience. The functional requirements are used to provide the dramatic qualities that earlier architects found in the towers, crenellations and oriel windows of the collegiate gothic and tudor styles.

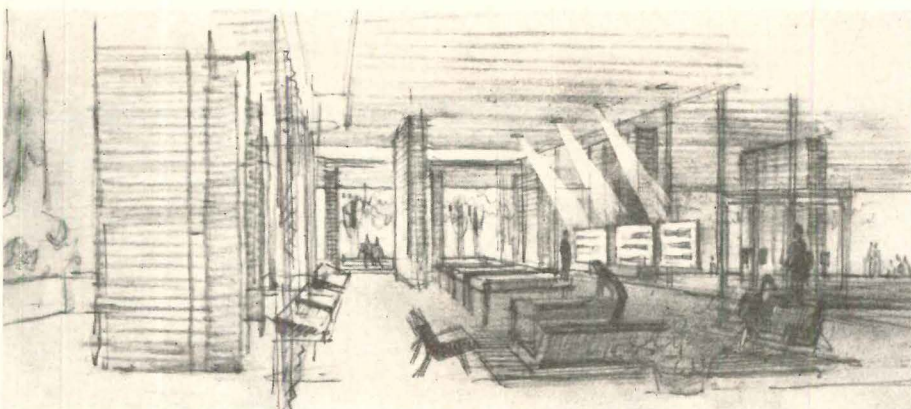
Robert Hutchings Goddard Library,
Clark University, Worcester, Massachusetts.
Architects: John M. Johansen & Associates; structural engineer: Rudolph Besier; mechanical engineer: John L. Altieri; landscape architects: Currier, Andersen & Geda



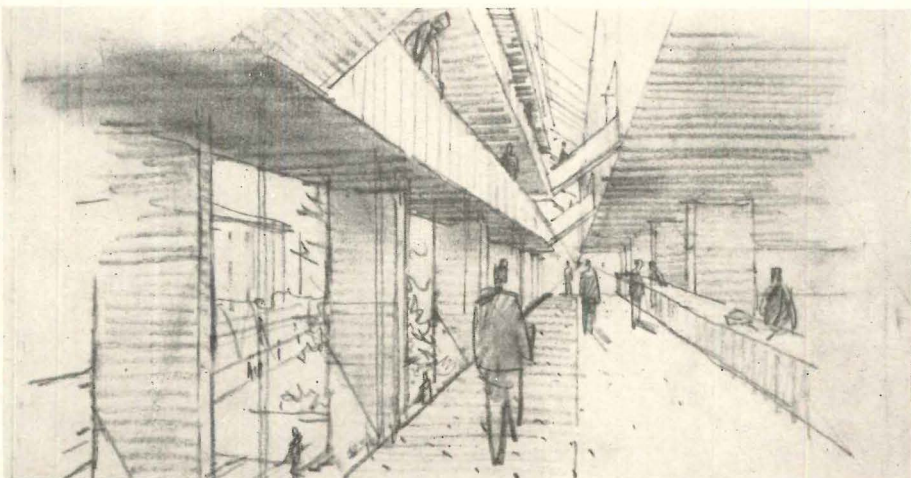
Terrace of Goddard memorial room



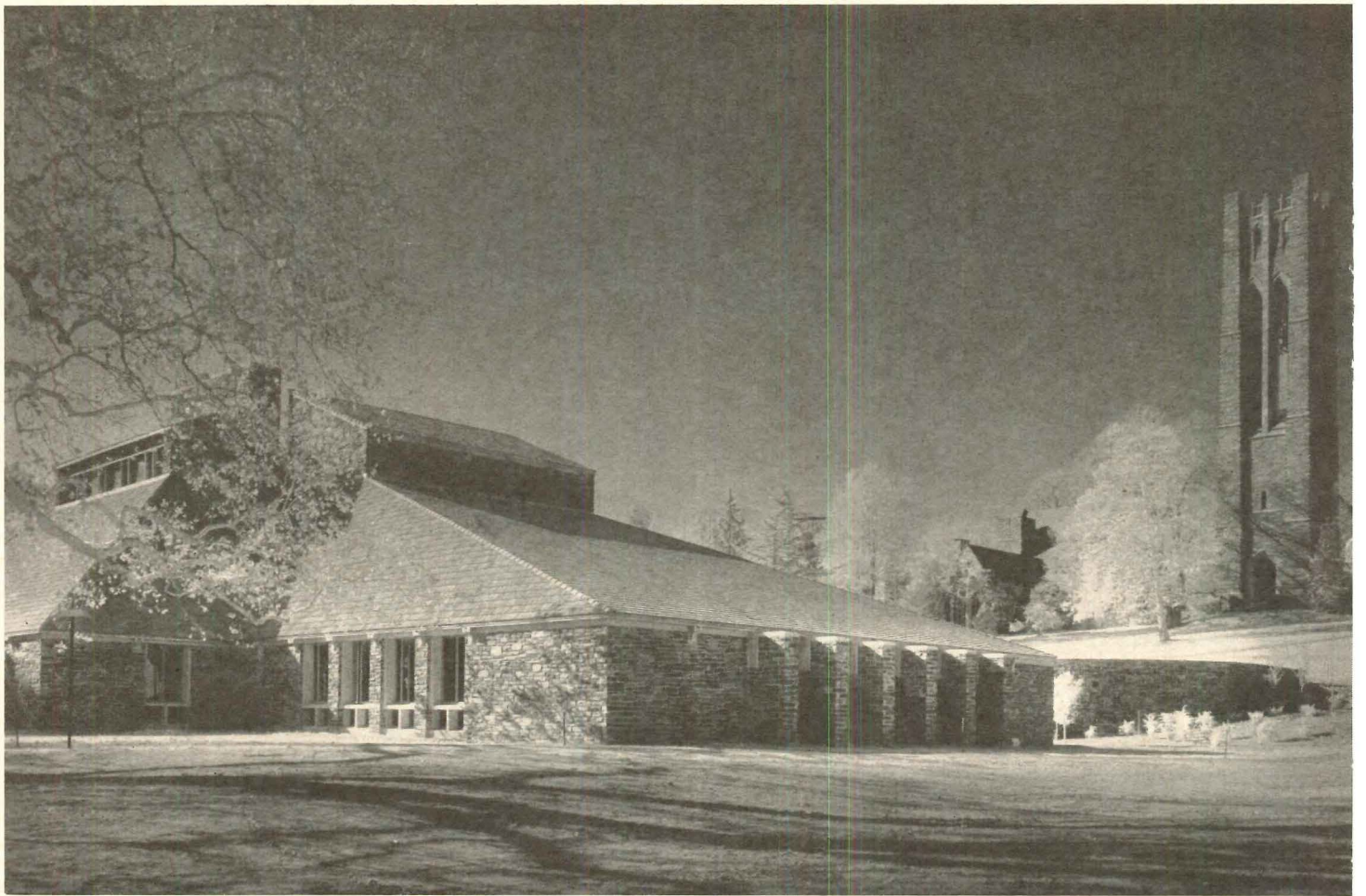
Terrace at rear of building with entrance stair in background



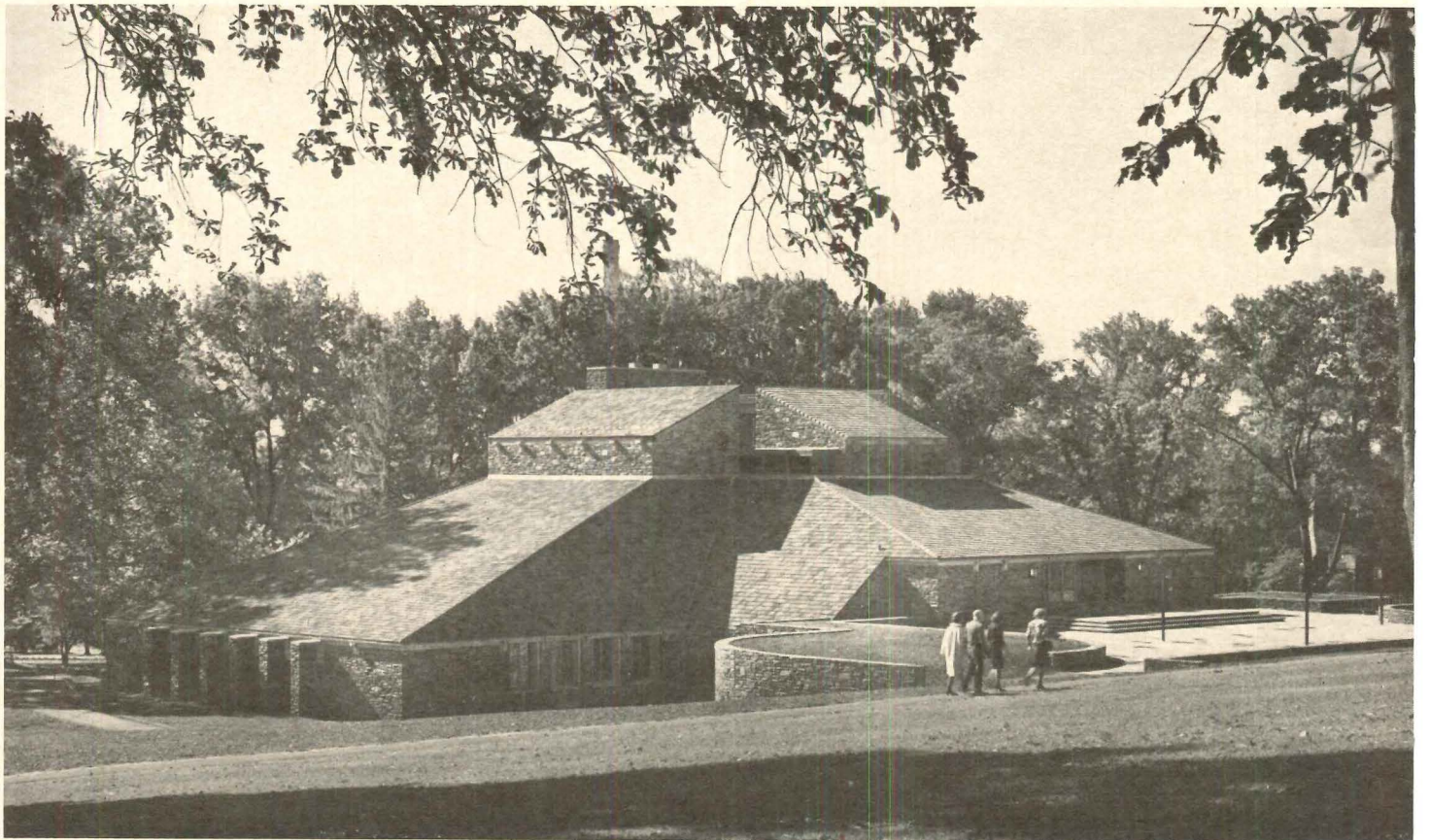
Interior of memorial room



Light well between stack and carrel areas



Dining hall with Clothier Auditorium in background



Dining hall from entrance terrace

REVISING THE GOTHIC REVIVAL

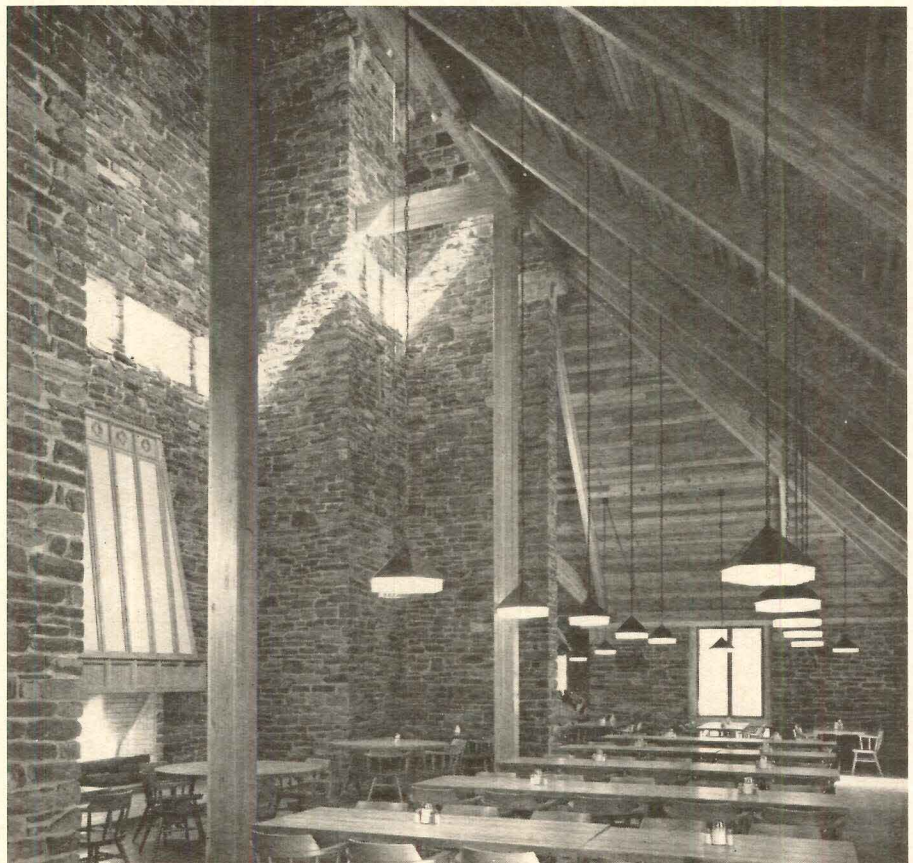
Vincent Kling's
dining hall at Swarthmore
respects the old buildings
but uses space in new ways

This dining hall at Swarthmore College is one of those buildings that invariably receive snappish reviews in the British architectural press, which becomes convinced all over again that the Americans are just not serious about modern architecture. It is true that there is a certain amount of overt gothic interior detail in this building, rather in the style of that employed by Bernard Maybeck; but the presence of a few quatrefoils is not a matter of really basic significance.

The character of the Swarthmore campus is derived from isolated stone buildings with pitched roofs, and these buildings are related to each other by rolling lawns and trees. The problem of the sloping site is therefore solved by permitting the elevations to be at different levels on different sides of the building, as they are in the earlier work, and the basic shapes and materials harmonize with the neighboring structures.

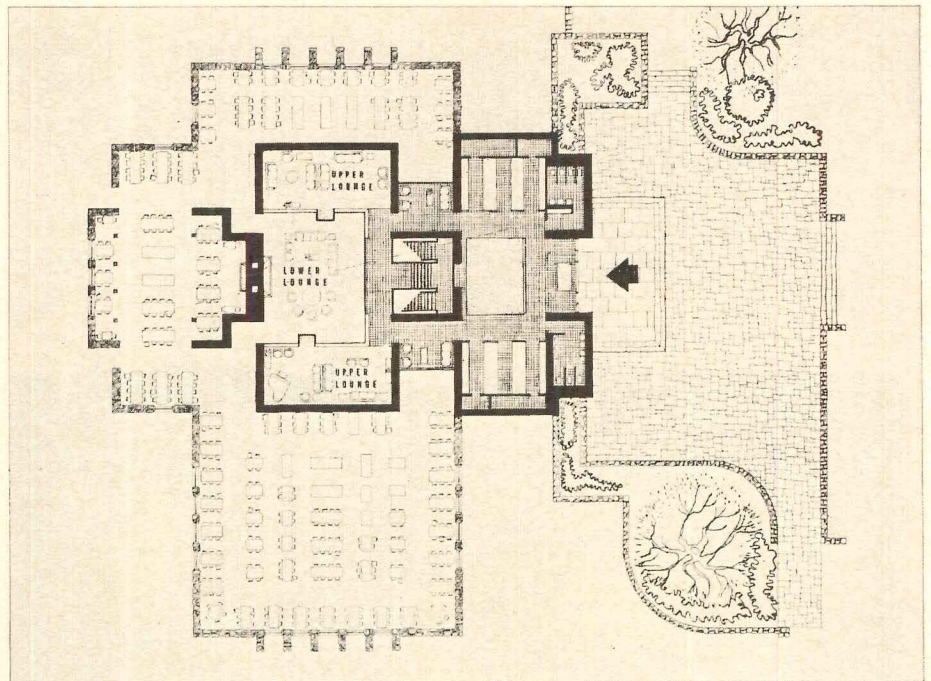
The interior is organized around a central lounge, which is carried through the full height of the building, and from which there is access to the serving line and the dining rooms. The main entrance is at the upper level, above the kitchen, which is hidden in the side of the hill; and the staircase is entered from the balcony above the lounge so that there is an interesting progression of spaces through the building.

Sharples Dining Hall, Swarthmore College, Swarthmore, Pennsylvania. Architect: Vincent G. Kling—Donald P. Kriebel, project architect, Robert A. Kear, team designer; structural engineers: Severud Associates; mechanical and electrical engineers: Pennell & Wiltberger; food service consultant: Arthur W. Dana; general contractor: John S. McQuade

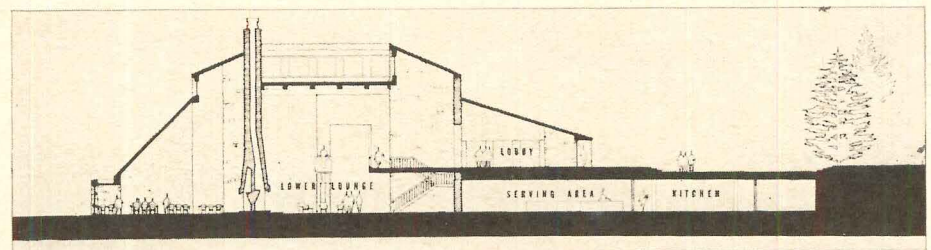


Lawrence S. Williams photos

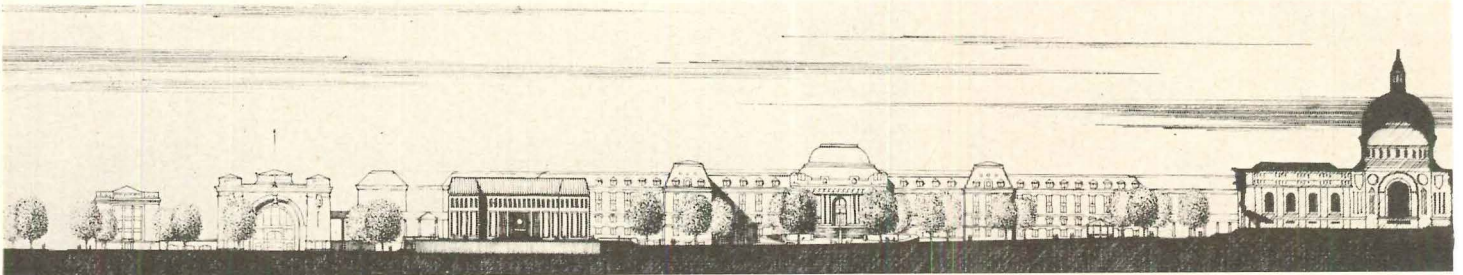
Interior of one of two smaller dining rooms showing how light and space are used



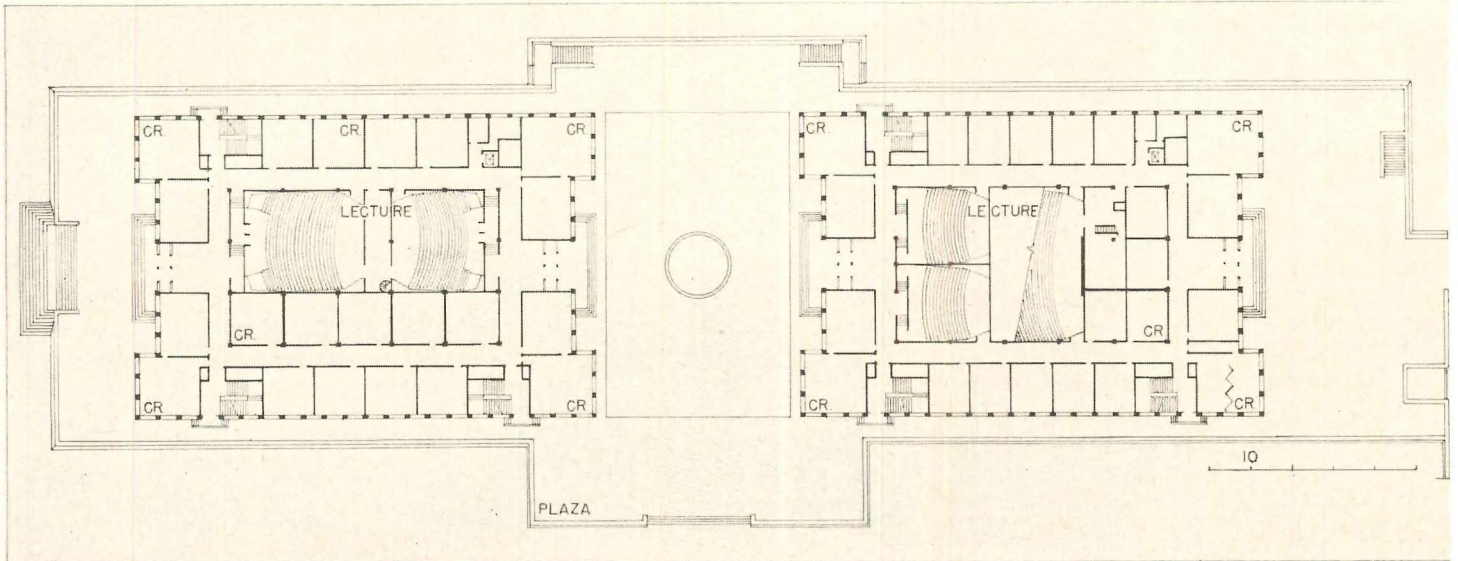
Schematic plan



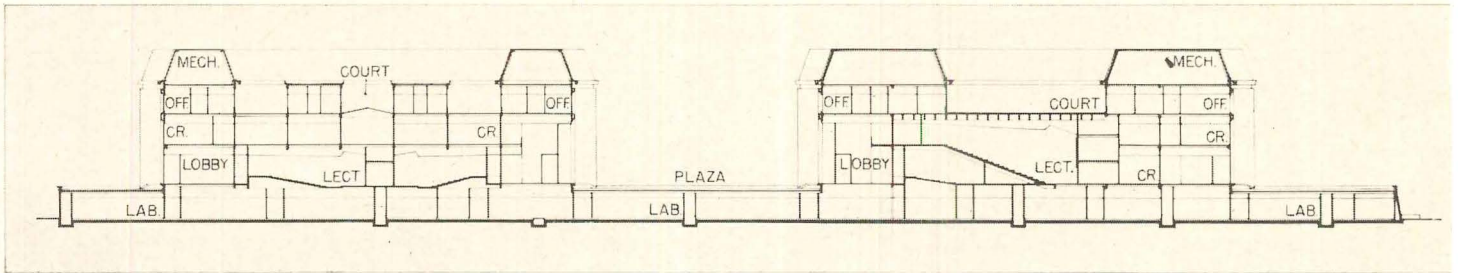
Schematic section



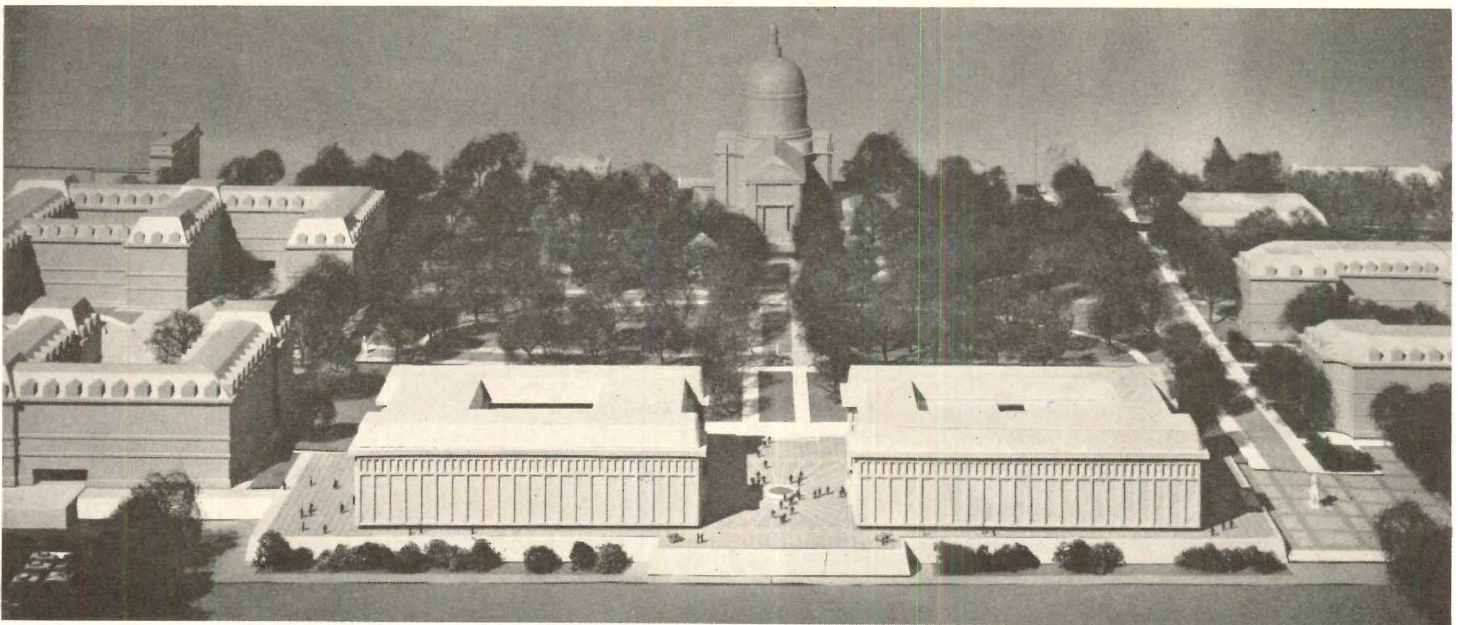
Section through campus shows relationship of new buildings.



Plan at main entrance level



Section. Mansard roofs cover mechanical spaces



Model photograph shows line of sight from Chapel

FORMAL FACADES FOR ANNAPOLIS

Naval Academy laboratories
by John Carl Warnecke
close a court
but preserve a vista

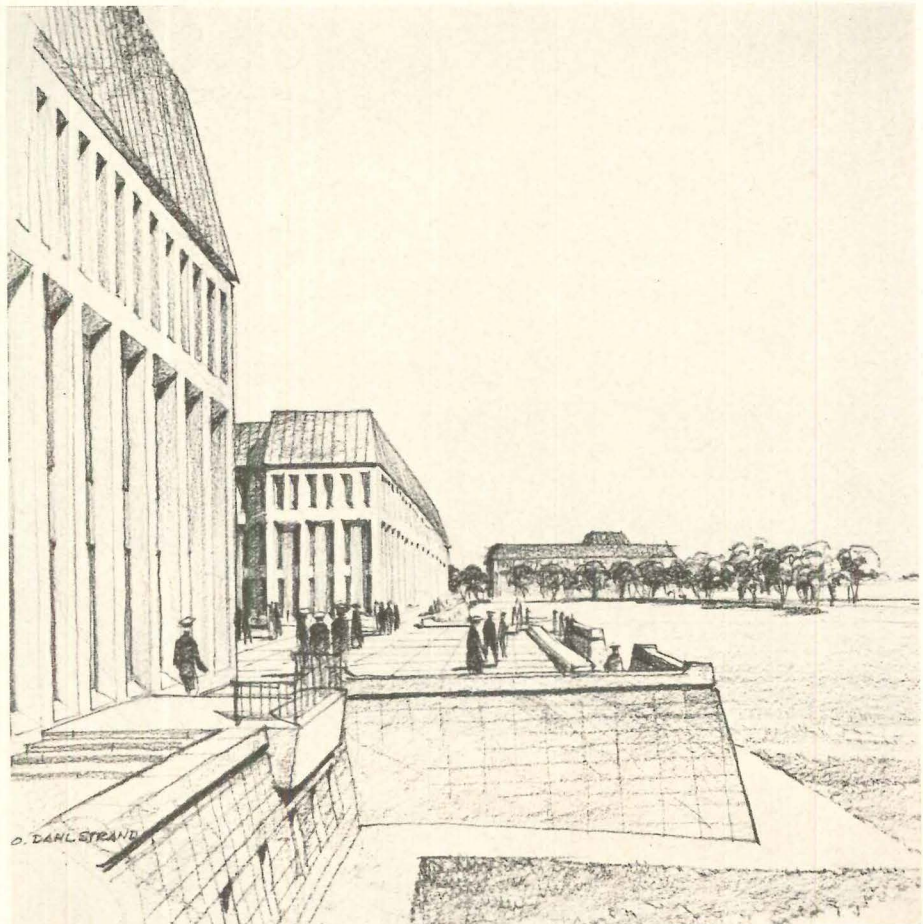
The United States Naval Academy was declared a National Historic Monument in 1963, placing an explicit responsibility on John Carl Warnecke and Associates when they were retained to plan the future development of the campus. Under the circumstances, it may seem surprising that the Warnecke office chose to place a new science complex right on the historic Yard, directly opposite the chapel; but the effect is to restore the campus character as much as it is to change it.

In the early 1900s when Ernest Flagg's buildings along this quadrangle were first completed, there was a landing basin on the site which the scientific building will occupy. When this land was filled in to provide additional space for athletic facilities, the original relationship to the water was lost and the character of the court completely altered.

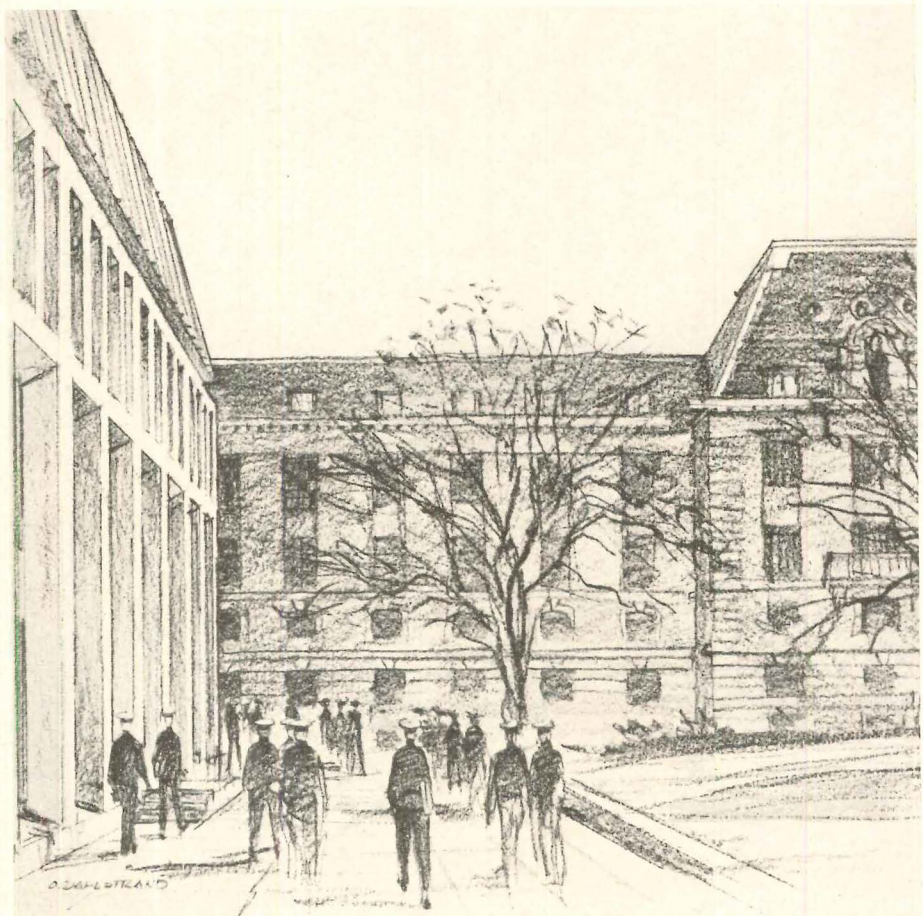
The placement of the science building recognizes this change, and by closing the court will restore a sense of definition to the space. At the same time, by dividing the building into two parts, separated by a plaza, some of the traditional sense of continuity to the water will be retained, as it should still be possible to see the Severn river from the new plaza and from the steps of the chapel.

The architectural character of the building itself is very close to the spirit of Flagg's original design. The basic shape of the two pavilions and the Mansard roofs are direct references to the Beaux Arts tradition.

Michelson Hall, United States Naval Academy, Annapolis, Maryland. Architects, planning consultants and landscape architects: John Carl Warnecke and Associates; structural engineers: Ammann and Whitney; mechanical engineer: William A. Brown.



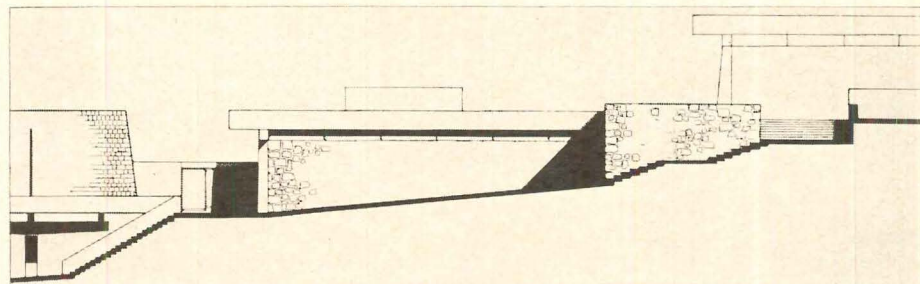
The new buildings have a formal plinth



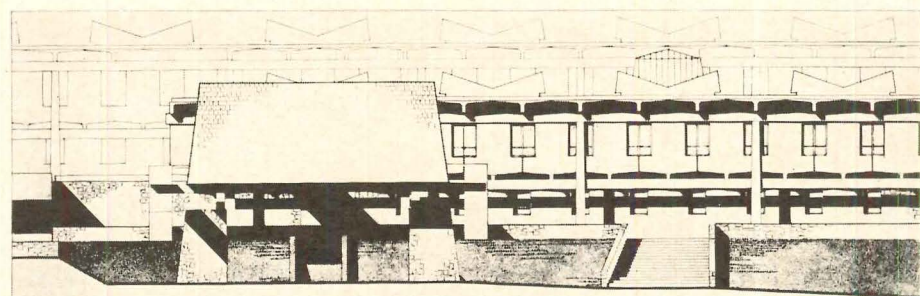
Strongly defined bay system picks up proportions of neighboring facades



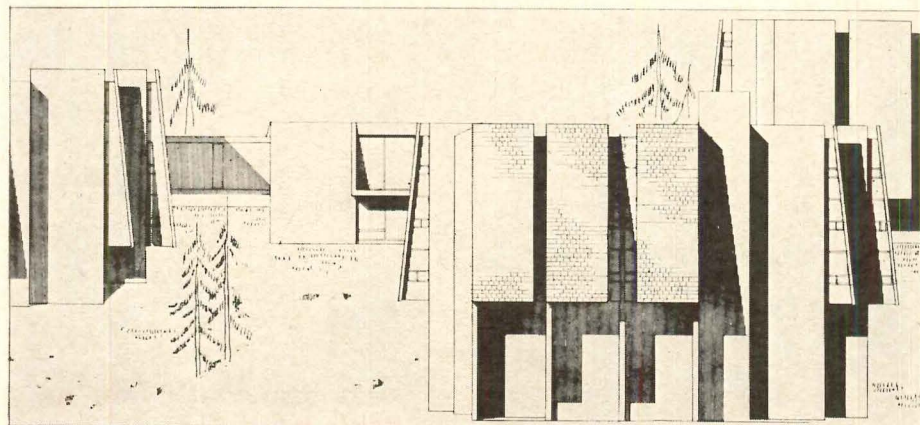
Model of campus plan; numbers designate buildings referred to in text



Section through industrial and technical buildings



Elevation of general education buildings



Partial elevation of dormitory cluster

TERRACED BUILDINGS AT CANTON

Carson, Lundin, and Shaw's campus plan makes the landscape the controlling concept

Carson, Lundin and Shaw found that the sloping, wooded site along the edge of a river gave them the basic organization for the Agricultural and Technical College at Canton, New York. The administration building (1) at the crest of the hill is raised up off the ground to form the gateway to the campus. Walking under this building and down the hill, one will come to a broad terrace around the main library (2) and, adjoining the terrace, the theatre and student activities center (3). On either side of the central terrace will be other terraced groups of buildings: one for industrial and technical classes (4), the other for general education (5). There is a parking lot associated with each of these building groups, served by the ring road that encircles the campus. The gymnasium (6) is placed just beyond the general education center. Going back to the center of the campus and proceeding on down the hill, one will arrive at the dining hall (7). On either side of it paths lead out through the woods to dormitory complexes in clearings overlooking the river.

The organization of the campus thus achieves an unusually clear pedestrian circulation pattern. The four major buildings follow each other in a line down the hill. The classroom buildings are on either side of this line on the middle level, the dormitories on either side below.

New York State University Agricultural and Technical College at Canton, Canton, New York. Architects: Carson, Lundin & Shaw; associated architects for comprehensive campus plan report: Carson, Lundin & Shaw, Goldstone & Dearborn; structural engineers: Edwards & Hjorth; mechanical engineers: Jaros, Baum & Bolles; landscape architects: Johnson, Johnson & Roy

PROCESSIONAL ELEMENTS IN HOUSTON

In designing the chapel
for St. Thomas University
Philip Johnson
revises his master plan

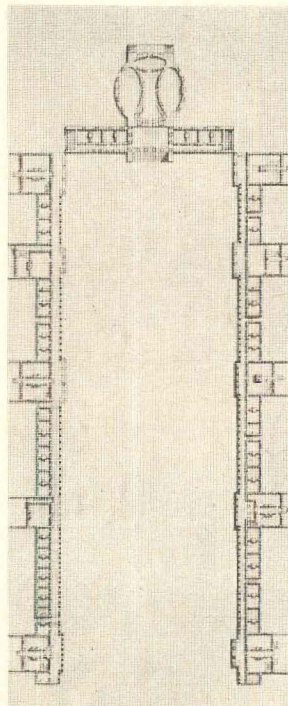
The University of St. Thomas in Houston, Texas, is spread over a dozen city blocks, and many of its buildings are converted residences. Philip Johnson's master plan of 1956 sought to create a campus out of three of these blocks by closing two streets and making an interior green surrounded by buildings. A two-story colonnade would connect the various structures and define the space of the green—a concept similar in some respects to Jefferson's buildings at the University of Virginia.

The present resources of the University of St. Thomas are nowhere near large enough to carry out this plan, and it remains a distinctly visionary document. Nevertheless, a number of its buildings have been completed, and so have portions of the colonnades. (ARCHITECTURAL RECORD: Sept., 1959, pages 180-183)

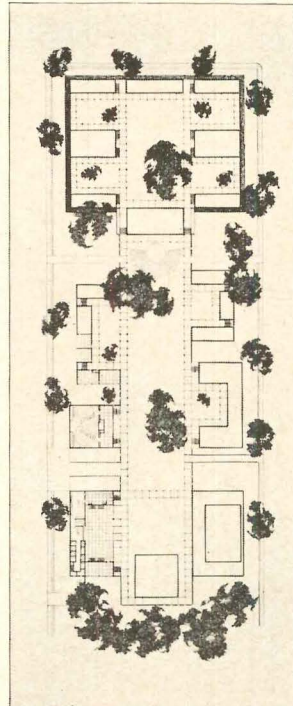
Philip Johnson has become interested in the concept that architecture in its highest form transcends the sense of its construction and becomes sculpture. Now that it is time to go ahead with the chapel, Johnson has decided to move it from the end of the quadrangle to the center of what was once to be a purely residential enclosure. In this position it can be a free-standing sculptural shape.

The colonnade, from being the means to enclose a number of static spaces, becomes a definite path of movement towards a specific destination. Philip Johnson would characterize this movement as processional, defining the spectator's view of the architecture in classical and ceremonial terms.

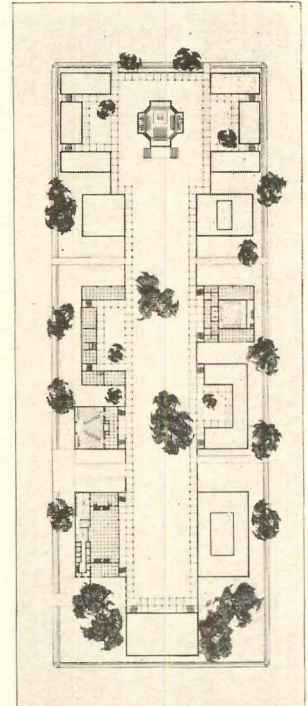
University of St. Thomas Chapel, University of St. Thomas, Houston, Texas. Architect: Philip Johnson; associated architects: Howard Barnstone and partners



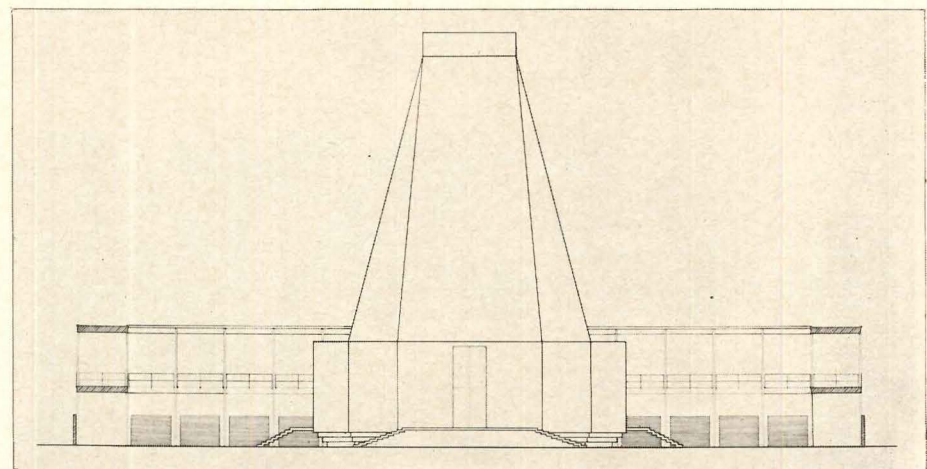
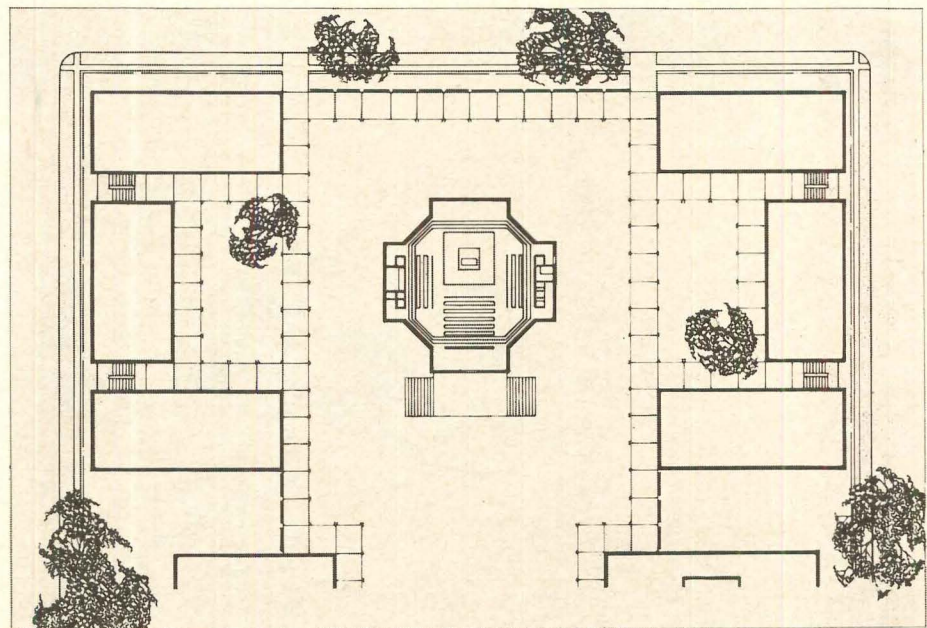
Jefferson's plan for the University of Virginia



Original master plan for University of St. Thomas



New master plan for University of St. Thomas

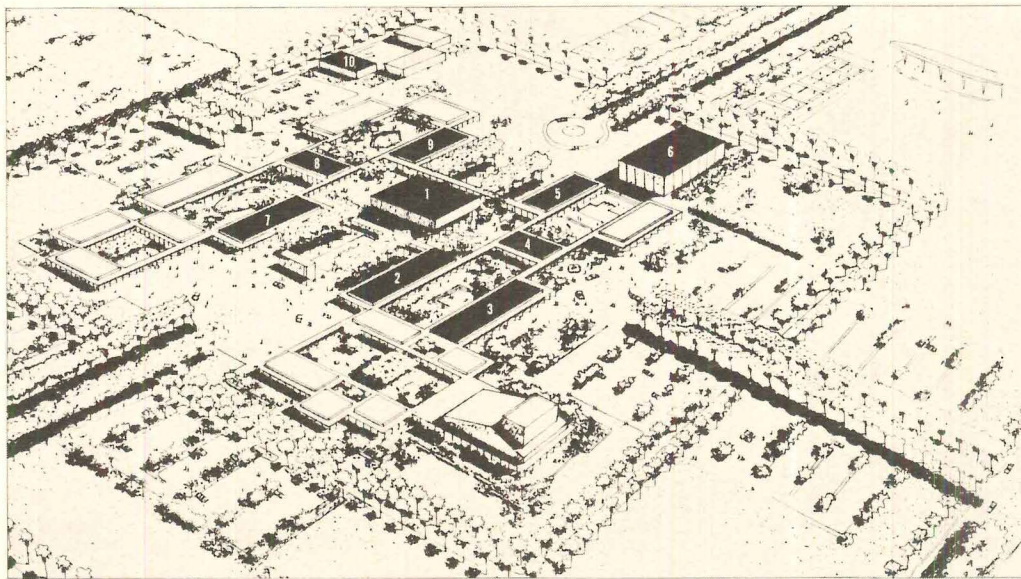


Details of new master plan: chapel plan and elevation, section through colonnade



Palm Springs Life

Axes through the design tie the campus to the surrounding landscape



- 1. LIBRARY
- 2. ADMINISTRATION
- 3. DINING HALL
- 4. STUDENT CENTER
- 5. SHOWER - LOCKER
- 6. GYMNASIUM
- 7. LIBERAL ARTS
- 8. LECTURE HALL
- 9. SCIENCE
- 10. TECHNOLOGY

Master plan: shading indicates completed buildings



Three-foot high platform unifies campus, protects from seasonal floods

COLONNADES IN A DESERT LANDSCAPE

John Carl Warnecke's
College of the Desert
is oriented to views,
contrasts with surroundings

Situated in flat desert country just a few miles outside of Palm Springs, California, this junior college campus makes use of three basic devices to attain a unified character and establish its relationship to the surrounding landscape. The first of these is a three-foot-high platform on which the whole campus is built. The palm trees form the second element, and the third, and most important, is the system of shaped and sandblasted concrete colonnades that connect elements of the campus both inside and out.

The campus now serves a student body of approximately 1,000 and is expected to grow towards an ultimate enrollment of 2,500. The campus must therefore be able to add increments of varying size and yet be complete at each stage of development. The way in which this requirement is achieved is both simple and direct. The library is placed at the center of the campus, with a raised clerestory to give it pre-eminence. Two main axes run through the library, marking the campus off into four quadrants: one for the liberal arts, the second for science and technology, the third for athletics, and the fourth for administration and student activities. Within this rather rigid system, considerable flexibility of growth is possible.

College of the Desert, Palm Desert, California. Architects: John Carl Warnecke and Associates; co-ordinating architect: John Porter Clark; associated architects: Frey & Chambers, Williams & Williams, Wexler & Harrison; landscape architect: Lawrence Halprin; structural engineers: Johnson & Neilson; mechanical engineers: Theraldson, Matthewson & Argabright; electrical engineer: Omer J. Debever; general contractors: Farrar & Griffin, Donald & McKee.



Gerrald Ratto photos

Palm trees give campus a lush, oasis-like character

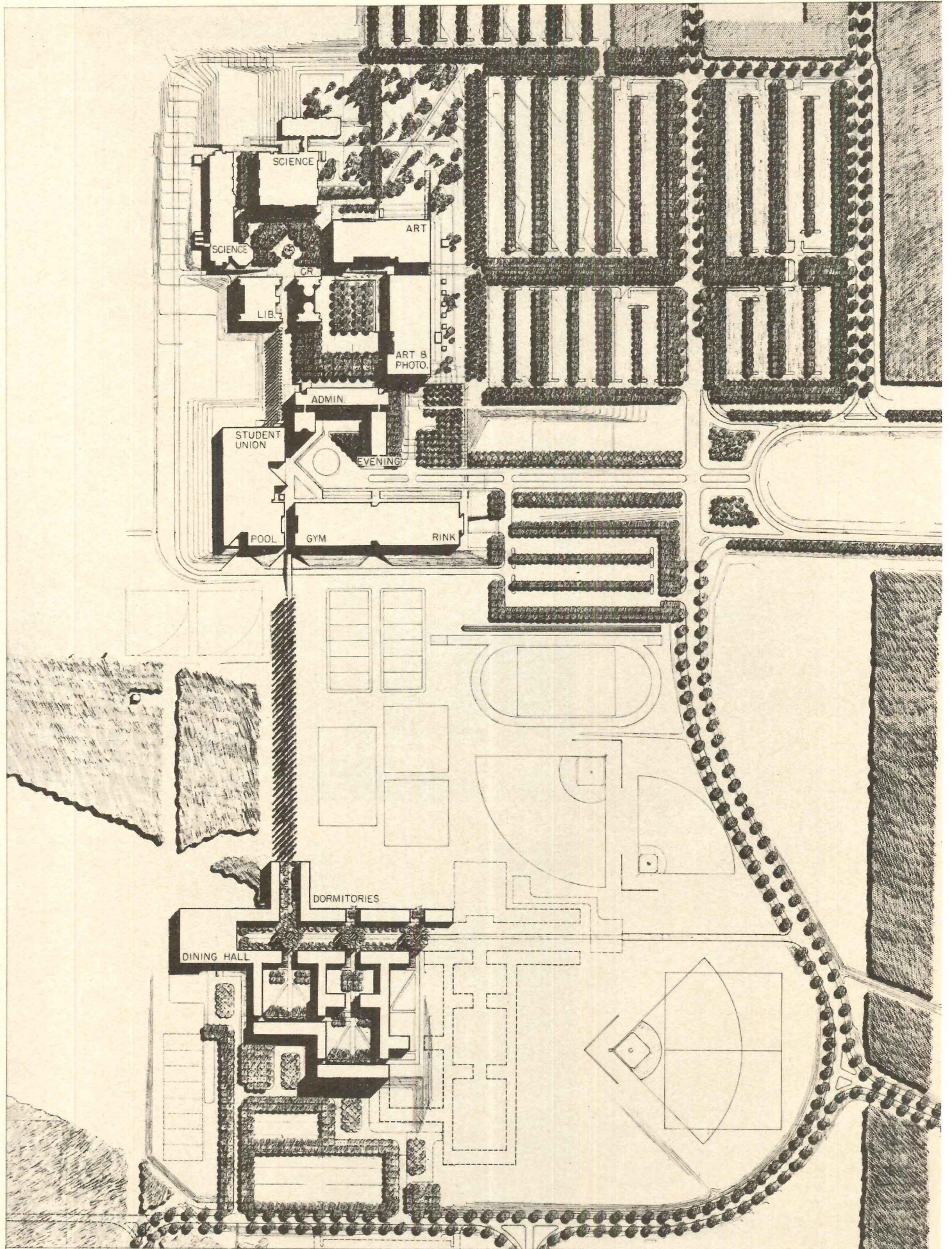


Shaped and sand-blasted concrete colonnades connect all elements of the campus



Alexandre Georges

Colonnades are also carried into interior of the buildings



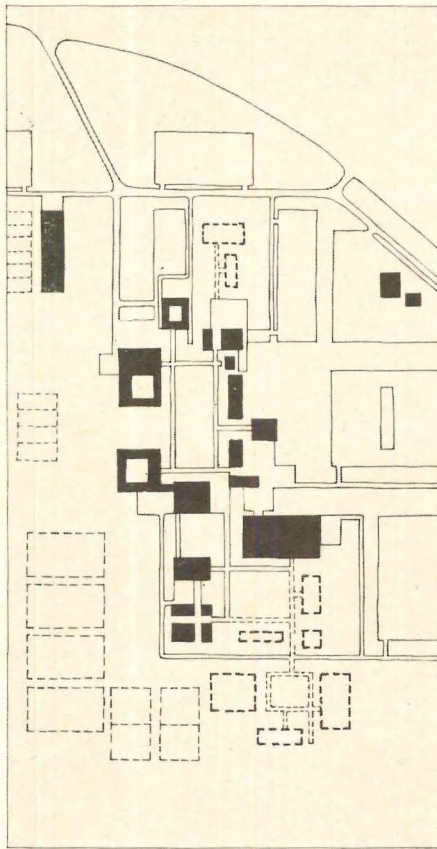
CAMPUS DESIGNED BY CO-OPERATION

Five architectural firms
and a landscape architect
worked together
on the R.I.T. plan

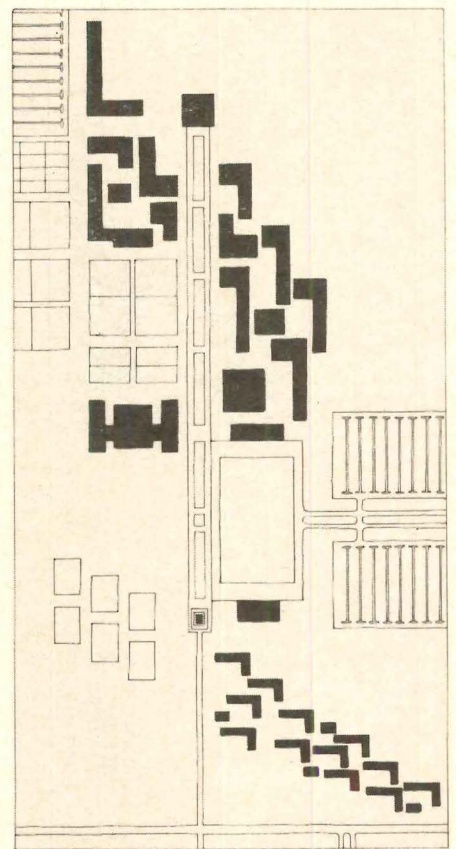
The first master plan for the new Rochester Institute of Technology campus was drawn by the office of Dan Kiley in association with Anderson, Beckwith and Haible. It called for a large green surrounded by one-story open colonnades, which would connect the various academic buildings. A curving road led away through the trees to the dormitory area, which was to be almost completely separate. At Lawrence Anderson's suggestion, four other architectural offices were brought in at this stage to design the various buildings: Edward L. Barnes for the dormitories, Eero Saarinen and Associates for the student union, gymnasium and administration building, Hugh Stubbins for the college of graphic arts and photography and the college of fine and applied arts, and Harry Weese and Associates for the library and the college of liberal arts. Anderson, Beckwith and Haible undertook to design the colleges of science and of applied science and technology.

Predictably, the first thing that happened when this high-powered group got together was that they decided to change the master plan. A period of intensive experimentation then began, with the architects meeting at frequent intervals, presenting proposals, retiring to their offices to try out new schemes, and then returning for further meetings.

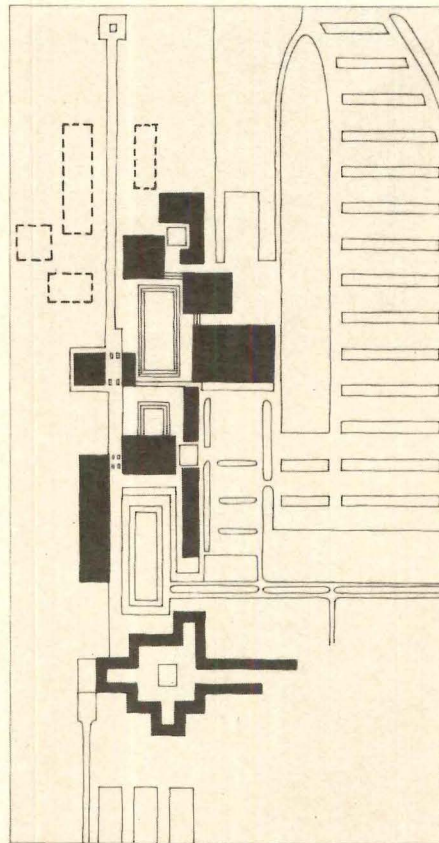
There was little in the program to suggest a formal organization. Because a high proportion of R.I.T. students either commute or attend night classes, the familiar concentric circle diagram (classrooms in the middle and dormitories on the periphery) did not necessarily apply. The dormitories could be treated as a distinct area, with only parking on the periphery.



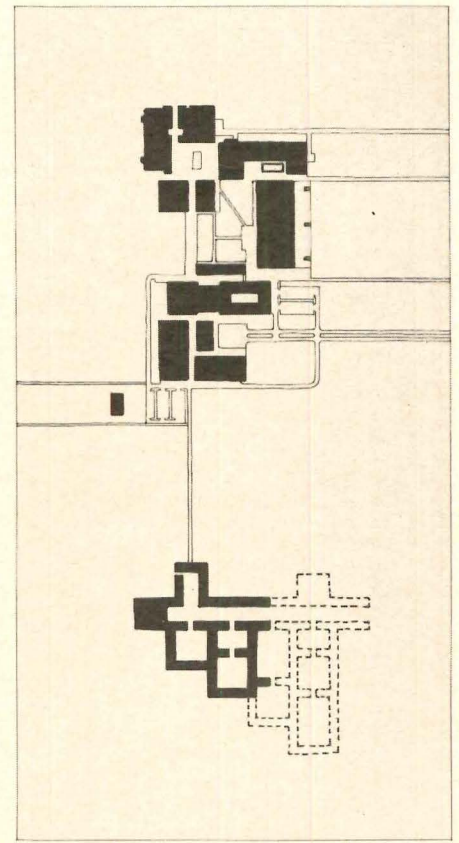
Initial scheme for campus separated academic area from dormitories (not shown). Buildings were connected by covered walkways



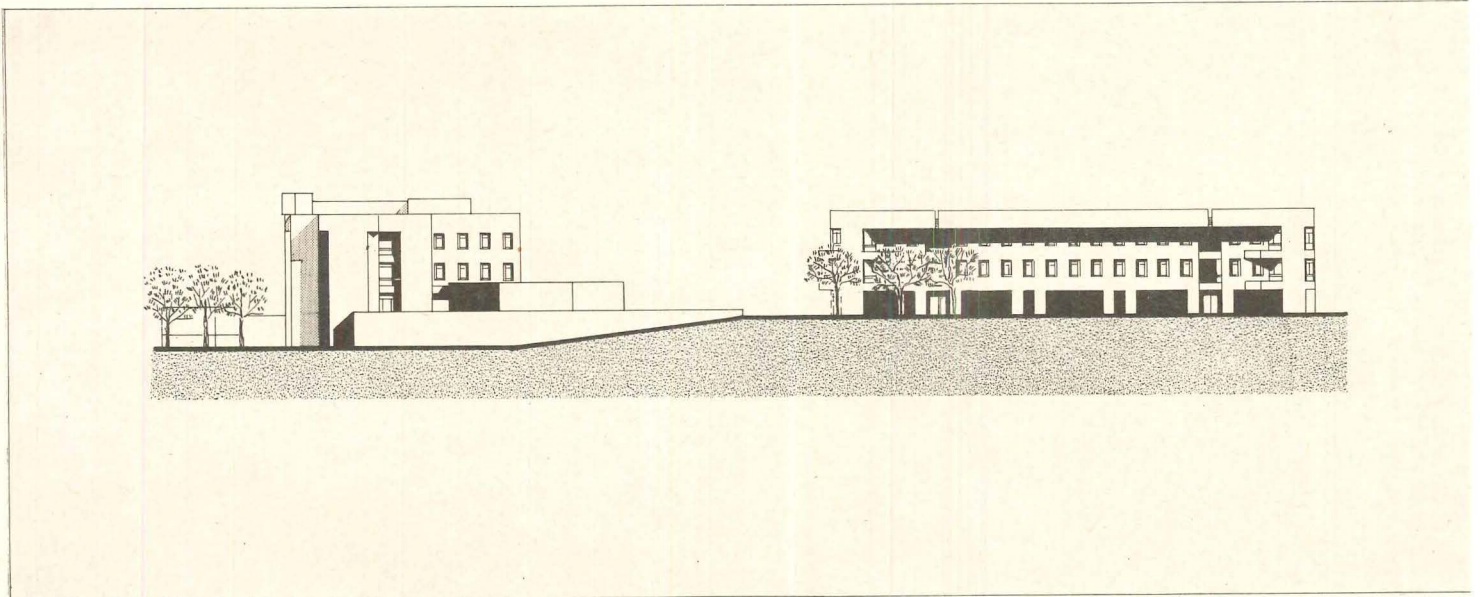
A later stage shows new location for dormitories (lower right), with connecting causeway serving as organizing principle



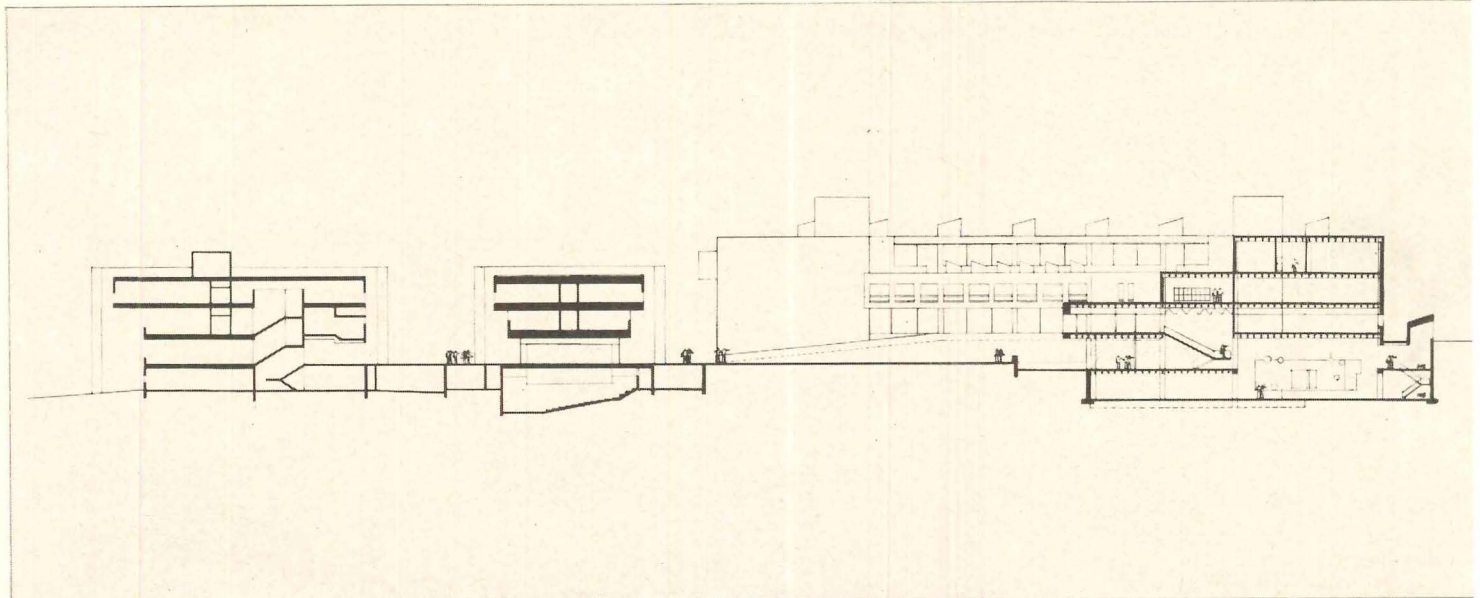
In third stage causeway has been combined with terracing, dormitories are approaching their final form



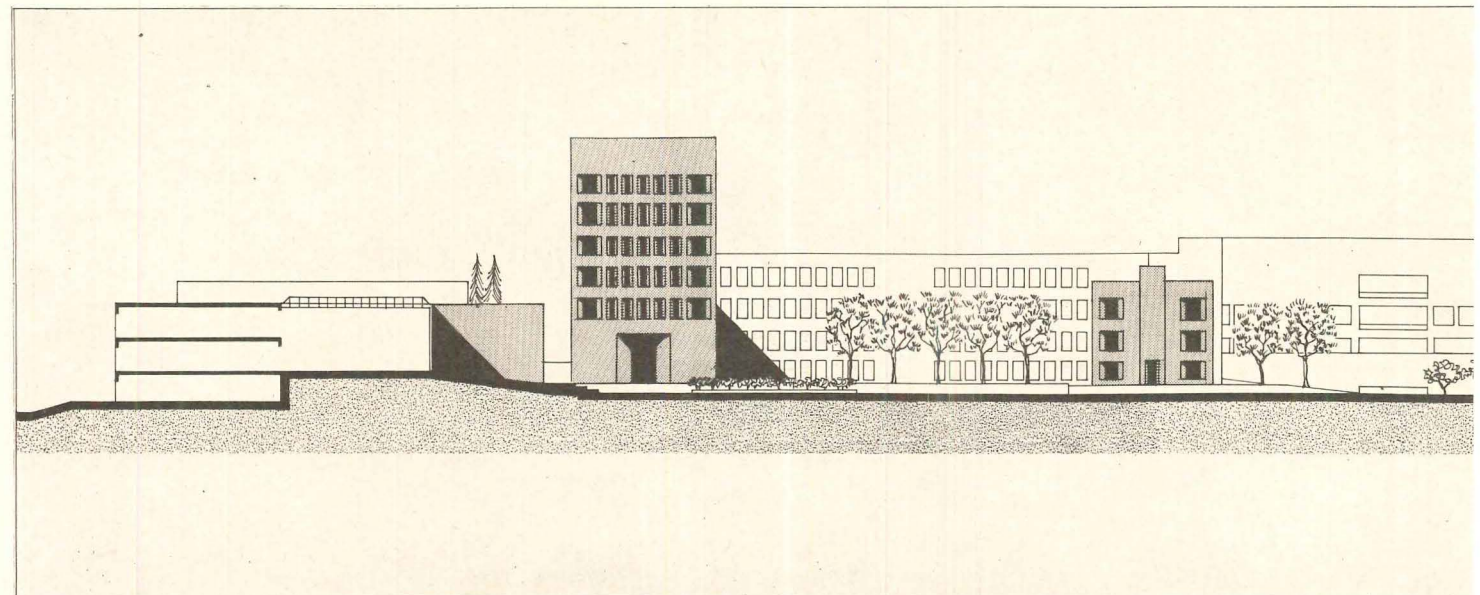
Late stage has terracing confined to academic campus, narrow causeway. Compare final design (opposite page)



A: buildings for science and applied science by Anderson, Beckwith and Haible



B: library and general studies buildings by Harry Weese & Associates and graphic arts buildings by Hugh Stubbins & Associates

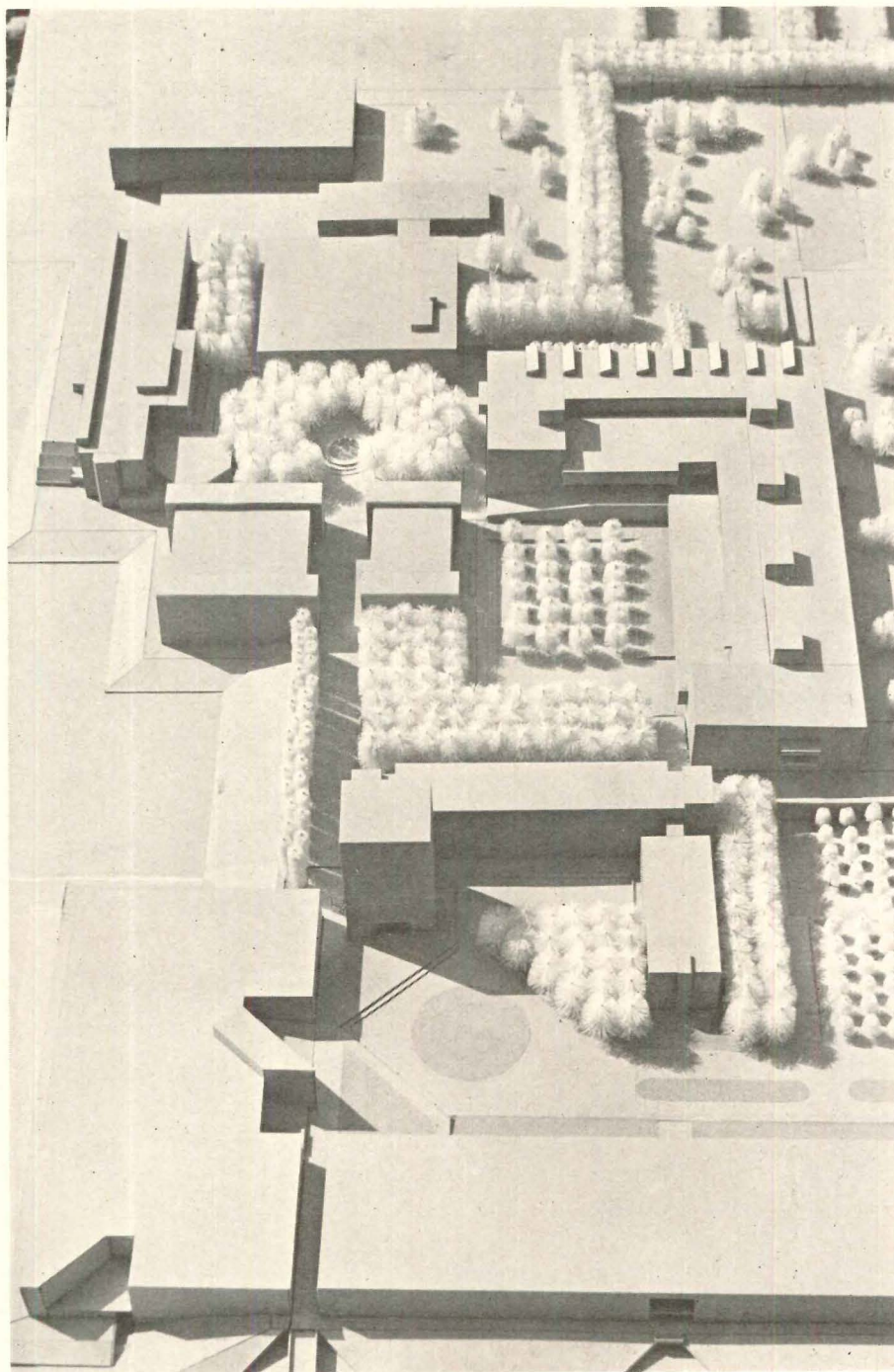


C: student union, administration tower, business, and evening studies by Eero Saarinen and Associates

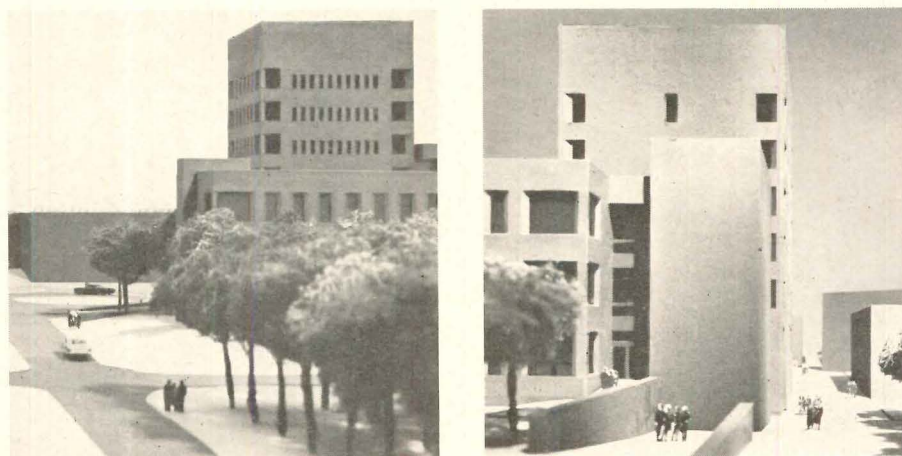
Then, on one of their visits to the site, the architects discovered traces of a natural causeway leading from the area of the academic campus toward a buildable portion of the site, which was forthwith chosen as the location of the dormitory buildings. The advantage of this new site for the dormitories, over the one originally selected, was that the causeway could be a direct visual connection between the dormitories and the academic portion of the campus. In fact the causeway became the controlling concept of the design, and all the buildings came to be organized as a progression along the route it indicated.

In this way the causeway gave the campus its form. The architects agreed on a common vocabulary of brown brick and "punch" windows and began to study in detail the buildings and the relationship between them. While the causeway is a strong unifying element, however, it is not quite the same thing as a strong basic concept. Throughout this Building Types Study, emphasis has been placed on the spectator's viewpoint towards architecture, on the campus perceived as a group of buildings that evoke a particular atmosphere. No matter how carefully viewpoints are considered, however, the intrinsic quality of what is seen is still of great importance. A progression of spaces, no matter how well arranged or related, is not architecture of itself. The causeway provides a means for compromise: it permits some strong buildings and a reasonably unified design. For those colleges which face the decision of whether to give new buildings to one architect or a consortium, the unanswered question at Rochester is whether one or another of the architectural firms involved might have produced a stronger concept on its own.

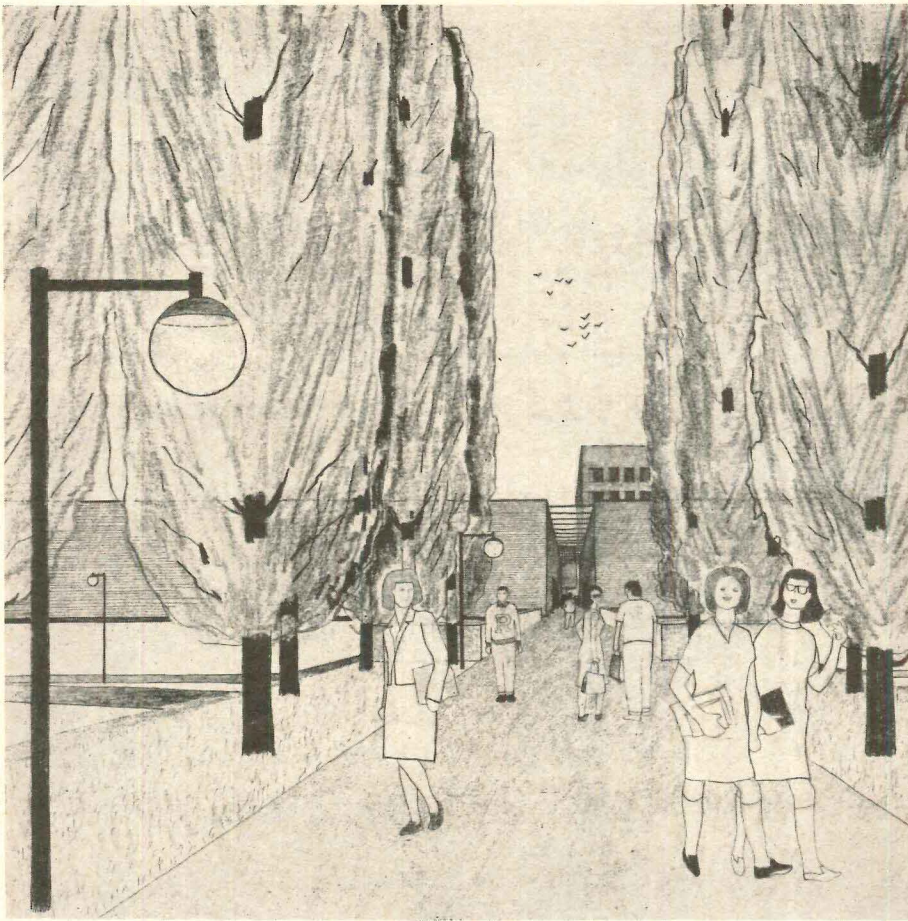
Rochester Institute of Technology, new campus, Rochester, New York. Architects: Anderson, Beckwith & Haible; Edward L. Barnes; Joseph Lacy architect, Eero Saarinen and Associates; Hugh Stubbins and Associates; Harry Weese & Associates. Landscape architect and site planner: Office of Dan Kiley. Consultants for the master plan: civil and sanitary engineers: Lozier Engineers, Inc. Mechanical and electrical engineers: Sidney J. Greenleaf Associates. Lighting consultant: Cosentini Associates. Traffic consultant: Barton-Aschman Associates.



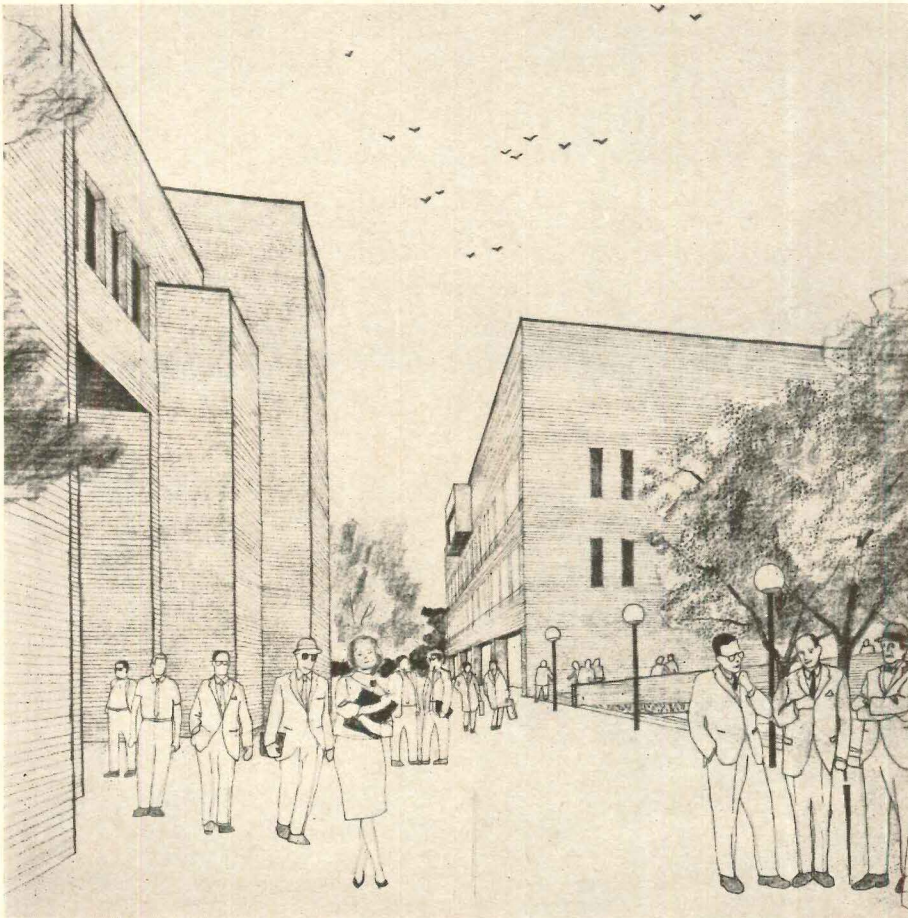
Model of academic campus, keyed to sections on opposite page



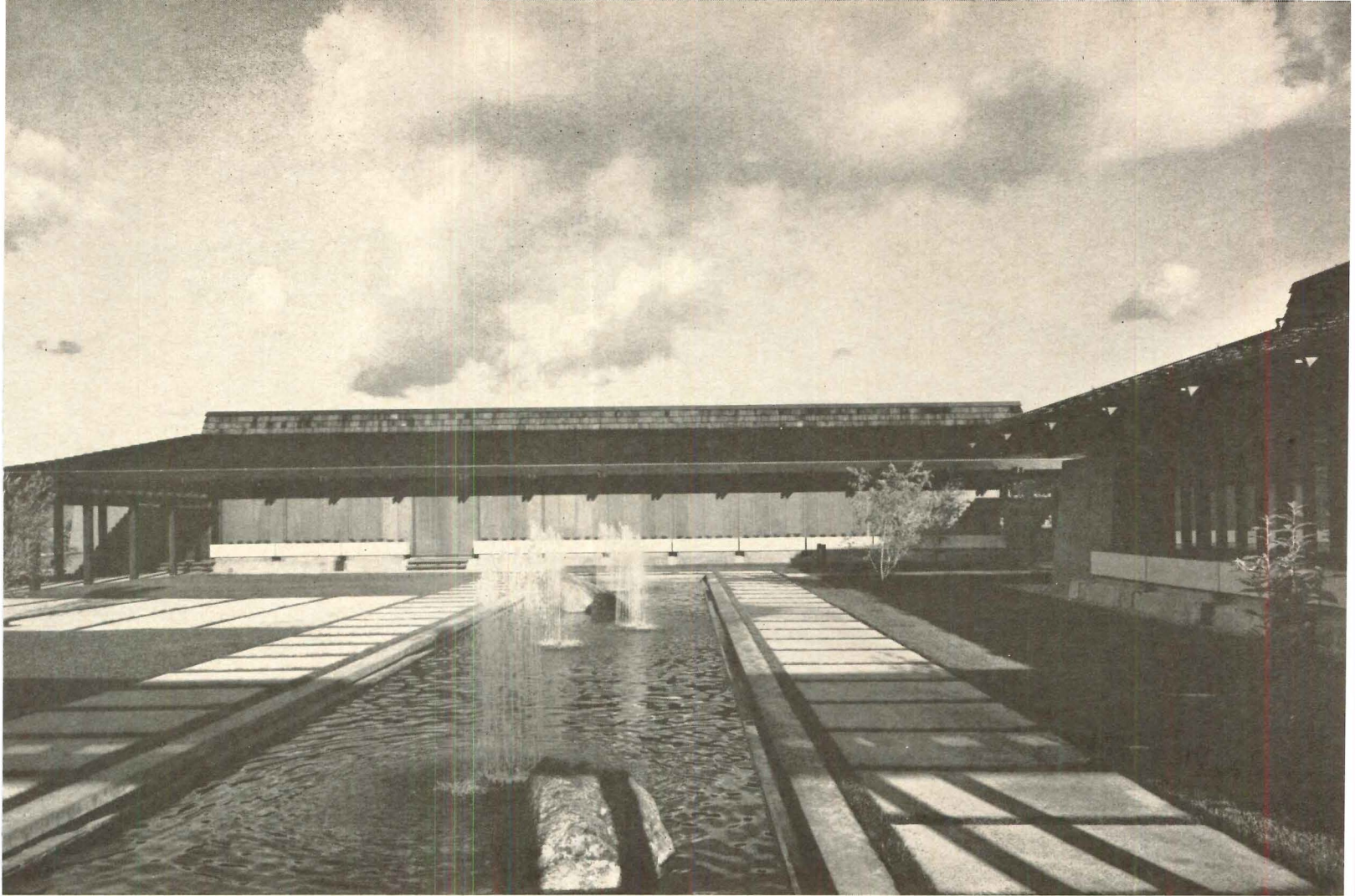
Main automobile entrance (left) and view along main pedestrian axis to causeway



View from end of causeway showing entrance to academic campus

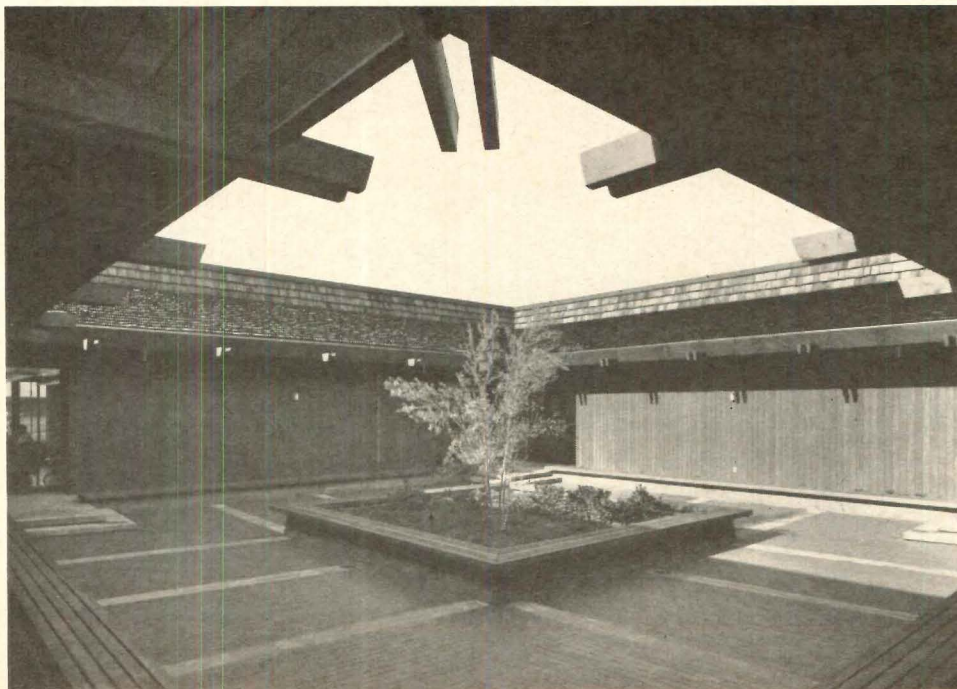


Second courtyard with general studies building (left) and college of fine arts



A CAMPUS PLAN FOR AN OFFICE COMPLEX

California Water Service Company offices in San Jose, California
were designed by Ernest J. Kump Associates
to adapt the modular space concept to business uses



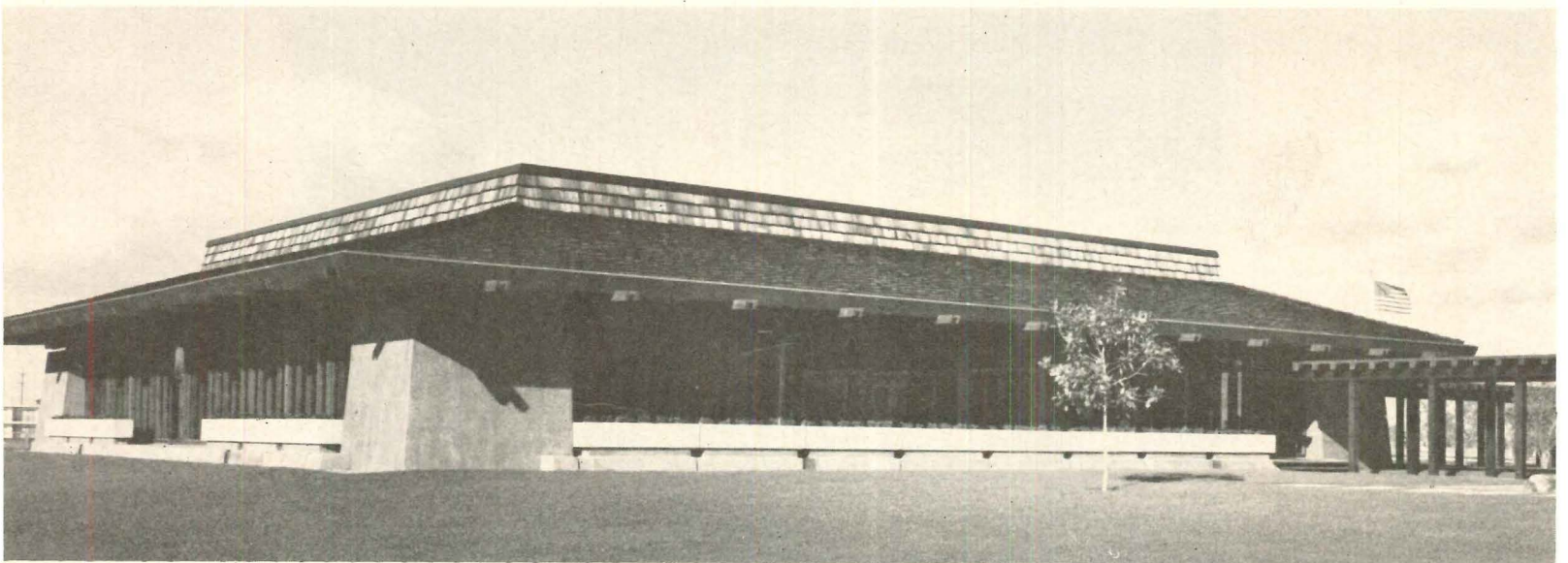


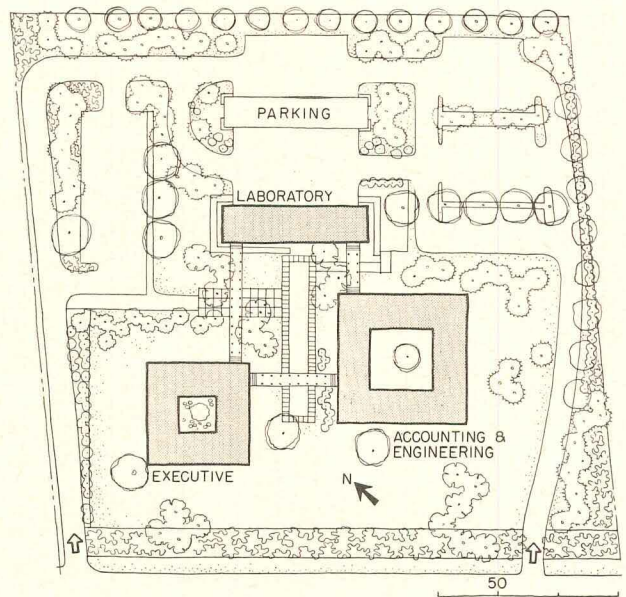
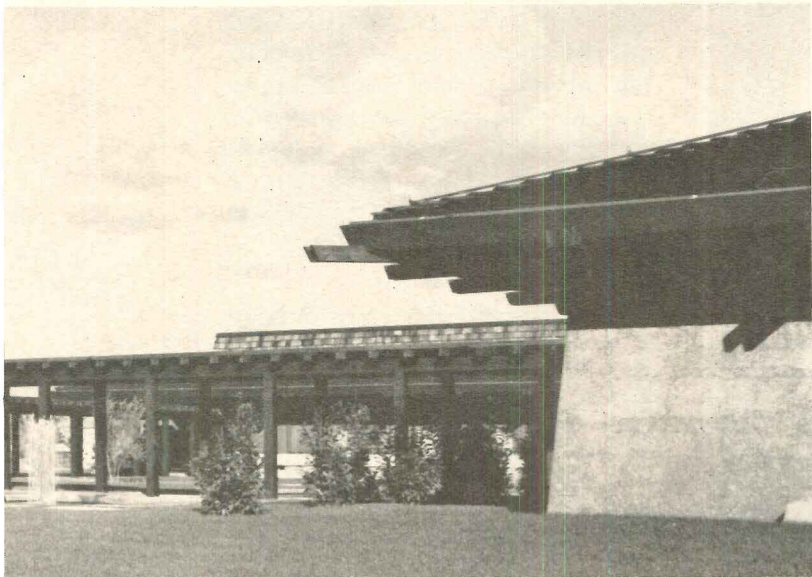
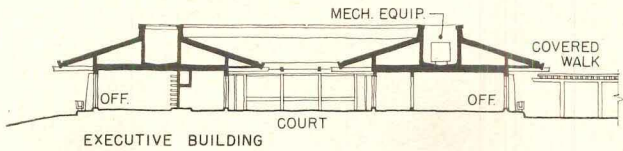
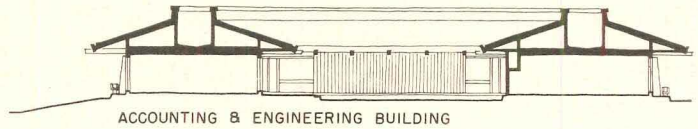
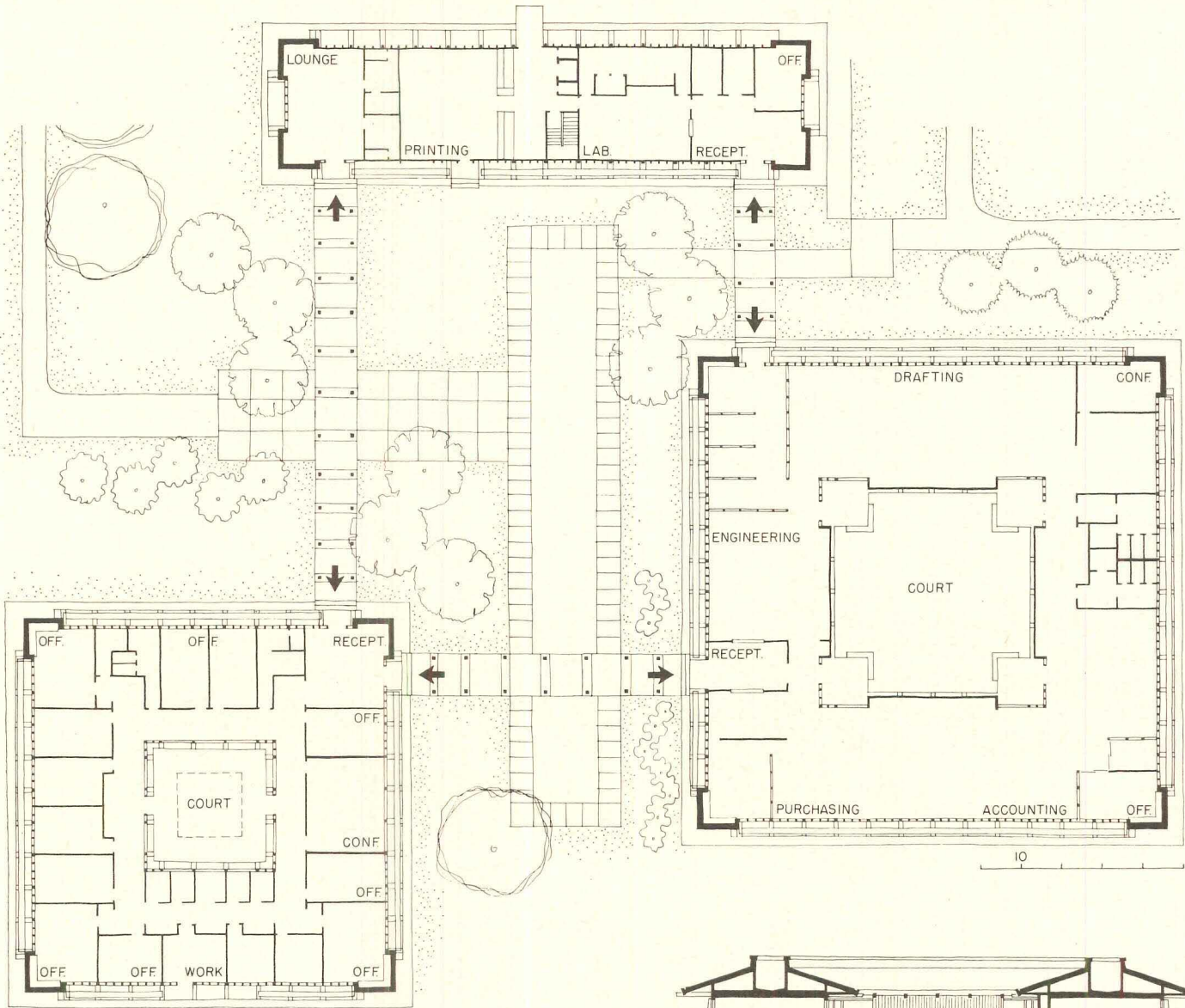
William C. Eymann photos

This group of buildings for the California Water Service Company in San Jose would be visually delightful in any context, but in the cheerless mediocrity of its light-industrial environment the project is particularly notable.

The flat eight-acre site offered nothing in the way of outlook, but the size of the plot and the nature of the company's operation suggested the adaptation of the campus plan to the new plant. Once the decision was made to separate

certain of the company's functions from others, and to group these not only for efficient operation but to provide visual experiences within the site itself, the adaptation of the space module concept to individual building re-

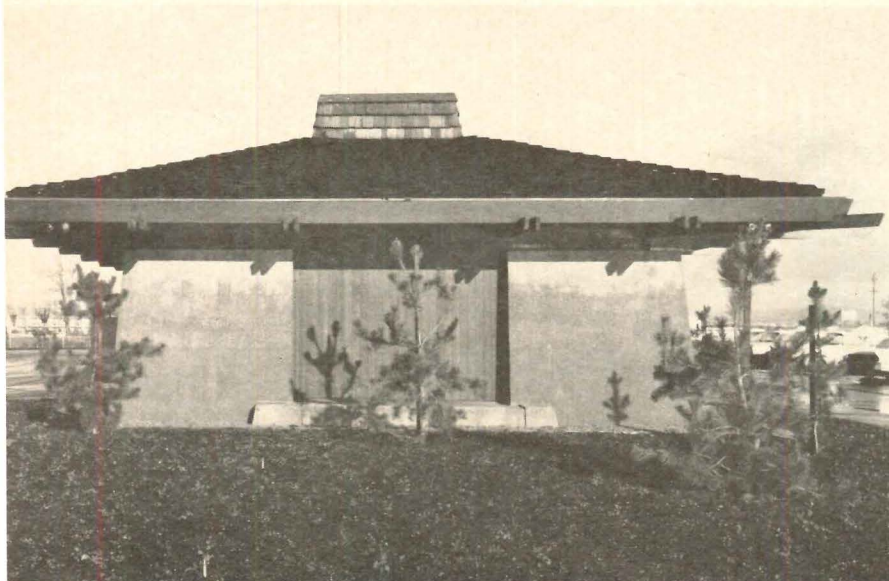






The executive and engineering-accounting buildings, both square in plan, have central courts, open to the sky, which admit light to the interior offices and make a pleasant prospect. The conference room (above) in the executive office building looks out on the main court between the buildings. Covered walks connect each building with the others

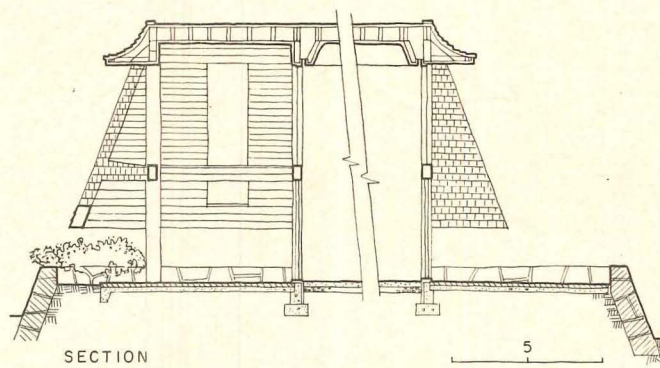
Walls of the rectangular laboratory building are of plywood panels set in the same mullions as are used for glass-enclosed walls on other buildings. Walls are designed so as to facilitate expansion of laboratory building if necessary. If needed, other buildings could be added



quirements was a natural development. The low rough roofs with their wide overhangs and the massive buttresses at the building corners impart repose and strength as well as the dignity and sense of stability which the company wanted to convey to visitors and clients. The buildings rest on a low platform and are grouped around a long pool whose jets subtly suggest the company's business. The executive offices have the dominant position in the building group but are located away from heavy traffic. The engineering and accounting departments, both of which required special access for deliveries and for mail service, were combined in one large building, so that they share a service entrance and a sub-lobby (for pedestrian visitors and salesmen) which is indirectly related to the executive offices. The laboratory for testing and analysis of water samples is in a separate building, with immediate access to delivery and parking areas.

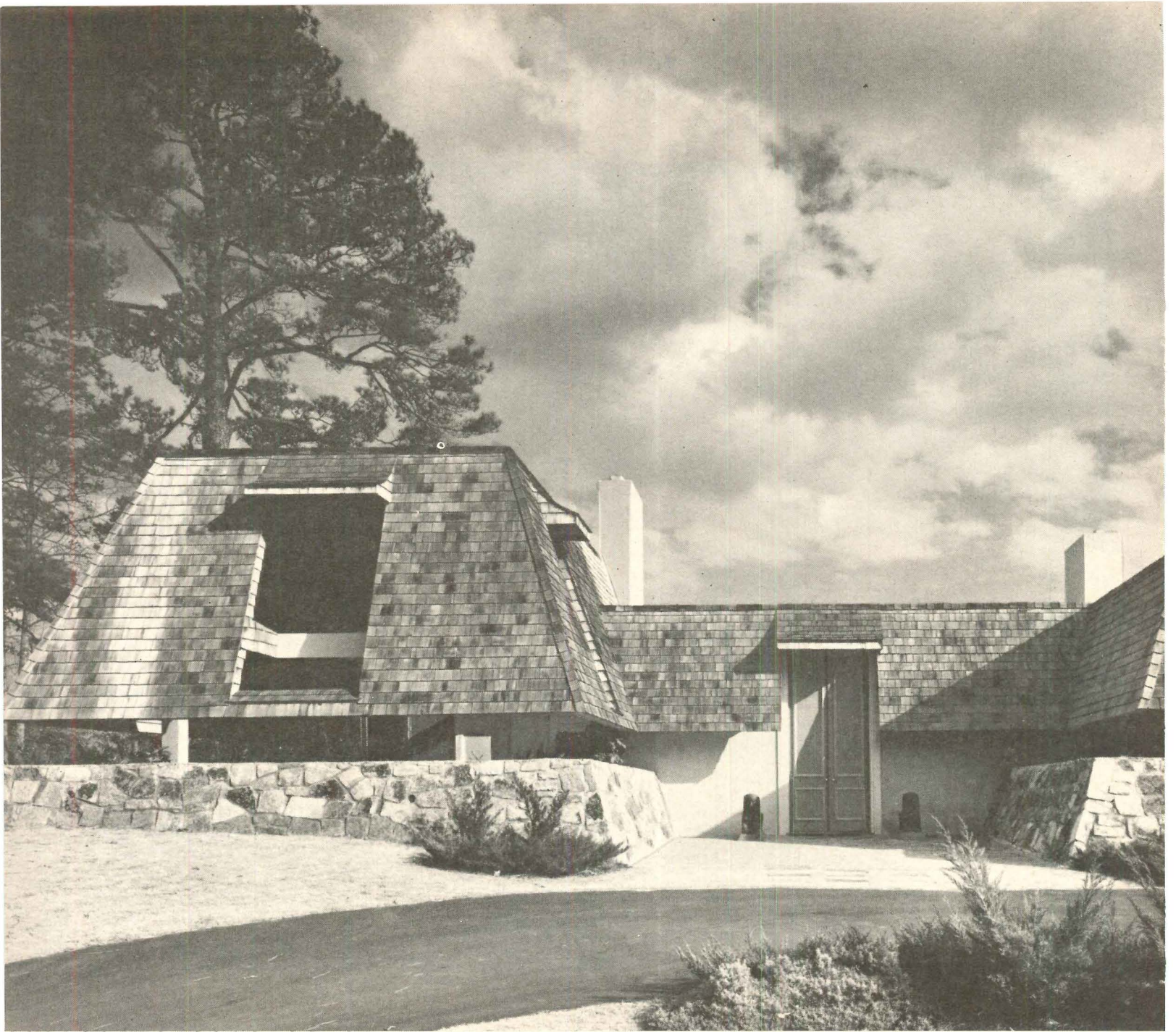
The spatial common denominator of the building group is the 28-foot-square bay with a nine-foot ceiling on which are based plan, form, structure and mechanical and lighting systems. Each bay has its own self-contained air-conditioning system—equipment and ducts for which are located in the continuous open pocket formed by the hipped roofs. A fourth structure, an open-sided pavilion roofed like the other buildings, provides sheltered parking. Exclusive of land, landscaping and equipment, the building cost was \$703,544, or \$24.69 per square foot.

California Water Services Company offices, San Jose, California. Architects: Ernest J. Kump Associates; structural engineer: Robert E. Jones; mechanical engineer: Alexander Boome; electrical engineers: Smith & Garthorne; landscape architects: Royston, Hanamoto, Mayes and Beck; general contractor: Jasper Construction Company, Inc.



POWERFUL ROOFS DOMINATE DESIGN

Martin & Bainbridge use traditional wood shakes to express an unusual design concept for a family house

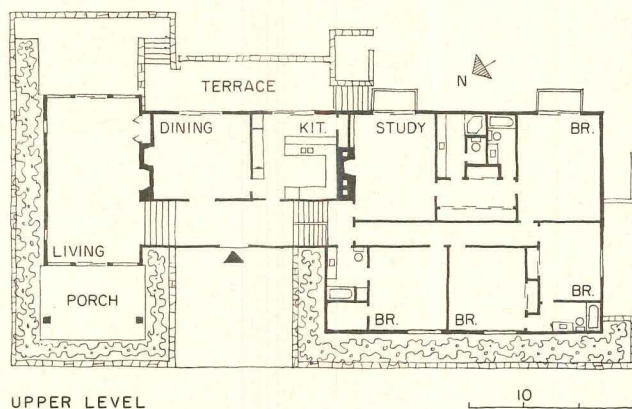




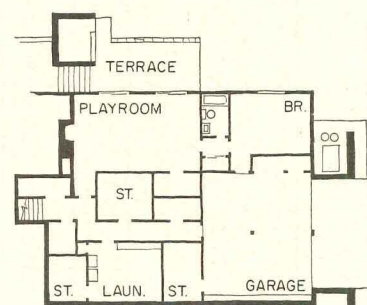
A dominant roof structure, carried out in wood shingle, is the principal design element in this unusual house. The roof form is so strongly stated, that from a distance the house appears to be "all roof." The combination of the enveloping roof line with the stone retaining wall around the front and sides of the house give a sheltered, protective feeling to the structure, which is thus well shielded from the street. At the same time, large window and door openings prevent too great a feeling of enclosure and open the house to the light and view. Although traditional materials and furnishings have been used to express the design, the handling of the forms is unquestionably that of an architect whose main inspiration is in the twentieth century. The result is a strongly individualistic scheme, whose strength is

heightened rather than diminished by its links with the traditions of house-building.

The house was designed around a family of five, who wanted space and privacy and as much outdoor living as possible. The architects took advantage of the sloping site to provide a second story at one end and balanced this with a two-story living room at the other. A wide passage or gallery links the two ends of the house. The living room, dining room and kitchen all lead onto terraces, and the master bedroom and guest room each have small balconies. Construction of the house is wood frame on concrete and stone, with painted stucco walls. Cost was about \$90,000. The house has received an honor award from the South Atlantic Regional Conference of the A.I.A.



UPPER LEVEL



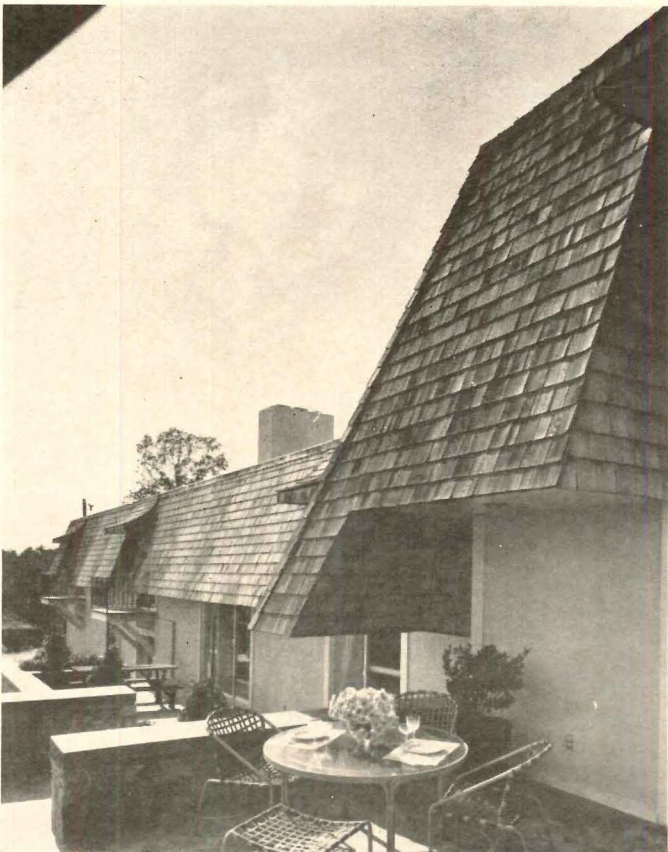
LOWER LEVEL

The Benton House

Alexandre Georges photos



Outdoor living space is provided in a series of terraces and balconies along the rear of the house, and also in the covered porch which adjoins the living room at the front of the building. Here one can see the power of the roof form to full advantage, set off by the irregular shaped openings and the strong, exposed beams which are somewhat reminiscent of the interior of a country barn, where loft doors open to the sky



*Residence for Mr. and Mrs. William H. Benton,
Atlanta, Georgia*

ARCHITECTS: Martin & Bainbridge

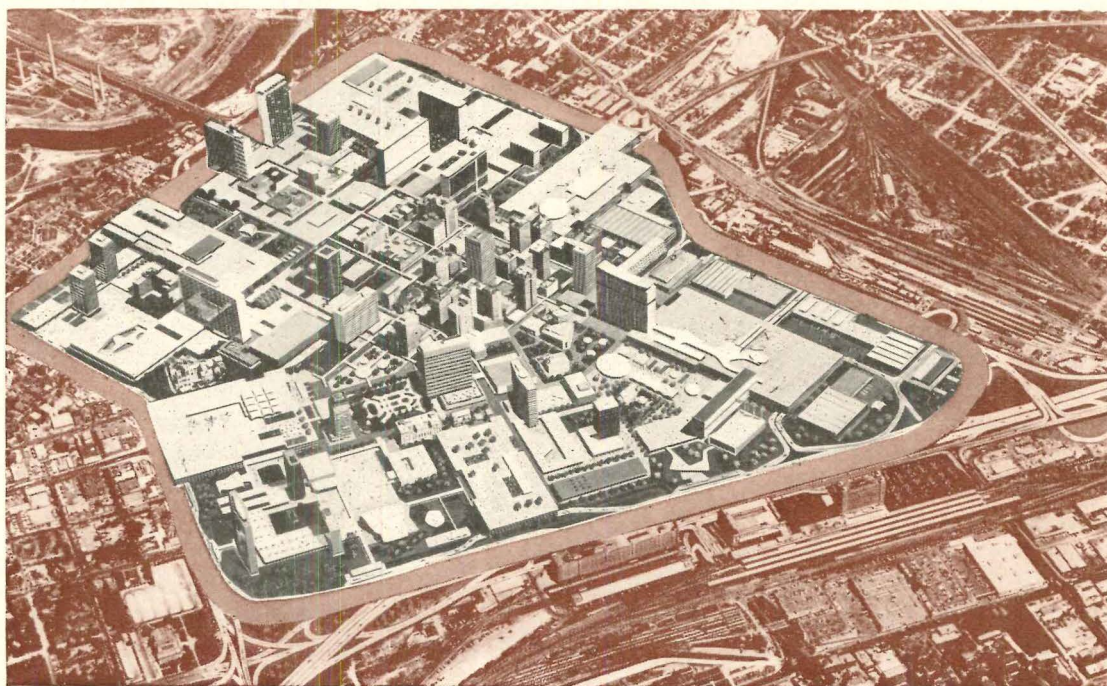
ENGINEERS: Drake & Funsten

CONTRACTOR: Wm. H. Benton

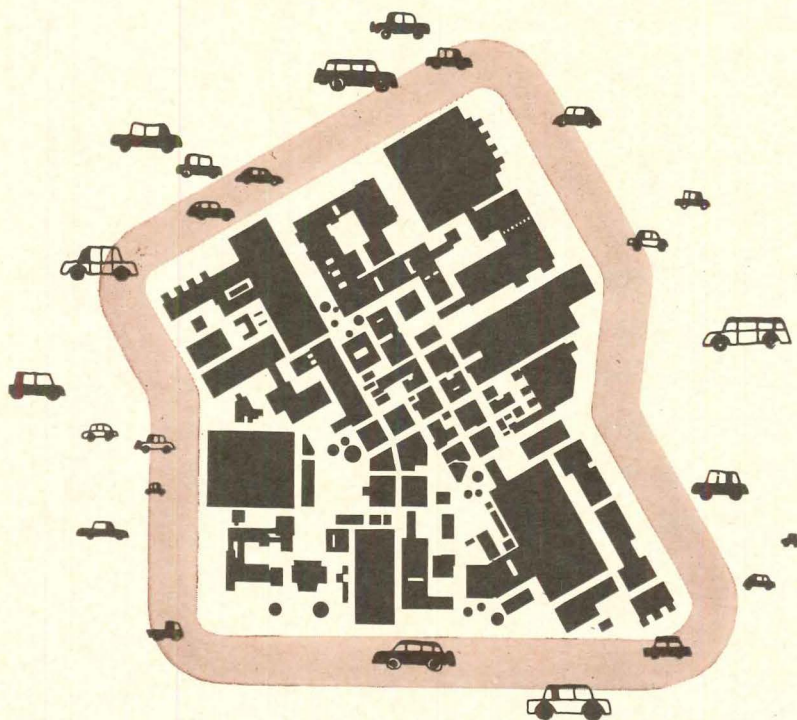
INTERIOR DESIGNER: James E. Kilby

In at least 50 cities across the country, projects are underway to renew, and hopefully to revitalize, downtown areas. In the midst of all the theorizing about whether this is the ultimate goal, and if so how it should be accomplished, Victor Gruen has assembled a considerable casebook of practical experience—and scored some notable successes. On the pages that follow is a progress report on the thinking of Gruen and his associates, and on some of their work.

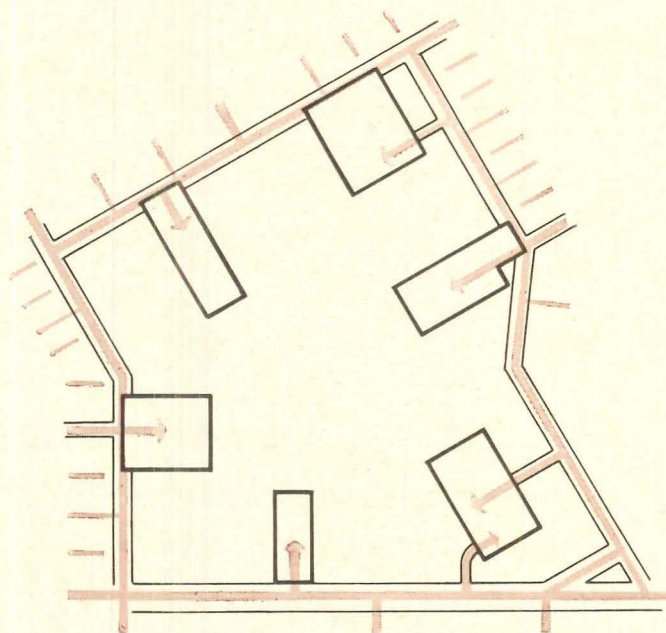
UPGRADING DOWNTOWN



Proposal for renewing the central core area of Fort Worth, Texas



FORT WORTH, TEXAS



These schematic plans of the central core area of Fort Worth show (left above) the ring road (in color) and the pedestrian walks and plazas between the building masses (black). Cars are not allowed inside the loop road except to enter (above) multi-

As Victor Gruen points out in his excellent and evocative new book "The Heart of our Cities": "If one were to accept the quantity of efforts [to rebuild city cores] as a measuring stick, one would conclude that the outlook for a rosy future of the city is excellent. In any case, the impressive quantity proves that there is a popular desire for urban improvement.

"What is questionable is whether the quality of all these undertakings is such as to give hope that the deep desire will be fulfilled."

Architects facing this challenge must not only solve new problems for which there are no accepted answers, but must "involve themselves in a tremendous effort of working with teams of outside consultants and with a multitude of city agencies in the fields of zoning, traffic regulation, city planning, and urban renewal. The effort often makes the architect dependent on the vicissitudes of political life, and most of all it involves a long-lasting process through periods of research, conceptual planning, translating concepts into workable planning documents, fighting them through various agencies, and, even longer, to the point where the plans are at least partially implemented." But at the same time, Gruen feels, the rebuilding of our cities "offers an extraordinary range of potentials for broadening the practice and the influence of the architectural profession."

Victor Gruen Associates has developed, or is developing, plans for revitalizing the centers of 33 American cities—an unparalleled amount of practical experience. Some of the projects have been great successes, some have failed in that they were never implemented; but all are carefully thought-out efforts towards one basic goal: attracting people back to the heart of the city. For at the core of the problem,

as Gruen sees it, "lie purely human considerations. The hearts of our cities will function in a healthy way only if they fulfill the desires in the hearts of people; if they effectively serve human hopes, aspirations, and needs."

Gruen's first plan for renewing a city core was for Fort Worth, and it is widely acknowledged that this plan exerted potent influence in this country and abroad on planning studies for central-city areas. And it is clear that the principles evolved in this study have strongly influenced Gruen's later work.

Fort Worth: Goals, Enthusiasm . . . and Failure

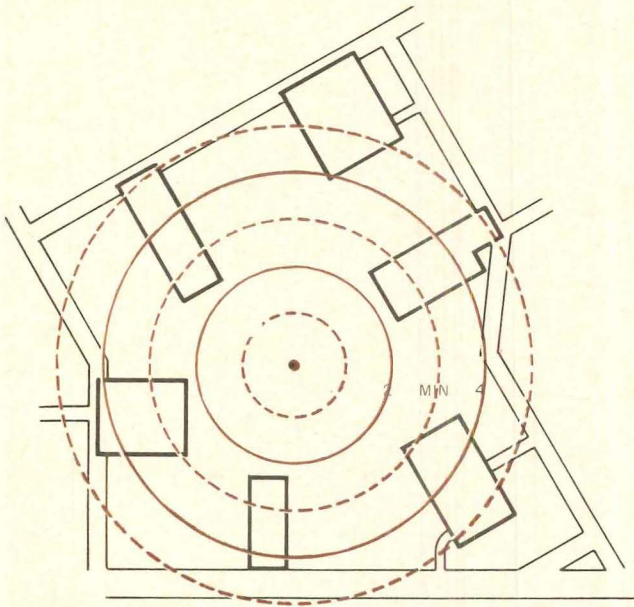
Says Gruen: "Unlike earlier attacks on the problems of the central areas that had concentrated on isolated symptoms—traffic congestion, or parking inadequacy, or physical decay—the Fort Worth study began with a comprehensive evaluation of *all* problems of downtown deterioration, and the formulation of long-range goals of revitalization." These goals:

1. To develop a system of access roads to assure a free flow of private, public and service vehicles to and from the central core.

2. To develop a non-conflicting circulation system within the central area that would separate the movements of pedestrians, private cars, and service vehicles.

3. To provide conveniently located parking facilities within easy walking distance of all points in the central area, adequate to serve the long-range growth of the core.

4. To encourage the most productive use of the downtown land.



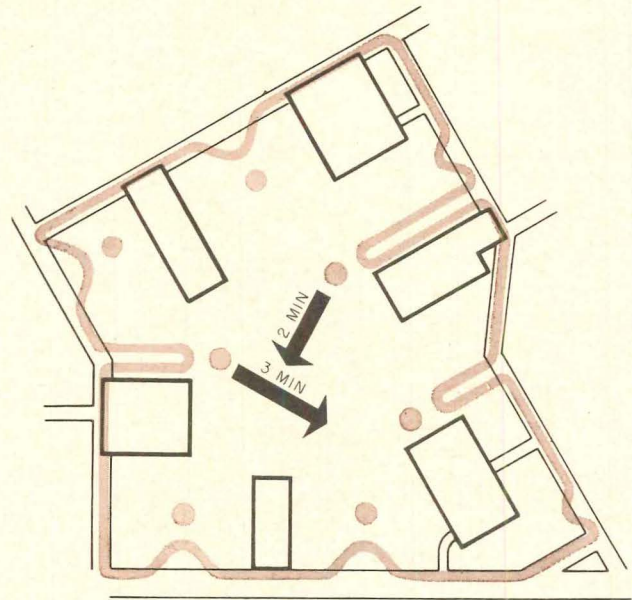
level parking decks opening off the loop and thrusting into the pedestrian core. This arrangement minimizes walking distances, shown by one-minute rings in drawing above, from various parking facilities to the center of the complex.

5. To encourage the re-integration of commercial and non-commercial activities, by development within the central area of social, cultural, recreational and civic facilities serving regional needs.

6. To return to the central area of the city the environmental qualities of activity, variety and visual enjoyment that had been lost in the unresolved conflict between automobile traffic and the physical structure of downtown.

The downtown area of Fort Worth consisted of a rather tight cluster of major structures containing shopping, working, civic and cultural activities. This tight cluster was surrounded by a grey area in which only minor structures, parking areas, used car lots, and the like, were located. Gruen's plan provided for a multi-lane, grade-separated ring road (in color, drawing above left) located along the boundary of this grey area. Along the inner side of the periphery loop Gruen proposed multi-deck parking facilities with a combined capacity of about 60,000 cars. These garages were sited to reach towards the center of the core area (see drawings) minimizing walking distance once the driver had parked his car.

Except for the parking, the entire core area (inside the ring road) was to be converted into pedestrian precinct, free of all traffic. Service trucks would move in service tunnels built below the surface of existing alleys. Since, without cars, the streets no longer needed to be straight, unbroken, and constant in width, the regular gridiron pattern—lacking in perspective and monotonous in scale—could be greatly modified. Plazas and squares—some monumental, and some narrow and intimate—could be provided. Some streets were to be narrowed either by extending new structures on one or both sides, or



The drawing above indicates short walking distances from various passenger drop-off points to the central area. On page 175 is a detailed rendering of the Fort Worth plan. Partner in charge: Victor Gruen. Coordinator: Beda Zwicker.

by introducing landscaping, tree wells and flower beds, fountains and sculpture. It was proposed that some streets be roofed over, to provide protected, air conditioned, business and shopping environments.

Thus a pattern of great variety and interest was created, providing change of pace and scale, and a sense of compactness and continuity.

The plan was hailed by the newspapers, praised by the city officials and leading citizens, and received wide publicity and most favorable comment throughout the country. Yet it was a failure in one important aspect: it has not been translated into reality.

The helpful question is why. Some reasons, says Gruen, have become obvious:

1. The plan for the revitalization of Fort Worth was commissioned by a private client, the Texas Electric Company. Only when the plan was completed was it presented to city government and the public. Gruen believes that the chances for the plan were seriously damaged by the fact that government was not involved in the planning from the beginning.

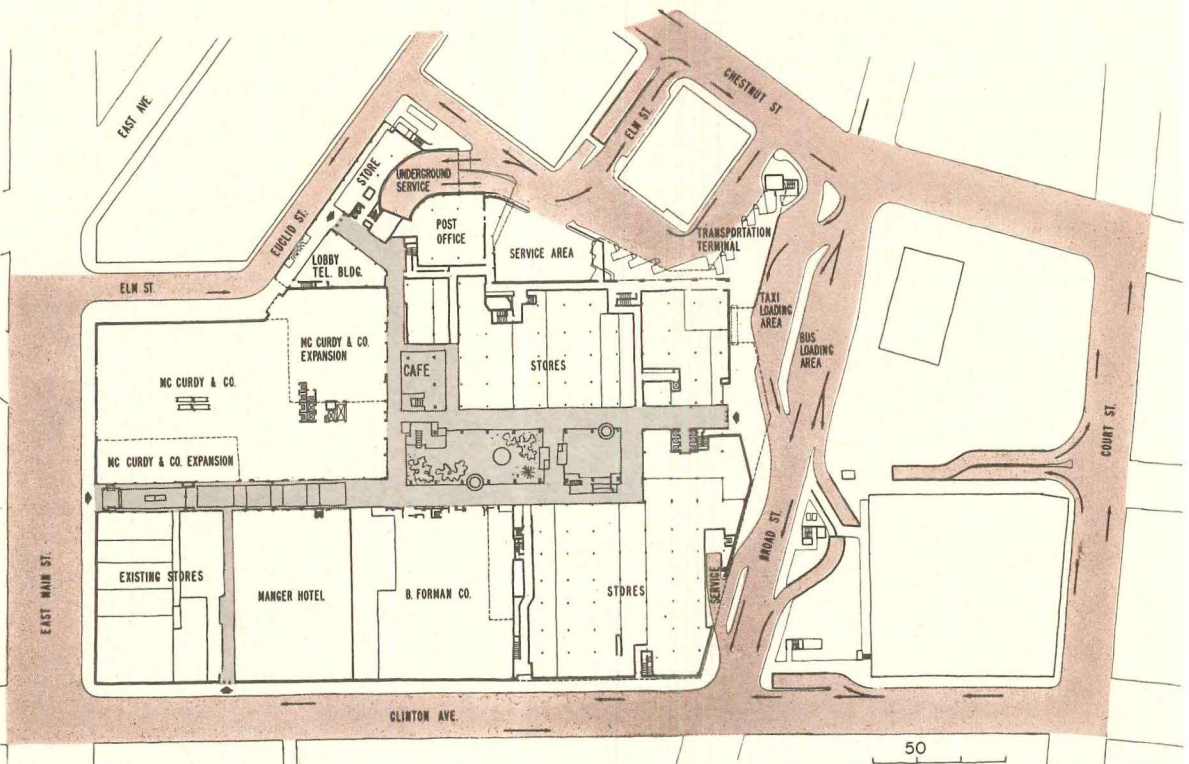
2. The idea of accepting Federal assistance through urban renewal legislation is not popular in Texas; and, Gruen says: "We believe that no city can undertake a major revitalization of its entire downtown area without the financial assistance which Federal redevelopment legislation provides."

3. Implementation of the plan was opposed by a powerful lobby of garage and parking lot owners.

But perhaps most important: The plan as proposed represented an ideal, ultimate solution, almost uncompromising in terms of end-product. Gruen sums up: "It was perhaps too much to expect that the first community presented with such a dramatic proposal

**ROCHESTER,
NEW YORK**

At near right is a ground-level plan of Midtown Plaza. What once was a narrow back street now forms the axis for the pedestrian area outlined here in grey. The existing buildings are generally at the left. New buildings—under which is the bulk of the three-level underground garage—are indicated by columns. The center drawing (right) shows the location of the \$35 million in new construction, the seven expansion projects, and the 10 major modernizations that have taken place in the area around Midtown Plaza since it was opened three years ago. At far right is a photo of the main retail-office-restaurant-hotel tower at Midtown Plaza. Partner in charge: Edgardo Contini. Coordinator: Angelo Chiarella.



would find the means, the wisdom and the courage to adopt it and implement it.”

Cincinnati: Two Good New Ideas, Too Late

In this more recent case, the Gruen plan followed in many ways the criteria developed in the Fort Worth study, but two new facets were added:

The first innovation was a system of “use classification” for public streets. Several classifications were proposed—from most restrictive (pedestrians only) to specialized (public transportation only, or trucks and service vehicles only) to permissive (mixed use of all vehicles).

This system established areas of different function and activity within the core, and was designed to increase both efficiency of land use and traffic capacity. Gruen pointed out that such use classification, previously applied only to private land, “is much more important for public areas where the greatest conflict between varying uses arises.”

The second innovation was encouraging the use of public mass transit to reach the core area—an idea which, Gruen feels, is absolutely essential to the health and vitality of downtown. This was to be done by restricting private cars to the fringe of the downtown area (as in the Fort Worth plan), but bringing public transportation into the very center of the core by a system of underground access roads.

As in Fort Worth, the proposals were received with interest and enthusiasm, but not adopted. The reason in this case: bad timing. Gruen had been retained by a citizens’ committee when the official redevelop-

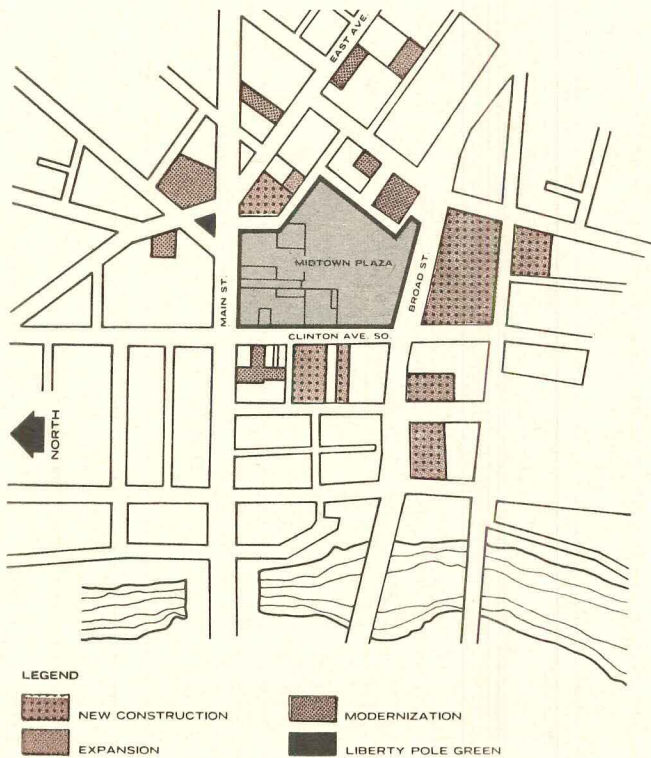
ment machinery was already in full swing and approval of an earlier, much less comprehensive program had already been applied for.

Rochester: Most Successful Project Yet

In December 1956, two of Rochester’s leading merchants, Gilbert McCurdy of McCurdy and Company and Mr. Maurice Forman of B. Forman Company, concerned with the decline of business activity in the downtown area, retained Gruen to study the problem.

With the firm of Larry Smith and Company, economic consultants, Gruen made an investigation of the physical, economic, and transportation conditions throughout the downtown area, and made a projection of the potential that could be developed by aggressive redevelopment. Then it was decided to choose an area for the first stage of revitalization large enough to make possible a project of impact, but small enough to keep the project within limits of private investment.

The area chosen was an irregular 10-acre parcel (enclosed by loop on map above) which included the McCurdy store, the Forman Store, an old but well patronized hotel, and a recently renovated bank building. Most of the balance of the land was occupied either by parking lots or secondary structures which could be demolished with little loss. The parcel was bisected by an alley-like service road, which under the proposed plan would be closed to eliminate street traffic within the area. Within this core, Gruen proposed:



Gordon Somers

1) an underground, three-level, 2,000-car garage,
2) a two-level retail center consisting of some 30 stores which would open onto a skylighted garden court and the arcades from the court to the loop road, and . . .

3) above the two retail levels, high-rise office space.

In January 1958, city officials were advised of the proposed project—to be called Midtown Plaza. After a long series of negotiations, the private developers agreed to give the city, for \$1, the underground rights of a major portion of the parcel for construction of the parking facility, and agreed to develop the above-ground space. In return, the city agreed to build the garage and close the existing public rights-of-way to vehicular traffic.

The entire project, with minor exceptions, was completed and opened to the public in April 1962.

There are two salient features of this plan:

1. *Multiple land uses were developed by vertical stacking*—three levels of underground parking, two levels of retail space around the central plaza, and two office towers above. The separation of service, vehicular and pedestrian movements is complete. Service traffic is handled with an underground truck court served by a ramp from the loop roads. Visitors' vehicular traffic enters and leaves the underground garage on a total of six ramps distributed on the loop road system to balance the traffic demands from different directions. Pedestrian access is by arcades connecting the plaza to the loop on three sides (and one arcade is adjacent to a major terminal for interurban buses).

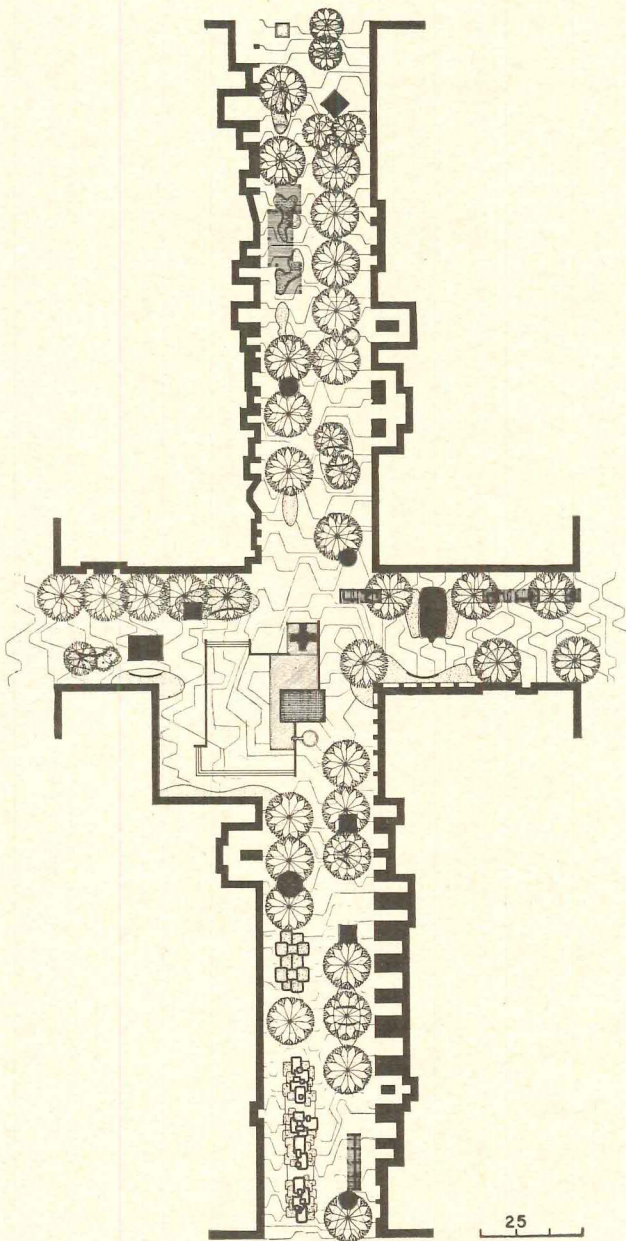
2. *Its urban and disciplined design*—character-

ized by the roofed-over, air-conditioned plaza—is related to some of the enclosed gallerias as in European cities. The mall is two stories high and divided by an escalator bridge into a two-space element, in which kiosks and other retail facilities are developed. In addition, a sidewalk cafe, landscaping, and fountains contribute to the creation of a unique and festive atmosphere.

Not only is Midtown Plaza a successful experiment in itself, but its catalytic effect on the area around it has been extraordinary (see middle drawing, above). What remains is for the city to extend this catalytic effect into the implementation of a plan for the entire central area; this will require great public and private initiative, and, probably, the judicious use of Federally-assisted urban renewal in areas where incentive for private redevelopment is simply inadequate or non-existent.

The major contribution made by the architect to the Rochester project was, Gruen feels, "initiative and imagination—developing a solution of wide scope, designed to fire the enthusiasm of developers and government, yet financially and physically realistic." Beyond this, the architect's main task became one of coping with the extreme technical complexities of scheduling the job, keeping it on schedule, and getting the new facilities built while keeping open all services and traffic movements to the existing buildings. "The demands on design and engineering talent in any project of transformation within a central city area," says Gruen, "cannot be underrated."

For a look at six other Gruen projects for revitalizing city cores, begin on the next page.



Fresno: Comprehensive Plan, Steady Progress

Partner in charge: Edgardo Contini

Coordinator: Frank Hotchkiss

The study of Fresno, California began in 1958 under the best of auspices: Gruen had the sponsorship and financial commitment of not just the redevelopment agency, but the city government and an organization (The Hundred Percenters) of leading downtown merchants.

The first stage of the work established goals and criteria (essentially similar to the Fort Worth pattern) for the entire central area. Next came a study of possible routes for two new freeways, which Gruen proposed be joined with an existing freeway so as to create a triangular core area of 2500 acres—an area big enough to allow expansion of the existing business district, and big enough to contain the civic center, cultural and educational facilities, higher-density residential development and other elements that make up the heart of a city.

Within this area, a pedestrians-only core superblock of 36 acres (three by six blocks, enclosed by a loop road—see drawing opposite) was proposed. Its limits were set to include the main retail and commercial facilities, plus adequate space for parking to serve the entire central district. Service to the superblock was to be maintained via service roads, generally located along existing alley rights-of-way, routed to minimize crossing the pedestrian malls. After a lengthy period of programing and financing activity, and Federal approval (in December 1963) of the entire superblock as an urban renewal project, the goals of the program began to be realized. The one-way loop was set up, a new courthouse building was commissioned for a plot just outside the superblock, land was purchased

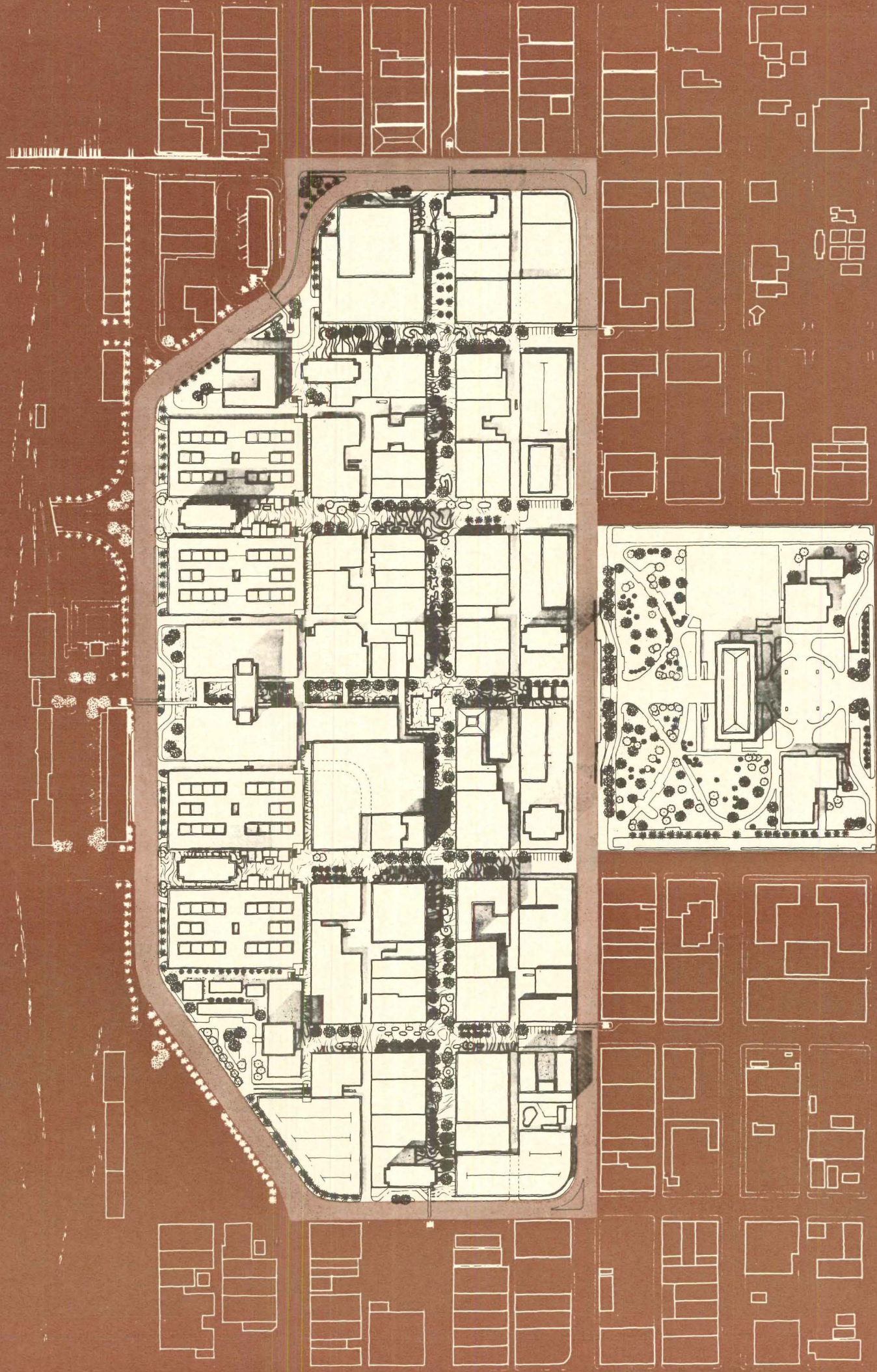
Tidyman Studios photos

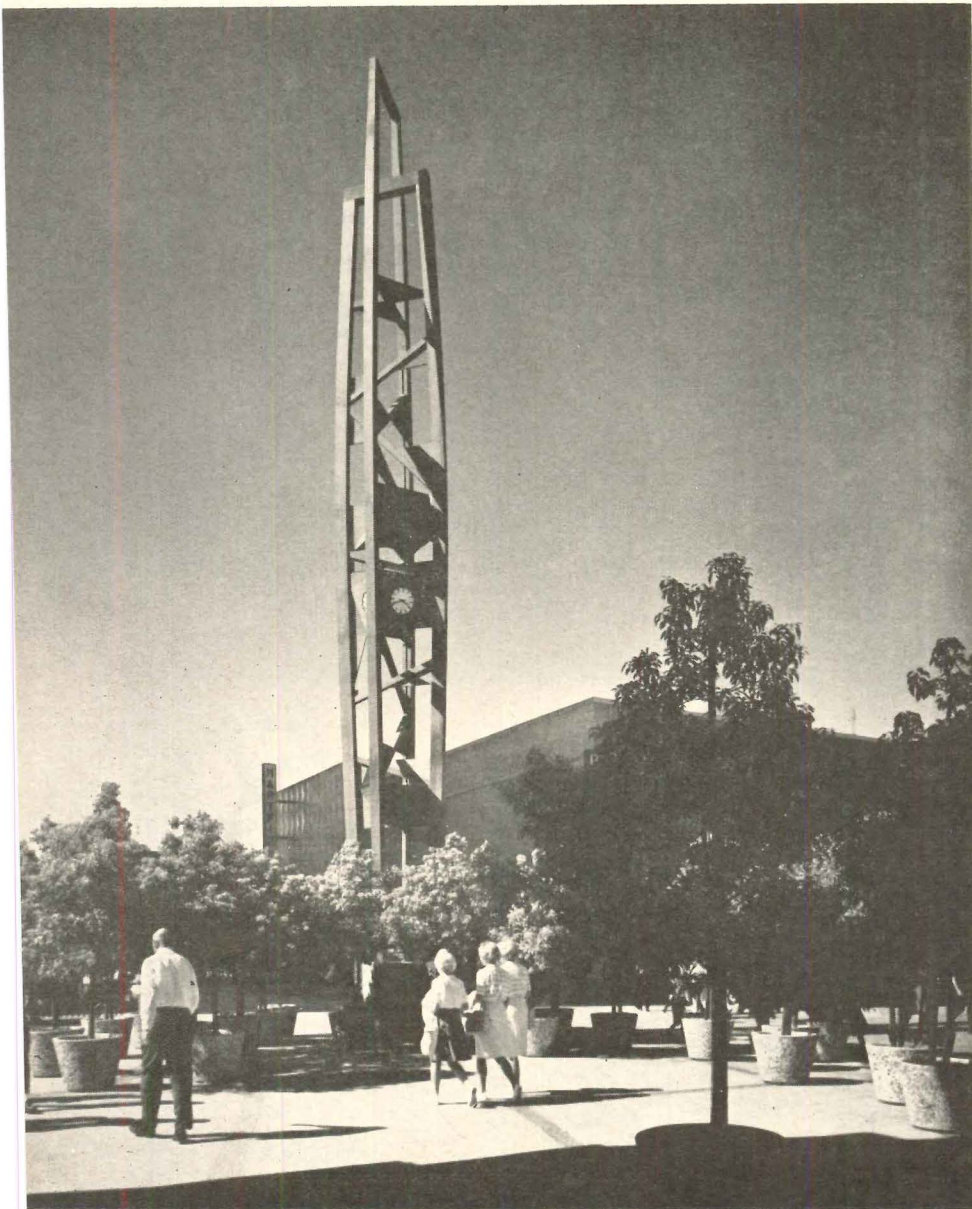


Fulton Street before: a typical downtown main street . . .



Fulton Street today: a pleasant, landscaped, pedestrian mall





Clock tower by Jan de Swart is focal point of the entire core area

Fresno, continued

for a major convention center, areas scheduled for demolition were cleared and paved for temporary parking, a program for the multi-story parking structures off the loop road was begun, Gruen (in joint venture with Eckbo, Dean, Austin and Williams, landscape architects) was retained to design the pedestrian mall, and in March 1964 the streets within the superblock were closed to traffic. Last September the Fresno Mall had become a reality (see photos).

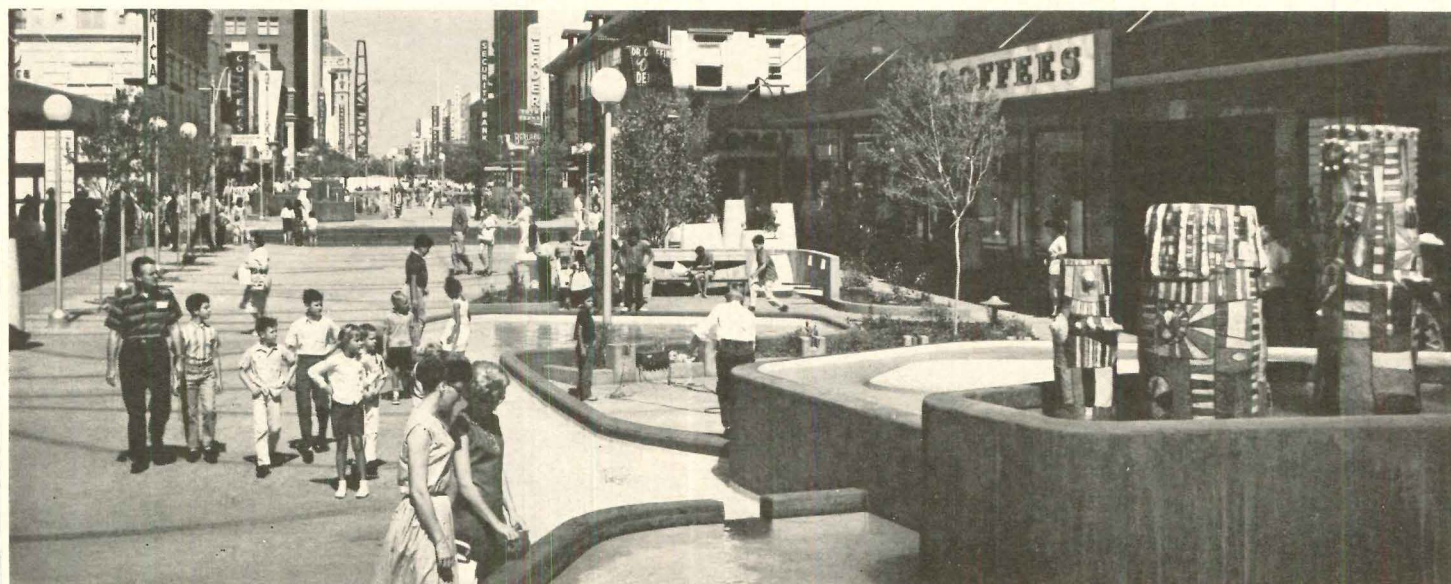
At the private level, significant investments were committed, including a 22-story office and hotel building, land purchases for other new buildings, and many major remodelings. A citizens' committee raised more than \$200,000 and has acquired or commissioned many art pieces for the mall; and local merchants contributed play areas and fountains. "This unprecedented public response," says Gruen, "reflects both local enthusiasm and an increase [to almost double] in real estate values in the district. While much remains to be done, the plan is probably the most comprehensive, and its progress the most consistent, of any American city."



Another "before" view: a jumble of traffic and parking problems. As soon as the street was reopened as a mall last year . . .



New street furniture, shade trees, and a continuous pattern of water features give the mall a festive air



... the interest and enjoyment of visitors in the many fountains and works of sculpture was apparent

Stamford: Plan for a Fast-Growing City

Partner in charge: Beda Zwicker

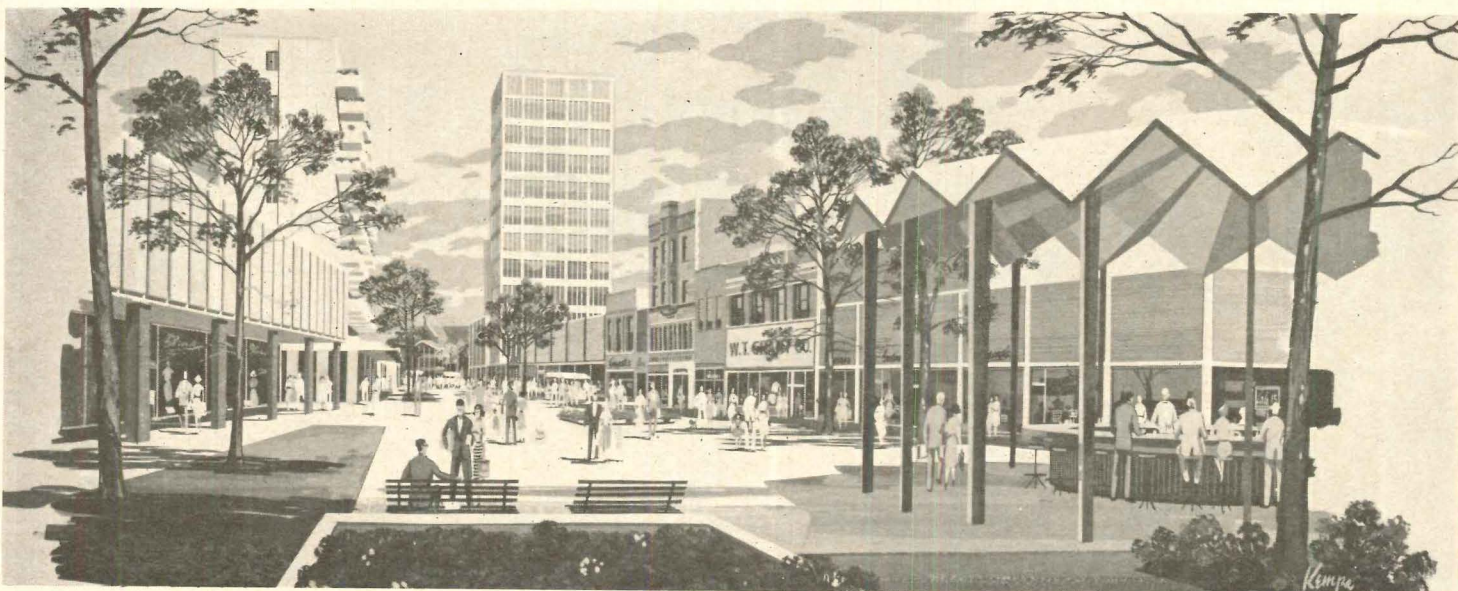
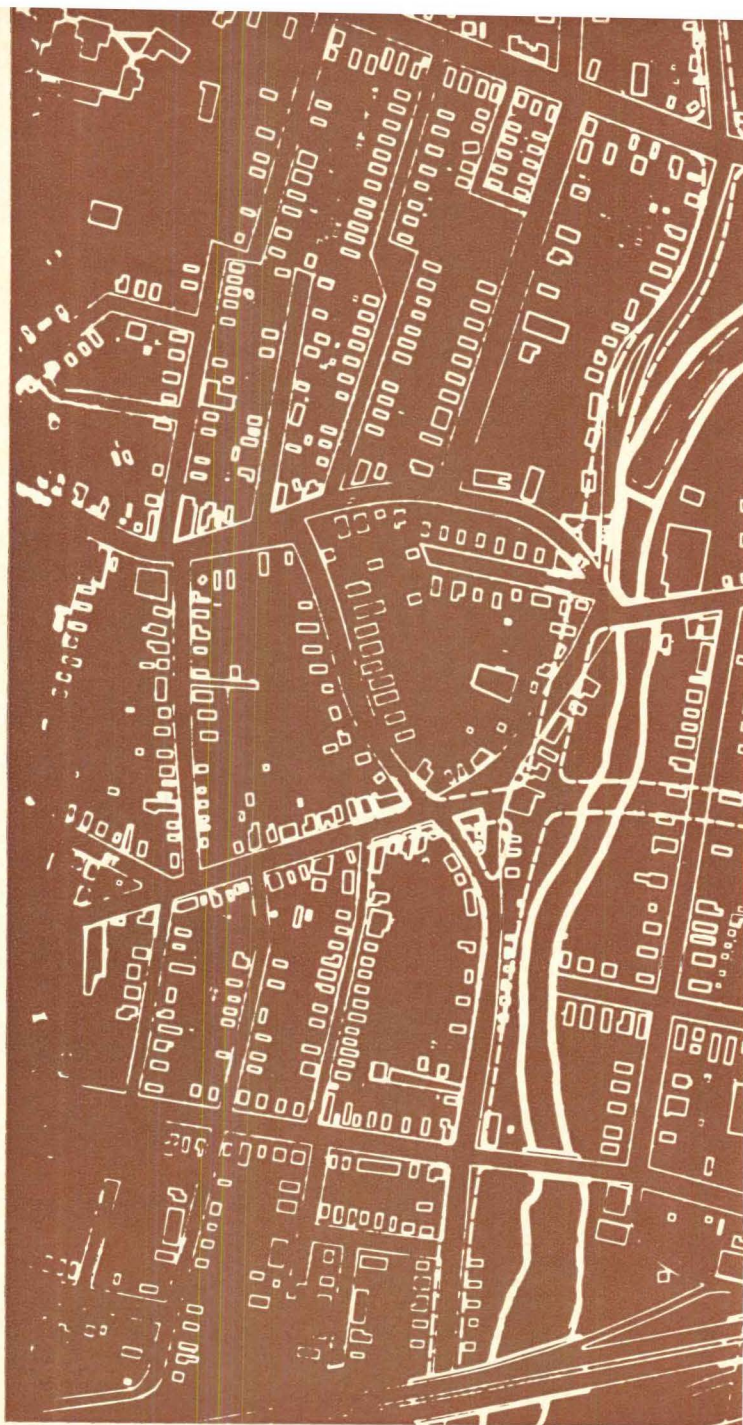
Coordinator: Jerry Pollack

Stamford, Connecticut, unlike many other East Coast cities, has had a continuous population growth—both within city boundaries and in the surrounding region. So the basic economic conditions for renewal have long been favorable. Its major problems: One-fourth of all downtown buildings are substandard or deteriorated beyond repair, traffic is chaotic, and there is a severe shortage of parking space.

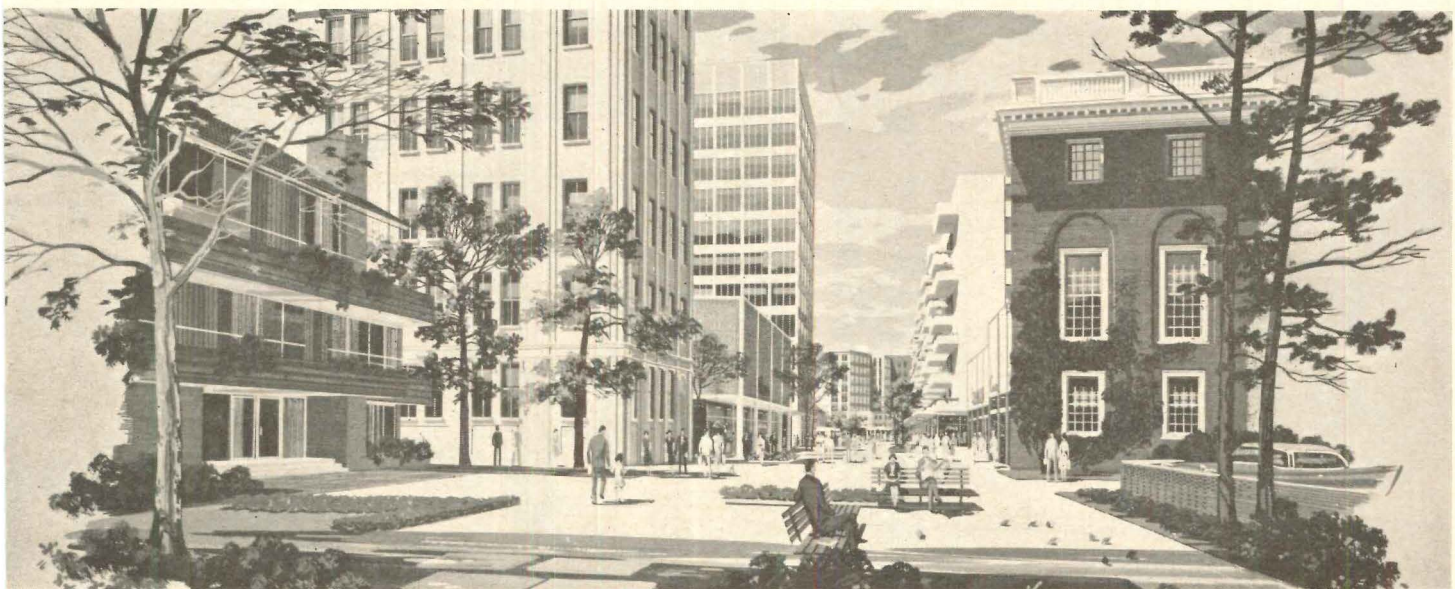
The city government, from the time it first began considering renewal, elected to use urban renewal assistance; and in an unusual move, it chose the sponsor on the basis of direct negotiations before the preparation of any specific redevelopment plan. The sponsor (S. Pierre Bonan and F. D. Rich Company) was committed to retain a planning and architectural firm "of good reputation, acceptable to the city." The city then retained its own consultants.

Gruen's redevelopment plan, which has now been officially adopted, provides for a 130-acre pedestrian precinct (enclosed by a loop road, light brown on plan opposite) which includes the two major business streets and related side streets. Arrangements for traffic circulation around this core, and for parking, are similar to other projects.

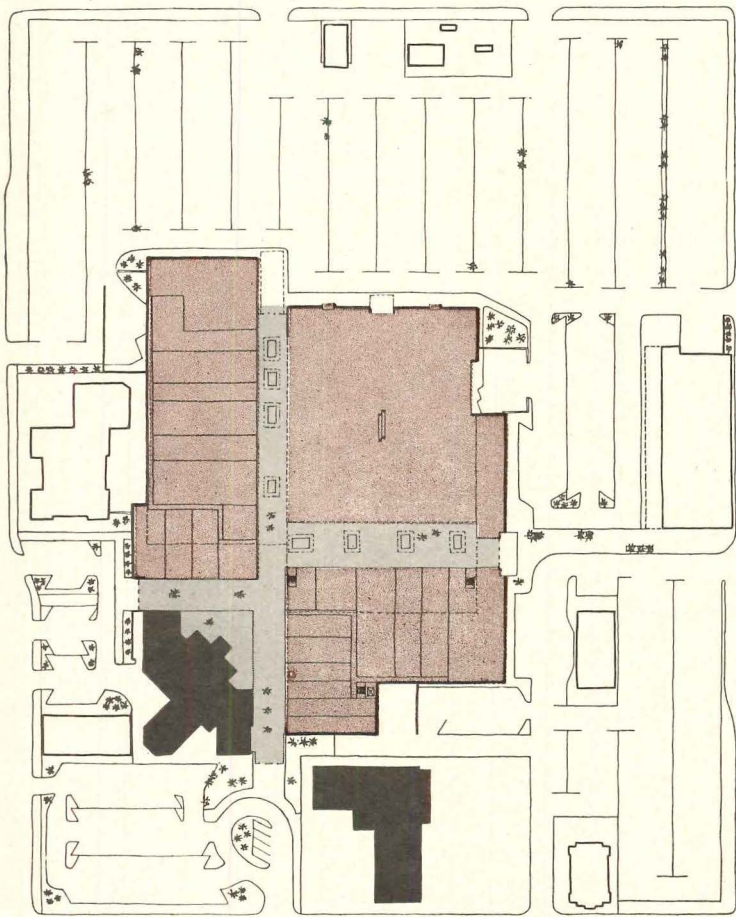
All financial appropriations for the project have been made, and the city is authorized to proceed to buy properties and sell the land to the sponsors. Construction is expected to begin early next year. However, much legal work remains to be done and (happily!) the lively interest of several major department stores in establishing branches in the core area may cause some plan revisions.



Within the core area, many older buildings are marked for rehabilitation, but new buildings will cover half the area



High-rise apartments for 1200 families, a motor hotel, some industry, and 600,000 square feet of office space are projected



Urbana: A New Center Next to the Old

Partner in charge: Karl Van Leuven

Coordinator: Aldo Genova

An economic study of Urbana, Illinois, indicated an unsatisfied need for major commercial development. So Gruen's plan for Lincoln Square combines a new core element with the existing central area in such a way that the entire complex can be converted into a pedestrian district, surrounded by loop roads. The over-all plan calls for enlargement of city and county buildings within the core, for at least two major new office buildings, and—as in other plans—for multi-level parking decks off the loop road. Because of the complexity of the over-all plan, it was divided into two stages: Stage one—a nine-block area—represents the part of the program built so far (see photos). It includes a branch of Carson Pirie Scott & Company (a major Chicago department store), an additional 130,000 square feet of retail and commercial space, and parking space for some 1100 cars. Tied with this new development are a number of existing buildings—an office building, a post office, a church, an apartment building and the Urbana-Lincoln Hotel. All of the new buildings, and the hotel, are linked with an enclosed, air-conditioned pedestrian area.

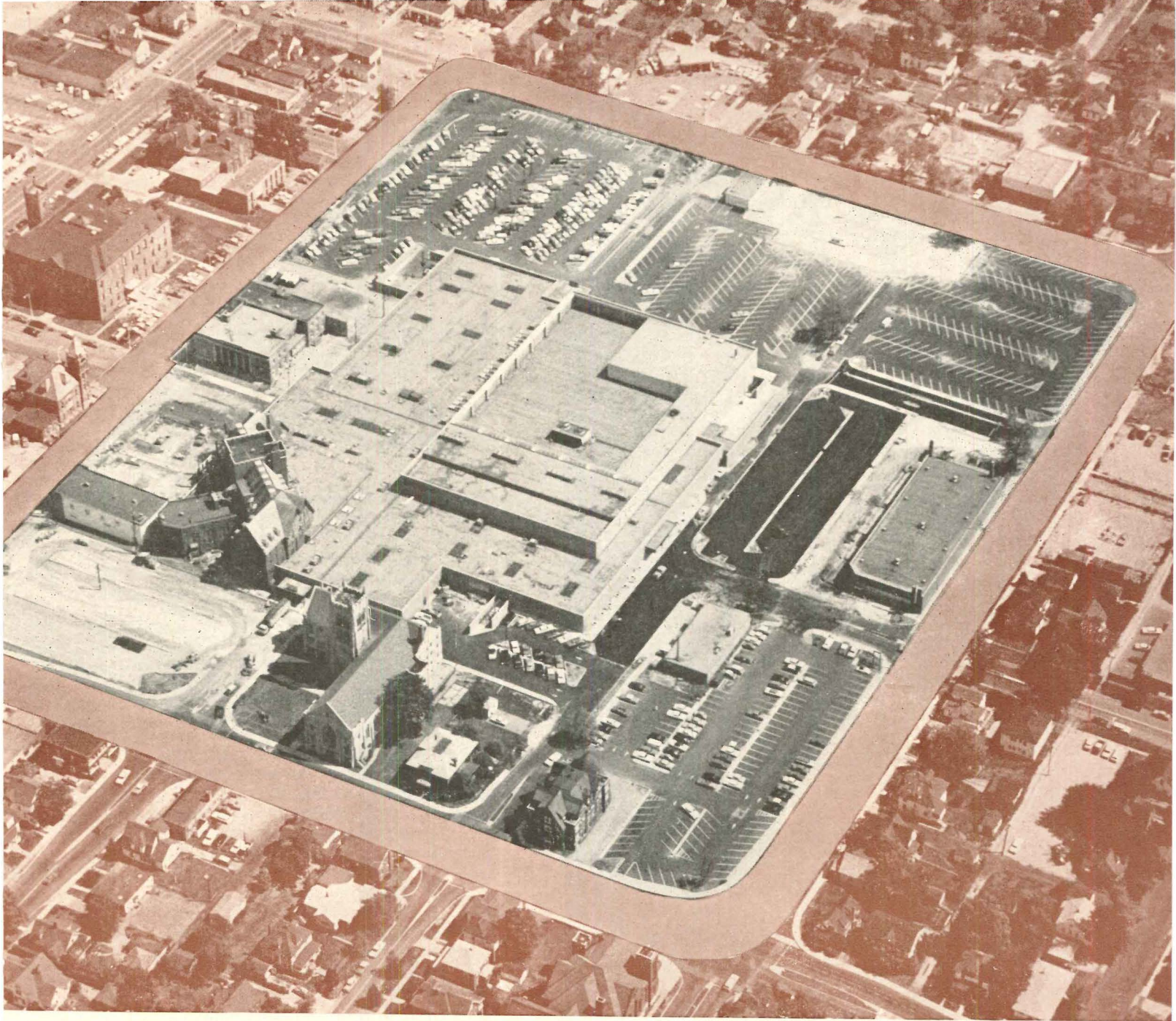
To encourage future development in the core area, Gruen has suggested reducing commercially zoned land outside the core, and increasing the zoning for multi-family residential uses directly around the core. Since stage one was completed last September, business activity has "exceeded expectations and projections" and extension of the air-conditioned mall throughout the core area is expected "in the foreseeable future."



Combination of old and new: one of the arcade entrances



Within the enclosed pedestrian area: "open-air" shops and dining area



Gordon Sommers photos



One of the shopping arcades: landscaping and sculpture

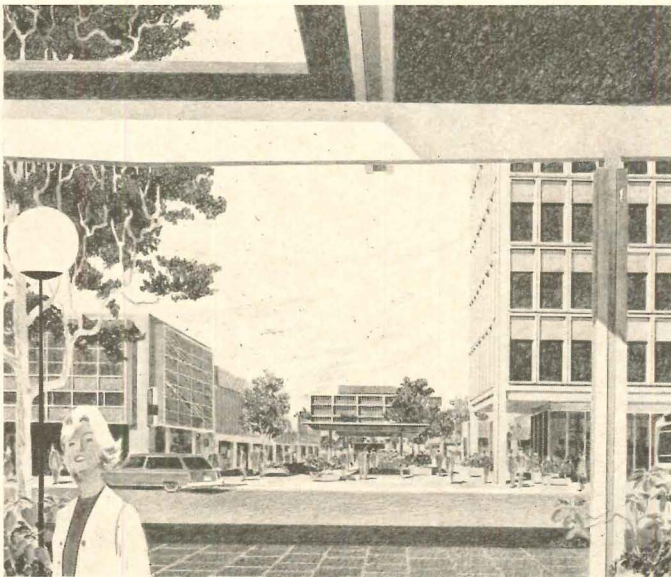


The main garden court: focal point for the new center

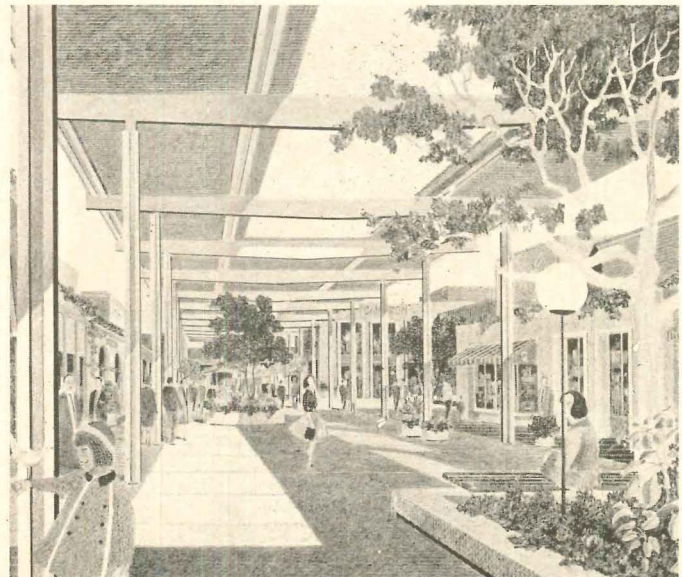
*Redlands:
A Privately Financed Project*

*Partner in charge: Ben Southland
Coordinator: Dan Branigan*

Redlands, California, has a relatively healthy commercial core. It includes a diversity of stores, entertainment and cultural facilities, is well served by its system of streets and freeways, and captures 43 per cent of the retail potential within the trade area. The problem here was a too-low rate of sales per square foot of retail area. Gruen's plan, then, was directed not towards generating more facilities, but towards consolidating the existing facilities and improving their environment. The principal proposal is transforming the main business street into a pedestrian promenade, with side promenades in both directions (see plan). One road will cross the area, but pedestrian underpasses will be provided. There is off-street parking in a number of locations off the loop road. The proposed program has been officially adopted by the city, and the first link of the pedestrian system will be open soon. The project is now being financed with private and city funds, and urban renewal assistance will be used "only if absolutely necessary."



Mall will be landscaped, sometimes opening into broad courts



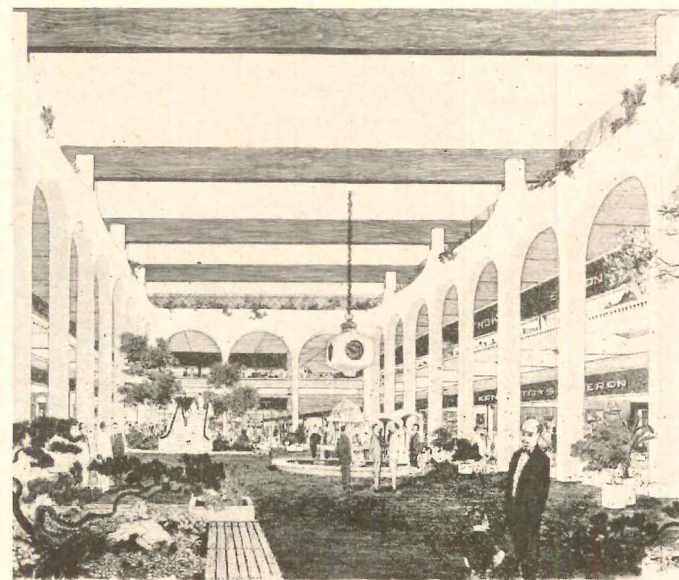
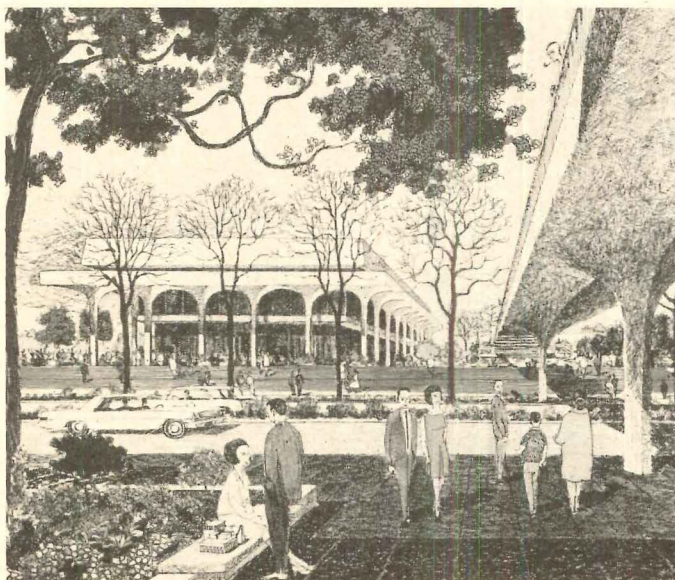
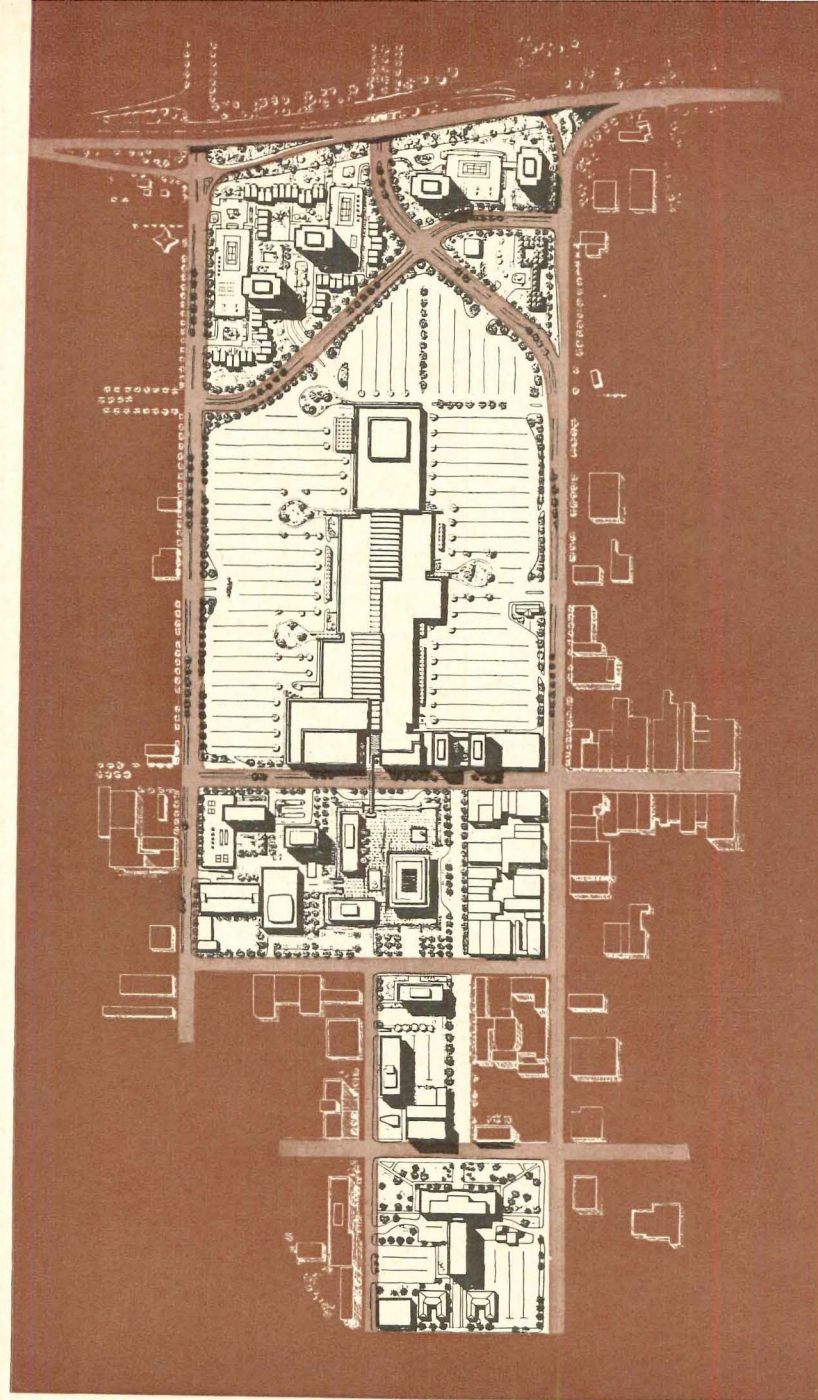
... and trees and canopies will provide protection from the sun

*San Bernardino:
An Urban Renewal Project*

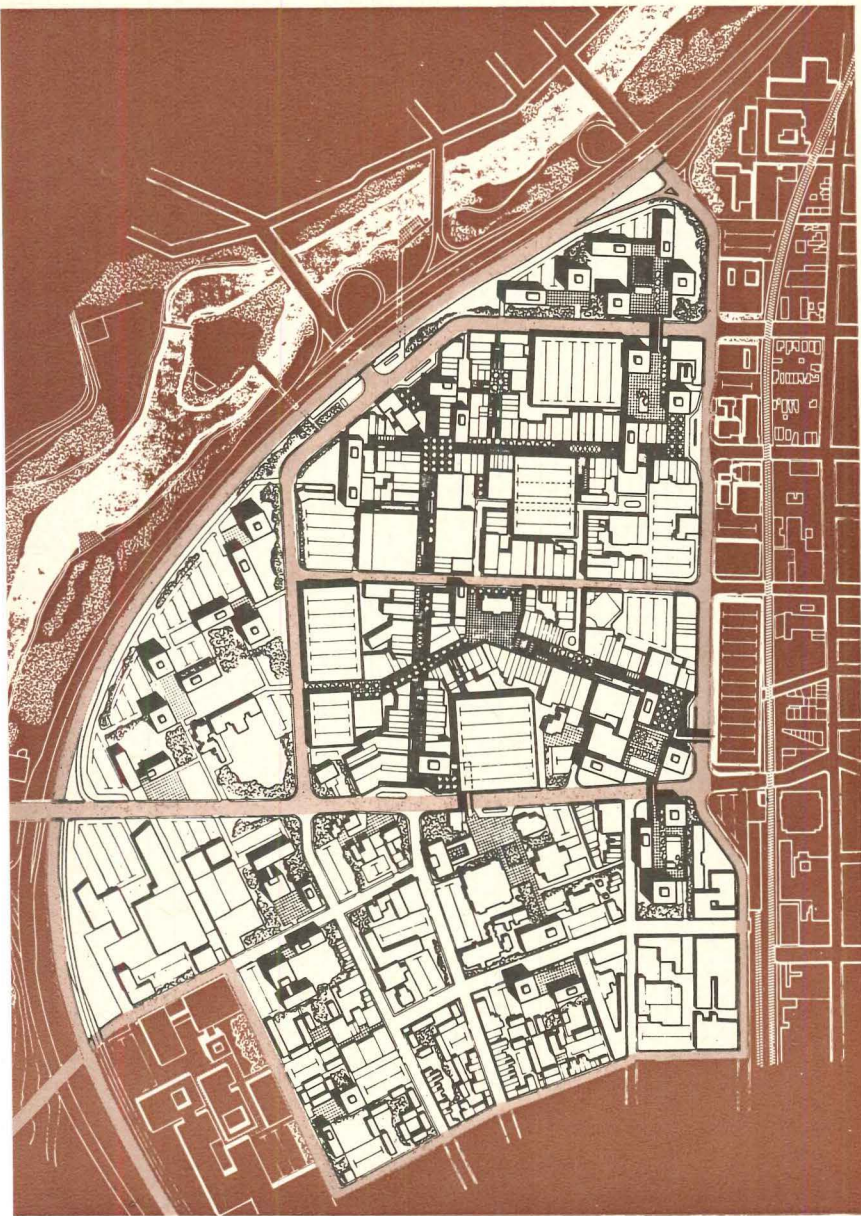
*Partner in charge: Ben Southland
Coordinator: Dan Branigan*

This project, designed to rebuild much of the core of this California city, was first commissioned by a private group of businessmen and civic leaders. Gruen's preliminary recommendations were in the form of a schematic development plan, and when it was complete, Gruen felt that it could only be implemented through urban renewal. The city filed a survey and planning application, which was accepted last year; and Gruen was retained to develop a detailed plan. The project area includes about 92 acres. At the top (in plan) are 1,000 new apartment units. The central block of 45 acres includes 900,000 square feet of retail space on two levels, built around two enclosed, air-conditioned courts. Parking lots around the center slope alternately to the upper and lower levels, giving both levels equal access to the public. Office towers are located next to the center.

Across the street from the shopping area is the proposed new city hall. Surrounded by open courtyards, it will serve as a pivot point for the entire scheme, and will be integrated with other buildings in the civic center. The project plan has been adopted by the redevelopment agency and the city council, and work should begin this year.



Proposed city hall is connected by a pedestrian bridge to the two-story main court of the shopping center

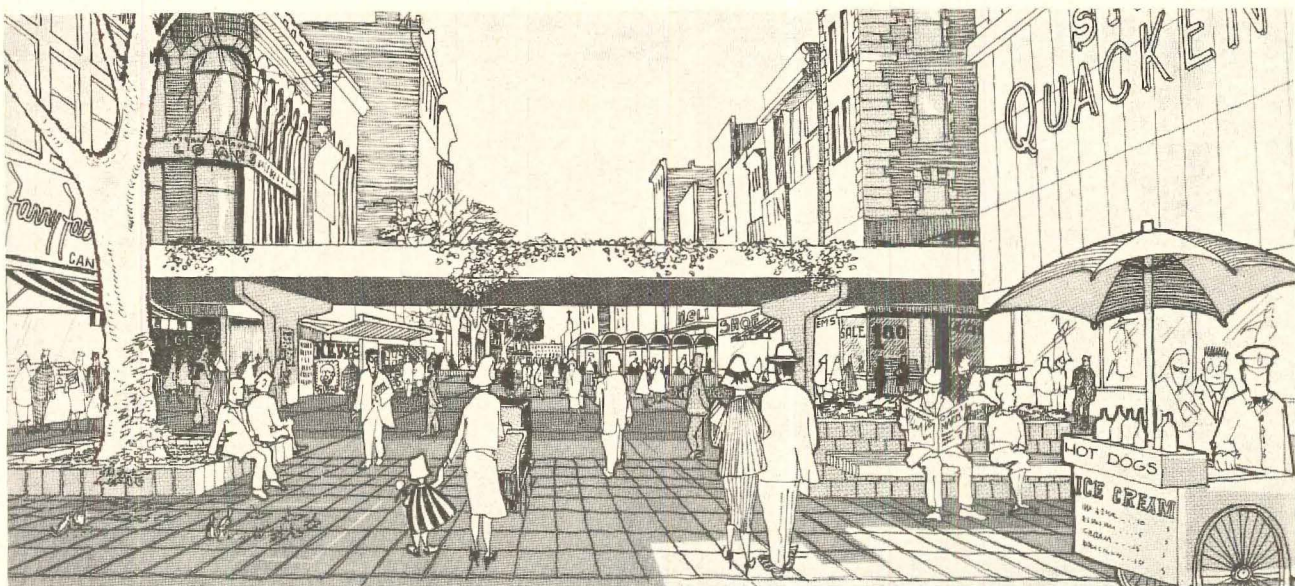


*Paterson:
New Plan for an Old City*

*Partner in charge: Beda Zwicker
Coordinator: Jerry Pollak*

Paterson, New Jersey, was founded in 1792. Its circulation pattern is irregular, the streets narrow and winding, and many of the buildings in the central area are very old and in poor condition. The obvious weaknesses of the area have been an open invitation to the development of a number of very large shopping centers in the area.

Beginning in 1958, Gruen made two separate studies of the area—one on behalf of a citizens' organization, and the other for the city. In 1962, the two plans were correlated. The final plan follows in principle the guidelines established in the Fort Worth plan, though the applications of the principles proved much more complex because of the characteristics of the city. The project covers about 120 acres, and has been divided into two parts. The first stage of some 77 acres (see plan, top) is being implemented; and detailed planning for the second stage is now underway. Thus it appears, says Gruen, "that the total revitalization will be realized within the next few years."



Main business street will become a landscaped mall. The overpass carries one of the few roads penetrating the core

SMALL BANKS

A sampling of current work



REDWOOD NATIONAL BANK, Napa Branch, Napa, California. Architects: Neill Smith & Associates; structural engineers: Gilbert, Forsberg, Diekmann & Schmidt; mechanical and electrical engineers: O'Kelley & Schoenlank; general contractors: D. M. Christensen Construction Company



FIRST NATIONAL BANK OF LOVELAND, Loveland, Colorado. Architects: W. C. Muchow Associates; structural engineers: Ketchum, Konkell, Ryan & Fleming; electrical engineers: Swanson-Rink & Associates; mechanical engineer: James H. Konkell; general contractors: Eagle Construction Company



SECURITY FIRST NATIONAL BANK, Los Angeles, California. Architects and engineers: Welton Becket & Associates; structural engineers: Stacy & Skinner; general contractors: Del E. Webb Construction Company



MANUFACTURERS NATIONAL BANK OF DETROIT, Bloomfield Township Office, Birmingham, Michigan. Architect and engineer: Louis G. Redstone, Architects, Inc.; general contractors: Wake-Pratt Construction Company



PEOPLES FEDERAL SAVINGS AND LOAN ASSOCIATION, Royal Oak, Michigan. Architects: former firm of Birkerts & Straub, Gunnar Birkerts, designer, now of Gunnar Birkerts and Associates; mechanical and electrical engineers: E. G. Siegel Associates; structural engineers: Clifford Holforty Associates; general contractors: Walter H. Desimpel Company

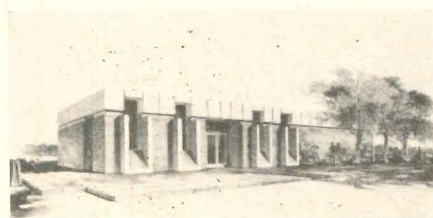


WYOMING NATIONAL BANK, Casper, Wyoming. Architect: Charles Deaton; associate architects: Marvin Knedler and J. Robert Bence; structural engineers: Ketchum, Konkell, Ryan and Fleming; mechanical engineers: Tracy-Behrent Engineering Company; general contractor: B. H. Baker, Inc.

FOUR MICHIGAN BANKS BY ONE ARCHITECTURAL OFFICE



1

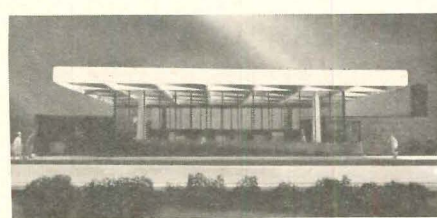


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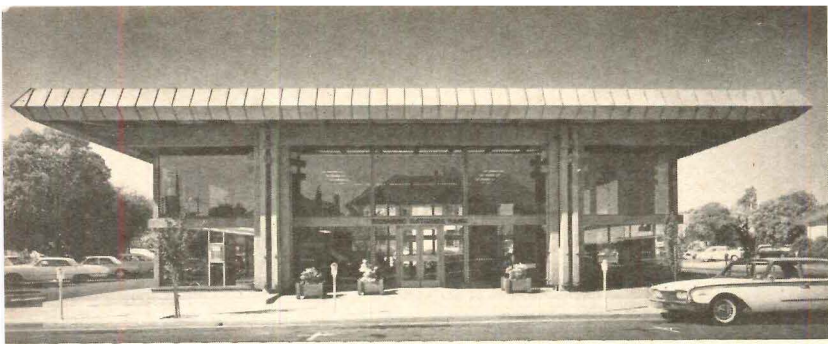
The office of Eberle M. Smith Associates, Inc., has designed four branch banks for Detroit banking firms: (1) The Detroit Bank & Trust Company, Utica Branch. Lyn Graziani, designer; general contractor: DeMare Brothers Construction Company. (2) Manufacturers National Bank, Farmington Branch. Thomas Strat, designer; general contractor: T. & D. Builder. (3) The Detroit Bank & Trust Company, Sterling Township Branch. Lyn Graziani, designer; general contractors: Granco & Demaestri, Inc. (4) The Detroit Bank & Trust Company, Livonia Branch. Lyn Graziani, designer; general contractor: DeMare Brothers Construction Company.



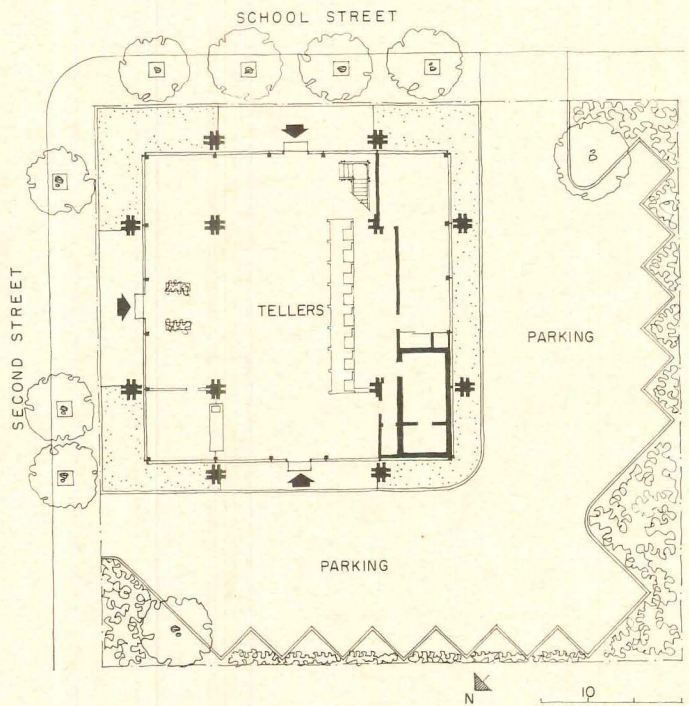
3



4



Gerald Ratto photos



BANKING PAVILION OF WOOD AND GLASS

*Redwood National Bank, Napa Branch
Napa, California*

ARCHITECTS: *Neill Smith and Associates*

This branch for the recently established Redwood National Bank was designed to "provide both an imposing beginning and a capability of expansion." On a rather limited corner site, the bank is a free-standing pavilion in the street-side corner of the square plot, with parking at the off-street perimeter, leaving space for a drive-in teller's window. The restricted plan area made it necessary to develop a mezzanine for auxiliary services including a lunch room, a meeting room and offices. The bank derives its material and character from its namesake tree and preserves an atmosphere of informality and strength through sturdy detailing of its wooden structure and the open aspect of the banking area. The 90-foot-square roof plane is supported on 12 columns, each composed of eight redwood timbers; horizontal spans are carried on glue-laminated timbers.



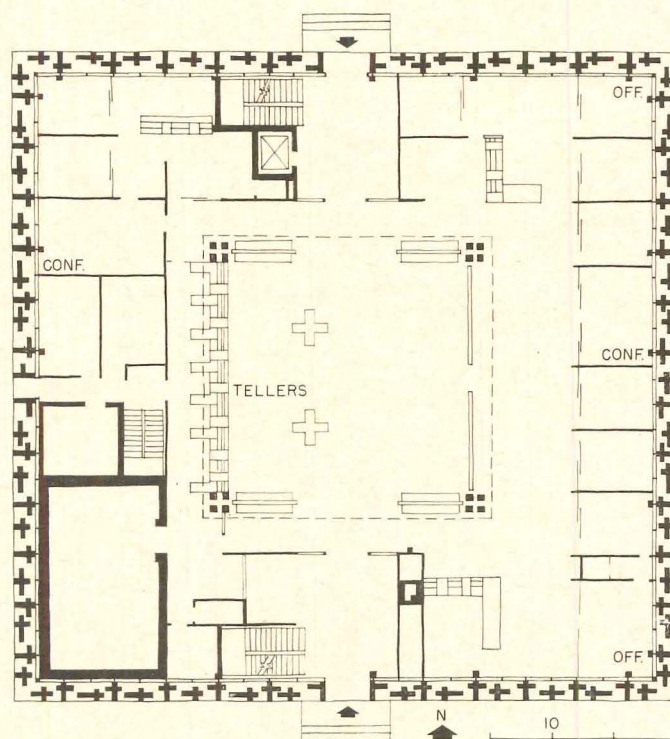


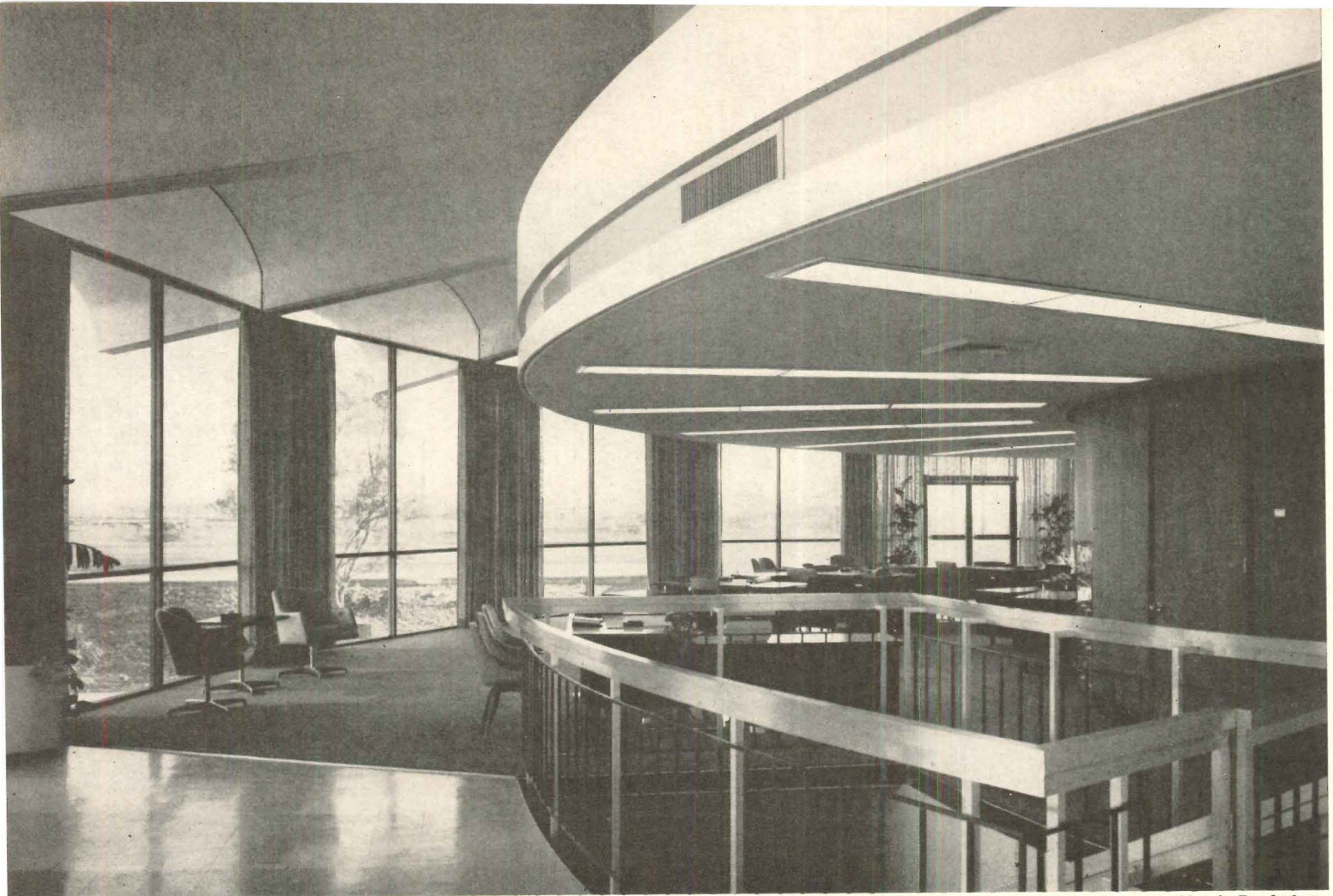
BRICKWORK PIERS FORM STRUCTURAL FACADE

*First National Bank of
Loveland, Colorado*

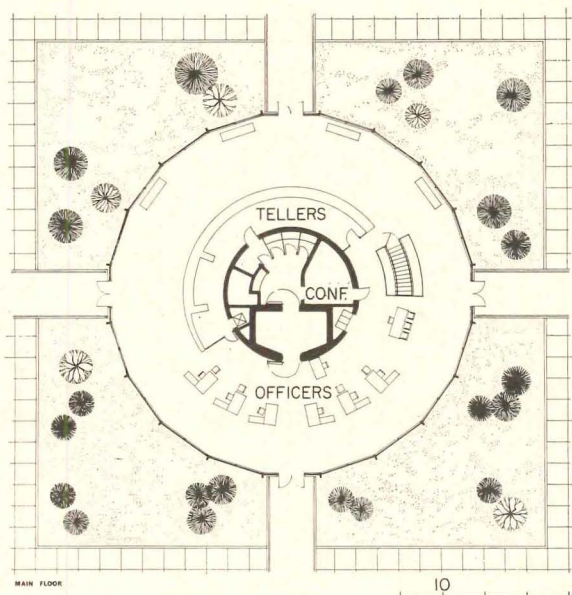
ARCHITECTS: *W. C. Muchow Associates*

Program for this Colorado bank requested a certain monumentality unmistakably reflecting its character as a financial institution but not to override a feeling of warmth and cleanliness. There was also a requirement for internal space for future expansion. This is provided by a mezzanine of rental space around the square banking floor. Parking is provided at one end of the narrow through-block plot, and drive-up banking units are housed in a separate, narrow shelter with through-block driveway along one side of the plot. These units are connected by tunnel to a basement bookkeeping department. Brick walls of the main building were designed to serve as both structure and sun screens in a system of vertical piers which impart a three-dimensional quality. Daylight is admitted through four large skylights directly over concrete columns.





Marvin Rand photos



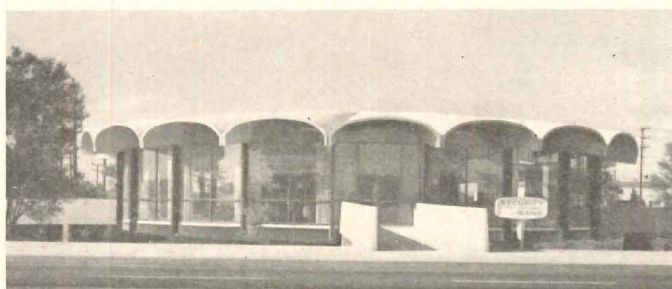
TWO ROUND FLOORS ON A SUNKEN PLAZA

Security First National Bank

Los Angeles, California

ARCHITECTS: *Welton Becket & Associates*

A circular bank rising from a sunken plaza is the first completed building of Del Webb's developing center of exurban hotel and office buildings near the entrance to Los Angeles International Airport. The circular precast concrete roof of the bank is composed of vaulted cone sections radiating from the central core. Special acoustical material on the underside of the roof overhang checks reverberation of airport sounds. An 80-foot-diameter, glass-enclosed main floor cantilevers eight feet over a 64-foot, stone-faced basement floor. Access to the banking floor is by precast concrete bridges over the sunken plaza. A walnut paneled central core provides structural support for the roof and contains the safe deposit department and conference rooms. Interior design features green carpet, walnut furniture and beige natural-linen drapes. Lower level contains a vault, offices, lounge, etc.





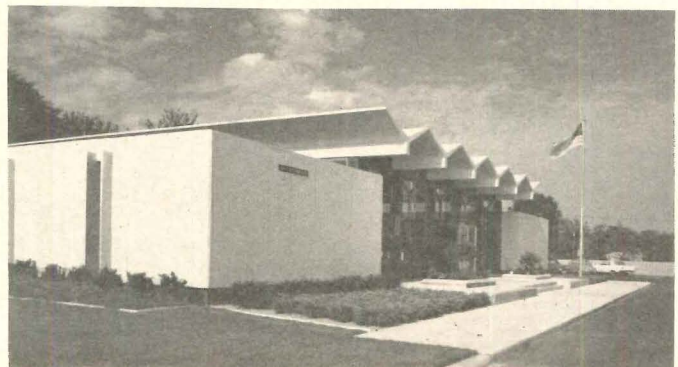
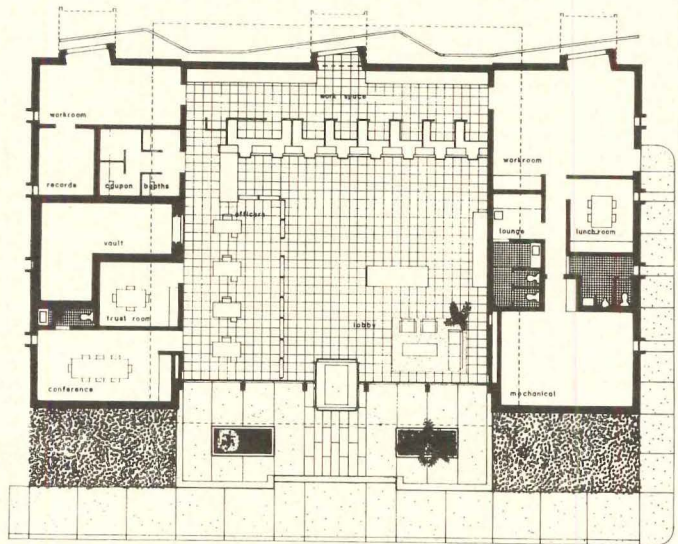
Balthazar photos

STRUCTURAL FORM DEFINES BANK AREAS

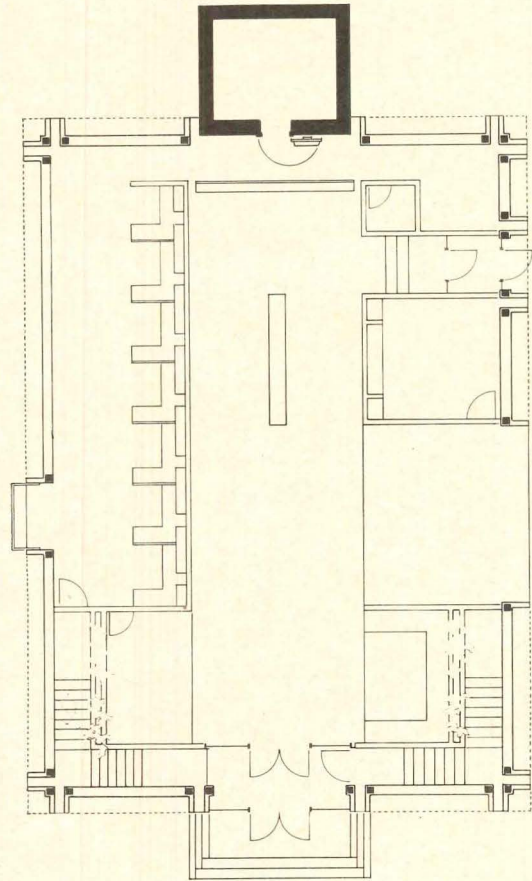
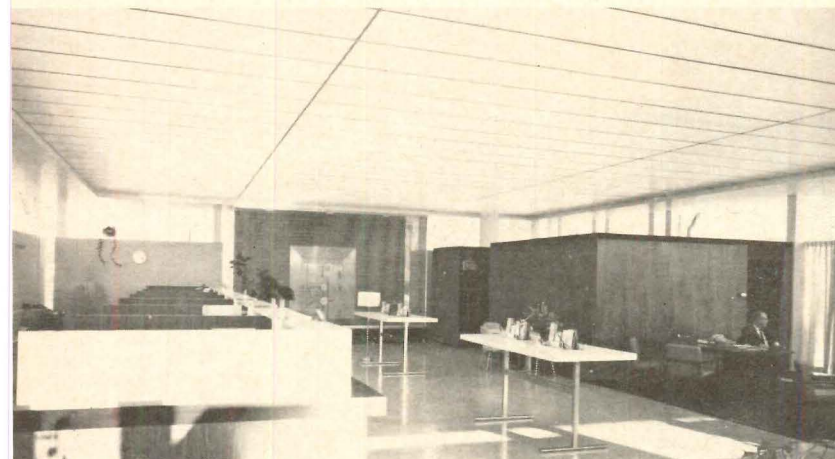
*Manufacturers National Bank of Detroit
Birmingham, Michigan*

ARCHITECTS: *Louis G. Redstone, Architects, Inc.*

This branch office located in a high-income area is designed to house a complex operation "with compactness and warmth." The plan provides for central control from the officers' area at the left of the main entrance. This provides direct supervision of tellers' cages and the vault. The counters and booths are designed with tapered panels under hexagonal windows to harmonize with the winged tee-roof overhang at the entrance of the building. The structure is sited to allow the maximum anticipated number of cars to line up at three drive-up windows, which are offset to permit access without interfering with traffic movement. Structure is prestressed, precast concrete winged tees on steel columns and precast concrete planks on masonry bearing walls. Exterior materials are precast concrete panels with exposed aggregate; columns are clad with marble.



Balthazar photos

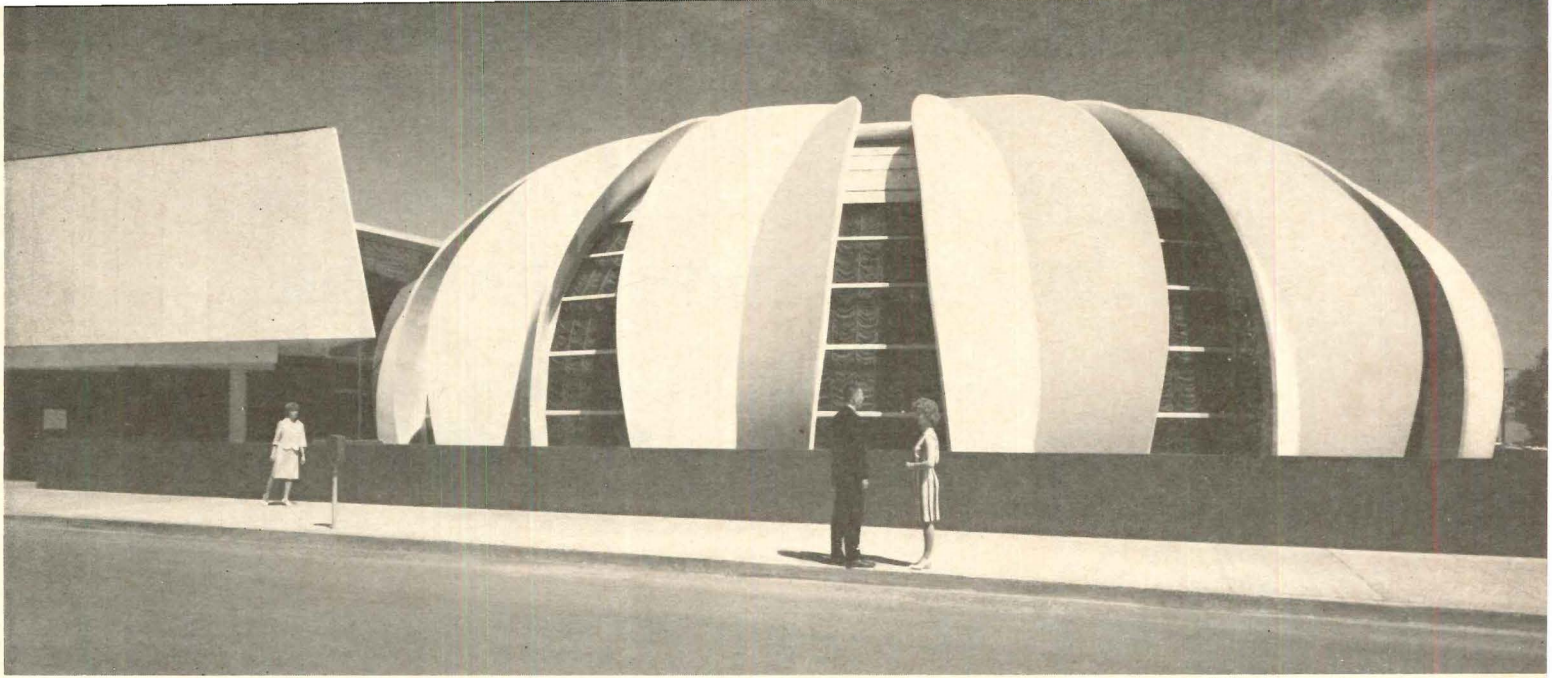


DIGNITY IN DETAIL FOR A CORNER BANK

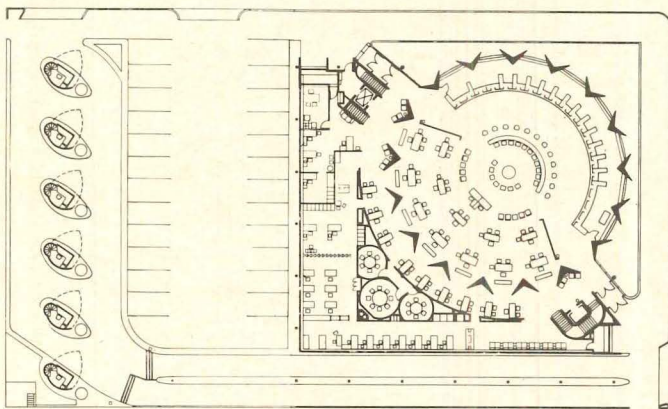
*Peoples Federal Savings & Loan Association
Royal Oak, Michigan*

ARCHITECTS: *Birkerts & Straub*

A conservatively planned, carefully detailed bank designed to register dignity and competence in a rather garishly commercial neighborhood, the Royal Oak branch of People's Federal Savings and Loan Association takes advantage of its corner location and establishes itself with the firm decorum of the typical corner bank of earlier days. Detailing and color bring it well into the contemporary scene. Non-bearing masonry walls rise to meet glass enclosure surrounding the top. Glass descends to ground level at corner windows and entrances. Recessing of masonry walls and corners inside the glass strip provides a three-dimensional quality inside and out. The building provides space for seven teller positions, one drive-in teller and offices. In the basement is a large meeting room offered free for neighborhood group meetings.



Hedrich-Blessing photos



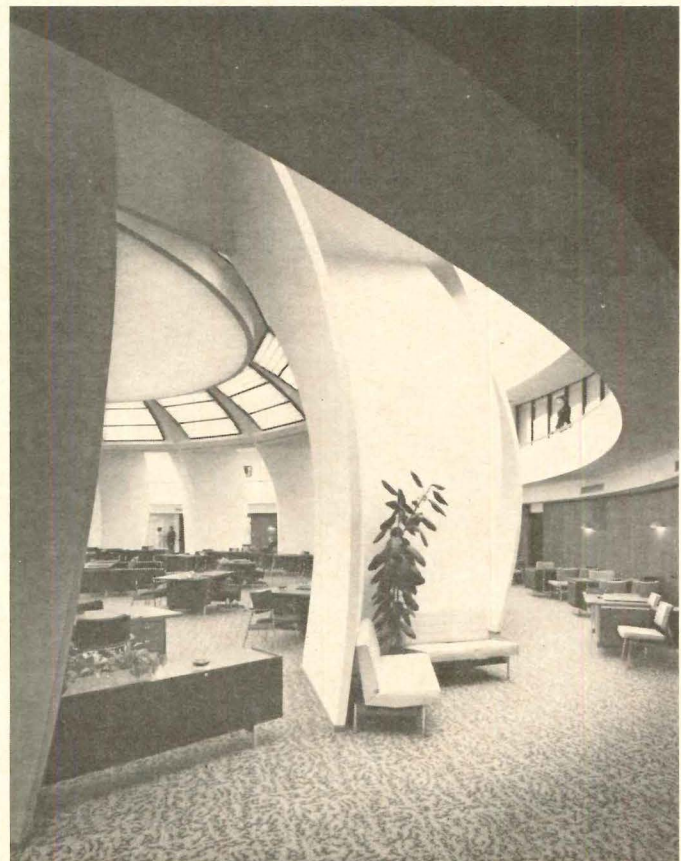
Six drive-in teller booths, connected by tunnel to the main building, are set under precast leaf forms echoing the dome

SCULPTURAL APPROACH TO A NATIONAL BANK

Wyoming National Bank
Casper, Wyoming
ARCHITECT: Charles Deaton

According to the architect, floor space needs of this Wyoming bank conventionally shaped the initial planning, but the final form of the building "was conceived as sculpture and was developed in sculptural techniques." While judgments of the esthetic results are not likely to be unanimous, the plan seems to work.

A 94-foot dome, supported by 17 leaf-shaped precast concrete exterior blades, provides a clear span of 86 feet in the banking rotunda. Blades were cast by the contractor in hand-shaped earth molds. Spaces between blades are filled with flat segments of gray glass, behind which draperies in Austrian pleat are horizontally operated on bowed retainers. The dome is set into one corner of a basically square two-story building with precast panel walls into which windows appear to have been scooped with a rounded chisel.

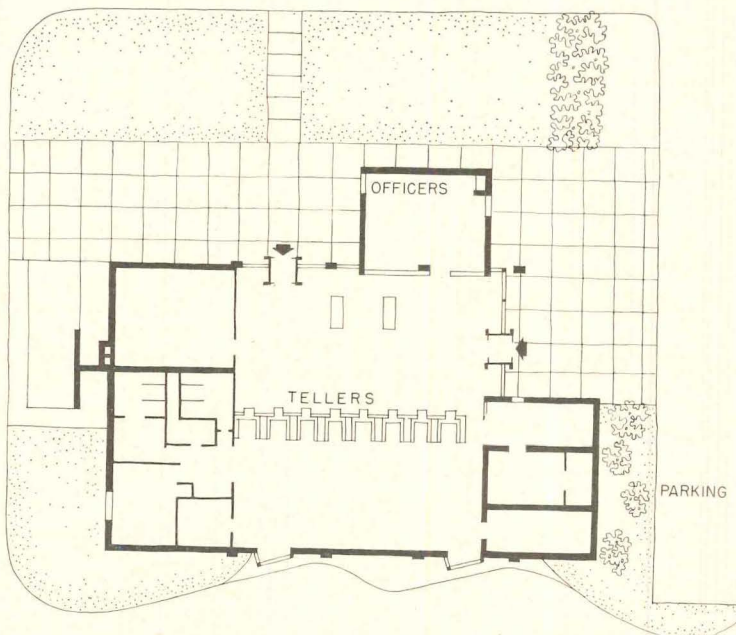


FOUR MICHIGAN BRANCH BANKS BY ONE ARCHITECTURAL FIRM

The office of Eberle M. Smith Associates, Inc.
designs three variations on a basic program for one client
and makes a strong statement of character for another



Lens-Art photos

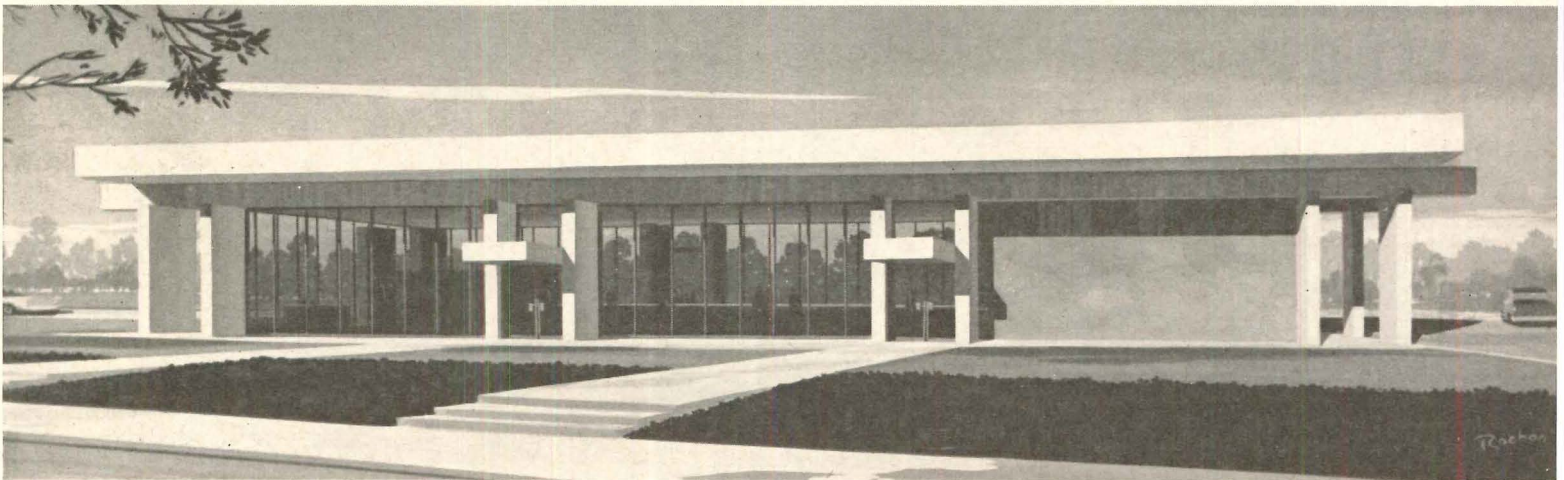
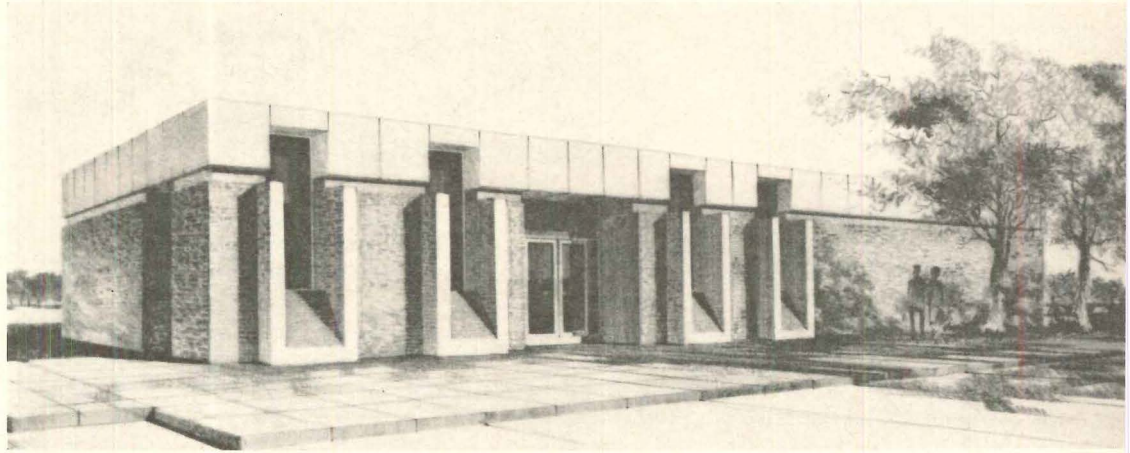


UTICA BRANCH

This suburban branch for Detroit Bank and Trust Company reflects the solid permanence of native stone and acknowledges the outgoing attitudes of modern banking in its gray glass enclosure of public areas. The public area is a high-ceilinged pavilion with widely overhanging prestressed concrete roof tees supported on concrete posts and beams. Secondary spaces are housed in lower stone masses. Two drive-in windows are set in the rear wall at angles intended to facilitate approach by two cars at a time from the rear parking area.

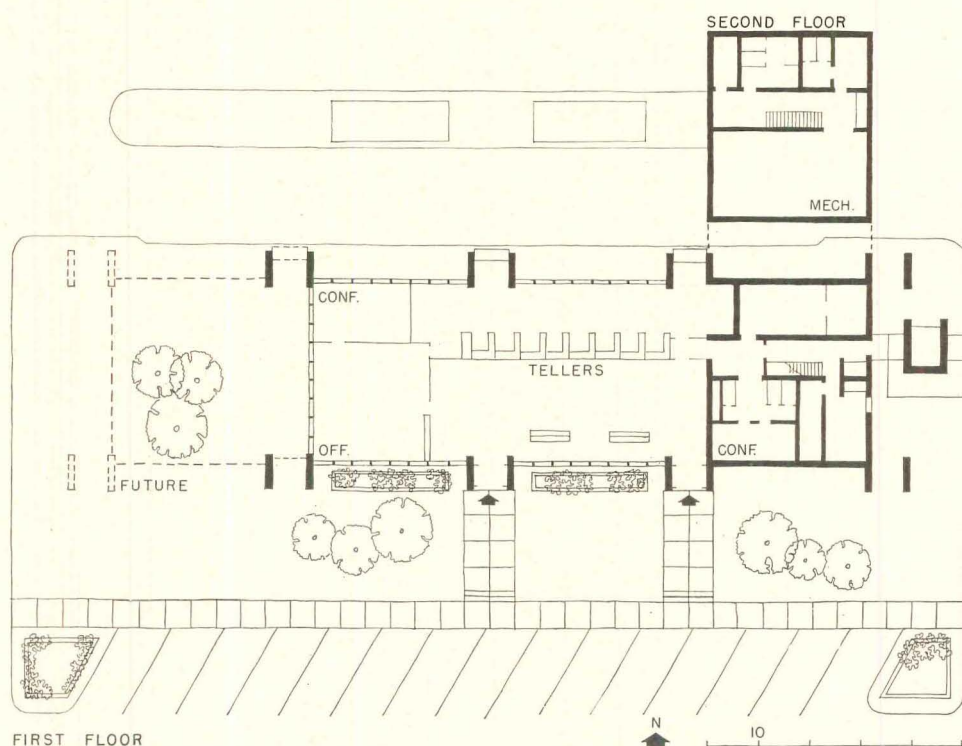
**FARMINGTON TOWNSHIP
BRANCH**

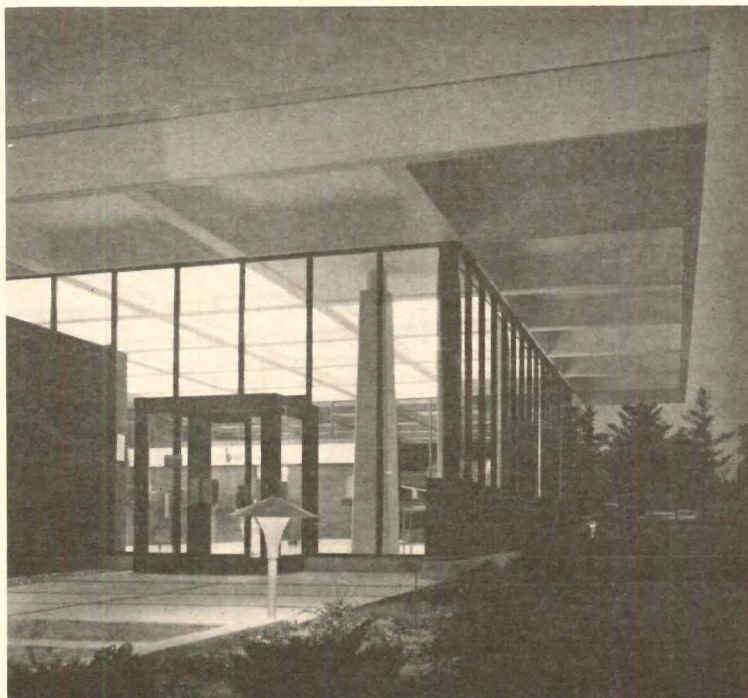
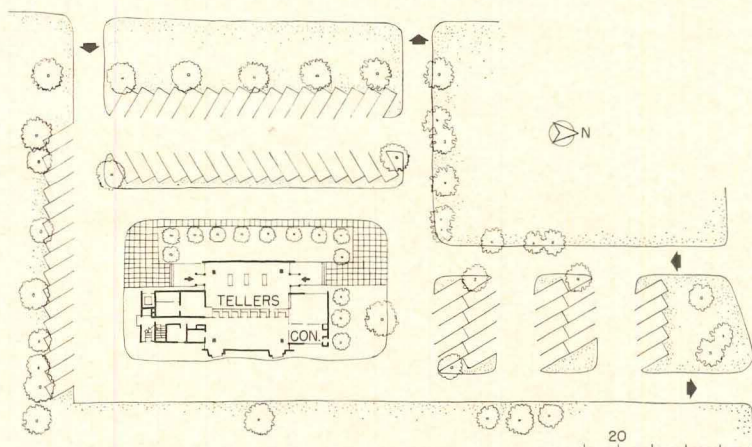
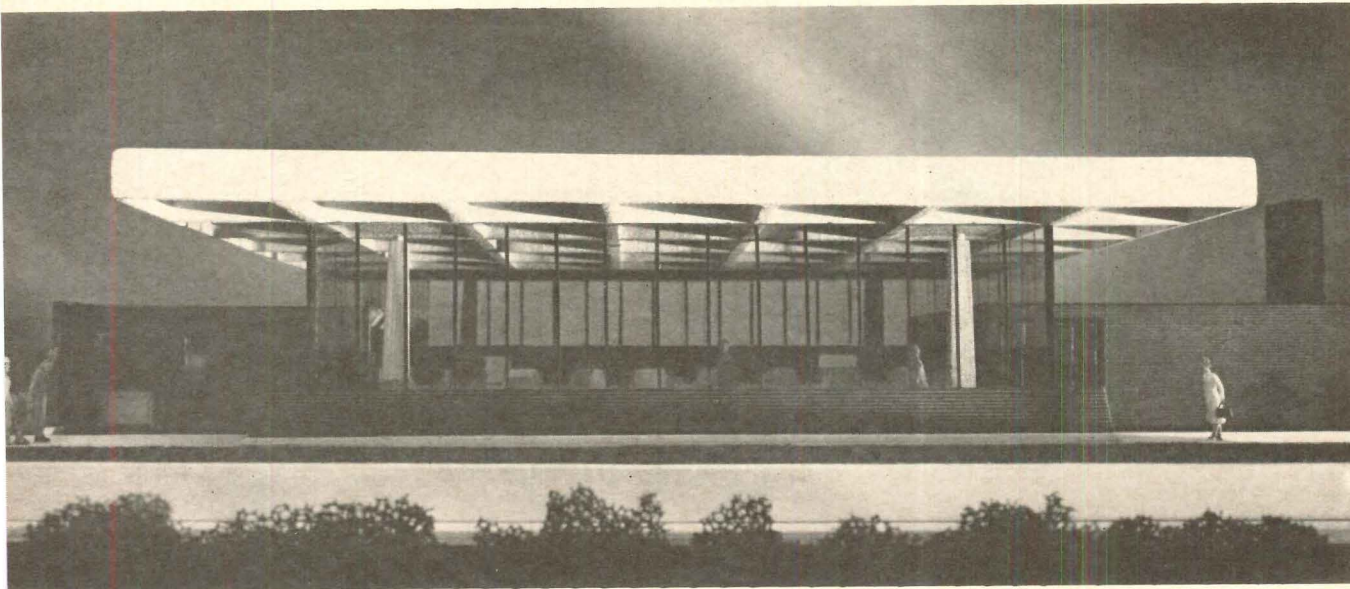
This suburban branch for Manufacturers National Bank of Detroit, on an L-shaped site, emphasizes security in its brick bearing-wall structure topped by four-foot panels of asbestos cement board. Glass area is held to a minimum and is framed by concrete embrasures. Interior finishes of public areas are brick and oiled walnut walls and vinyl asbestos floors.



**STERLING TOWNSHIP
BRANCH**

Another suburban branch for Detroit Bank and Trust Company with glass-enclosed public areas and masonry enclosures for secondary spaces is similar in vocabulary and aspect to the Utica branch, *opposite page*, and the Livonia branch, *next page*. Precast concrete is used here for both structure and walls, and there is a rearrangement of solid masses to accommodate differences in the plot and drive-in traffic. Double columns with precast canopies between them define the entries. Parking areas are at a lower level permitting full visual contact.





LIVONIA BRANCH

This third branch for Detroit Bank and Trust Company is similar in concept to the two branches shown on previous pages. The glass pavilion for public areas is roofed, in this case, by a concrete grid structure supported on four tapered columns. Lower masses are dark brown-black brick. A white concrete retaining wall facing the lower parking side of the building provides a pedestal for the banking area. Bronze sash, bronze-tone glass and white terrazzo floors give this branch bank an individual character and color.

ILLINOIS PLANS ZONE CENTERS FOR MENTAL HEALTH

Seven architectural firms in a pioneering effort variously interpret a basic functional program for community-linked centers in six multi-county zones

A giant step forward in the design of community mental health centers is the program of zone centers now translated into seven new facilities for the state of Illinois. Functional and architectural programming for these centers developed out of massive research and consultation on a national scale. Although the concept of the community mental health center has been well defined (ARCHITECTURAL RECORD, November 1963), working examples from which architectural criteria might be gleaned are extremely rare. As nationwide development of such centers accelerates with Federal participation, architects increasingly will be called on for programming and design in this new area where experience is limited and opinions are almost never unanimous.

A basic and pioneering document relating to the design of community-oriented mental health centers is the recently published book¹ by John P. Reidy, administrative assistant and public information administrator of the Illinois Department of Mental Health. This book is a detailed report of the origins, development and architectural translation of the Illinois concept of zone mental health centers. The necessarily limited summary presented here is derived from the book with supplementary material provided by participating architects and supporting statements by Harold M. Visotsky, M.D., director of the Illinois Department of Mental Health, and E. Todd Wheeler, whose architectural firm, E. Todd Wheeler and the Perkins & Will Partnership, helped to develop the state's functional program and to coordinate design work of the centers. The firm also designed the first of the centers to be scheduled for construction.

Goals

Dr. Visotsky writes: "The goal of Illinois' new mental health program is to return mental health services to the community. The vehicle for this return is the network of zone mental health centers now under construction throughout the state. While these centers alone will not provide for the total need, they have significant importance in many ways.

"Architecturally, the centers are much more than examples of good design. They are the product of an extended dialogue between architects and mental health professionals. This dialogue enabled Illinois to produce an architectural master program for gathering under one roof the complete range of psychiatric services. To my knowledge, it is the first such planning guide in the nation.

"Seven different architectural firms took this program and through creative application of their profession designed centers that harmonize with the site and locale without diluting either the intent or the spirit of the planning document.

¹ZONE MENTAL HEALTH CENTERS—The Illinois Concept. By John P. Reidy. Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois. 172 pp., illus. \$4.00.

Illinois Plans Zone Centers for Mental Health

"Symbolically and actually, each center will be the focal point for mental health services for a multi-county area. They are not intended as the *one* mental health resource. Nor should their presence be seen as an excuse to cut back on local responsibility, effort or initiative. Further, although the centers will have from 218 to 280 beds, their emphasis is on out-patient services with beds serving as back-up for patients needing short-term intervention.

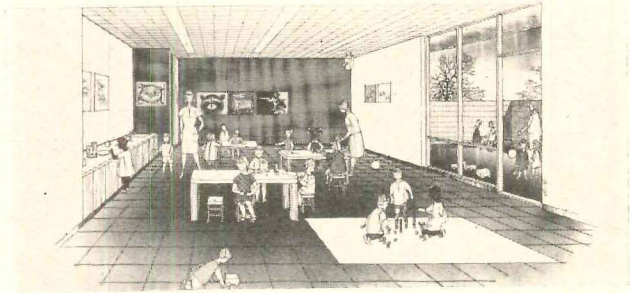
"The centers will also provide such programs as day and night hospital, crisis intervention and other programs that will best assist the communities in their zones. To insure such growth and development, the architectural design amply allows for flexibility to alter program as new treatment knowledge presents itself. . . ."

Beginnings

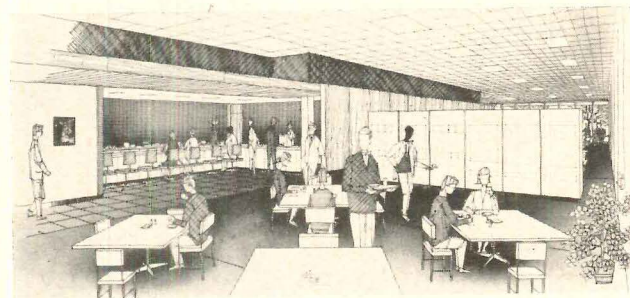
The Illinois program was initiated when a 1960 referendum authorized a bond issue of \$150 million for capital improvements in the state's mental hospitals, at that time under the jurisdiction of the Department of Public Welfare. Sharing a receptivity for new ideas at this significant juncture were a new Governor and a new director of the Illinois Department of Public Welfare. The Governor was Otto Kerner, who had made mental health and the bond issue an important plank in his campaign. The director was Francis J. Gerty, M.D., chairman of the University of Illinois Medical School's Department of Psychiatry, who envisioned construction of a series of community-centered hospital-clinics offering the full range of psychiatric treatment services. These were to provide the crucial link between the community and existing state hospitals. To implement that vision, Dr. Gerty accepted appointment as head of the new Department of Mental Health.

Before actual planning of the centers could begin, it was necessary to clarify the definition of community. Since it would be financially impossible to construct a comprehensive center in every community, Dr. Gerty outlined broader basic norms dividing the state into eight zones with clinics located near the centers of zone population. Zones seven and eight, occupying the southern third of the state, are sparsely settled. Two centers for the mentally retarded were being constructed for these zones in Centralia and Harrisburg, but for other psychiatric services they will depend on three existing state hospitals in the region or on clinics in contiguous zones.

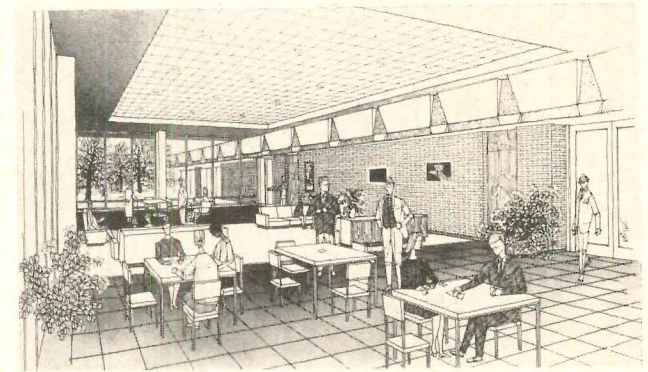
Eight critical factors in locating a zone center in a community were formulated: (1) the zone center should be in an urban area for maximum accessibility; (2) areas likely to increase in population should be preferred; (3) the city should have rail and air transportation; (4) the locality should provide advantages to attract professional and technical personnel. There should also be consideration of the local avail-



School nursery



Cafeteria



Social room

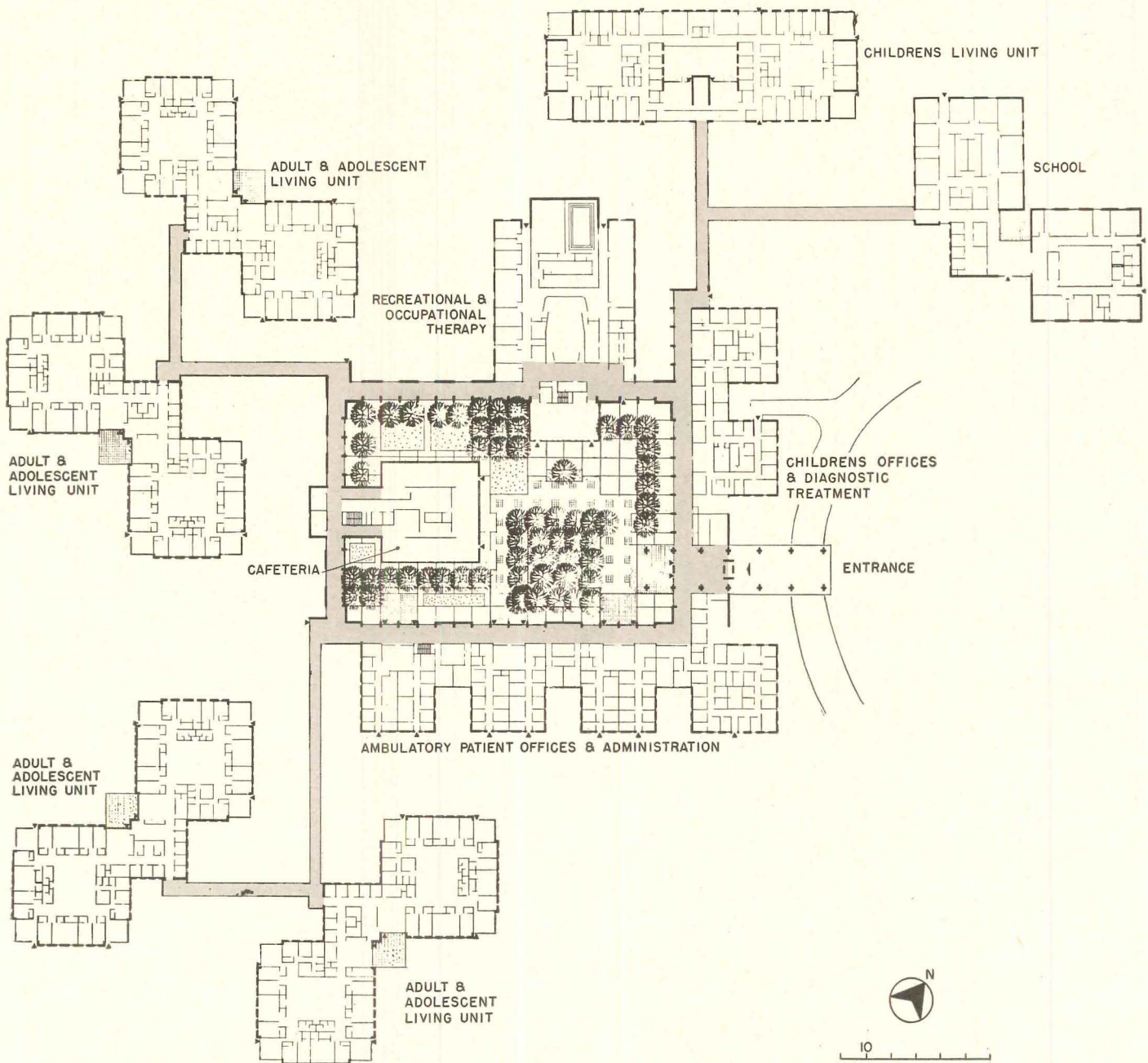
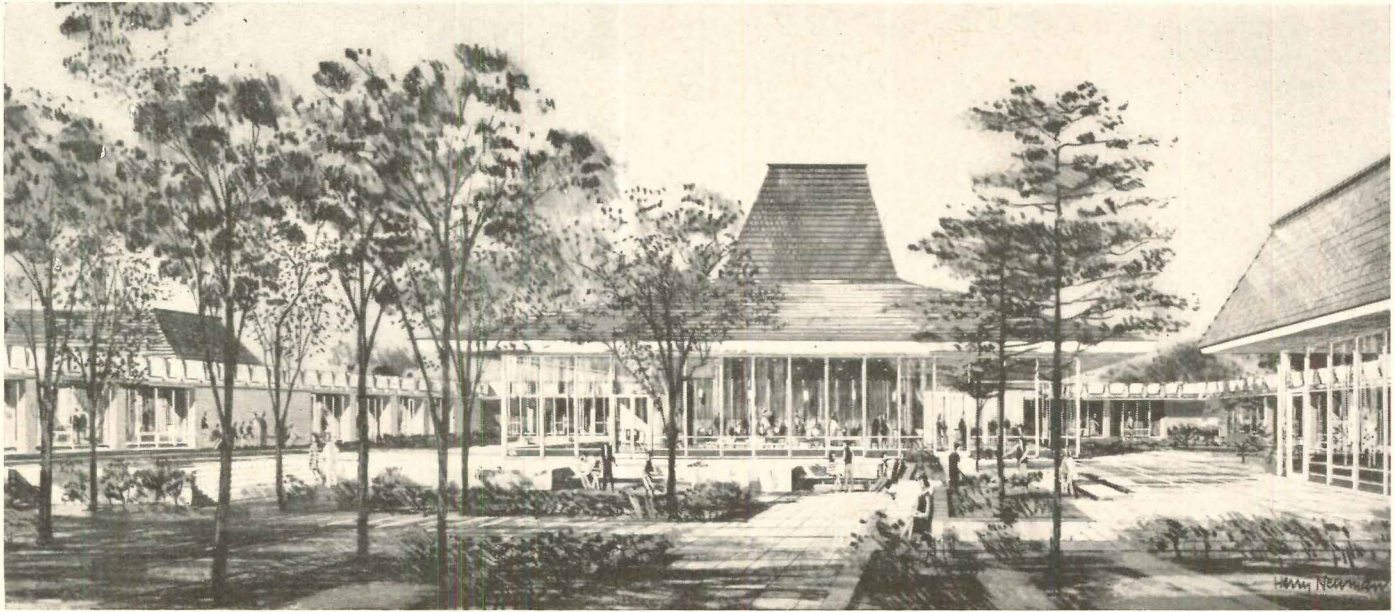
CHARLES F. READ ZONE II CENTER

Chicago-North, Illinois

ARCHITECTS:

E. Todd Wheeler and The Perkins & Will Partnership

First built of Illinois' zone mental health hospital-clinics is the Charles F. Read Center nearing completion on a 69-acre site bounded by Oak Park Avenue, Irving Park Boulevard and Forest Preserve Drive in North Chicago. The Read Center has a large central court around which are grouped the outpatient and coordinated treatment facilities, including offices for psychotherapy and family interview, adult occupational and recreational therapy unit, and a complete outpatient facility for children and adolescents. The total facility is a one-story, flexibly planned, campus grouping of buildings. Eight adult and adolescent inpatient treatment units arranged in clusters around the central facilities will contain about 30 beds each, special rooms for treatment and group therapy, spaces for a day hospital program and office spaces for psychiatrists, psychologists and social workers. The inpatient facility to accommodate 50 children's beds is designed to serve both mentally retarded and emotionally disturbed patients. All living units have dining areas.



ability of nonprofessional staff; (5) ideally, the center should be close to a university for collaborative staff training and research; (6) the center should be in a community where there is a general understanding of the goals of the mental health program; (7) the site should be near the city but not part of the business or residential areas. There should be sufficient ground to accommodate a campus plan; (8) water, sewers and other utilities should be available.

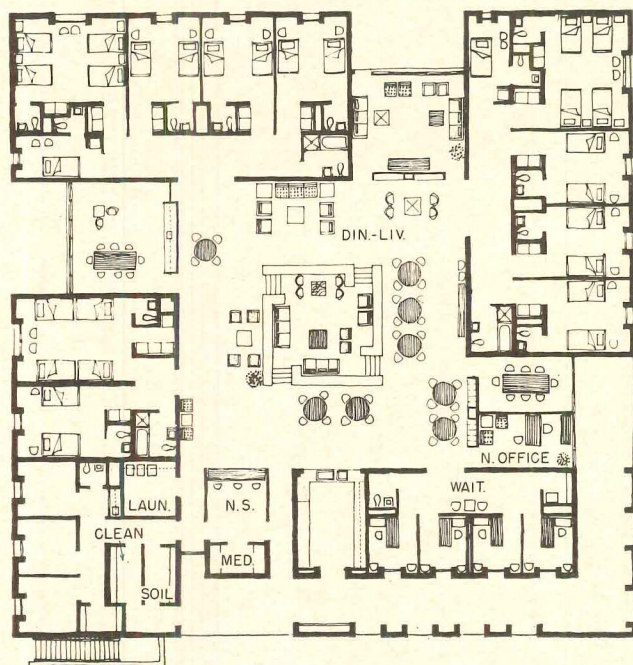
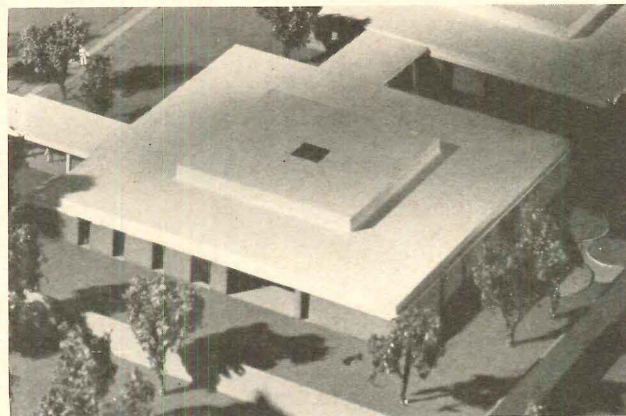
One of the starting points of the zone center idea was the observation that wherever there are adequate outpatient facilities the need for hospitalization and inpatient care generally goes down. It was considered necessary that there be a certain number of beds at each center for patients who did not respond to outpatient treatment. But built-in flexibility was required to assure the zone directors that a specific bed number would not proscribe any type of program he felt would best meet the needs of his zone. Patient rooms were to be designed for human scale, and if future use required they should be convertible as treatment suites with a minimum of alteration.

The Functional Program

Translating the philosophy of this treatment program into concrete plans was a more comprehensive task than any previously undertaken in the mental health field, especially since there was no functioning example by which architectural concepts might be guided. Fundamental was the determination of the kinds of patients to be cared for in a new pattern more selective, more intensive and more specialized than ever before.

The decision was to offer comprehensive services on a referral basis to both inpatients and outpatients in six general categories: (1) adult general psychiatric; (2) alcoholics and drug addicts; (3) geriatric patients of good prognosis for short-term care; (4) adolescents; (5) mentally retarded children; (6) emotionally disturbed children.

For flexibility in planning, some of these categories were combined for the following expected allocation of the basic 280 total beds: adult-adolescent, 230; retarded children, 30; disturbed children, 20. A tabulation of suggested floor areas was formulated by the coordinating architects for the functional program. These areas, the total of which (176,600 gross square feet for a typical center) was established to fit the funds available, took into account the 280-bed patient-care divisions—83,500 gross square feet; diagnostic and treatment facilities—3,900 gross square feet; ambulant patient facilities—40,300



ADULT & ADOLESCENT PAVILION

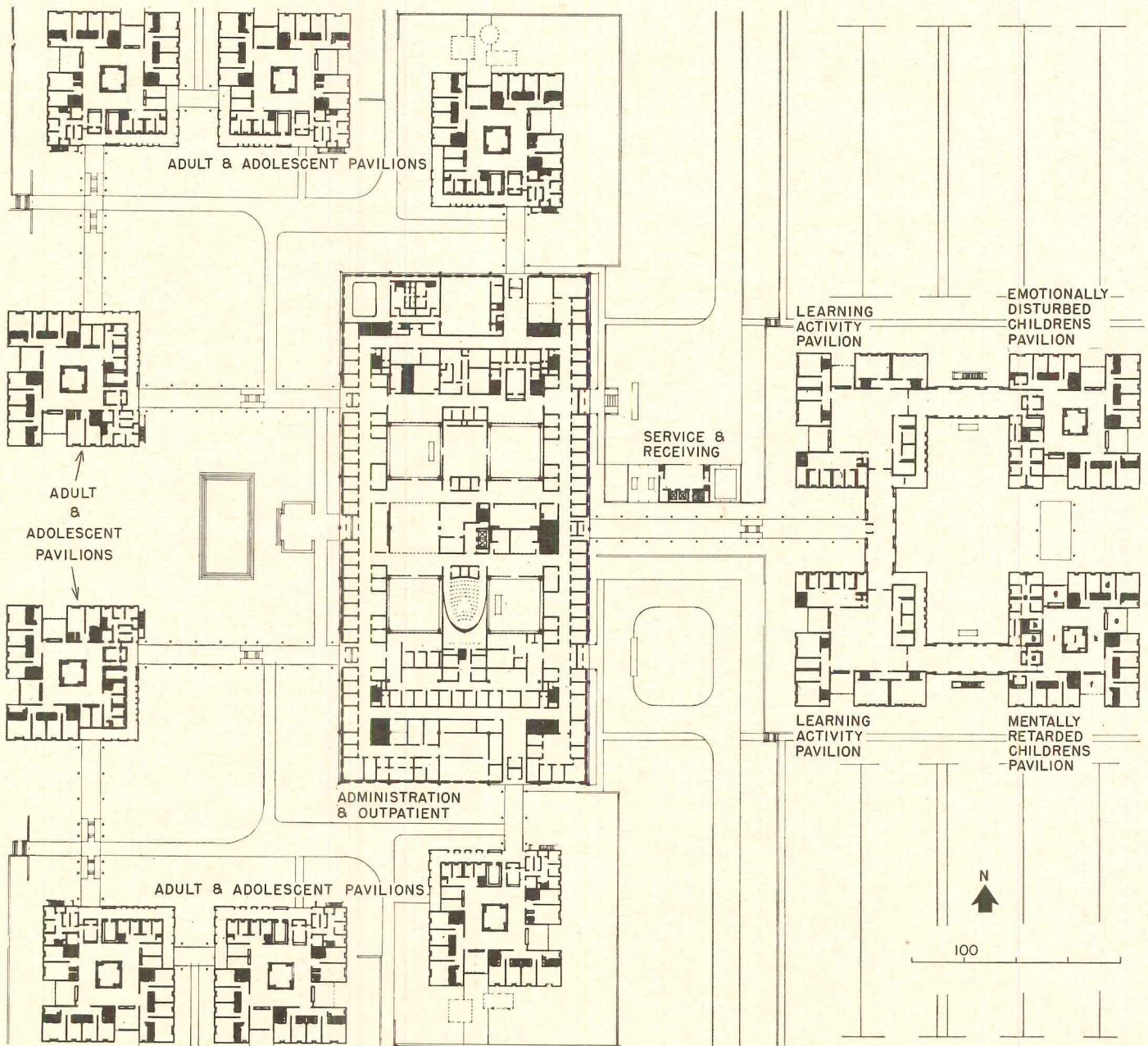
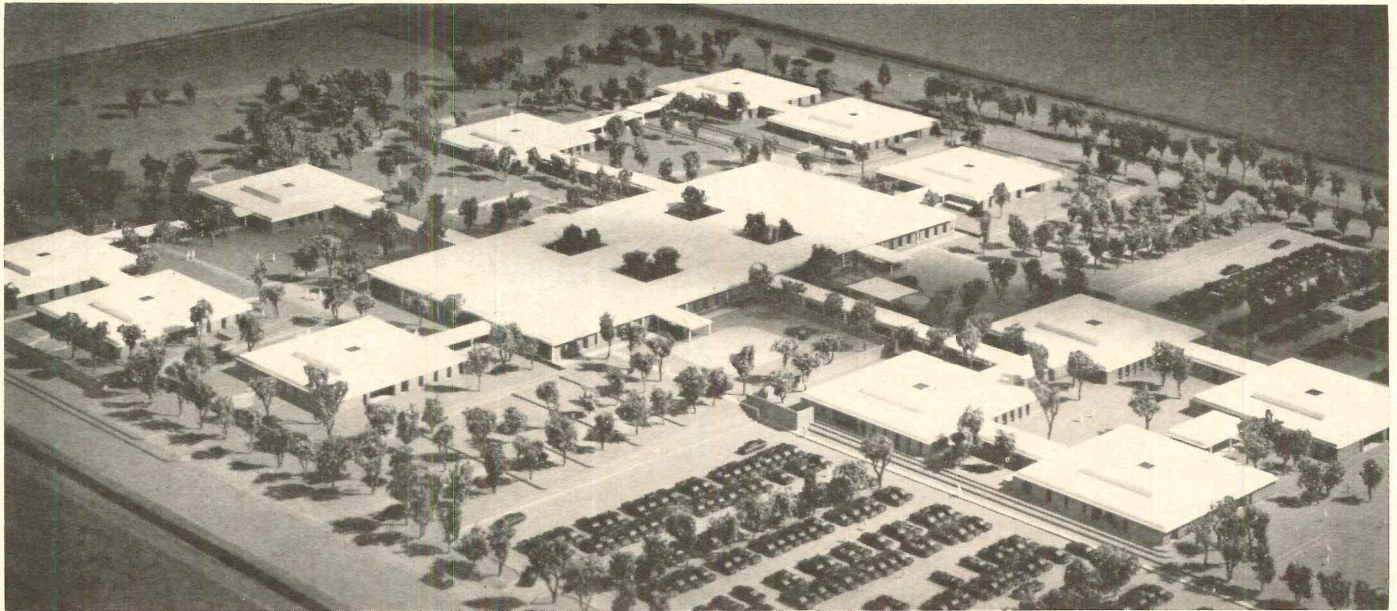
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JOHN J. MADDEN ZONE III CENTER

Chicago-South, Illinois

ARCHITECTS: Skidmore, Owings and Merrill

The John J. Madden Center is on 31 acres at the southwest corner of Hines Veterans Hospital, 10 1/2 miles west of Chicago's Loop. Adjacent is the site of a proposed hospital and medical school of Loyola University. The clinic contains eight adult-adolescent pavilions clustered around three sides of a large administration and outpatient building. Covered connecting links provide service access between buildings. The children's pavilions are isolated from the adults and are interconnected by enclosed links to produce a large private play court. Basically each pavilion is a self-functioning unit which allows a patient to be admitted directly and remain in one unit during a full recuperation period. Although the ward size of 28 to 32 beds was determined by the functional program, the plan provides a more residential character and scale. The combination of scale and articulation of patients' rooms with group activity areas has resulted in a "pin wheel" pavilion configuration. Clusters of rooms with supporting elements between provide patients with selective degrees of privacy.



gross square feet; administration, 6,800 gross square feet; service departments, 42,100 gross square feet. For certain centers there were variations, such as the separation of adult and child facilities in Zone VI, and the requirement in some centers for research space, including spaces for normal control subjects.

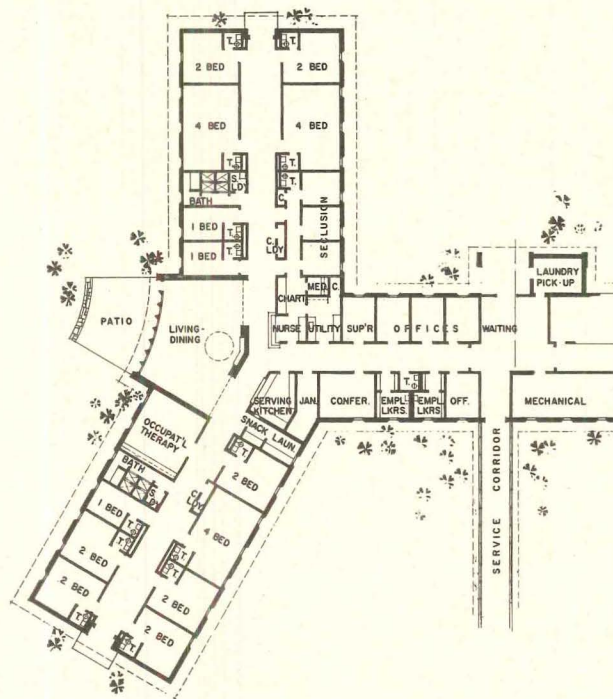
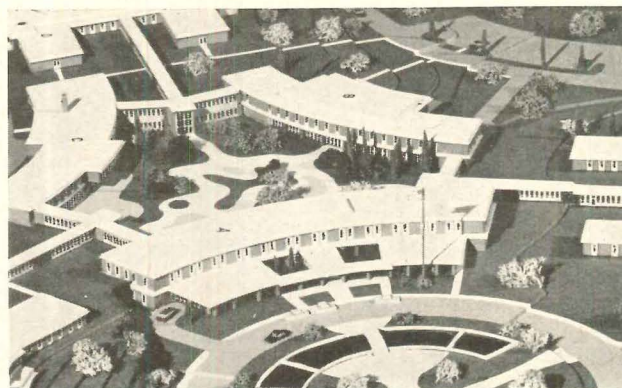
All of these allocations of spaces, specific though they might be for Illinois' particular program, were not handed down by fiat. They were checked out by questionnaires circulated among interstate bodies of advisers, and were the result of analysis by coordinating architects and psychiatrists of the divergent views advanced. They were also checked out by visits of architects and others to some 27 related if not wholly comparable institutions.

Nor were they arbitrary in dictating configuration for any center. Within the dictums of expansibility, low profile, flexibility of campus-like patient-care units, certain degrees of separation by patient category, and insistence upon non-institutional and human scale throughout, it was the policy of the department and the intent of the functional program to encourage variety in the architectural solutions. Partly to test proposed operating procedures in a variety of designs, seven designing architects were legally associated with the state's supervising architect separately on each project.

Coordination

E. Todd Wheeler comments: "The coordination of architectural work on the seven zone centers offered no great practical difficulties. In part this resulted from the separation of programming and planning. The programming was undertaken by our firm with counsel from the advisory committee consisting of Dr. Gerty's staff, representatives of the State Division of Architecture and Engineering, and several Chicago psychiatrists. Thus during the program phase the designing architects were not included in the committee meetings. At the conclusion of programming the document titled 'Functional Program for Six Mental Hospital-Clinics' was published July 5, 1962.

"There followed a period of orientation for the designing architects, described in Chapter IV of Mr. Reidy's book, in which each firm, after review of the functional program, met separately with Dr. Gerty and his staff, the State Architect and the coordinating architects. It was in this process that the responsibility for direction of the planning activity was assumed by the State Architect, Lorentz A. Johanson, and his assistant, Jerome V. Ray. These men worked closely with the well-organized group from the Department of Mental Health in guiding the designing architects. This is the normal function of the Division of Architecture and Engineering. Thereafter the coordinating architect's activity was limited to a review of the architectural programs and schematic plans, at the request of the State Architect, to establish their conformity to the functional program. In all of this no specific directions were given the designing architects by the coordinating architects."



TYPICAL PATIENT UNIT

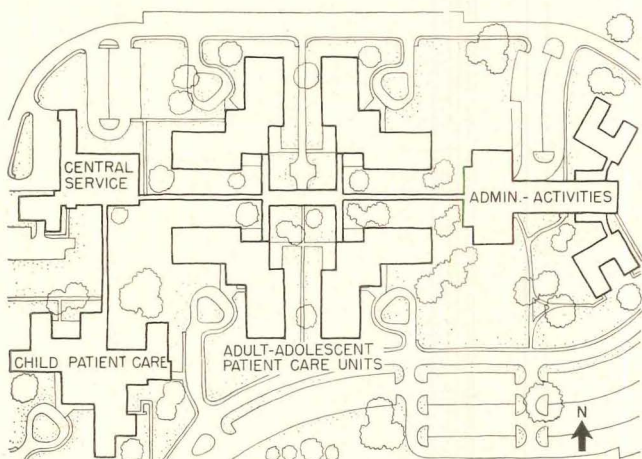
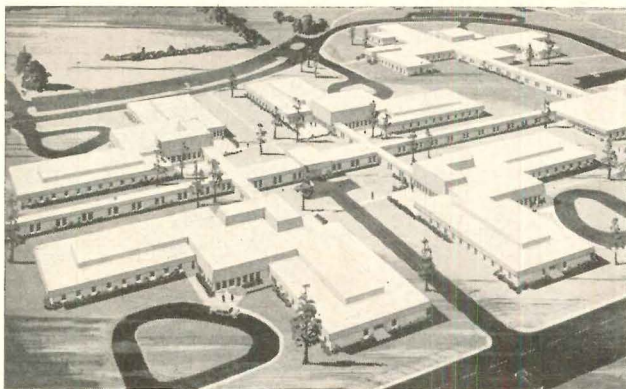
H. DOUGLAS SINGER ZONE I CENTER

Rockford, Illinois

ARCHITECTS:

Hubbard & Hyland and Bradley & Bradley, Inc.

To maintain first-floor living and level travel for patient-care traffic despite a 65-foot differential in the site, all central services, diagnostic and treatment facilities, and administration for the Singer Center were placed in a group of three two-story buildings. Patient-care clusters are at ground level, joined by enclosed corridors to the central cluster at different levels; adult-adolescent patient-care units join at upper level and children's units at lower level. All elevators are in the central buildings. Severe Rockford winters precluded a spacious campus arrangement, and all buildings are interconnected by enclosed glass corridors. Through use of offsets and alcoves, corridors afford lounging, reading and writing areas apart from the day room, and relieve the appearance of a continuous corridor. The majority of rooms face away from other buildings and, where they face inward, landscaped courts are provided. Each 28-bed patient unit is Y-shaped, with central dining and control area permitting flexibility of bed assignments in the two arms.

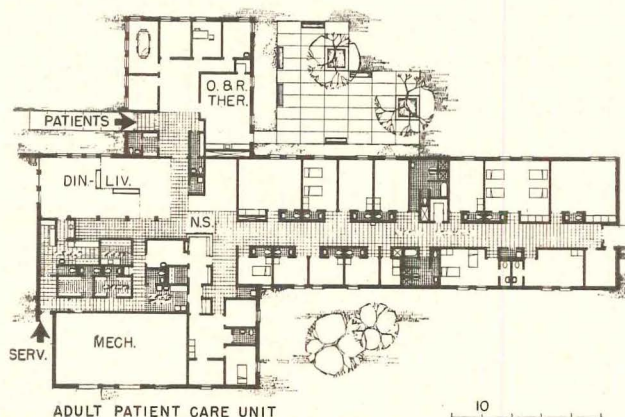
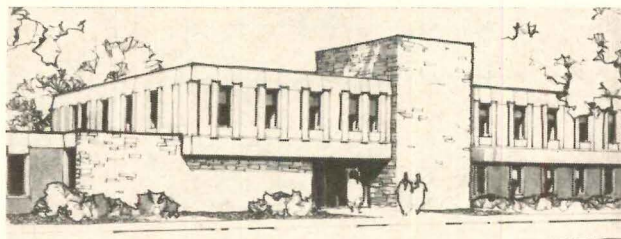
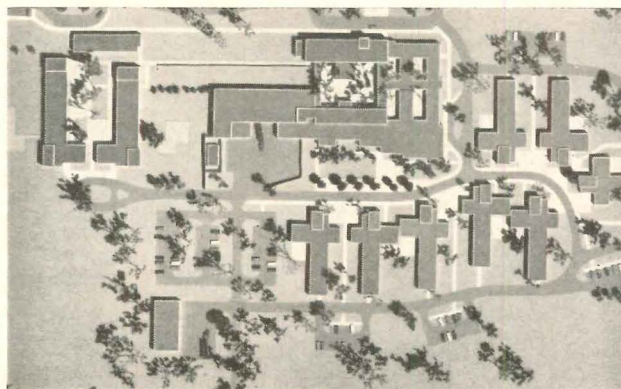


GEORGE A. ZELLER ZONE IV CENTER

Peoria, Illinois

ARCHITECTS: *Lankton, Ziegele, Terry & Associates*

The George A. Zeller Center is at the crest of a hilly, 69-acre site in a residential area north of Peoria. Eight 28-bed adult-adolescent patient units are assigned to one wing each in four single-story L-shaped buildings grouped with apexes converging around the center of the complex and joined by enclosed corridors to an axis corridor. This axis terminates at one end in the two-story administration building (not in photo) and at the other end in a two-level service building. A building for children is joined to the service building by an enclosed corridor at a right angle to the axis. A loop drive surrounds the whole complex. This arrangement keeps all vehicular traffic out of the patient care center and removes the children to a separate enclave with its own service and play areas. The administration building contains the main entrance and public areas; diagnostic, treatment and therapy areas including auditorium, pool and gymnasium; library, nurse training and research departments. Adult patient wings converge on double lounge spaces, one for noisy and one for quiet activities. Horizontal scale is emphasized.

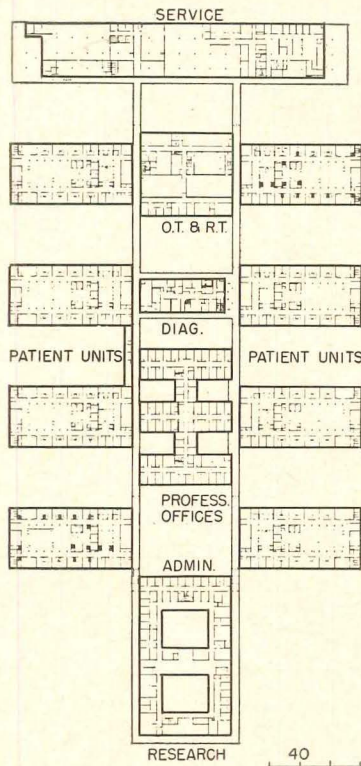
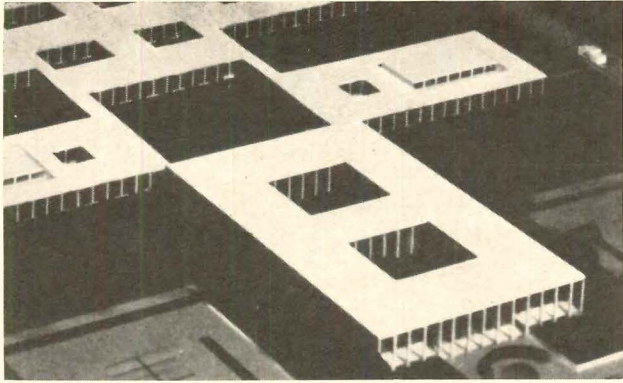


ANDREW McFARLAND ZONE V CENTER

Springfield, Illinois

ARCHITECTS: *Phillips & Swagger and Hewitt Bastian*

To compensate for a permanent water table near the surface of the McFarland Center's virtually flat site, floors of the buildings were set 4 feet above existing grade, and excavated material from a 1,000-foot-long lagoon (below limit of model photo at top) will form a mesa around the buildings. The design attempts to re-create an informal village atmosphere with residential patient-care units surrounding an administration and treatment center. Typical construction is one-story steel joist on piling-supported grade beams. Exteriors are concrete with rough stone accents for textural variety. Partitions can be changed and plumbing, piping and ventilation ducts can be run at will through crawl space and overhead in anticipation of the changing needs of future treatment programs. Glass area is intentionally limited to provide a feeling of security, although outside light and view are emphasized in dining and living spaces. Food service is delivered by carts from a central kitchen. The milder climate in this zone allows the omission of enclosed service corridors for transport of food and supplies.

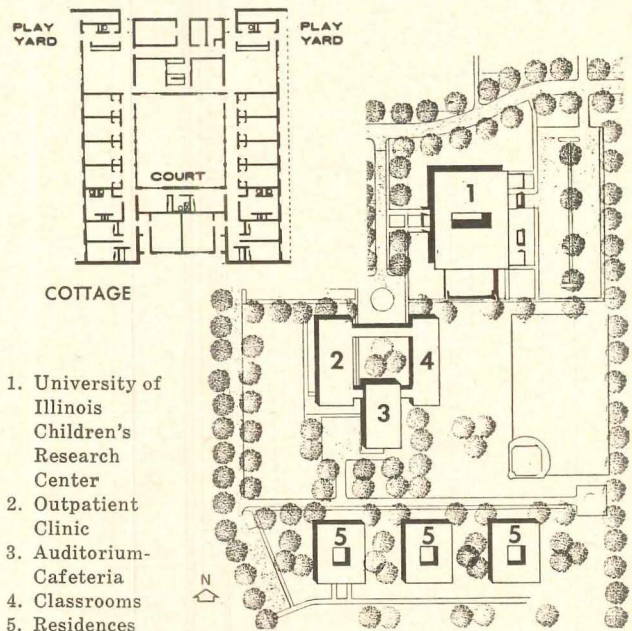
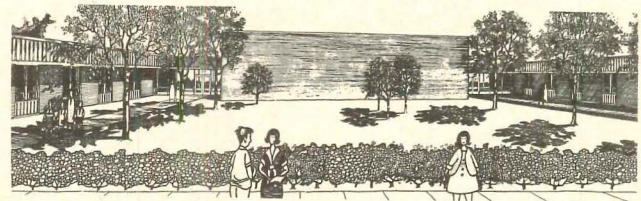
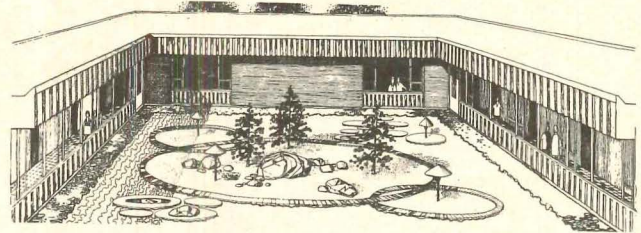


ADOLF MEYER ZONE VI CENTER

Decatur, Illinois

ARCHITECTS: *Schmidt, Garden & Erikson*

In Zone VI, a significant difference in program is the separation of adult and children's facilities into two centers; the Adolf Meyer Center (*above*) and the Herman M. Adler Center (*right*). The Adolf Meyer Clinic provides short-term intensive care for 230 adult-adolescent resident mental patients and supporting facilities for adult outpatient care, supplemental to existing agencies in the community. All these facilities are contained in a compact grouping of patient-care elements projecting from a wide, double-corridor spine creating a series of exterior and interior courts. Each patient unit provides facilities for 28 patients in single to four-bed rooms. The central area provides interior gardens and a series of enclosures for occupational therapy, living and dining areas, professional offices, diagnostic and treatment centers. Highest public contact is at the front of the gently sloping site in a dual-purpose building with two interior courts which form nuclei for administrative and research activities.



HERMAN M. ADLER ZONE VI CENTER

Champaign, Illinois

ARCHITECTS: *Richardson, Severns, Scheeler & Associates*

The children's center for Zone VI includes the state's Herman M. Adler Center and an adjoining Children's Research Center owned and operated by the University of Illinois. Interlocking programs for these tandem centers will provide care, treatment and research for both disturbed and mentally retarded children in the 6 to 12 age-group. The 35-acre site is at the southern edge of the university's campus overlooking farmland. Main access to the complex is from the campus through the more active research and treatment areas, while the quiet southern end of the tract is reserved for three residence cottages of the Adler complex (clinic, school and cafeteria-auditorium) are joined together by enclosed corridors forming a child-scale landscaped semi-enclosed court between school and clinic. Cottages are separated from activity buildings to preserve a home-like community situation. Each cottage building is in fact two 10-bed cottage units joined around a court by a common serving kitchen.

Architectural Engineering

Assisted Reverberation

Why not electronic techniques to help optimize the acoustical quality of concert halls and auditoriums? Actually, several efforts have been reported lately in which electronic reinforcement has been used either to correct acoustical deficiencies or to compensate for problems that otherwise might exist in huge-sized spaces. One of these is the Royal Festival Hall in London, which was acclaimed for its clarity, uniformity of sound and lack of echo, but often criticized for its lack of warmth. A new electronic system of "assisted resonance" is now being tried out in this hall in which 89 speakers have been installed in the ceiling to amplify 89 discrete frequencies in the range of from 70 to 300 cycles per second. According to the magazine "Audio," the acoustical advisers, William Allen, Hope Bagenal and Peter Parkin, decided to turn to electronics for help rather than reduce the size of the audience, rip out the ceiling or alter the shape of the building. The objective is to restore the acoustical energy where it is "unavoidably absorbed by the surfaces of the hall and by the audience."

Noise in the Home

As new building techniques and designs have developed in recent years, acoustical privacy seems to have suffered. The design professions and building officials have taken notice. So has the layman, if the number of articles in the general press is used as a measure. Unfortunately, some unworkable solutions, which could not have been checked by an acoustical engineer, are at times suggested by columnists on the "building" pages. For example, one wonders just what "acoustical paper" might be. Experts say that the thinnest sound absorber to have any appreciable effect is at least 1/2-in. thick. And of course sheet materials perforated by 3/16-in. holes by themselves will not absorb sound, but will let it pass right through. Only when they are backed up by a batt material will they work. A common error the layman makes is to assume that if a material is a good sound absorber, ergo, it will prevent sound transmission. A sound absorbing acoustical material which works admirably in a playroom to reduce noise level and take the edge off annoying clatter will do little good in stopping noise transmission to another room when the separation is only a flimsy partition.

Concrete Testing

As the use of structural concrete in buildings has grown, so has the necessity for greater quality control. As a reminder of the fundamentals necessary for quality control, the Portland Cement Association has issued a new, handy pocket-size primer which summarizes 18 important A.S.T.M. test procedures covering both aggregates and concrete. Each test is briefly described and the key equipment is illustrated. Typical coverage includes purpose of test, typical specifications limits, when to make test, size of sample, precautions and corrective measures if tests are beyond specification limits. "Tips on Control Tests for Quality Concrete" is available free from the Portland Cement Association, 33 West Grand Avenue, Chicago, Illinois.

Trucking Structural Components

The Michigan State Highway Department has announced a more stringent policy in regard to the issuance of special permits for the movement of overweight or oversize vehicles and objects over Michigan State trunklines which will affect the transport of structural materials. The objective of the new policy is to hold to a minimum the movement of items which could either be designed smaller, assembled at the destination, or transported by means other than public highways. Special permits generally will not be approved for the movement of objects more than 12 ft in width, 14 ft in height, and 100 ft in length.

This Month's AE Section

THE LIGHTING OF CITIES, page 210. *WHY A COMPLETE SOIL ANALYSIS IS IMPORTANT*, page 215. *GIRDER WALL IS ALL PRECAST*, page 217. *BUILDING COMPONENTS: Performance Curves for Induction Units*, page 223. *Products*, page 225. *Literature*, page 226.

THE LIGHTING OF CITIES

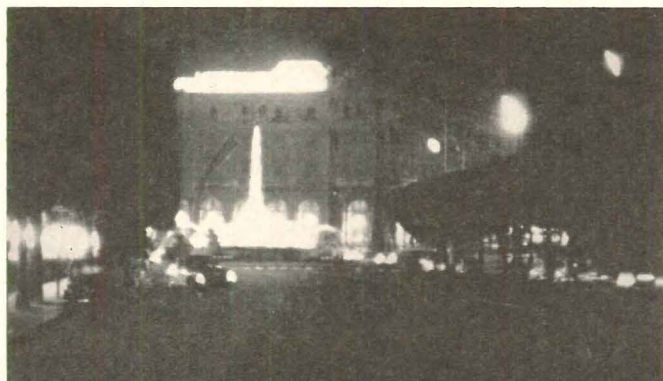
By William M. C. Lam, Consultant: Coordination of Lighting and Architecture

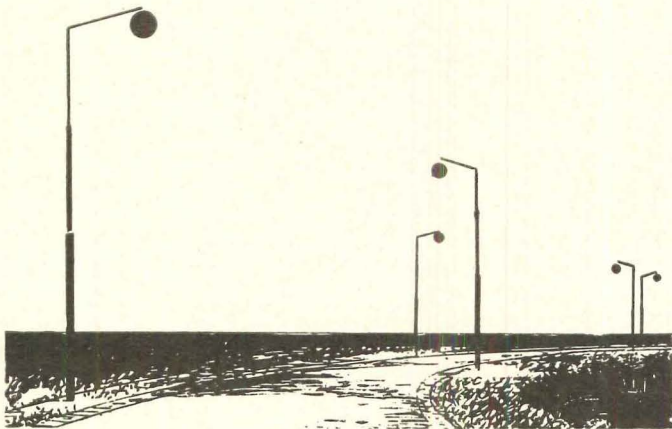
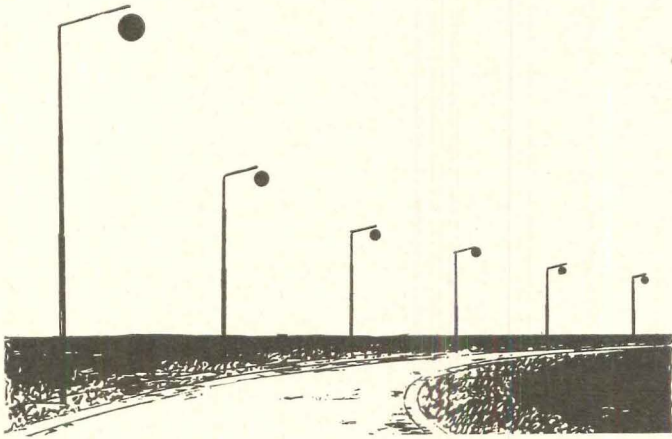
As architects become more deeply involved in the problems of the urban environment, it is important that their awareness of the scope and influence of public lighting should grow accordingly. Since the appearance and atmosphere of a city at night is largely determined by its lighting, architects cannot afford indifference on the question of how our cities are lighted. Even if they consider only individual buildings, it is easy to see how these can be profoundly affected by the system of public lighting in which they are placed. The visual effect of buildings, both individually and as part of the urban environment, may be enhanced or marred by whatever lighting system the city authorities choose to adopt. Conversely, the way in which an architect chooses to light his own building can make a significant positive or negative contribution to the appearance of the city as a whole. In a broader framework, an architectural approach to the design of both public and private lighting systems could vastly improve the appearance, safety and order of our cities both at night and by day. The concluding part of this article (July) shows the results of an architectural approach to public lighting in a plan for the city of New Haven.



Certain visual elements in the city scene, if properly lighted, can have important functions in providing information about oncoming traffic conditions and visual orientation. This fountain in Rome was intended primarily as an attractive central focus for the plaza, but it also gives an effective indication of

rotary traffic. The globe lighting of the arcade, and the lighted signs on the buildings emphasize the shape of the traffic circle. Since the fountain can be seen and instantly recognized from many fairly distant points in the city, it is also a useful source of visual orientation for both drivers and pedestrians.

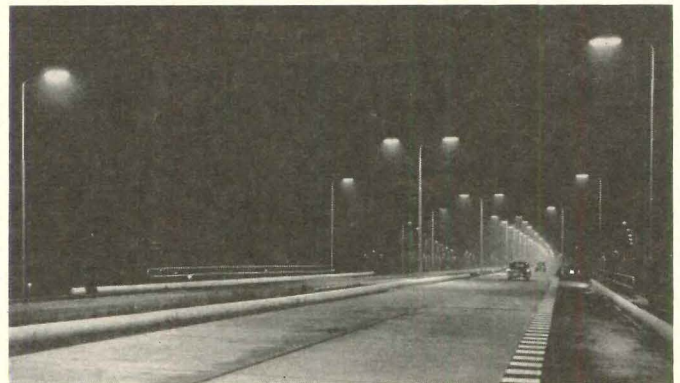




Netherlands Foundation of Illumination



Lighting of a simple curve (*left*) by fixtures on one side is attractive by day and gives a clear night-time pattern, as opposed to staggered fixtures on both sides, which are disorderly by day and confusing by night. Other aids to oncoming conditions used in Europe are lighted rotary markers and lighted signs (*above*). *Below*: color change and contrast of single and double fixtures clearly indicates a highway exit.



International Lighting Review

The design of public lighting plays an important part in establishing the visual image of any city. At night, the pattern of man-made lighting is the city visually. The backbone of this pattern is the street lighting (with traffic signals and signs) which gives the only structure to a random pattern of light—light from public monuments and buildings—light from stores and office buildings—light from churchyards and residences. Those responsible for the selection and placing of our street lighting are therefore also responsible for determining much of the visual character of our cities after dark. By day, even though they are less all-important than at night, street lights, by their repetitive presence in every view, necessarily contribute either to clutter and confusion or to the image of order, articulation and character.

In the first part of this study, the whole question of the lighting of streets and other public places will be discussed. In the second part, to follow next month, the principles ar-

rived at from the general discussion will be applied to the particular problems of the city of New Haven.

VISUAL INFORMATION

The main purpose of public lighting is to provide sufficient visual information to enable drivers and pedestrians to use the city at night with safety and pleasure. In order to evaluate the different types of public lighting, it is necessary first to establish the exact nature of the "visual information" which drivers and pedestrians require.

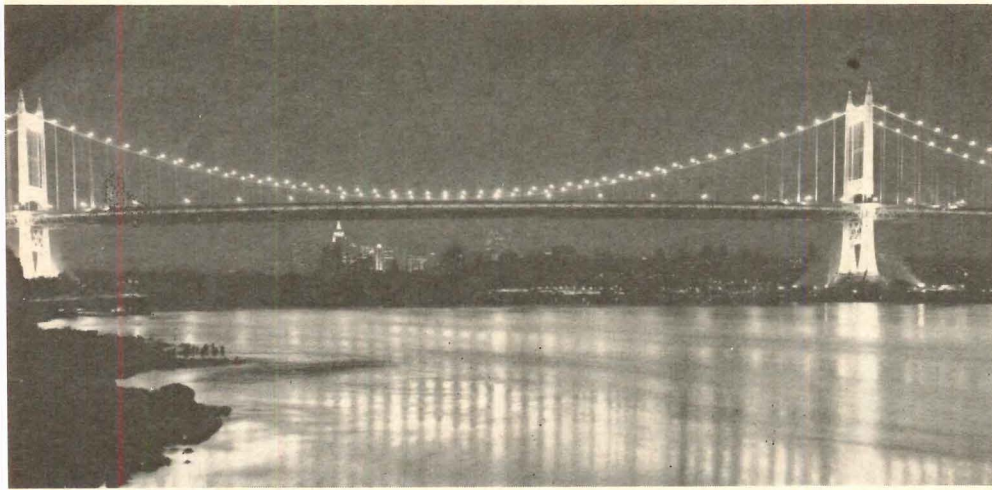
Information for Drivers

One of the first functions street lighting must fulfill is that of illuminating obstructions, such as pedestrians, animals or other objects. Car headlights would be sufficient to do this, if it were not for the distraction of opposing headlights and other light sources. To compensate for this, street lighting must provide supplementary illumination by direct lighting of objects and by creating silhouettes against the background of road and surroundings.

Street names, routes and directional markers must all be clearly identified for readability at the prevailing speed of the traffic.

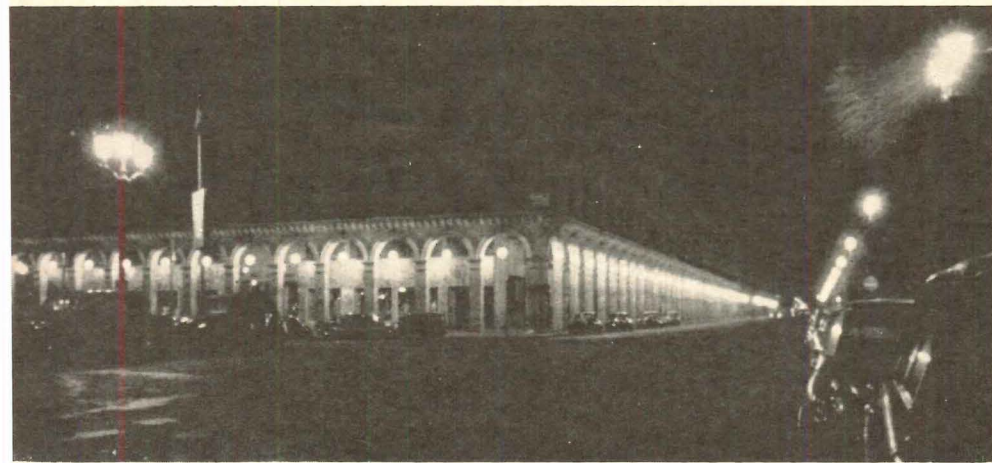
The organization and design of public lighting must provide the driver with a routine understanding of oncoming conditions, such as curves, road junctions, cross traffic, rotary traffic, etc. Lighting which simply indicates a forthcoming traffic irregularity, although helpful, is not sufficient. Ideally, the lighting pattern should show the exact shape of things to come.

As well as giving guidance about oncoming traffic conditions, public lighting must communicate facts regarding the organization of the city, so that the driver knows what sort of neighborhood he is in and can be continually aware of how he is placed in relation to his destination, major city streets and landmarks. During the day, there are many visual sources of this kind of information, such as views, horizons, etc., but at night these sources disappear. Since street lighting must

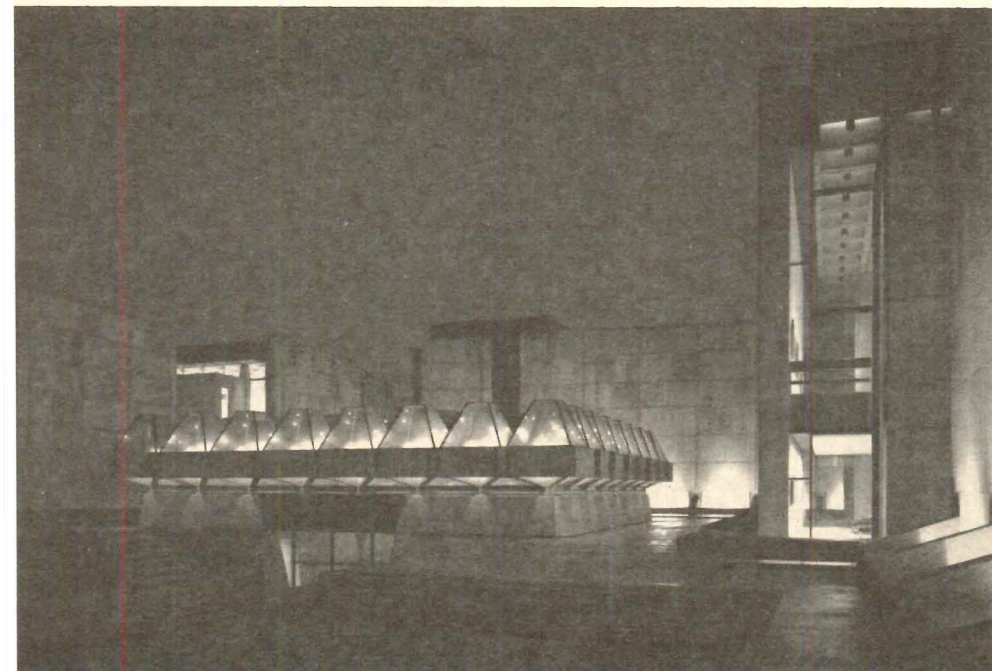


Triboro Bridge and Tunnel Authority

Lighting should communicate facts regarding organization of the city, and the whereabouts of the driver within it. Bridges offer valuable identification when the inherent shapes of the structural elements are emphasized by light.



The illumination of streets and walks from distinctive buildings can provide a sense of arrival. In the building *above* on the Rue de Rivoli in Paris, the lighting clearly defines the opening out of the street into a plaza. In the photo *below*, lights within the prised roof of the Fathers of Confederation Memorial give strong focus to the central building and spill light onto the terrace. Walls of surrounding buildings are defined by lights shining up from fenced-off skylights. These same lights also shine down to illuminate inner concourse walls at lower level.



H. E. Jowett

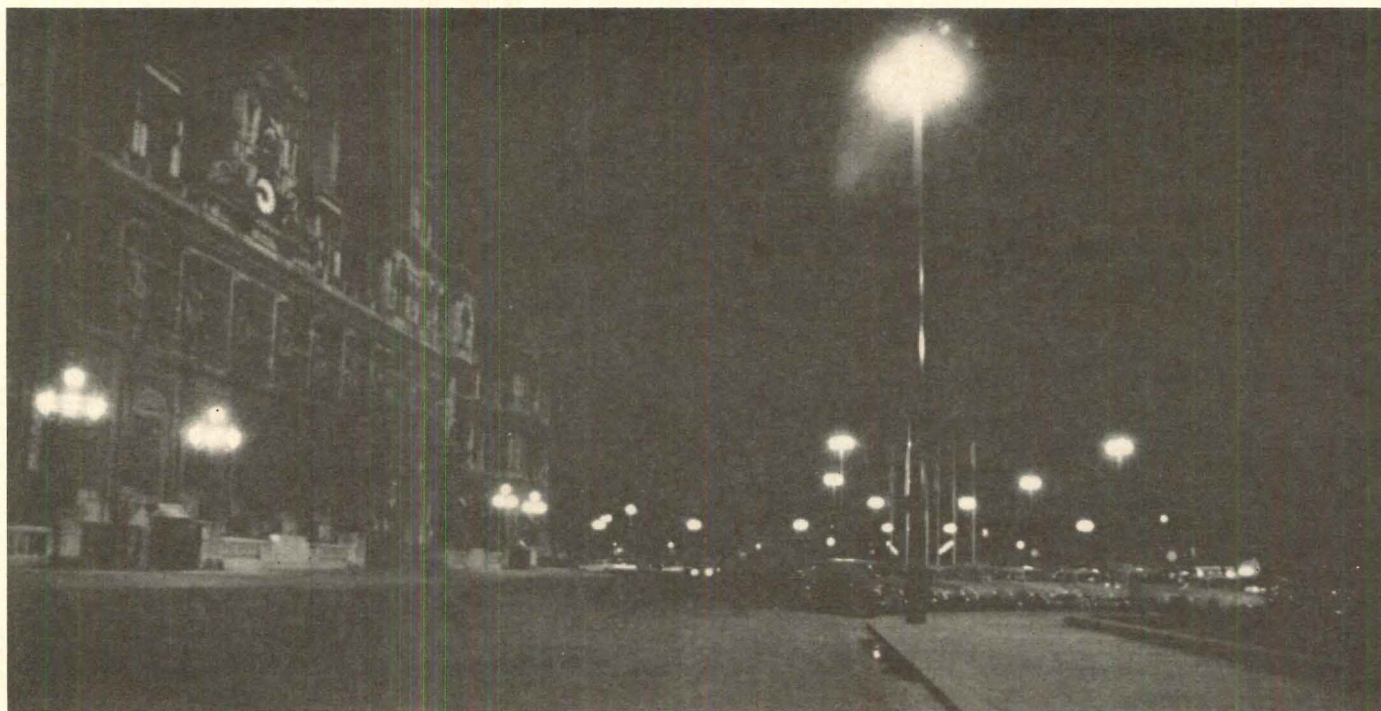
communicate the same information but without the help of these visual signals, it must be designed for maximum communication value. A successful street lighting system from the driver's point of view would be one which provided all these types of information clearly and quickly. If this were so, the driver would not have to focus all his attention on finding his way around and would therefore have a greater reserve to call upon to meet unexpected events, giving him a greater safety margin. The more complex the road system of a town and the greater the volume of traffic, the greater the need for a lighting system which orients the driver to his whereabouts in the city. Orientation and visual guidance are subjects which have been given virtually no attention in U.S. street lighting manuals and practice, but, as can be seen from the illustrations, European practice has long recognized them as important elements of safety.

Information for Pedestrians

The pedestrian has certain lighting requirements over and above those of the driver, but his needs are mainly of a psychological rather than a physiological nature.

Some light (of very low intensity) is always needed everywhere to light up possible obstructions, but light is also needed to provide protection and a feeling of reassurance by minimizing dark shadows near areas of travel and congregation. Crosswalks, subway entrances, pathways, stairs etc., need to be identified by suitable lighting. Special pedestrian areas, sidewalks and promenades should be given lighting of appropriate character and scale. If a city has a meaningful over-all lighting pattern with different, but related, types of lighting adapted to specific situations, it should be able to provide all the visual information needed for both the driver and the pedestrian. The by-product is a more beautiful city with lighting contributing visual order, articulation and character, instead of distraction, disorder and dominance.

The section on the New Haven study will show, in detail, how such an over-all pattern may be achieved by creating a lighting hierarchy to express the character and traffic density of different streets.



The pedestrian's lighting needs are primarily psychological. At the Place de l'Hotel De Ville in Paris (*above*) pairs of globes mark entrances and give pedestrian scale to balance

high clusters. Low fixture (*below, left*), give pedestrian character. Pedestrian focus can come from show windows plus a row of spotlights at tops of buildings, (*below, right*).

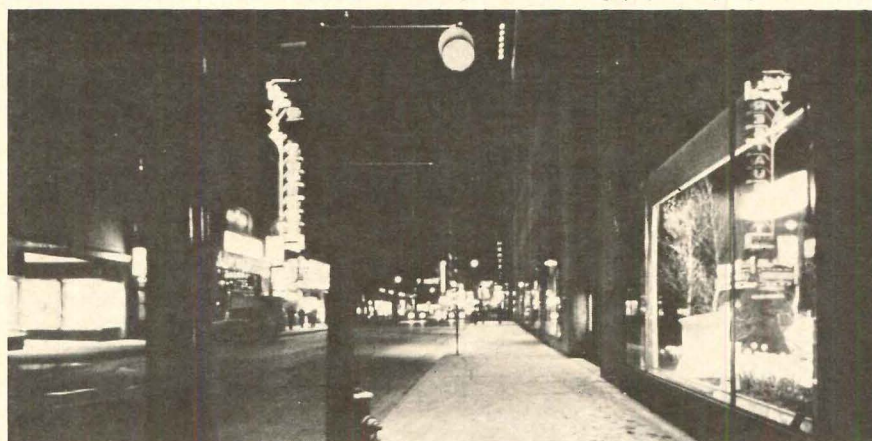
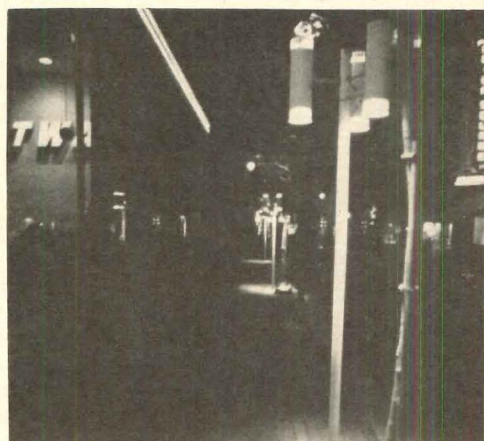


IMAGE BY DAY

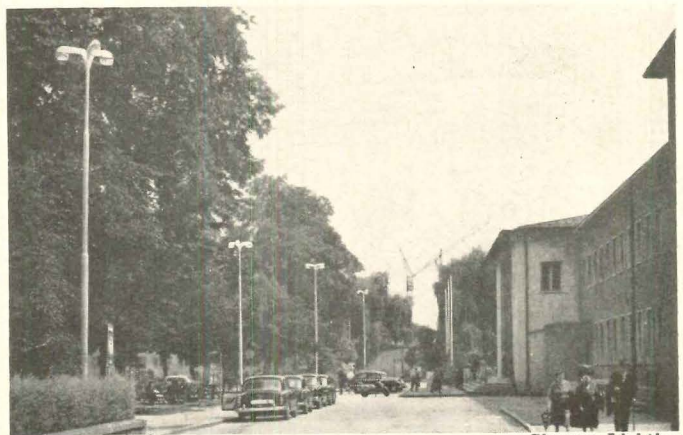
During the day, street lighting does not dominate the environment as it does at night, but its design is nonetheless important in the daytime image of the city. This is because lighting fixtures are among the most numerous elements in the city scene, and are positioned near to the line of traffic, where they are continuously close to the center of focus. If well designed, luminaires and poles can be very positive elements of continuity and organization in the daytime appearance of the city, and they can provide a base around which to relate many of the other street furnishings. If the pattern of lighting by night has been well de-

signed, the same articulation of character related to function should be evident in a daytime rhythm of clarity and order. Lighting equipment related to pedestrian walks, freeways, downtown streets, large parking areas and civic centers should in each case have its own scale, spacing, shape and rhythm, appropriate to the type of structure or area it was designed to illuminate. Once this general order and articulation is accomplished, the design problem becomes one of the detailed design of the equipment and the relationship of this equipment to the other elements of the street.

If one accepts the principle that street lighting and other street fur-

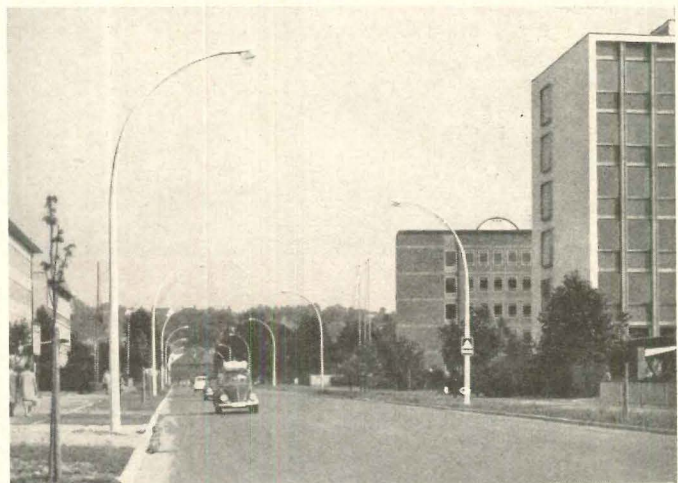
nishings should be "background" in nature, then the design objective would seem to be that of maintaining relevance with the character, colors and shape of the surrounding environment.

A streetscape should appear timeless, permanent, static and uncluttered. The materials used for street lights should therefore appear permanent, with a dark matte finish to avoid distracting reflections and highlights. The shapes should be static rather than dynamic. In built-up areas, lines and planes should relate to buildings; poles should be vertical and arms horizontal, with no sweeping curves ending on the diagonal. Overhanging arms and



Siemens Lighting

The orderly attachment of signs to light poles does much to reduce the visual clutter of the townscape by day. The design of the light fixtures themselves is also an important factor in the daytime appearance of cities. In general, overhanging arms tend to disrupt the view, while fixtures with minimum arms blend well with the buildings and increase the sense of order and harmony. Lighting for special areas presents the problem of providing sufficient light of appropriate character without introducing too large a number of fixtures. A square in Munich (*below left*) is successfully lighted by one high fixture which spreads light over a large area without disrupting the daytime scene. A similar principle has been adopted with low fixtures at Orly Airport (*below right*); the fixtures also distinguish parking areas from highways leading to them.



large directional fixtures should not be allowed to dominate the sky view. Their forms should be architectural rather than like streamlined kitchen utensils, or space discs.

In order to reduce the clutter of the street, lighting poles should be integrated with street names, traffic signs and signals.

Lighting equipment should also be carefully placed in relation to corners, curbs, parking meters, trees, dividing strips, crosswalks and guard rails. Lighting equipment on bridges should appear as an inte-

gral and natural part of the structure, so that both should appear to have been designed together.

To achieve all these objectives is obviously no easy task, and demands considerable effort on the part of all concerned. It is clearly desirable that the design of the street lighting be closely co-ordinated with the layout and design of the roadways and bridges themselves.

Even if an ideal public lighting system is achieved, the good effects of safety, order and pleasure created by it can easily be largely

nullified by the visual noise and clutter of private lighting from gas stations, stores, shopping centers, etc. The city authorities should do everything in their power to discourage and control the imposition of these glaring to-attract-business lighting effects on public roadways. As a short term policy, perhaps some sort of municipal control is necessary, but in the long run a program of design guidance from the city planning department, in which architects might cooperate, would be a more positive measure.

WHY A COMPLETE SOIL ANALYSIS IS IMPORTANT

Interpretation of field tests can greatly affect foundation design

By Edwin C. Nordquist

All structures, whether they be dams, highways, or buildings, are supported by soil or bedrock. The soil foundation design should be given due importance along with the structural design of the new multi-story building, or even the one-story warehouse. Soil cannot support an unlimited load, as many people realize, but how much *will* it support? The strength of a soil is made up partially from many factors that may or may not relate to the settlement of a structure placed upon it. The soil may be able to support a relatively light load, or it may support a heavy load; but possible settlement of a building could be tolerable or on the other hand it could be destructive.

It is not always practical for all construction to be preceded by soil borings, laboratory tests, and an engineering analysis. There may be occasions when there is not time to make the necessary borings or laboratory tests, etc. In these cases, it may be better to use the more conservative foundation design than to add the cost of a soil analysis.

"N" Values Determined

If it is desired that the soil conditions at a proposed site be determined, soil borings are made and standard penetration tests are usually performed. One of the more common methods used to determine the relative density or consistency of an *in situ* soil is to measure the resistance of a penetration device driven into the soil at various intervals as the borings are made. The blow count ("N" value) is determined by counting the number of blows of a 140-lb hammer, falling a distance of 30 in., that are required to drive a 1 $\frac{3}{8}$ in. ID, 2 in. OD split-spoon sampler a specified distance into the soil. A boring is first made in the ground to a specified depth by one of the standard methods. Casing may or may not be needed to support the walls of the

open hole. The penetration spoon is attached to the end of the drill rod and driven into the *in situ* soil at the bottom of the hole. The blows per foot of penetration are counted and recorded. The boring is then continued to the next desired depth where the density or consistency is to be obtained. Again the sampler is driven into the soil and the blow count determined and recorded. If conditions permit, it is usually desired to determine the "N" values at 5-ft intervals of depth until the boring has reached a depth needed for the project. Less than 5-ft intervals are desired immediately below the footing elevation. Undisturbed samples are also taken at various intervals of depth to obtain samples of the various strata for laboratory testing.

What Basis for Foundation Design?

Many designers throughout the country base their design upon the relative density or consistency of the underlying soils as determined by the penetration resistance of the standard penetration split-barrel spoon. This blow count ("N" value) is used with published data to determine a presumptive bearing capacity of the soils. Such bearing capacity value is presumed to be a safe value from past performance, which it may be in most instances. However, bearing capacity and total settlement are not always related. A footing may be safe in bearing and yet settle more than a tolerable amount. Studies have been made on settlements of sands as they relate to "N" values. Good correlations have been found between the published values and the field results.

A visual classification of the soil is also made at the time the boring is made. This classification is also a main criterion for the determination of presumptive bearing values. A field engineer, geologist, or drill foreman may classify the encountered soils (give them a name) by his own system of classification which he learned as part of his specialized edu-

cation—formal or otherwise. The different textural classifications, when used by various people, will result in the soil being called by different names, such as silty clay, sandy loam, etc., but they may not agree.

Blow Counts

When one of the many presumptive bearing charts or curves is used, the engineer or architect of what we shall call project "A" will refer to presumptive bearing capacity reference "A" and with the field data available, and with his background and his judgment, he will determine a safe bearing capacity for the project. An engineer from project "B" may refer to reference "B" and, with his judgment, he will choose a safe bearing capacity for his project, which is assumed in this instance to be similar to project "A". Other men also may follow similar procedure. If the results were compared, the determined bearing capacities could very easily be quite different from one another. These differences have occurred even though each man has made good use of available data, and has used his experience from previous building performance in the vicinity of the proposed structure. With similar field data, each man has determined a different bearing capacity for similar soils, and each has made use of different field classifications and/or different tables or graphs that give presumptive bearing capacity values. The person who determined the bearing values may even be in another state than the proposed project.

The "N" values are not always as accurate as might be assumed. Sandy soils below the water table will offer a different resistance to the sampler than the resistance offered by the sandy soils above the water table. At shallow depths, the blows per foot of penetration are usually too low; whereas, with the same relative density of consistency, but at an increased depth, the soil will offer a greater resistance because of the

The author is an assistant professor in civil engineering at the University of Utah as well as a soils consultant

added overburden pressures. Some soils engineers use an equation to correct or attempt to correct the "N" values of the various depth soils. When gravelly soils are encountered, there may or may not be a good correlation found between the density and the standard penetration results. Small gravel can easily enter the penetration sample or it can be bypassed; therefore, the existence of the gravel may not appreciably change the blow count so a fairly accurate measure of the relative density is determined. If the gravel is larger, it will cause greater resistance, or it will cause refusal of the penetration spoon, thus giving an erroneous reading. Also, the end of the spoon may become "blocked" by a piece of gravel that is approximately the size of the opening of the sampler; thus again, a greater blow count would be recorded as the assumed correct penetration for that particular depth.

Is Settlement Included?

Each of the allowable bearing capacities is assumed to have a safety factor of at least three. Each value has been determined from data that was chosen from previous empirical correlations that were based on past performance. There has been no indication as to the amount of settlement that might be expected from the new structure, except that the performance is based upon satisfactory past performance. In general, less dense soils will settle more under a given load and footing size than the more dense soils with the same load and the same footing size. Assume that the soil conditions at a new site are similar to the soil conditions at a nearby structure, except for one or two differences that seem minor to the designer. An average person does not have enough knowledge relating to the field of soil mechanics to pass judgment upon the importance of the apparent "minor" differences.

If a soils engineer were to use the presumptive bearing capacity tables for a particular project, he would attempt to determine the effect of the many variables not included in the tables; however, he would much prefer the more complete approach by including soil tests and an analysis.

Many Variables

Strength. The strength of the soil is made up from a combination of the

angle of internal friction and cohesion. As these values vary, the strength varies. Presumptive bearing values do not directly indicate a change of the angle of internal friction and the cohesion. Cohesion changes rapidly with changes in moisture content.

Settlement. The presumptive values usually do not consider footing size, footing shape, and depth of the footing below the lowest adjacent grade. The total amount of anticipated settlement will vary with each of these three listed footing variables. Settlement is also controlled by the location of the water table with respect to the bottom of the footing, the homogeneity of the soils, the soil density or consistency, and the size and shape of the soil particles. The moisture content above the water table, as well as the plastic properties of each of the encountered strata that extend to the depth of significant influence of the vertical stress from the applied load, cannot be discounted as influencing variables. The period of time during which appreciable settlement will take place is not considered in the tables, but it may also be a consideration if the life of the structure is relatively short or if the probable settlement is excessive.

Change of Strata. Poor soils may be underlain by better soils with respect to settlement potentialities, or such stratification may be reversed where the poor soils are at the greater depths. With these conditions a smaller footing may have a greater bearing intensity and yet may be the better design over the larger, lower-bearing-intensity footing. It is often not known that an oversized footing could settle more than the less conservative, smaller footing under certain circumstances. There may be a number of layers of different type soils that complicate an analysis. The rigidity or flexibility of the proposed footings, or structure as a whole, may change the method of analysis and change the considerations that are based upon judgment. Each of the previously listed factors affect the action of a foundation and add to or decrease the total and the differential settlements.

How Exact?

Soil mechanics is not an exact science and it is relatively new. With good field samples and information obtained during drilling operations,

and with a reasonable number of laboratory tests, a soils engineer can recommend safe bearing capacities based upon the various theories. These values can be used to determine footing sizes that, in most cases, result in a footing that will settle a reasonable amount over the life of the structure.

Use of Tables

It is the author's opinion that the presumptive bearing capacity tables or graphs shouldn't be used by architects, structural engineers, geologists, managers or anyone else unless they have a background in soil mechanics. Presumptive bearing values are used and may be used in many situations, but are often determined by the wrong people. If it is felt by the owner, architect, structural engineer or other interested parties that money should be spent for soil exploration, the proposal should include a complete analysis. If the need arises to use the boring information with the tables, it is the opinion of the writer that the person to make the choice should be the designer or soils engineer who has an understanding of the hidden factors involved with total and differential settlement as well as bearing capacity. He can make use of his experience, judgment and, above all, his broad knowledge of the probable action of the different soils under the many different conditions.

Can Engineering Analysis be Overlooked?

An engineering analysis of the soil conditions may mean the difference, in a few years, between a sound building and a building that appears to be falling apart because of the large settlement cracks. It may save a costly underpinning project. A structure is no stronger than its underlying soil foundation. An oversized footing may be more expensive than a smaller footing that has been designed from data obtained from field borings, laboratory tests and a soil engineering analysis. Many times this very important analysis is overlooked entirely, or it is looked upon as an unimportant part of the plans and specifications which must be met in the easiest and least expensive way. A soil foundation report with its related costs should be a part of the budget for all but the smallest of structures.

GIRDER WALL IS ALL PRECAST

Each exterior wall consists of 20-ft-high post-tensioned Vierendeel girders supported only by two large columns

Each of the exterior load-bearing walls of this 12-story office building in Durham, N. C., is comprised of two massive columns supporting seven 20-ft-high Vierendeel trusses spanning 119 ft, and cantilevering 34 ft at each end. Both columns and trusses were built up from precast sections, with the trusses being post-tensioned. Use of the trusses results in the fenestration band on alternate floors being divided by the vertical members of the trusses. On remaining floors, the fenestration is divided only by small mullions.

The building, designed by Welton Beckett and Associates, will be the headquarters for the North Carolina Mutual Life Insurance Company.

Trucked to the site, the massive precast truss sections were lifted from the truck by a mobile tower crane and raised to the working level. There, the crane transferred them to a steel framework which served as a combined working platform for the erection crew and monorail for moving the precast units into their proper location.

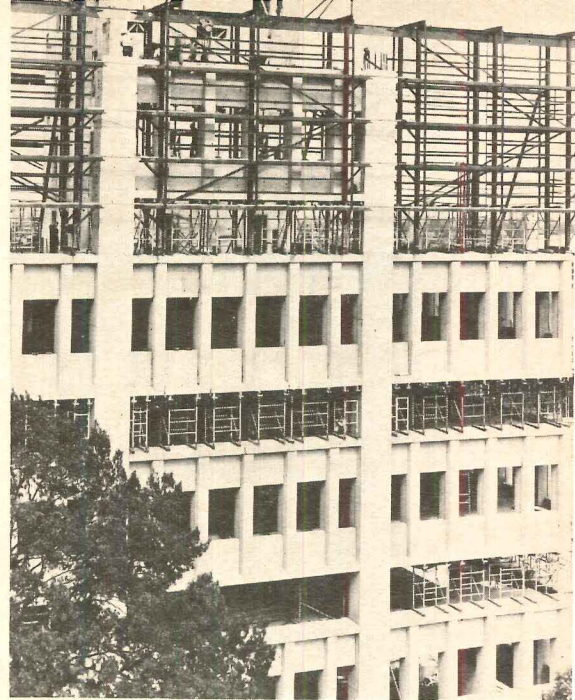
The 30-ft-high monorail rig was assembled from three sections, each the width of a truss bay. As each truss was completed, the frame was disassembled and re-erected on top

of the completed truss. Two duplicate frames were used to permit erection on two facades simultaneously.

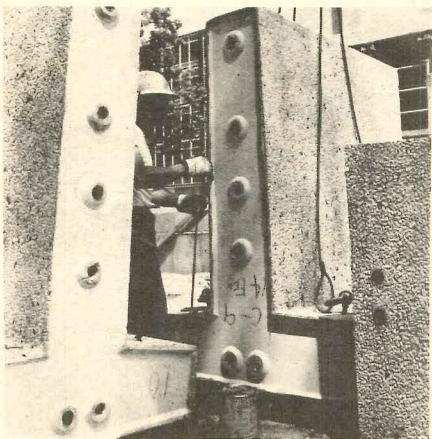
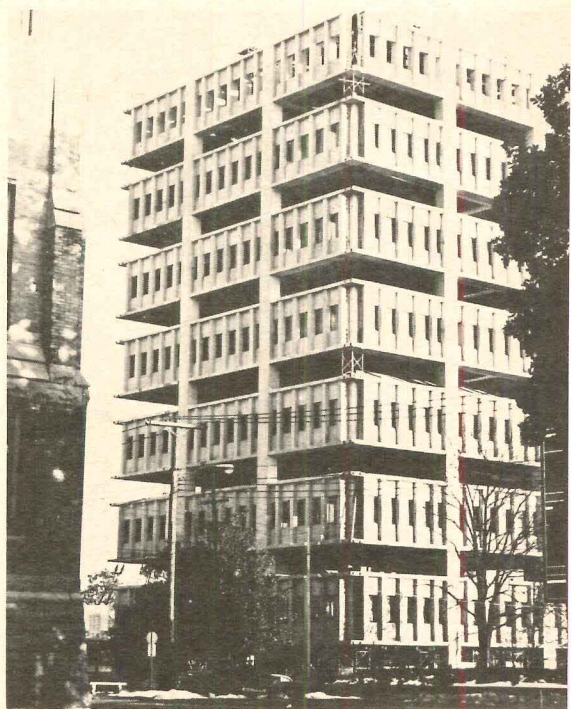
The erection process for the exterior walls went as follows: First a 30-ft height of column was erected from three 10-ft sections. This equalled the height of one truss plus the 10-ft vertical space between trusses. (The column sections were 60 by 40 in. shells, 6-in. thick.) Next, 14 80-ft-long prestressing rods were threaded through sleeves in this column. Then the center bay of the truss was assembled from precast top and bottom chord members and truss vertical sections. These were threaded onto the stressing rods and pulled into the desired position in the facade by winches.

In the next step, column shells for the second column were set and reinforced, while the cantilever section adjacent to the first column was being put in place. After this, shorter stressing rods were threaded through sleeves in the second column and coupled to butt ends of the 80-ft-long rods inside the column. After the second cantilever section was erected, the full-length stressing rods were tensioned and the preformed voids grouted.

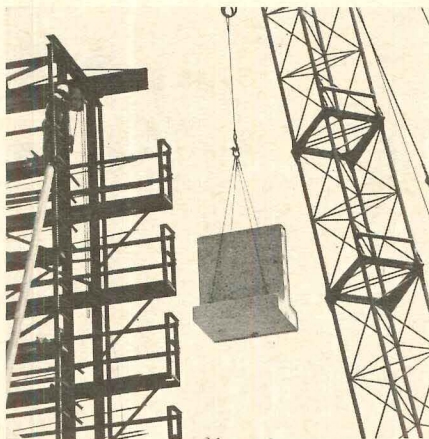
The structural floor consists of



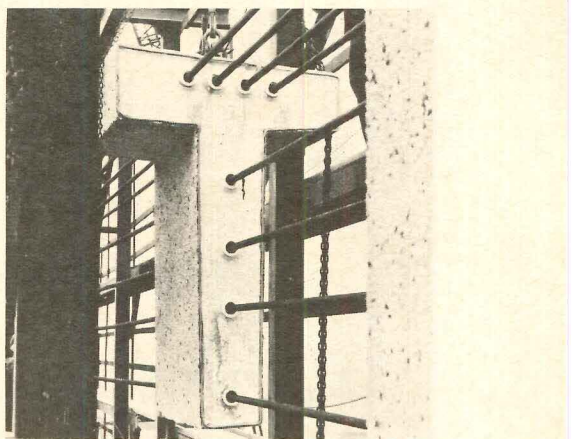
Precast units forming 20-ft-high Vierendeel girders and exterior columns were assembled in a 30-ft-high frame



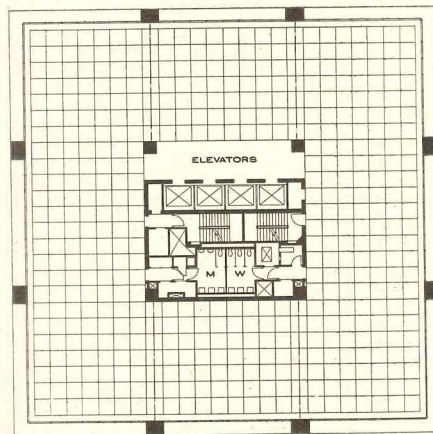
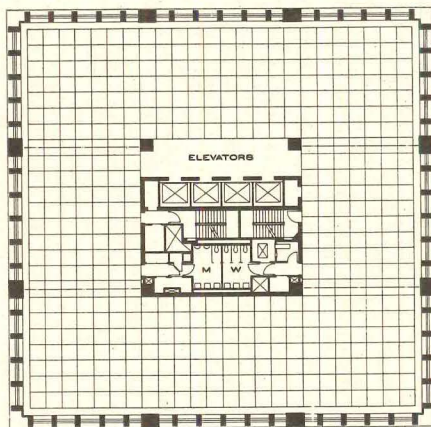
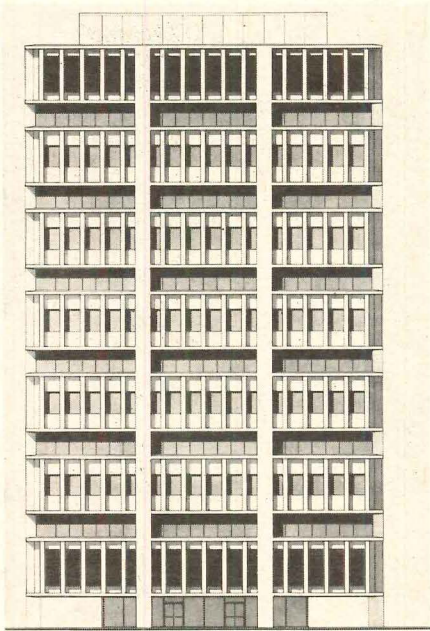
T-shaped truss chords weighing 4 tons have holes for post-tensioning rods



Crane lifts chords from truck to a monorail assembly rig for positioning



One of the top chord units. Chords alternate with 20-ft high verticals



The Vierendeel girders are 119-ft long, 20-ft high, cantilever 34 ft at each end, and have a 10-ft space in between them. Although there are seven girders, the North Carolina Mutual Life Insurance Company's office tower in Durham has 12 stories. The alternate floor arrangements are shown in the plans above.

double tees supported by precast, prestressed girders which span from four poured-in-place interior columns to the eight exterior columns.

Two of these poured-in-place columns are incorporated into the corner of the slip-formed core and two are located outside the core, at the corner of the elevator lobbies.

After the trusses were completed, the 34-ft precast girders and the double tees which form the prestressed floors were set at the odd-numbered floors, which occur approximately one-third of the way up on each truss.

Installation of underfloor duct and reinforcing steel was begun in preparation for pouring of the floor topping, while the girders and tees were set for even-numbered floors.

After tees for even-numbered floors were put in place, the topping on the north half of the floor was poured and two interior two-story columns were poured. Since these interior columns were the only formed-in-place columns required, they had to be completed in time to gain sufficient strength to carry girders to the next level.

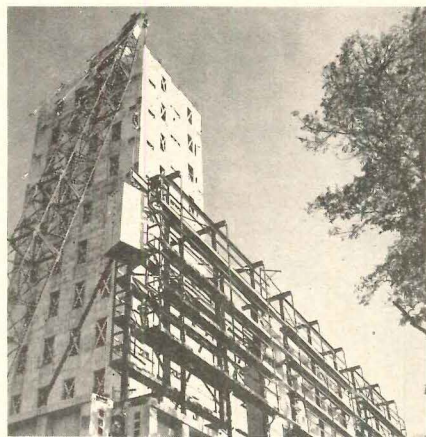
Simultaneously with the exterior construction, floor slabs and beams inside the core were formed. Then, after the floor topping and fill-in composite girders at each successive floor reached design strength, the girders were stressed with the core wall. Stressing completed, the floor slab in the core was poured.

Since the first item of construction

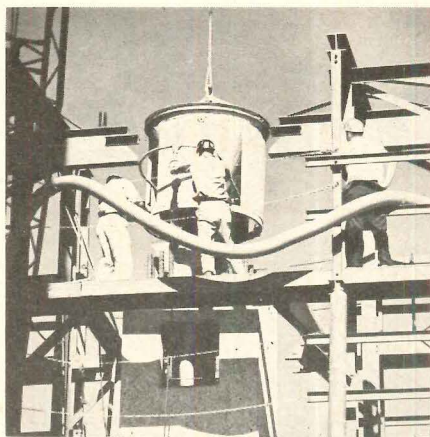
was the slip-formed core, both the stairs and one of the passenger elevators could be installed during the early stages of truss erection, speeding job progress and aiding accident prevention.

Columns are founded on 165-ft-square concrete piers extending 14 to 24 ft below the basement floor. The service core walls rest on continuous footings 11-ft below the basement floor.

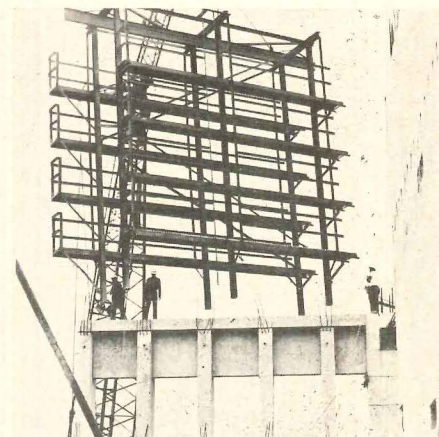
Welton Becket and Associates were architects and engineers; M. A. Ham Associates, associate architect; Rea Construction Company, general contractor; Concrete Materials and Evern Corporation, subcontractors who furnished and erected the prestressed concrete.



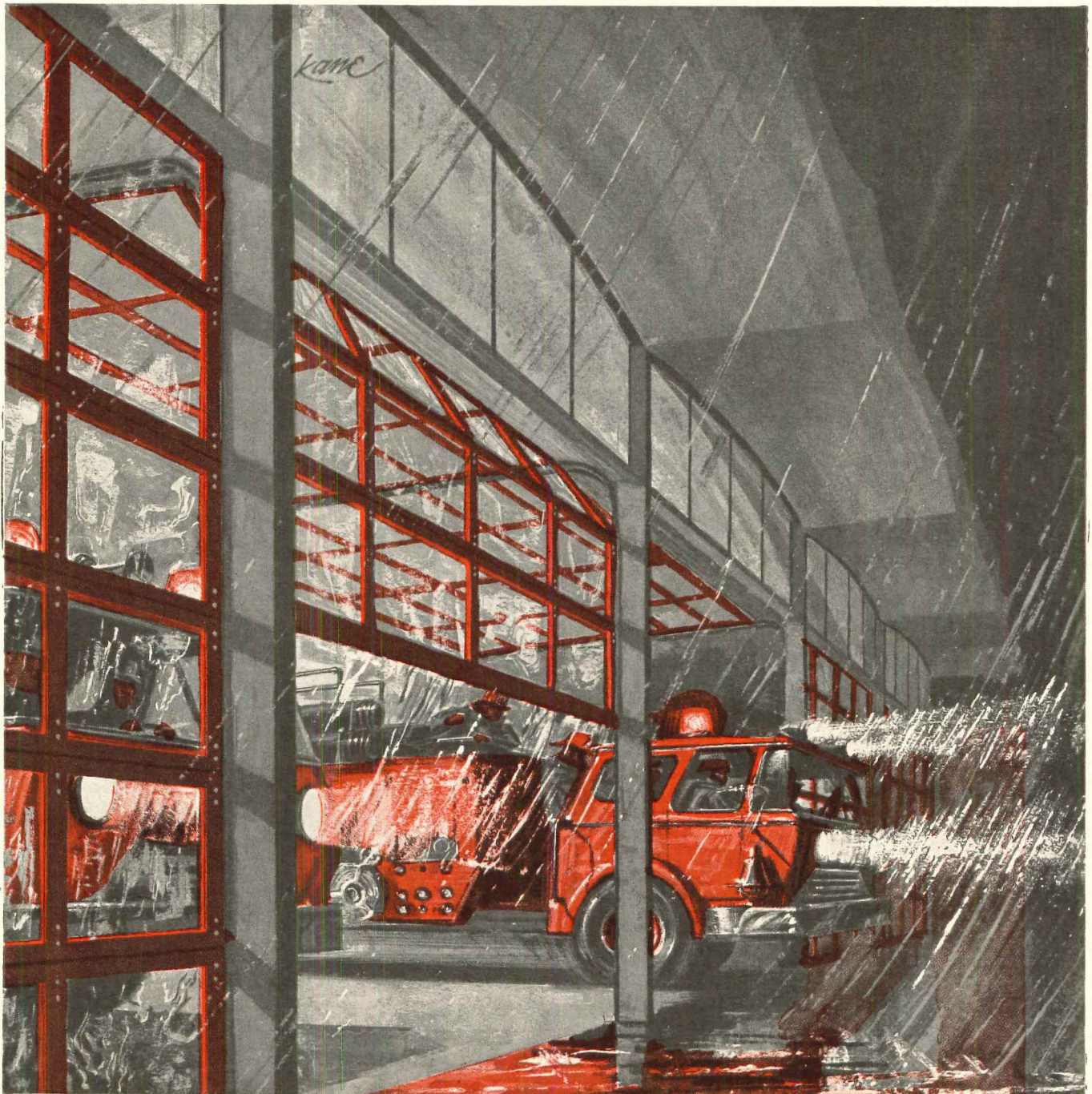
Start of truss is at the center bay with one column being erected first



After two 60- by 40-in. column shells are stacked, concrete fills the center



Assembly rig, in three 30-ft high sections, is moved from floor to floor



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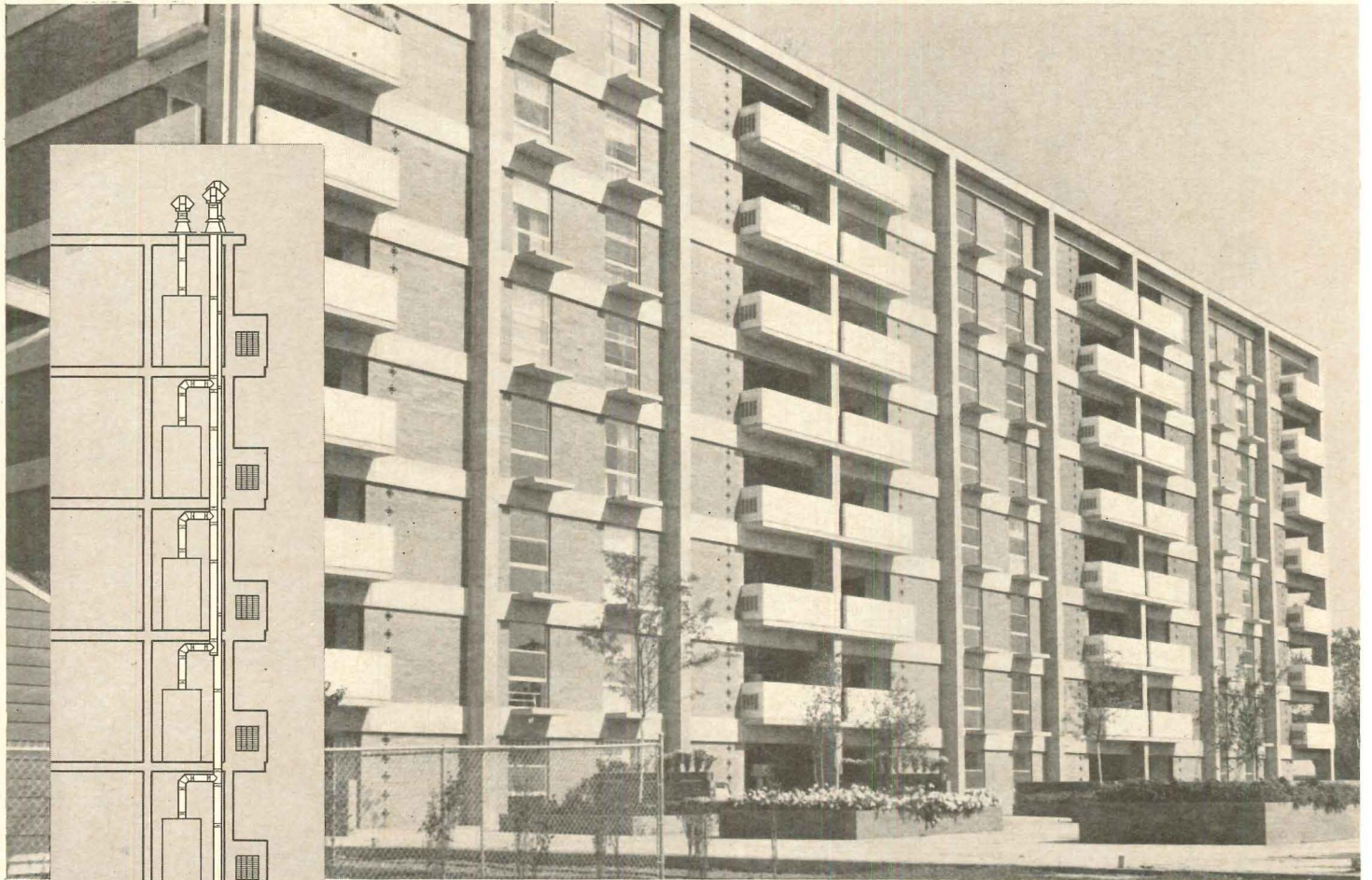
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See Sweet's File 16-J for full details.

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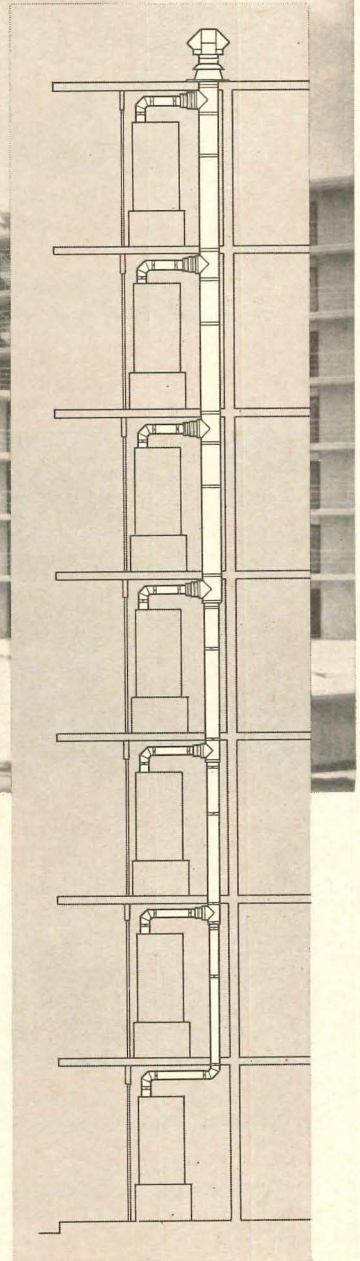
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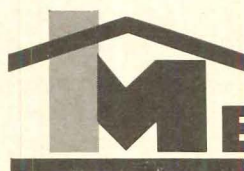
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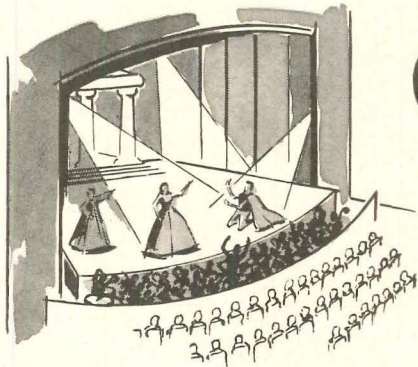
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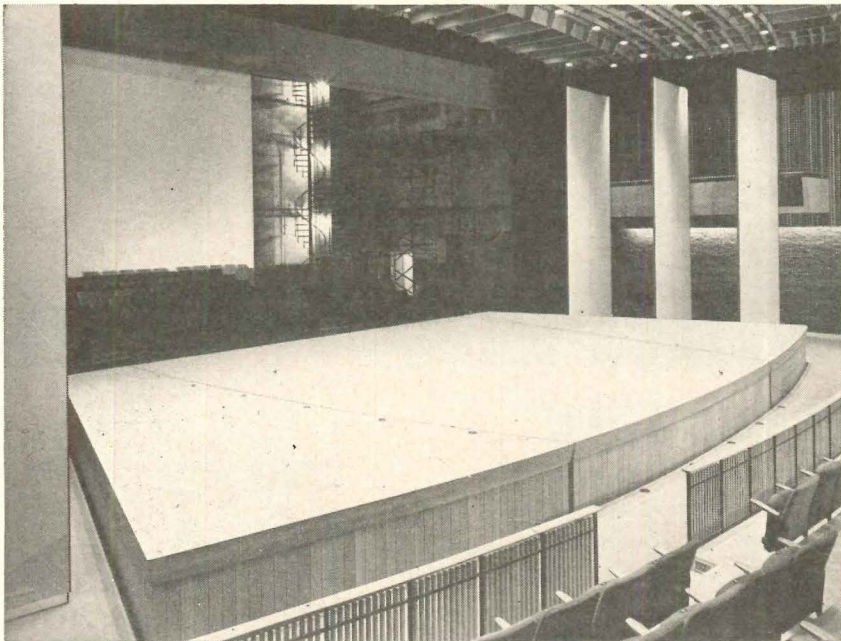
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PERFORMANCE RATINGS FOR INDUCTION UNITS

By Bruce C. Smith

A popular contemporary choice for terminal space air conditioning is the high-velocity room air-induction unit. This equipment is available to serve a broad range of space air-conditioning requirements by virtue of a variety of combinations of nozzle arrangement, unit length and nozzle pressure within a given manufacturer's line. Further selection possibilities exist because of variations in individual unit geometry between manufacturers.

Proper selection of this kind of equipment has posed an architectural problem because of the need for blending thermal and acoustical characteristics to meet the requirements of a specific space. The problem has been complicated by historical plots of performance characteristics which have been presented as straight-line functions, ignoring the factor of induction unit length.

As a result of the uniform testing code contained in Air Conditioning and Refrigeration Institute (A.R.I.) Standard 445-61, all room air-induction unit manufacturers now must test and rate their units according to strict procedures. Published ratings are subject to approval by A.R.I.

This takes care of the thermal side of selection, solving one-half of the architect's problem. American-Standard Industrial Division has simplified the total selection problem by combining thermal and acoustical ratings for room air-induction units on the same chart; sound ratings in the form of noise criteria (NC) bands are superimposed on thermal rating curves.

This novel method of data documentation is not intended, however, as an end-all substitute for the job done by the acoustical engineer. It is recognized that his kind of detailed study and refined selection cannot be

replaced by so simple a device, particularly in view of the relatively broad NC bands used. What the new data presentation does provide is a simplified means for reasonably accurate architectural selection that will serve the purpose for most installations. Where acoustical factors are critical, sophisticated selection by the acoustical engineer will continue to be a necessity.

The New A.R.I. Standard

A.R.I. Standard 445-61 relating to equipment, testing and rating of room air-induction units now requires that manufacturers test and rate their units in strict compliance with a uniform testing code. Published ratings are subject to approval by A.R.I.

Of significant importance as a result of this uniform testing procedure is the clarification of the shape of an air-induction unit thermal performance curve. Thermal ratings now are properly shown as a series of curves which plot primary air (in cfm) vs unit coil capacity (in Btuh); there is one curve for each unit length available with a given nozzle arrangement (Figure 2). The shapes of the

curves are affected by: (1) unit length, (2) nozzle arrangement, (3) nozzle pressure, and (4) design and relative arrangement of unit components.

Curves similar to the type shown in Figure 2 will be, within a few months, the only acceptable published form for room air-induction unit thermal capacity ratings. Such certified ratings, as published by a manufacturer, are subject to random testing by ARI and can be challenged by another manufacturer.

Noise And Sound

The successful operation of an induction unit is not only dependent on its ability to heat or cool the space, but to do so quietly.

Whereas uniform testing procedure has been established for determining thermal capacity ratings, no standardized method has yet evolved for the more complicated problem of determining and documenting acoustical characteristics.

The successful operation of an induction system is dependent on good engineering design and the proper installation of the system. It is important, for example, that

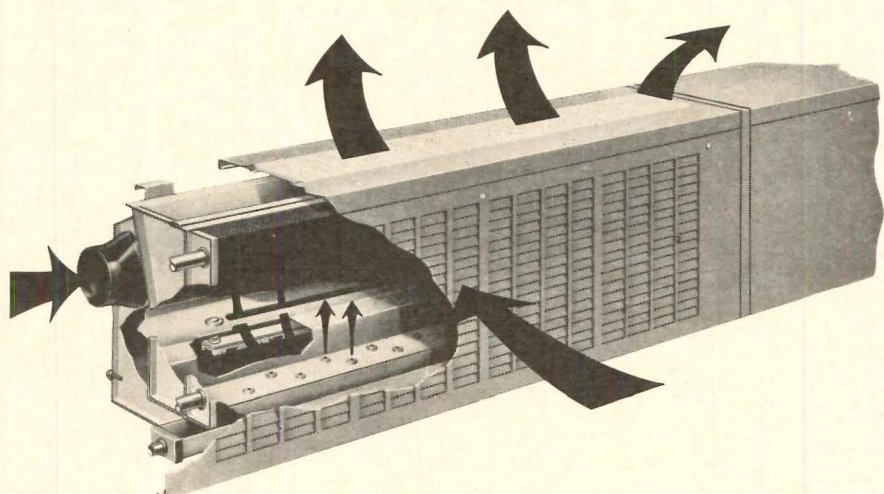


Figure 1: Air flow through a typical induction unit

The author is marketing planning manager, air-conditioning systems, American-Standard Industrial Division

the primary air system be tight and that connections to the induction units be made with flexible conduit to allow for expansion. Said another way: There are a great many factors affecting sound levels that have nothing directly to do with the induction unit itself

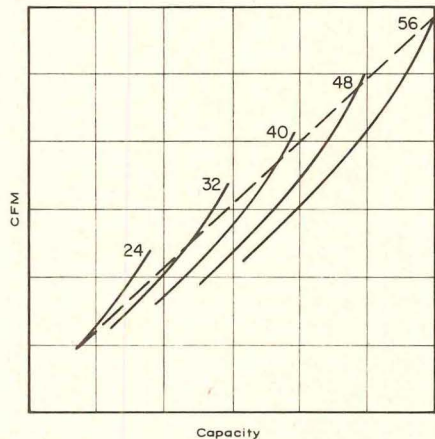
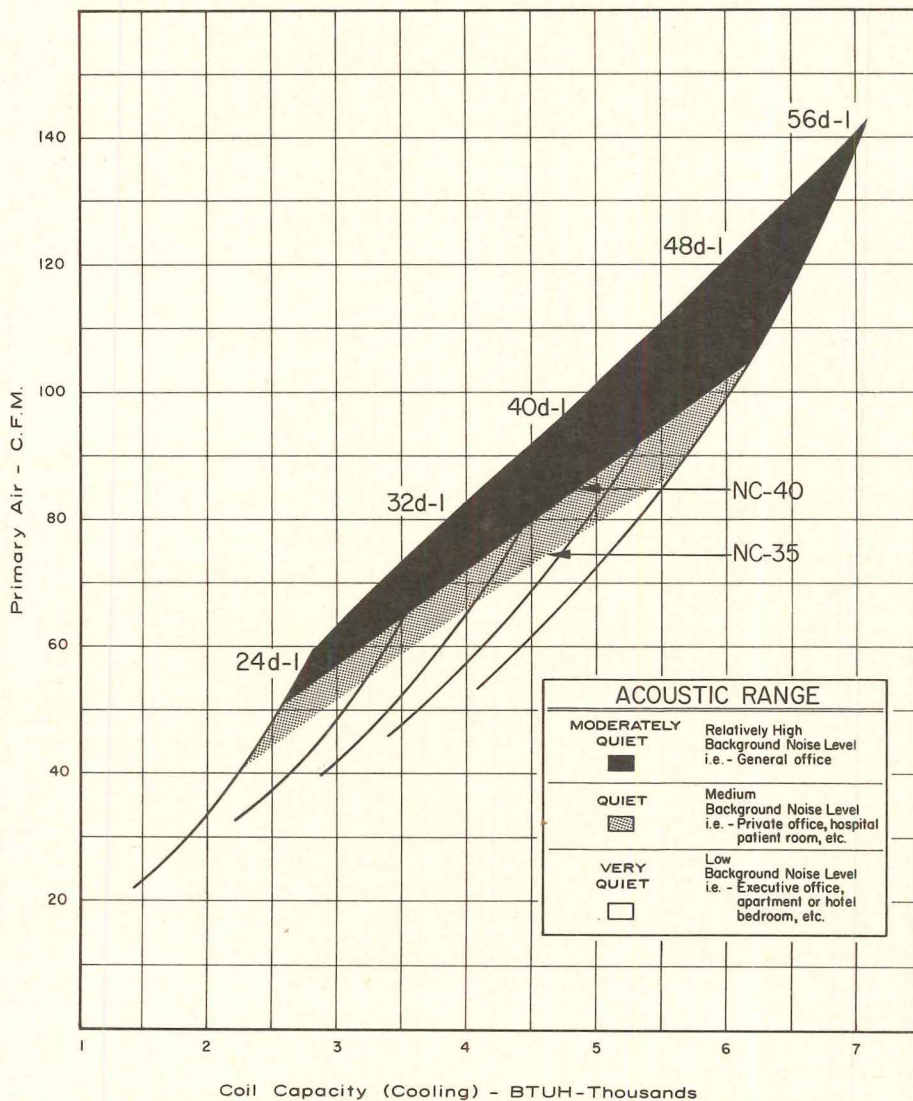


Figure 2: Certified A.R.I. performance characteristics of air-induction units

Figure 3: Typical thermal-acoustical rating for a given nozzle arrangement



and over which the induction unit manufacturer has little or no control.

It is common practice in writing engineering specifications to indicate that "the system shall be free of objectionable noise." The usual exception taken by manufacturers is to declare their equipment to be "commercially quiet." The terminology in both cases is ambiguous because both "noise" and "quiet" are relative, and interpretation can vary widely depending upon who is doing the interpreting. Whether a piece of equipment is noisy or quiet depends in either instance upon who is listening and what that person is capable of hearing.

Sound in the air side of a room air-induction system is a function of what can be termed the "history" of the air. It is generated basically in three places: the first is in the primary air apparatus which consists of preheat coils, filter banks, cooling coils, sprays,

reheat coils and fans; the second potential sound source is the ductwork as the air is distributed throughout the building; finally, the unit itself contributes to the sound level of the system.

Although sound generated by the first two sources is often heard through the air-induction unit, it is not within the realm of control by the induction unit manufacturer.

The terminal contributor, the air-induction unit itself, is the only element subject to control by the manufacturer. And here for the most part, a good job is done to prevent excessive sound wherever possible, or to mask it wherever prevention is impossible. The object, however, is not dead silence, for absence of sound can be as disturbing as too much sound.

In the operation of an air-induction system, centrally conditioned primary air is fed at high velocity to the air plenum in the induction unit. It is directed through the unit to induce recirculated room air as shown in Figure 1.

The critical sound level components in the unit are the damper and the nozzles. Careful attention to the design of these components, plus the usual baffling and insulating within the basic unit, can do much to cut sound production within the air-induction unit itself.

Room attenuation, the absorption of sound by the room and its furnishings, is another sound factor beyond the control of the manufacturer of the induction unit.

Presenting the Data

With sound levels determined for each air-induction unit in the line, the manufacturer must next decide on a method of presentation. It is desirable that the data be presented in as straight-forward a manner as possible to simplify the selection factors.

It already has been pointed out that the thermal capacity data are to appear for each nozzle arrangement as families of curves which plot primary air volume vs coil cooling capacity. The most direct method for presenting acoustical data, then, is to superimpose it upon the thermal capacity curves.

A typical thermal capacity-acoustical range set of curves is shown in Figure 3. The acoustic

continued on page 230

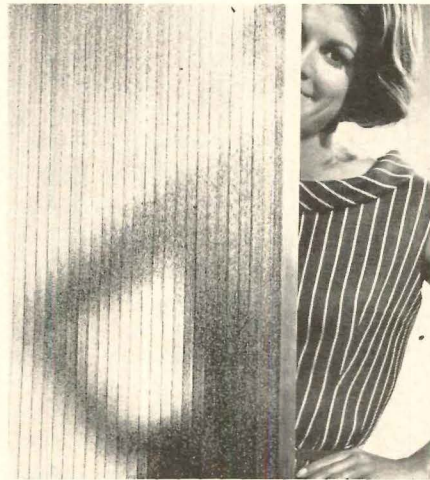
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1. PULL OUT OVEN FOR EASY CLEANING

Frigidaire's new 30-inch built-in electric range, model *RBJ-G535*, features a glass-fronted oven, which pulls out for easy cleaning. The range, which can be fitted into any 33-inch width, standard-depth cabinet, or suspended in an opening between cabinets, is quick and easy to install because opening dimensions are not critical. A generous overhang on the range top, plus a wide trim at sides and bottom cover seams in the cabinet opening. Controls are recessed at the front of the range. *Frigidaire, Division of General Motors, Dayton, Ohio*

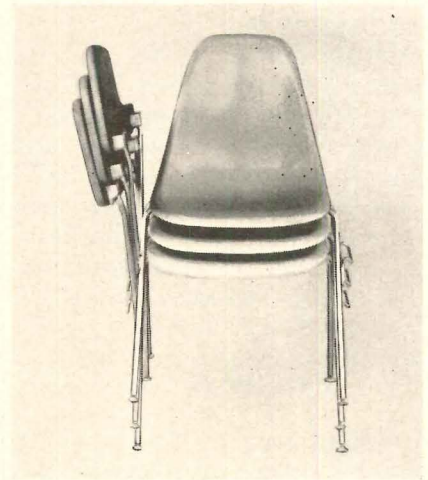
CIRCLE 300 ON INQUIRY CARD



2. SINGLE-STRAND WIRED SAFETY GLASS

Pinstripe, American Saint Gobain's new glass for the interior decorating and architectural markets, is said to be the first to be manufactured in this country in which single, parallel strands of wire are embedded in the glass. The combination of the wire strands with the company's *Finetex* patterned glass, results in a product which provides good light diffusion as well as obscurity and also meets the FHA impact test requirements for safety glass. Lengths of 84 and 96 in. are available. *American Saint Gobain Corporation, Kingsport, Tenn.*

CIRCLE 301 ON INQUIRY CARD



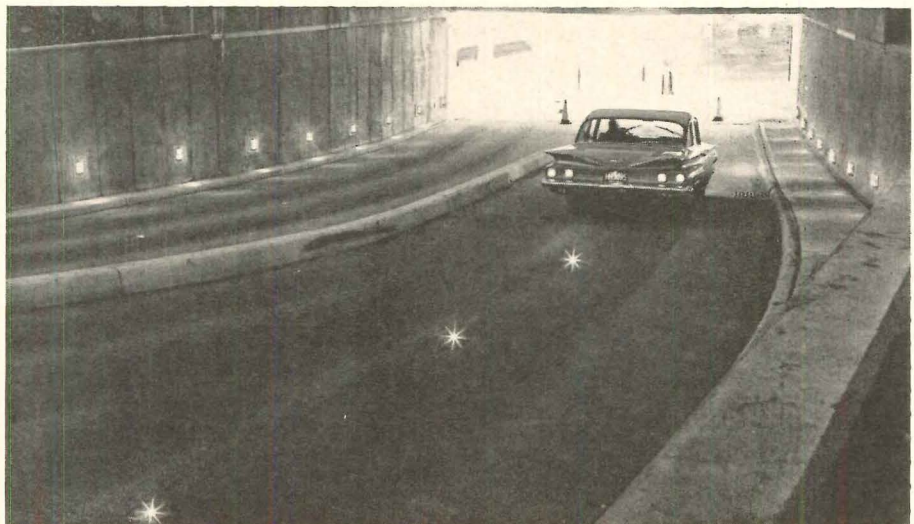
3. STACKING CHAIR HAS FOLD UP ARM

A new stacking side chair with fold-up tablet arm has recently been introduced by Herman Miller. The chair, model *1-DSS-Ta*, can be stacked without removal of the arm; sixteen chairs stack to a height of less than 6 ft. The white laminate, 15-ply tablet arm, which measures $22\frac{3}{16}$ in. by $10\frac{1}{2}$ ins., can support a weight of 300 lbs. The plated steel chair base attaches to rubber shock mounts which are epoxy glued to the fiberglass seat shells and unconditionally guaranteed. *Herman Miller, Inc., Zeeland, Mich.*

CIRCLE 302 ON INQUIRY CARD

4. PANCAKE LIGHTS IN UNDERGROUND GARAGE

Magdisc pancake lights have recently been used in a 1200 car underground parking garage in Columbus, Ohio, where cars are parked on three levels. The lights, embedded in the ramps, direct the motorist to his bay without the need for attendants to park individual vehicles. This system, developed by the Strong Electric Corporation, employs 8-in. cylinder units which are set in the pavement with only a $\frac{3}{8}$ in. rise of the conical shaped top protruding above ground level at a 7 deg slope angle; this causes no interference to moving vehicles or snow removal equipment. A light intensity of over 600 candlepower is supplied in bright daylight as well as at night. The system employs an inductive coupling of the lamp element to the



energy supply unit, rather than a direct electrical connection. Continued operation of other lamps is unaffected by the failure of any bulb. *The*

Strong Electric Corporation, Toledo, Ohio

CIRCLE 303 ON INQUIRY CARD
more products on page 236

Office Literature

For more information circle selected item numbers on Reader Service Inquiry Card, pages 295-296

ILLUSTRATED PLUMBING BROCHURE

An attractive 28-page booklet, "Your Guide to Quality Plumbing Fixtures," features colored illustrations and plans of a number of model bathrooms in which Kohler fittings have been used. The catalog also has separate sections for lavatories, bath tubs, closets, bidets, kitchen sinks and all brass plumbing fittings. *Kohler Company, Kohler, Wis.**

CIRCLE 400 ON INQUIRY CARD

CENTRIFUGAL FAN PROVIDES STRAIGHT THROUGH AIRFLOW

The *Aerovent Centaxial* tubular centrifugal fan, which is designed to provide straight-through airflow, is the subject of a new booklet, bulletin 333A. The bulletin presents complete performance data for each unit in the line. Models covered range in size from 15 in. to 60 in. Each individual rating table lists the wheel diameter of the model covered, inlet and outlet diameters, and total square-footage required by the fan. *Aerovent Fan Company, Inc., Piqua, Ohio*

CIRCLE 401 ON INQUIRY CARD

WATER REDUCING ADMIXTURE FOR CONCRETE

Zeecon, a new water reducing admixture for concrete, is described in a 12-page technical brochure. The booklet includes specifications, graphs and charts to show the effect of *Zeecon* on strength, set time, volume change and durability. *Crown Zellerbach Corporation, Camas, Wash.**

CIRCLE 402 ON INQUIRY CARD

COLLEGE AND UNIVERSITY FURNISHINGS

A 24-page color catalog describes the company's new *C/U Series* furniture and equipment, designed specifically for college and university use. Included in the new series are: seven lines of fixed and mobile seating, tables for classrooms, studies and dormitory areas, a chalkboard display storage system, and sectional cabinets. *Brunswick Corporation, School Equipment Division, Kalamazoo, Mich.**

CIRCLE 403 ON INQUIRY CARD

STEEL PIPE IN USE FOR FIRE PROTECTION

A new bulletin, "Steel Pipe for Fire Protection Systems" provides basic data for architects and engineers involved in the design of fire protected structures. The bulletin reports the types of dry and wet systems which may be used to extinguish fires of all kinds. It covers basic considerations in designing and installing steel pipe fire protection systems and details pipe sizes and sprinkler spacing as recommended by the National Fire Protection Association. Several types of proprietary systems using carbon dioxide, foam, water sprays and dry chemicals are detailed. *Committee of Steel Pipe Producers, New York, N.Y.*

CIRCLE 404 ON INQUIRY CARD

DUCT HEATERS

General Electric's new line of compact electric duct heaters, for use in residential, commercial and industrial air heating applications, are described in an eight-page publication. The new line includes two basic kinds of duct heaters—insert and flanged—in ratings from 2.5-kw to 160-kw for installation in new or old ducts of any size. The illustrated bulletin covers design features and typical applications, and includes a chart giving the ratings, dimensions and prices of 282 standard duct heater models. Data is also included on enclosed magnetic contactors and thermostats for use with the duct heaters. Sample architectural and mechanical specifications are provided, as well as selection and ordering instructions. *General Electric Company, Schenectady 5, N.Y.**

CIRCLE 405 ON INQUIRY CARD

VENTILATORS AND FANS

A wide range of roof and wall ventilators, axial and tubeaxial fans, centrifugal blowers and other air moving devices are featured in a 35-page catalog. Dimension and capacity charts are included as well as diagrammatic drawings of the different models and notes as to availability and suitable applications. *The Loren Cook Company, Berea, Ohio*

CIRCLE 406 ON INQUIRY CARD

INFORMATION ON AREA LIGHTING

A 36-page booklet, "Area Lighting Designer's and Buyer's Guide" gives facts and figures on how to light industrial and commercial areas, building facades and signs. Detailed in tables and diagrams are recommended footcandles, lamp watts per sq ft, mounting heights, spacing, beam dimensions, installation and product information. Information is also given on lighting shopping centers, parking lots, walkways, sports and recreation areas. *General Electric Company, Schenectady 5, New York, N.Y.**

CIRCLE 407 ON INQUIRY CARD

MAINTENANCE OF VINYL ASBESTOS FLOORS

A study on the maintenance costs of vinyl asbestos tile floors was sponsored by the Asphalt and Vinyl Asbestos Tile Institute and carried out at a High School in New Jersey. A full report of the study has been issued in the form of a 16-page booklet, which gives details of the flooring installations at the school, the methods and frequency of cleaning, and a break down of labor, material and equipment costs. *Asphalt and Vinyl Asbestos Tile Institute, New York 17, N.Y.*

CIRCLE 408 ON INQUIRY CARD

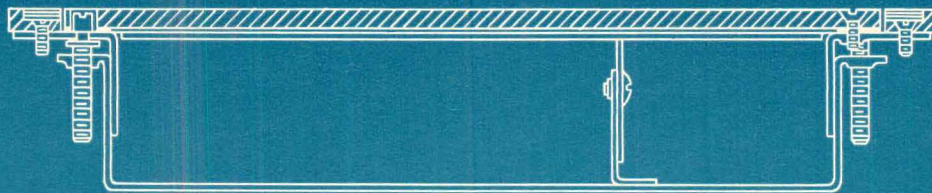
NEW ACOUSTICAL BROCHURE

A new edition of "Sound Control Ceilings," an illustrated technical brochure that covers the company's acoustical tiles and panels has recently been released. Products described include: *Acousti-Shell* three dimensional fiber glass lay-in units; *Spanglas* fiber glass lay-in panels; *Firedike* time-temperature rated ceiling tiles and panels; *Spintone* mineral wool fiber tiles and panels; *Perma-coustic* fissured mineral wool fiber tiles; two types of ventilating ceilings, and a number of asbestos-cement, perforated metal and wood fiber tiles or panels. *Johns-Manville, New York, N.Y.**

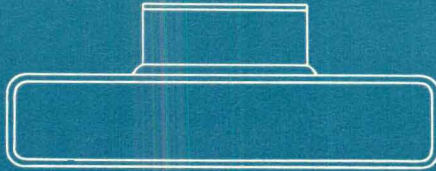
CIRCLE 409 ON INQUIRY CARD

*Additional product information in *Sweet's Architectural File*

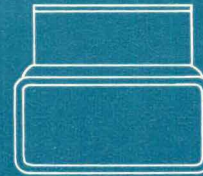
more literature on page 288



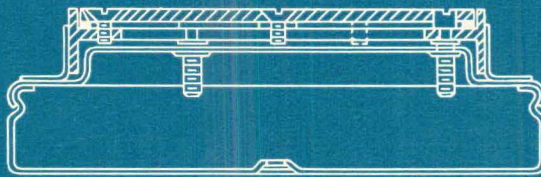
ADJUSTABLE FLUSH HEADERDUCT



TYPE H NEPCODUCT



TYPE K NEPCODUCT



14000 HEADERDUCT



JUMBODUCT



FLUSHDUCT

Make your future floor plans today

(WITH PORTER'S COMPLETE LINE OF "NATIONAL ELECTRIC" UNDERFLOOR RACEWAYS)

If it's a combination of flexibility and dependability in underfloor raceways, then Porter offers a wide range from which to choose. No matter if it's new construction or renovation . . . there is a "National Electric" underfloor raceway system to meet your requirements.

Designed for high and low potential service . . . "National Electric" underfloor raceways offer the following: Type "H" and Type "K" Nepcoduct — provide separate wiring facilities for high and low potential and may be used as a single duct system or in multiples of two or three ducts for additional capacity. □ Jumboduct—Flexible and versatile for heavy duty power distribution where overhead, crane bay or bus systems are necessary. □ Flushduct—Allows trenching of existing floors so installation of ducts can be flush with the surface of the floor. □ Headerduct—All steel and fully grounded, offers power-light-communication raceway distribution from panel to floor. □ Adjustable Flush Headerduct—Has one or more compartments to accommodate all high and low potential systems in one duct run.

If you are looking for an underfloor raceway system that will fit into your plans for tomorrow . . . then look to Porter today. For more information on "National Electric" underfloor raceway systems and service fittings, write for our Catalog. Electrical Division, H. K. Porter Company, Inc., Porter Building, Pittsburgh, Pa. 15219.

PORTER

**ELECTRICAL DIVISION
H. K. PORTER COMPANY, INC.**

For more data, circle 105 on Inquiry Card

Developer:
The Siteman Organization,
Chas. M. Kingan, V.P.
Architect/Engineer:
Wyatt C. Hedrick
General Contractor:
Linbeck Construction Company
Mechanical Contractor:
Natkin and Company

Tenants control comfort individually, with one Carrier Gas-powered cooling and heating system.

Among the new Houston Siteman Building benefits: the highly responsive Gas-powered Carrier Weathermaster® year round air conditioning system, which allows individual temperature preference in any office.

The same Gas-fired boilers that power the Carrier Absorption Refrigeration unit, serve the building's heating needs. Chilled water for cooling and tempered air for heating are supplied to Weathermaster units around the periphery offices. An exclusive Carrier solution-capacity control sustains efficiency even at partial cooling loads. And the fuel economy of Gas Energy is unbeatable.

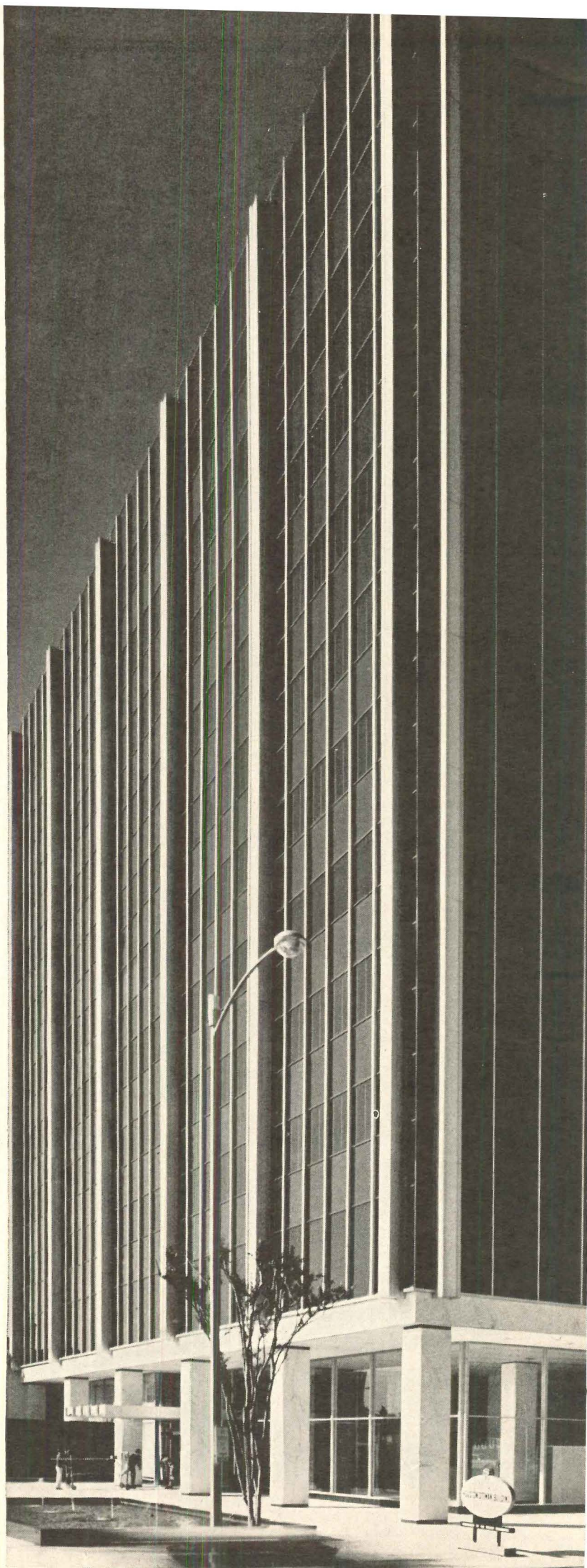
Look into the advantages of quiet, fully hermetic Carrier cooling equipment. And the dependability and economy of Gas. Call your local Gas Company Sales Engineer. Or write: Carrier Air Conditioning Co., Syracuse 1, N. Y. AMERICAN GAS ASSOCIATION, INC.



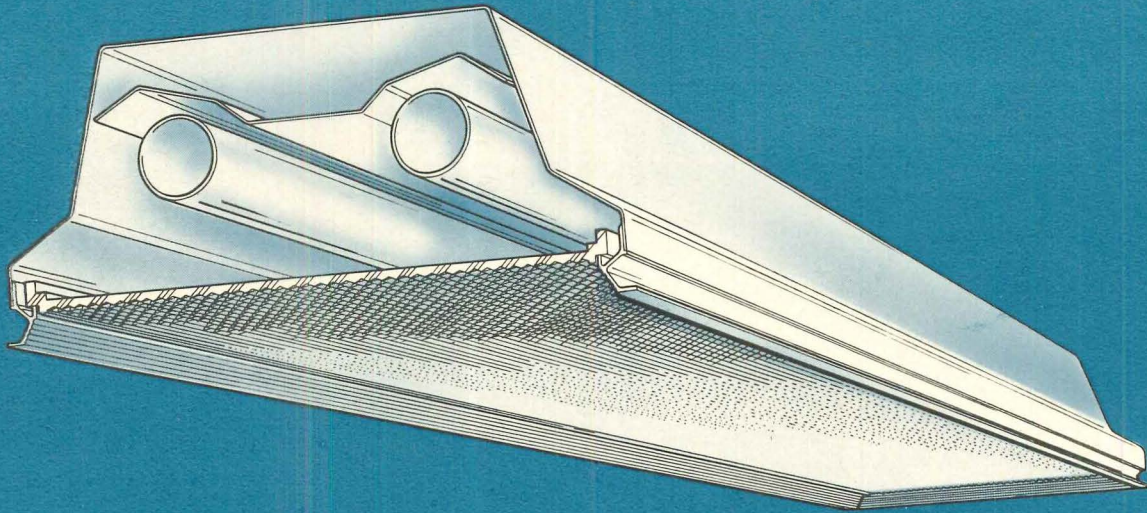
**For heating and cooling...
Gas is good business**

SEE THE CARRIER GAS-POWERED ABSORPTION OPERATING EXHIBIT
AT THE FESTIVAL OF GAS PAVILION — N. Y. WORLD'S FAIR 1964-1965

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REGRESSED FRAMELESS TROFFER



WAKEFIELD
made it not to be seen

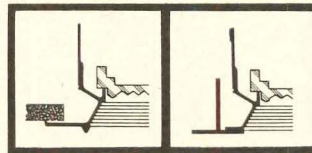
In keeping with today's demand for maximum lighting flexibility and minimum unit visibility, Wakefield introduces a superb new regressed frameless troffer. Engineered for fast, easy recessing in suspended acoustical, plaster, and lay-in type ceilings, the smartly styled slim anodized aluminum frame features a unique scored regressed reflectant surface that minimizes its width and exposed horizontal flange. The visual effect is one of maximum luminous area and minimum exposed metal surface. The frame is made **not** to be seen.

Excellent light spread is provided by the frameless, self-hinging plastic lens. For quick relamping and maintenance, the lens simply lifts, slides back, and swings down.

Greater rigidity, strength and resistance to caustic exposure are inherent benefits of the extruded, anodized aluminum regressed frame construction. Housing and end caps are formed 20 ga. steel sprayed white enamel for 88% reflectance.

This smart, modern, Wakefield Regressed Frameless Troffer, with the "contoured" look, is available in 1' x 4', 1' x 8', and 2' x 4' sizes using either two or four lamps. Row mounted, extrusions butt into a single width, virtually fading from view for a most pleasing effect.

Write or see your Wakefield Lighting representative for details. Today see the unit that's made **not** to be seen.



Suspended plaster ceiling with concealed mechanical suspension.

Acoustical ceiling using exposed grid suspension.

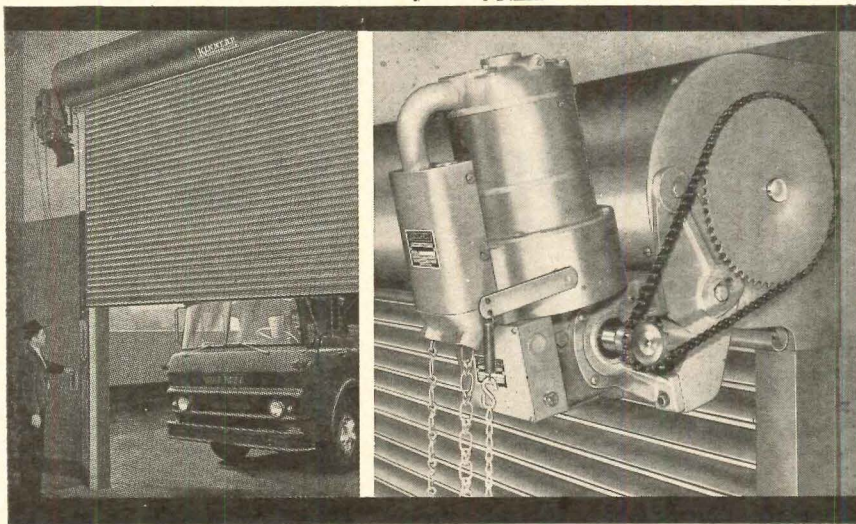
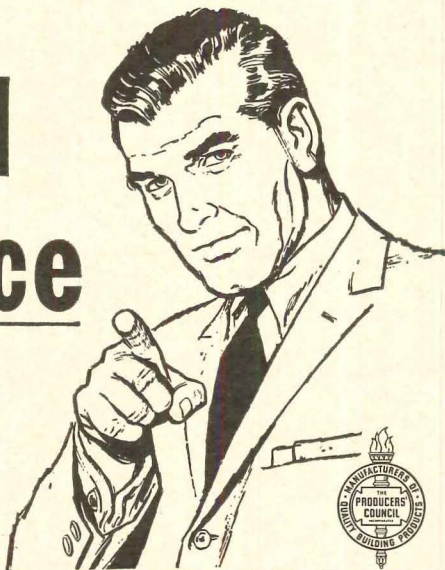
WAKEFIELD[®]
LIGHTING DIVISION
VERMILION, OHIO
In Canada, Wakefield Lighting Limited, London, Ontario

WAKEFIELD
W
CORPORATION

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There's a powerful difference

in KINNEAR Motor Operated Rolling Doors!



Kinnear has the door and the power operator that provides an unbeatable combination of lower door cost and higher operating efficiency.

Kinnear's compact power operator is built specifically for operating rolling doors . . . and to withstand years of hard grueling service. It is an integrated unit that provides efficient door operation from any number of remote control stations.

When open, Kinnear Doors clear the full

opening — occupying no usable floor or wall space. When closed, their heavily galvanized rugged interlocking slat curtain provides maximum protection and durability. In addition, KINNEAR DOORS are REGISTERED against obsolescence and for the permanent availability of replacement parts.

Also ask for details on:

Kinnear Metal Rolling Grilles; U/L Listed Automatic-Closing Fire Doors and Shutters; Counter Shutters & Rol-TOP Overhead Doors.



The KINNEAR Manufacturing Co. and Subsidiaries

FACTORIES: 1860-80 Fields Avenue, Columbus, Ohio 43216

1742 Yosemite Ave., San Francisco, Calif. 94124 — 3603 Dundas St. West, Toronto, Ont., Canada

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Performance Ratings continued from page 224

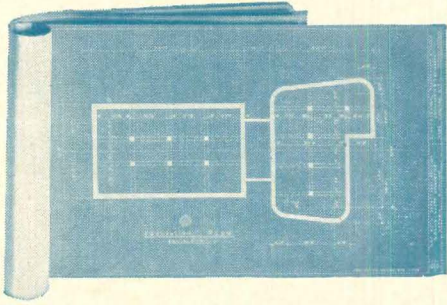
ranges are based on what would be an average hospital patient room or an average business office; area of this "typical" room is about 200 sq ft and the ceiling is 10-ft high. The attenuation constant (the amount of sound it will normally absorb) for this room is 13 decibels.

The acoustic ranges in the Figure 3 chart are defined by noise criteria (NC) curves. The upper NC curve is the boundary between the solid black area and the dotted gray area—this is the NC-40 curve, a plot of the 40-decibel points across the five unit length capacity curves shown. This means that the sound pressure level of any selection above this curve (in the solid black area) will exceed 40 decibels in the "typical" room with the 13-decibel attenuation constant; any selection below will be less than 40 decibels as measured in the sixth octave band.

The curve defined by the bottom edge of the dotted gray area is the NC-35 boundary. Selections in the white chart area, then, will have sound pressure levels lower than 35 decibels, and those in the dotted gray area will fall between 35 and 40 decibels.

Units having sound levels higher than 40 decibels are acoustically rated as "moderately quiet", suitable for installations where the background noise level is relatively high, as in a general office area. Those with sound levels in the dotted gray area are "quiet" units, suitable for installations having a medium background noise level, such as private offices and hospital patient rooms. Units selected in the white area, below the NC-35 curve, are rated "very quiet" and are suitable for installations where the background noise level is low.

If the room which the air-induction unit is to cool and heat has an attenuation constant higher than 13 (and it often will), the difference can be subtracted from the NC curve values. For example, if the attenuation constant is 18, selections in the dotted gray area will all be below 35 decibels in sound pressure level and become "very quiet"; those in a corresponding lower portion of the solid black area become "quiet".



Remember Styrofoam.

(If you're not using it for roof insulation now, you probably will in a few years. So why wait?)

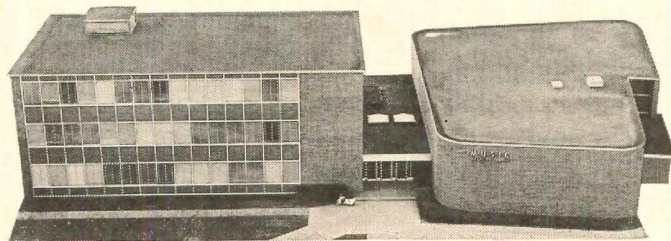
We've talked to architects and they've told us they think Styrofoam® RM brand roof insulation is the material of the future, the near future. And we believe them.

Styrofoam RM roof insulation is the new and better way to insulate built-up roofs. It has proved itself superior to other well-known roofing products. Matter of fact, can you name any other insulation that matches the advantages of Styrofoam RM? That can't absorb water? Acts as its own vapor barrier? Won't rot? Can't collect mold? Has a low "k" factor? Won't lose its efficiency? Is liked by roofing contractors because it's so light, non-irritating to the touch, and easy to install?

No names come to mind? All the more reason for remembering that Styrofoam RM is the roof insulation of today—and tomorrow.

Want to know more? You'll find it in Sweet's Architectural File 10a/Do and 8a/Dow. Or write us. The Dow Chemical Company, Plastics Sales Department 1312N6, Midland, Michigan.

Styrofoam is Dow's registered trademark for expanded polystyrene produced by an exclusive manufacturing process. Accept no substitutes . . . look for this trademark on all Styrofoam brand insulation board.



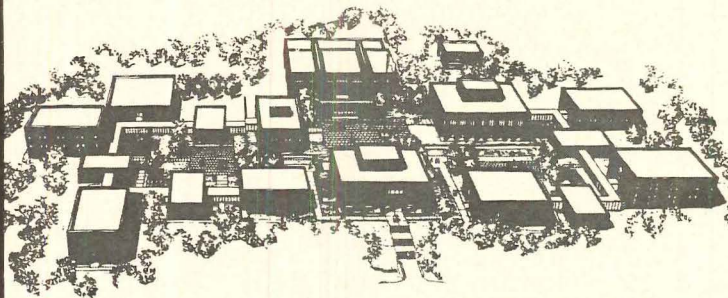
OK. Now forget it.

(Only until your next job, that is.)



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LACLEDE COMPOSITE JOISTS MAKE DEBUT



BELLEVILLE HIGH SCHOOL AND JUNIOR COLLEGE, Belleville, Ill.

Architect: Hellmuth, Obata & Kassabaum
Assoc. Architect: Weisenstein, Rogers & Hausmann
Structural Engineer: John P. Nix
General Contractor: S. M. Wilson Co.



New Product Used For First Time in Big Educational Complex

Here is the first major use of the new Composite Joists introduced recently by Laclede Steel Company. The new "C" type open web steel joists were specified for the sprawling complex of buildings comprising the new Belleville High School and Junior College, Belleville, Ill.

The uniquely designed joists and C-J Form blend the advantages of steel with those of concrete in floor slab construction. Longer spans with less deflection, saving in headroom, reduction in amount of steel needed, and saving in welding time and other labor are some of the benefits provided by these high strength joists.

For complete information, write today for technical brochure with all the facts about new Laclede Composite Joists.



LACLEDE STEEL COMPANY

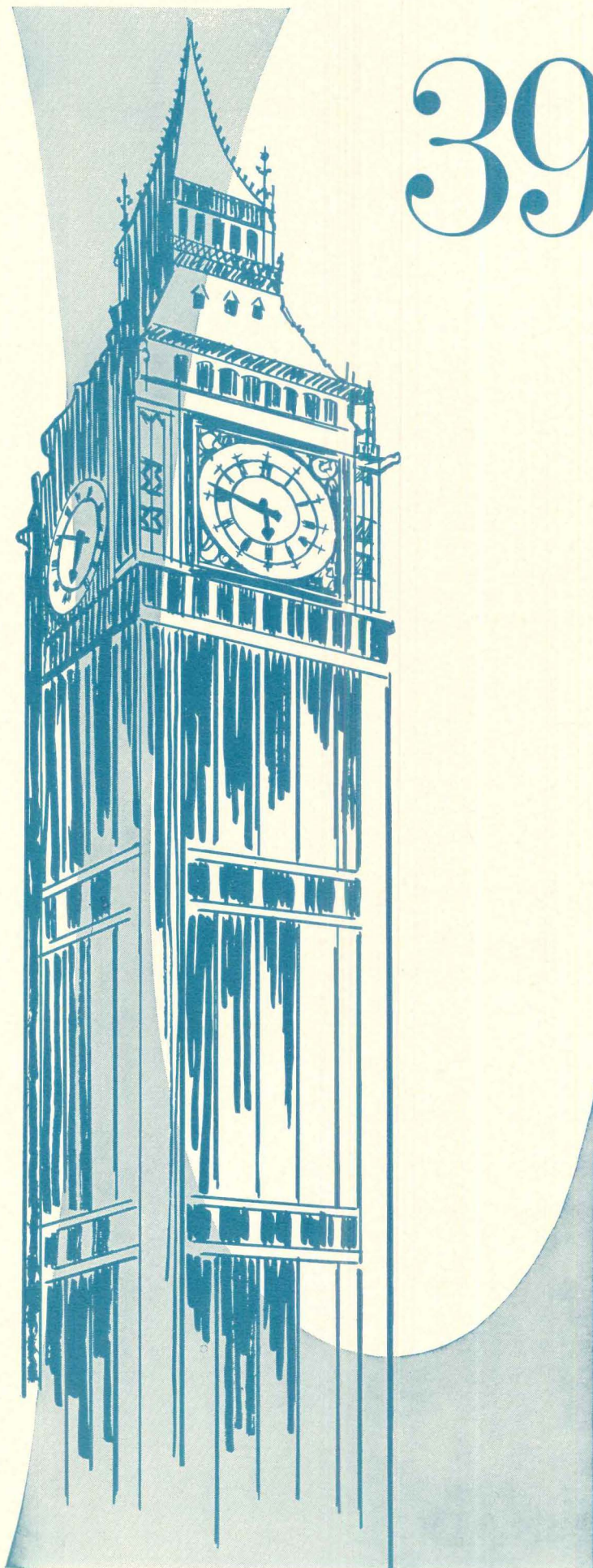
St. Louis, Missouri 63101

Producers of Quality Steel for Industry and Construction

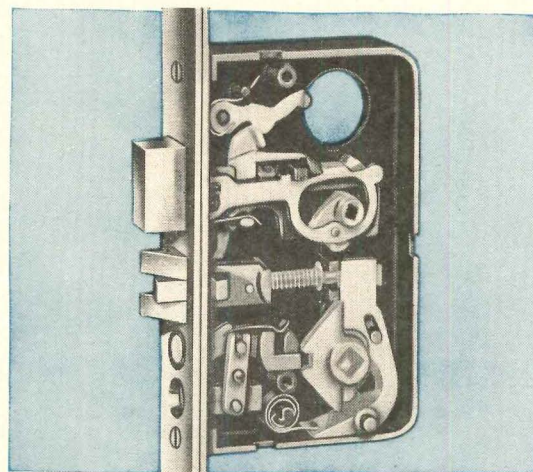


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39 JEWEL LOCK

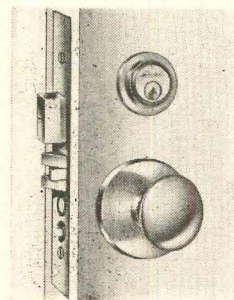


Clocks and Locks? They have something in common. Take this Lockwood mortise lock for example—it's built like a clock. Every one of its 39 working parts is a real jewel. All the important ones are extruded of brass or bronze for corrosion resistant, dependable operation.

Just as with every high quality timepiece, these parts are carefully *hand assembled* by master craftsmen who know their product and are proud of it.

Any one of the dozens of trim designs which are available with this lock will enhance any door.

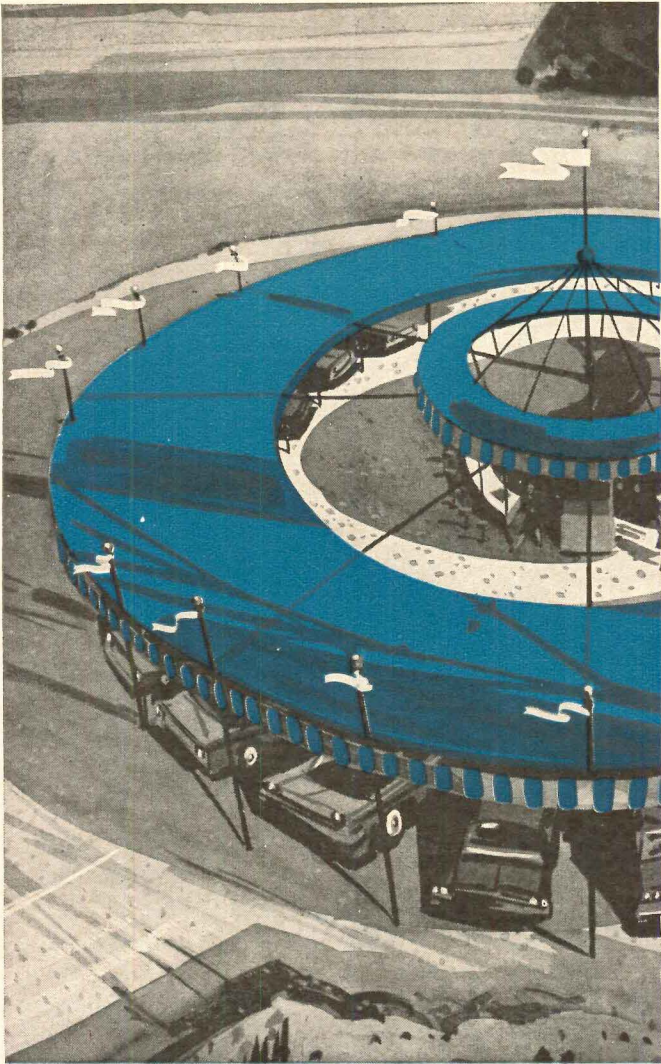
But, it is the lock itself that makes it tick and keeps it ticking —
" 'til the end of time."



LOCKWOOD HARDWARE DIVISION

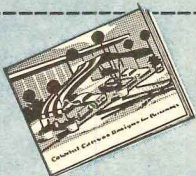
INDEPENDENT LOCK COMPANY **IDCO**
Fitchburg, Massachusetts

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Colorful Canvas Designs for business

Free 16-page color booklet shows dramatic uses of canvas for commercial buildings and lots. Includes fabric and hardware information helpful to architects and designers. Designs by Ving Smith, A.I.D.



Canvas Awning Institute, Inc.
National Cotton Council
P.O. Box 12287-W, Memphis, Tenn.—38112

Please send free copy of canvas awning design booklet.

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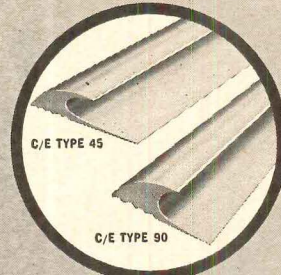
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LET MERCER BUTT IN!

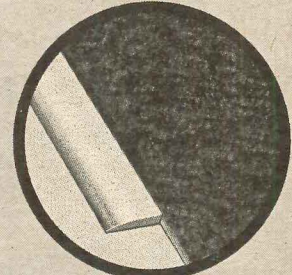
Mercer Vinyl Moldings Butt Precisely to Sponge-Back Carpeting for Smooth, Safe Transition, Perfect Alignment!



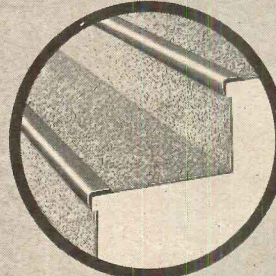
C/E TYPE 45

C/E TYPE 90

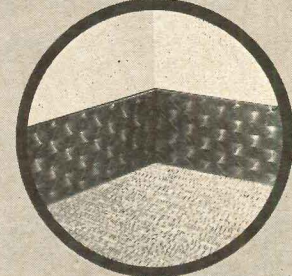
Custom-Edge* Carpet Bar



Carpet Reducer



Carpet Stair Nosing



"Sattelight" Carpet Wall Base

Contact your local dealer,
or write to



*PAT. 2920379

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1 Jabez St., Newark, New Jersey • Eustis, Florida

The Leading Name in Styled Cove Base and Vinyl Floor and Stair Accessories

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STEEL IS STYLISH — STEEL IS STURDY ENCORE "4000" SEATING SERIES BY HOWELL

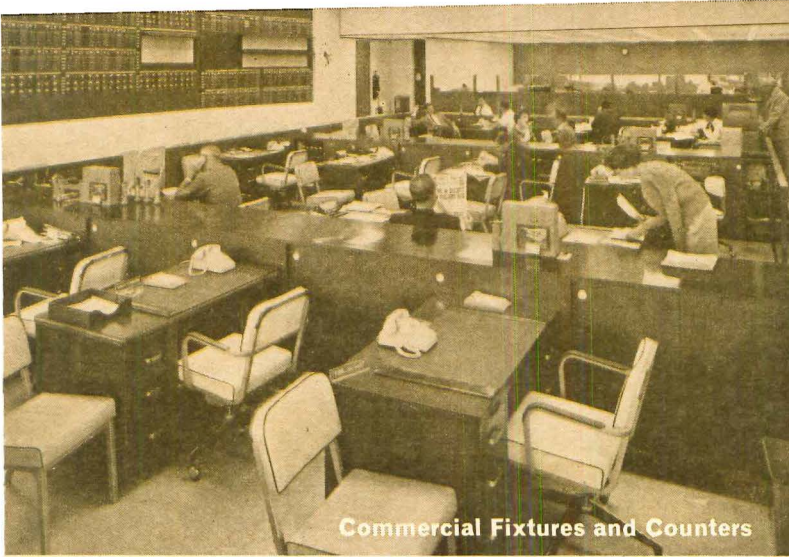
Ideal for many and varied types of installations. Smart modern chairs with matching occasional tables . . . unmatched sturdiness over the years . . . that's the Howell "4000" Series. Choice of finishes on square tubular frames. Wide selection of beautiful upholstery.

Write for color catalog #28.



HOWELL Modern Metal Furniture
453 S. First St., St. Charles, Illinois

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Commercial Fixtures and Counters



Cabinets and Partitions



Exterior Siding



Guaranteed Floor Underlayment
Complies with FHA Requirements

Specify Duraflake to get a smooth job

Workability . . . strength . . . superior edge and face screw-holding properties. These qualities, plus smoothness, account for Duraflake's position as the nation's No. 1 core stock.

Add these uses to the Duraflake applications shown above—counter tops and shelves, doors and drawers, storage cabinets, special built-ins, game tables, wardrobe closets, wainscoting, vanities, bookcases, dividers.

Panel sizes up to 5' x 16' or 4½' x 18' — plus standard counters, tables and special cabinet sizes. Thickness from ¼" to 2" with a tolerance of plus or minus 0.005.

Duraflake Exterior Siding is another

proven product. Paint savings up to 30% are reported over other competitive wood products. Duraflake Exterior is easy to handle and has superior sound-deadening and insulating qualities. This material easily exceeds UM-32, the current commercial standard.

Underneath it all, Duraflake Underlayment is engineered and guaranteed to provide a smooth, flawless surface for applying resilient floor tile, linoleum, wall-to-wall carpet, and many other floor coverings. Thickness tolerance is plus or minus 0.010. This product meets FHA and VA requirements. Uniform, smooth 4' x 8' sheets are available in ¼", ⅜", ½" and ⅝" thickness.

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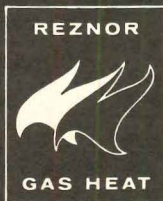
CITY _____ STATE _____ ZIP CODE _____

Stays smoother here

with Duraflake here

Duraflake

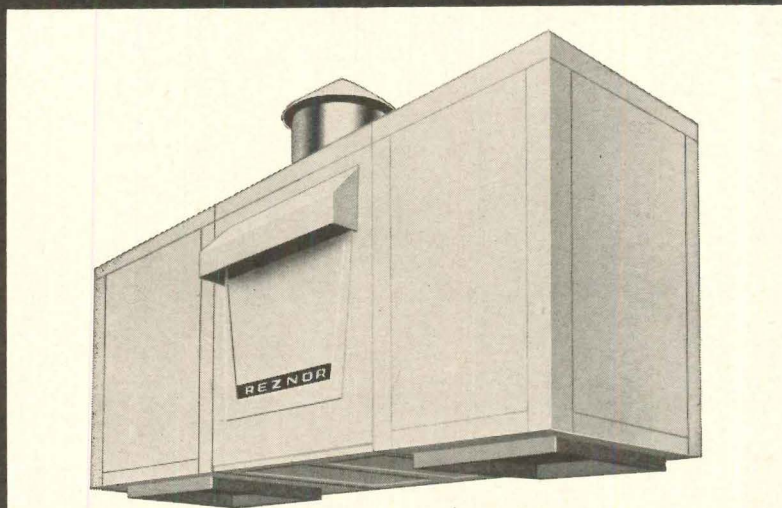
Duraflake makes only particleboard and only the best!



PROVED IN USE

YOU DO GET MORE WITH

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ARCHITECTS WIN CUSTOMER APPROVAL WITH REZNOR ROOF-MOUNTED HEATING/COOLING SYSTEMS

Why? Because they can save MORE interior space for customers by putting comfort air equipment on unused parts of roof areas. They can please MORE customers with the low REZNOR silhouette—a self-contained neat package that does not affect architectural design. High quality plus special installation and service features save time and money. REZNOR has been in the gas heating business exclusively since 1888. Now performances everywhere prove that THERMOCORE does give you MORE reliability, MORE adaptability and MORE serviceability.

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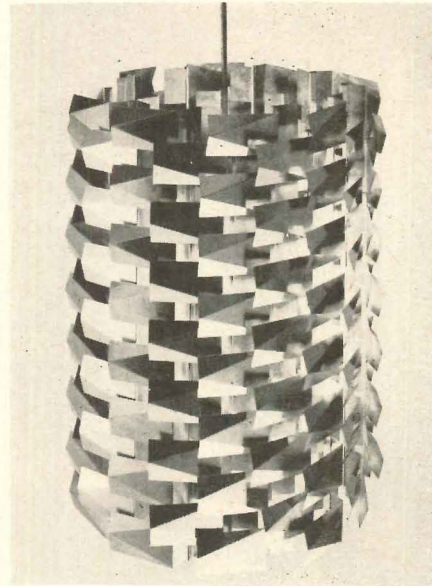
For more data, circle 116 on Inquiry Card

Product Reports

continued from page 225

DRAMATIC LIGHTING FOR PUBLIC AREAS

Designed by George Nelson, this new lighting fixture consists of an extruded polyethylene cylinder which filters light through an arrangement of metal fins. The fixture is either convex or cylindrical in shape and is finished in satin chrome, satin brass



or white. *Metalites* fixtures are furnished with two-circuit wiring for individual control of indirect and bottom floodlighting, which makes them suitable for public as well as residential lighting. *Howard Miller Clock Company, Zeeland, Mich.*

CIRCLE 304 ON INQUIRY CARD

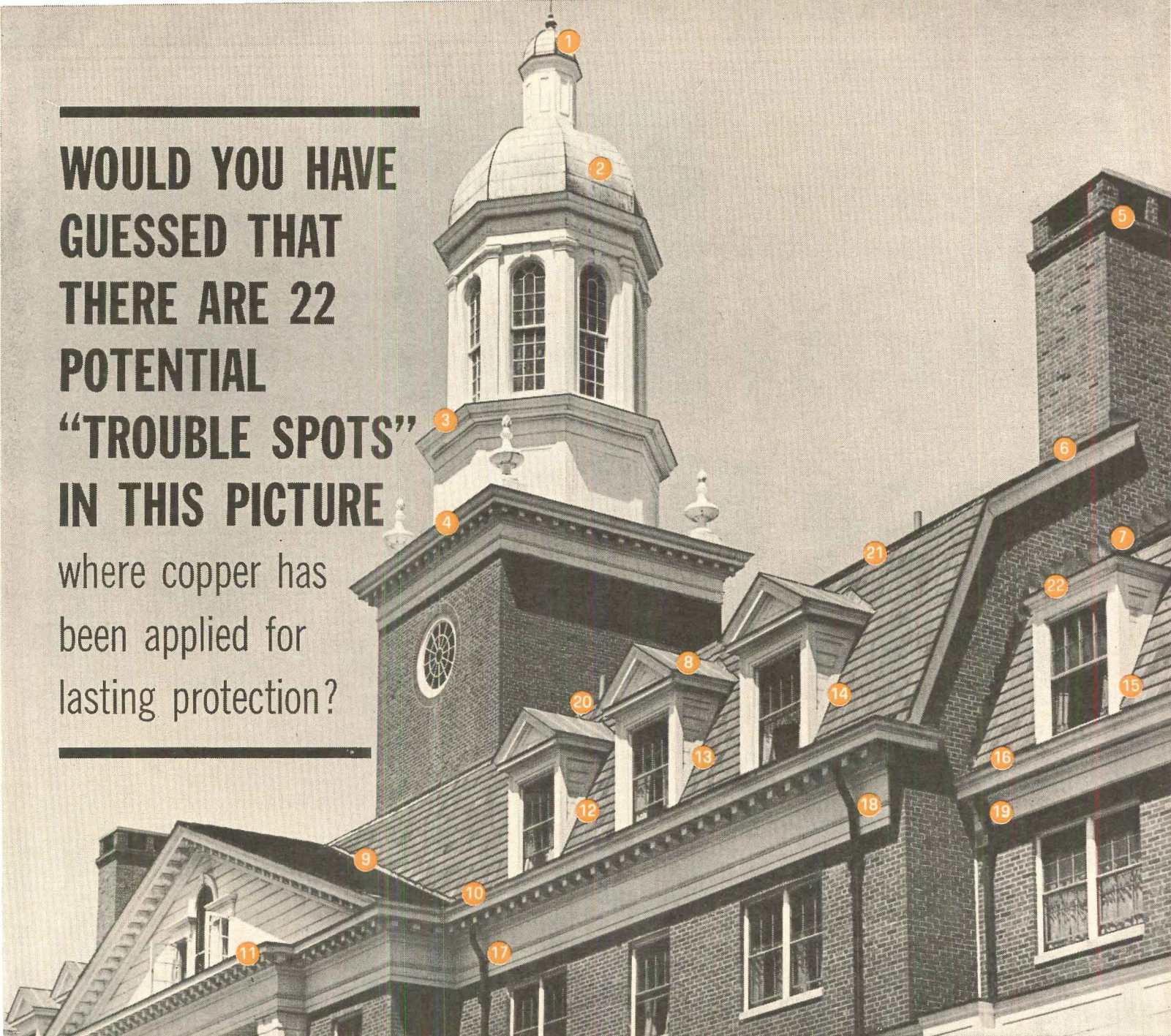
NEW COMBINATION DEVICES

Slater's new line of specification grade combination devices features AC quiet switches and split-circuit wiring. All devices in the company's general line are designed to fit standard duplex outlet wallplates, but the addition of a break-off feature in these new devices permits 23 different wiring applications with only nine catalog numbers. Other features of the new line are compact bodies, washer ear stamped steel straps locked in position, one-inch long self-starting mounting screws and a very large variety of combinations. *Slater Electric, Inc., Glen Cove, N.Y.*

CIRCLE 305 ON INQUIRY CARD
more products on page 238

**WOULD YOU HAVE
GUESSED THAT
THERE ARE 22
POTENTIAL
"TROUBLE SPOTS"
IN THIS PICTURE**

where copper has
been applied for
lasting protection?



1-2—Flat seam roof • 3-4—Cornice flashing
5—Brick corbel flashing • 6—Chimney
flashing • 7—Adjacent wall flashing

8—Standing seam roof • 9—Valley flash-
ing • 10—Gutter • 11—Cornice flashing
12-13-14-15—Concealed adjacent wall flash-

ing • 16—Gutter • 17-18-19—Downspouts
20—Adjacent wall flashing • 21—Flashing at
change of roof slope • 22—Flat seam roof.

This photograph shows only a small section of the Jefferson Hall Dormitory at Ohio University, Athens, Ohio, yet there are 22 places spotted, where Revere Sheet Copper has been used . . . 18,500 lbs. of it for the entire building.

This is a striking example of the myriads of ways in which Revere Copper can protect the potential "trouble spots" in a building. Many of those spots can't even be seen! All of them are vital to the sound construction and effective weatherproofing and protection of this building.

Regardless of design, the buildings you are now planning need the lasting protection that only copper can give.

For the material that has virtually unlimited design possibilities and is easy to fabricate . . . for the material that lasts through the centuries . . . "Design with Copper in Mind." Revere's Technical Advisory Service will be happy to work with you in formulating your plans.

SEND TODAY FOR THESE FREE, HELPFUL BROCHURES!

Revere's 140-Page "Copper and Common Sense," illustrating the design principles and techniques of sheet copper construction. "The Revere System of Copper Flashing," (20 pages) for the complete weatherproofing of masonry buildings. Address Dept. N.

Architects: POTTER, TYLER, MARTIN & ROTH,
Cincinnati, Ohio. Sheet Metal Contractor: TRI-STATE
ROOFING COMPANY, Parkersburg, W. Va.



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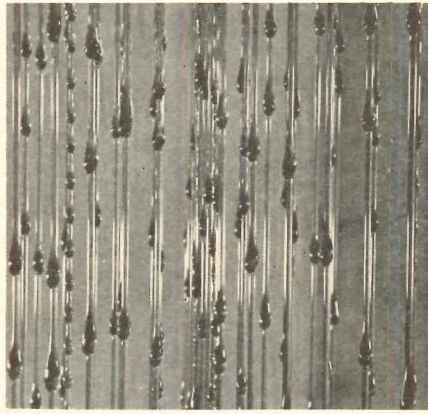
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Product Reports

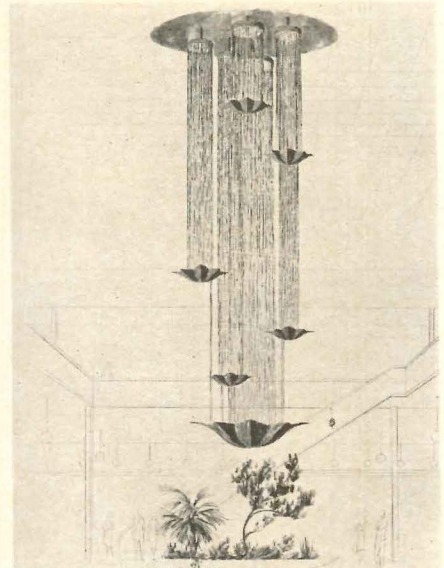
continued from page 236

WATERFALL EFFECT WITHOUT WATER

A new animation method which gives the effect of a waterfall or fountain, but has none of water's noise, splash or corrosiveness, makes use of a special non-toxic liquid, which flows down taut, almost invisible nylon strands. The liquid is constantly re-



circulated so that large "waterfall" displays can be terminated in small receptacles in mid-air if desired. The liquid can be colored with vegetable or fluorescent dyes, and gas or electric lighting can be readily incorporated to give a wide variety of effects.

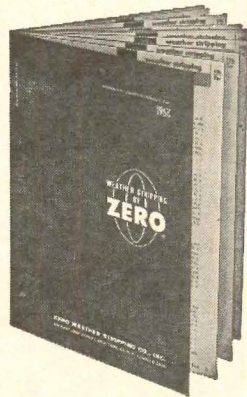


The company feels that the new *WonderFall* display system will have a wide variety of applications in contemporary architectural settings. *Navan Products, Inc., El Segundo, Calif.*

CIRCLE 306 ON INQUIRY CARD

ZERO meets all your needs for

- WEATHER STRIPPING
- SOUND-PROOFING
- LIGHT-PROOFING



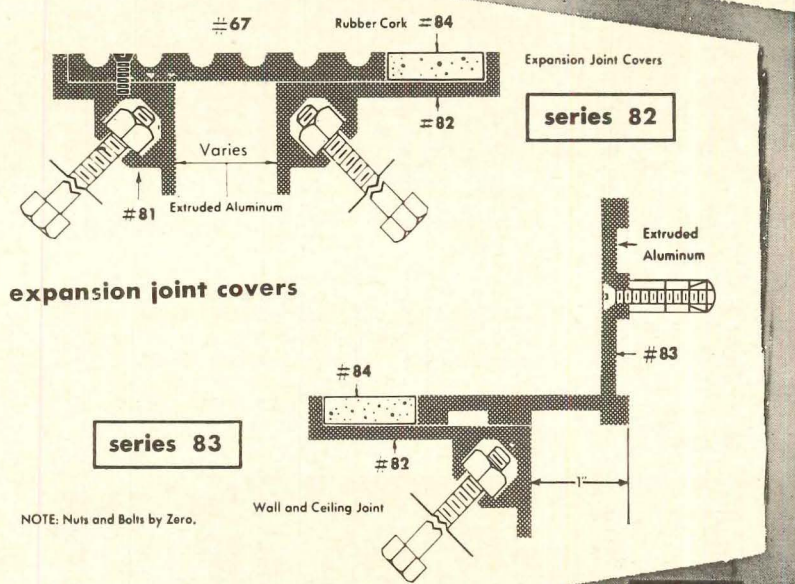
Write for ZERO'S new catalog today.

Contains full size details, 169 drawings of weatherstripping and related products, for

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- sliding doors
- saddles
- windows
- expansion joints

Architects agree, weatherstripping can be the most significant detail of a structure's success. For over 4 decades ZERO has been creating and manufacturing to meet changing needs.

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expansion joint covers

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CORRELATED SEATING UNITS

The *Tempo* series of bar stools, dining, cocktail and swivel chairs designed to enable different types of seating unit in one installation to

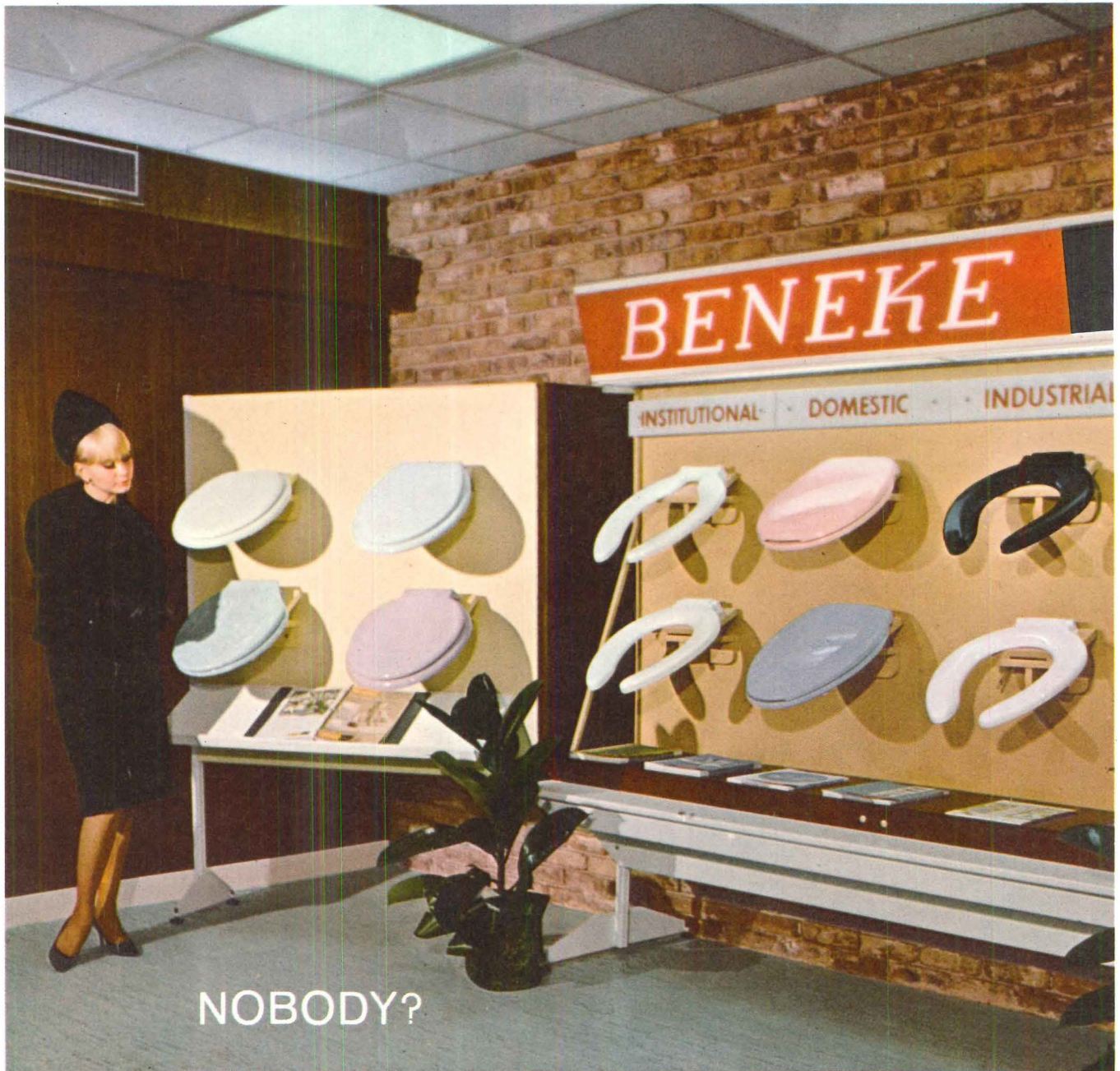


present a uniform appearance. Chairs are available in a wide range of materials, finishes and bases. *Virtue Bros. Manufacturing Corporation, Compton, Calif.*

CIRCLE 307 ON INQUIRY CARD
more products on page 276

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For more data, circle 119 on Inquiry Card ➤



NOBODY?

NOBODY BUT BENEKE has made such immense capital investments: machinery, equipment and buildings to produce toilet seats in greater volume . . . efficiently. Clear cut reasons why Beneke has succeeded in raising quality of product year after year while consistently reducing the cost per unit. Today, the Beneke facilities provide the industry with the broadest line of models—the biggest range of values—the greatest opportunities for profit.

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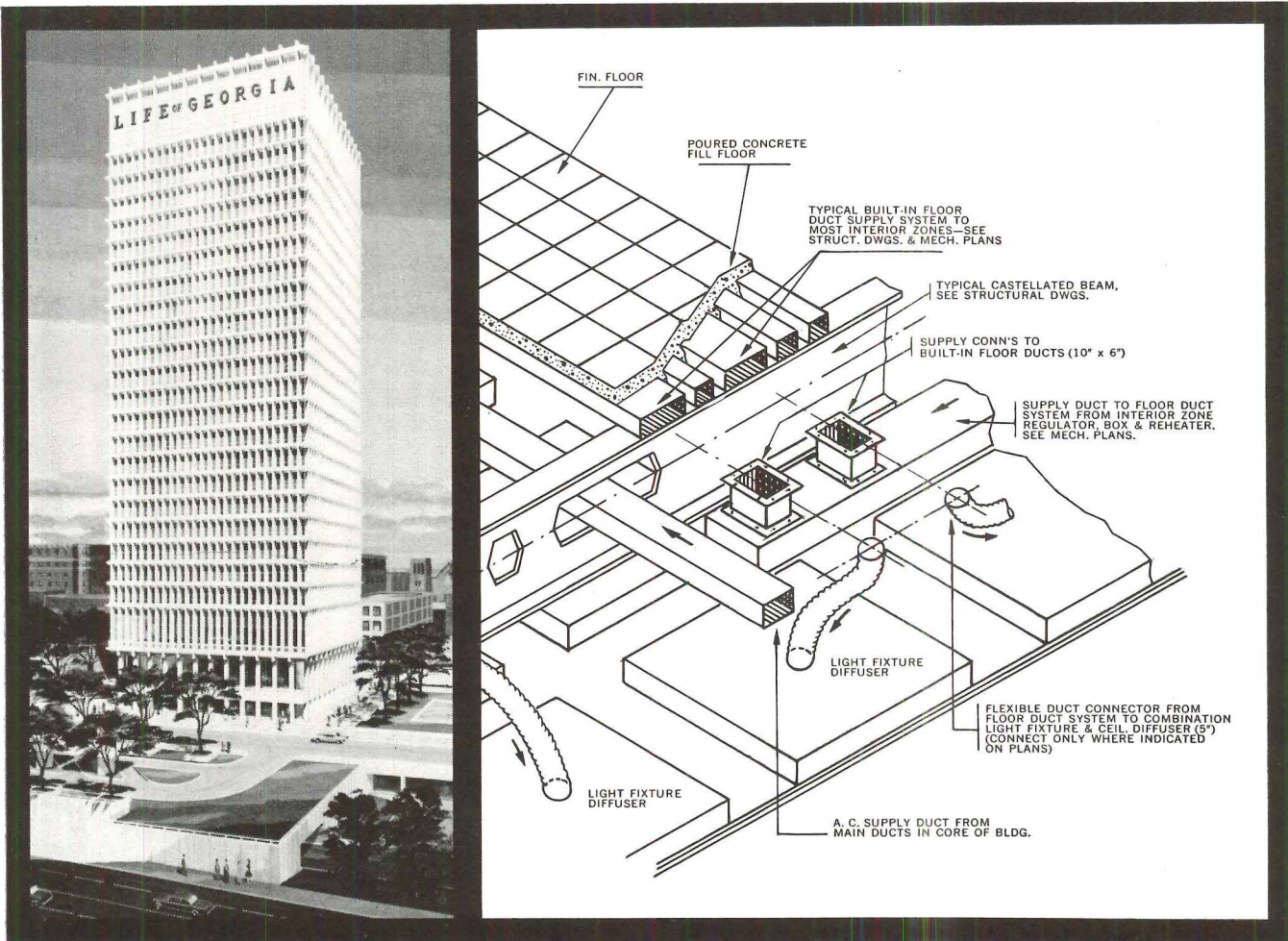
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MAHON IS IDEAS IN BUILDING PRODUCTS



SEE HOW MAHONAIRE® FLOOR SYSTEMS

lower high rise costs

Today, in the construction field, many people are doing a "take off" on Mark Twain. "Everyone," they say, "talks about the high costs of construction, but no one does anything about it."

Well, it isn't true . . . and, down in Atlanta, Life Insurance Company of Georgia has a brand-new 28-floor building to prove it.

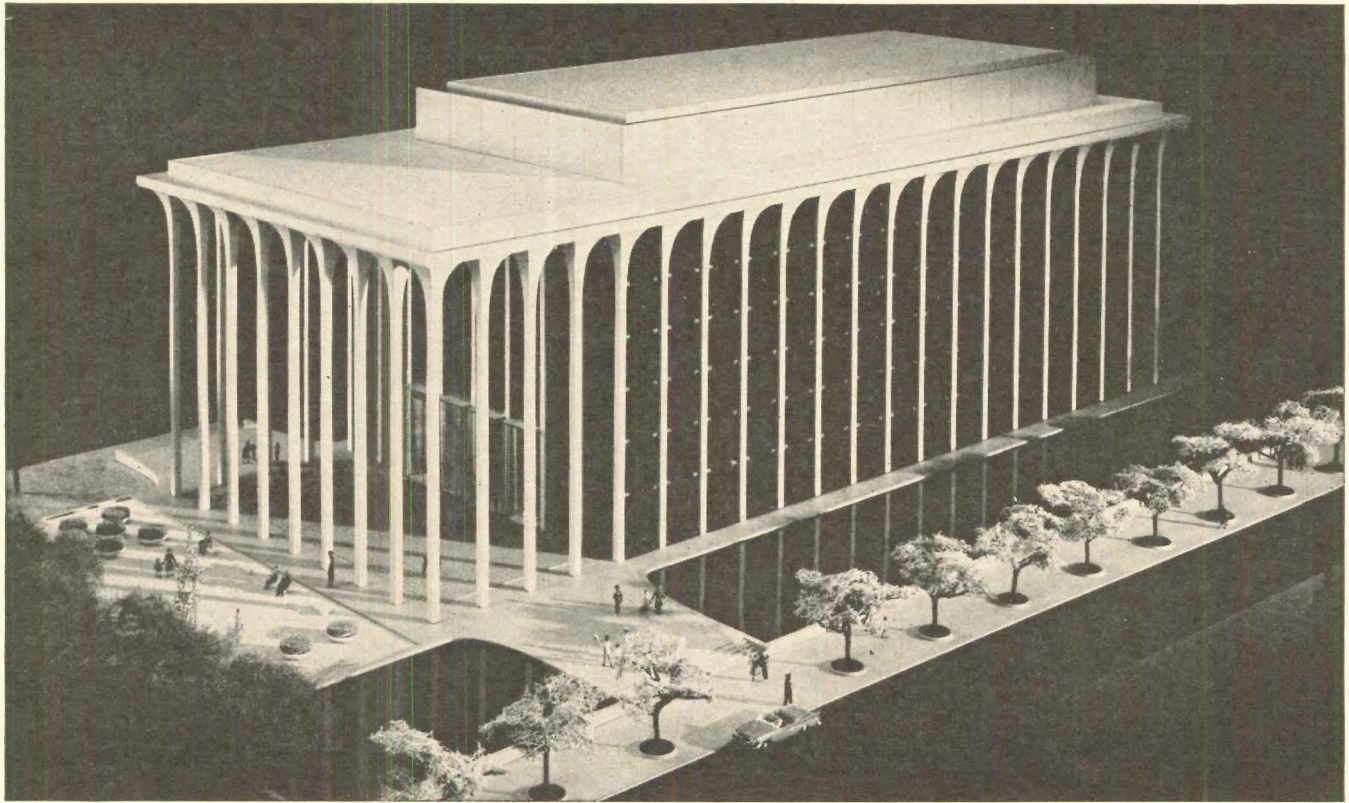
For example, by using Mahonaire Floor Systems, the architects reduced floor-to-floor height and realized substantial savings in materials. Use of the Mahonaire

floors also eliminated beam penetration of air cells. They also provided ready-built, super-wide raceways for air distribution as well as for the carrying of power, telephone, signal and sprinkler systems. Results were increased efficiency and savings in time and costs.

Mahon is ideas in building equipment. When you have a tough construction problem "buck" it to Mahon for an idea that may save you space, time and money. Write . . . The R. C. Mahon Company, 6565 East Eight Mile Road, Detroit, Michigan 48234.

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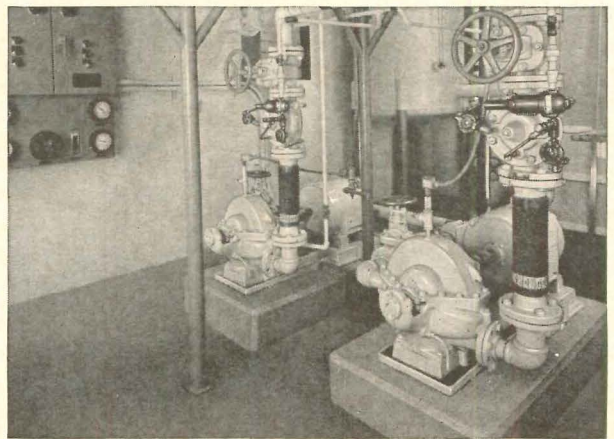
In Minneapolis . . . UNI-PRESSURE* selected for new office building

A Tankless . . . Constant Pressure . . . Constant Speed Water Booster System

The Uni-Pressure System will provide the modern Northwestern National Life Insurance Building in Minneapolis, Minnesota with water at all times . . . at constant pressure . . . despite varying flow demands.

The increasing usage of the Uni-Pressure System in new buildings such as the Northwestern National Life Insurance Building, Belle Plaza in Miami Beach, Park City West in Philadelphia, Marina City in Chicago indicates the wide acceptance of this system. Over 300 system sales to date include the following advantages:

- CONSTANT SPEED**—No complex speed changing devices
- CONSTANT PRESSURE**—No "hunting" of control resulting in serious pressure variations
- LOWER COST**—Normally lower in cost than speed changing systems
- LESS SPACE NEEDED**—Requires space only for standard pump and motor
- STANDARD SIMPLE CONTROL**—No complex electrical, mechanical speed changing devices
- NO TANK REQUIRED**—Eliminates cluttered machinery room
- NO SLIPPAGE**—Speed changing drives have slippage factor—as much as 15%



Typical installation photo of a Uni-Pressure System illustrates the compactness of a type II System. This equipment is designed to provide a maximum of 150 GPM and a system pressure of 83 psi.

Owner: Northwestern National Life Insurance Co.
Architect: Minoru Yamasaki & Assoc.

Contact your nearest Chicago Pump distributor, or write direct for complete descriptive Bulletin 110.

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*Patents Pending

HYDRODYNAMICS DIVISION
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You have an investment in his future, in America's future. You can protect this investment by joining with other leading American businessmen to promote the Treasury Department's Payroll Savings Plan for U. S. Savings Bonds. The Treasury's plan works to pro-

vide this strong, stable foundation of economic security and individual freedom to guarantee all of its citizens the realization of their ambitions.

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3

completely NEW
Series of **AIR HANDLING AND**
HEAT REMOVAL TROFFERS
from Sylvania



SYLVA-FLO II



SYLVA-FLO III



TITAN

Why 3 Different Series of Air Handling Troffers?

Until now you, as specifier or purchaser, have been limited in your selection of equipment combining lighting and air handling. Lighting fixture manufacturers have offered you a relatively small selection of equipment, usually limited to use with one specific air handling system.

This is no longer true!

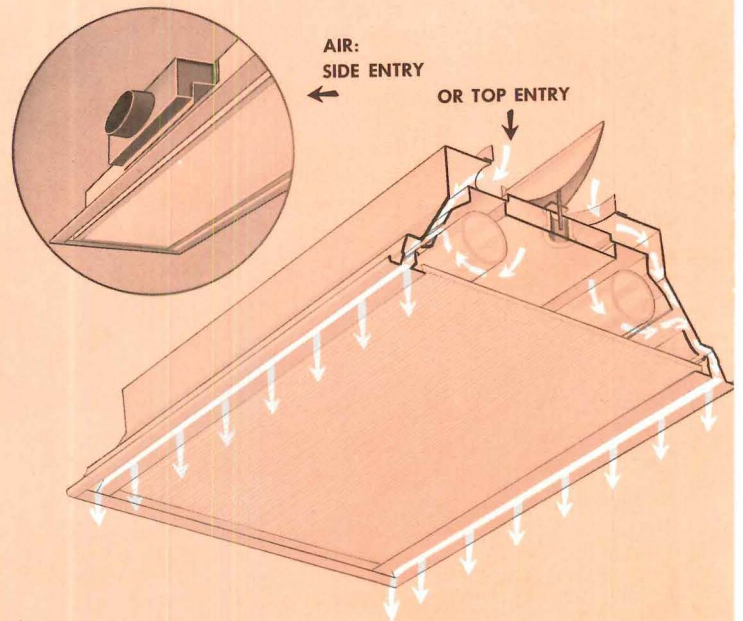
Now one manufacturer—Sylvania—offers you 3 distinct and different types of Air Handling Troffers. Each of these Troffer Series provides distinct features setting it apart from the others. Each offers you the flexibility you expect to find in a complete line. And each offers you the assurance of top-quality performance from Sylvania.

What does this mean to you?

Simply that, no matter what type of Air Handling Troffer you prefer, Sylvania can provide it to you. You can choose from 2 separate air handling systems . . . from single, double or triple wall construction . . . from a wide range of shielding media . . . and from a variety of supply and return air combinations.

You tell Sylvania the lighting and air handling characteristics you want and Sylvania will provide the Air Handling Troffers that meet your specifications.

SYLVA-FLO II



SYLVA-FLO II FEATURES:

- Fully Integrated Design
- Complete Height only 5½" with side entry
- Luminous Slots
- Coalescent Air Stream
- Side or Top Valve
- Increased Light Output
- Automatic Heat Removal

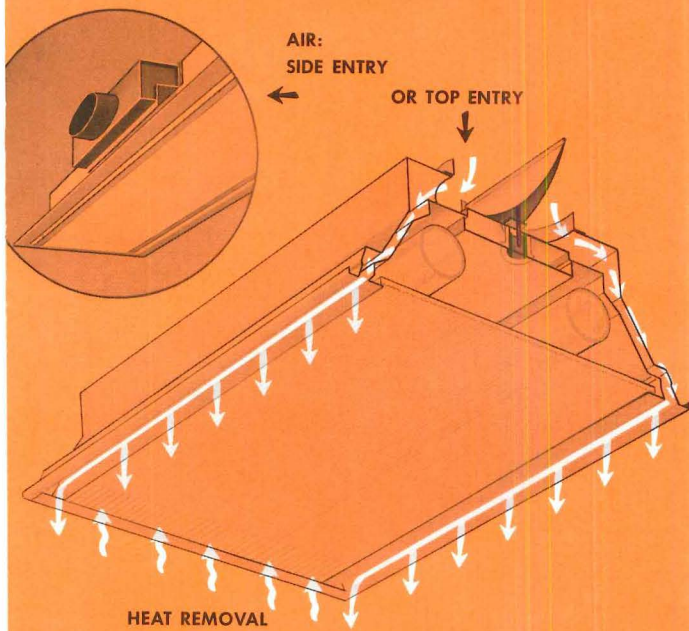
The heat from the lamp chamber is drawn into the supply or return air streams of the Sylva-Flo II units. This results in outstanding lighting performance by permitting the lamps to operate closer to their designed operating temperature.

Utilizes the Pyle-National Multi-Vent Air Handling System which directs the air into the room in two low velocity air streams to coalesce and penetrate through the "used" air and into the occupied zone.

Complete height is only 5½" when side entry is used. With top entry, overall installed height is approximately 11".

Supply, Return and "Static" units available in 1' and 2' widths.

SYLVA-FLO III



SYLVA-FLO III FEATURES:

- Fully Integrated Design
- Complete Height only 5½" with side entry
- Isolated Lamp Chamber
- Coalescent Air Stream
- Side or Top Valve
- Heat Removal Feature (with Volume Control)
- Door Intakes—Luminous or Dirt Trap

Similar to the Sylva-Flo II except that it provides complete separation of the air path from the lamp chamber.

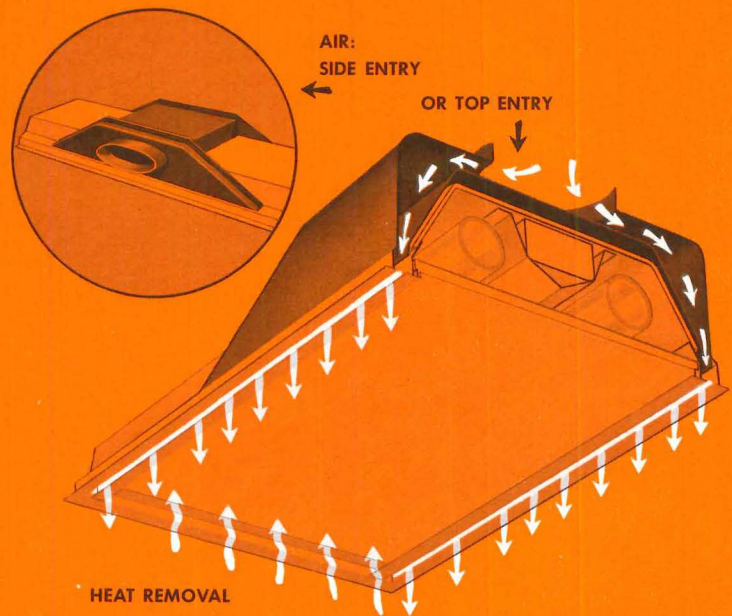
Also utilizes the low-velocity Pyle-National Multi-Vent Air Handling System.

A unique feature of the Sylva-Flo III is its ability to combine supply air and heat removal in a single unit. Supply air passes through slots along the side of the door frame and returned "used" air is removed through luminous air intakes at each end of the frame. The return air is drawn into the lamp chamber around the lamp and into the plenum via adjustable slots in the top of the troffer housing.

Sylva-Flo III units in both 1' and 2' widths can be used for a wide variety of air handling applications.

- | | |
|-----------------------------|----------------------|
| 1. Supply Air Only | 3. Return Air Only |
| 2. Supply with Heat Removal | 4. Heat Removal Only |
| 5. Return and Heat Removal | |

TITAN



TITAN FEATURES:

- Complete Fixture Assembly—only 6½" high with side entry
- Double Isolated Air Chamber
- High Capacity Air Delivery
- Side or Top Entry
- Built-in linear controller vanes for Volume and Direction Control
- Heat Removal Features (with Volume Control)
- Door Intakes—Luminous or Dirt Trap
- Frameless or Framed Shielding

Combines Sylvania's shallow troffers with a specially designed air diffuser provided by Titus Manufacturing Corp.

The Titan Series features a large luminous area provided by frameless shielding (in addition to framed shielding), narrow trim and minimum metal surface.

The Titan's unique linear controller vanes (manufactured by Titus and factory installed by Sylvania) permit a 180° adjustable air pattern and complete flow rate control. The result is an amazingly versatile and easily adjustable air control device.

Sylvania provides

THE EXPERIENCE . . .



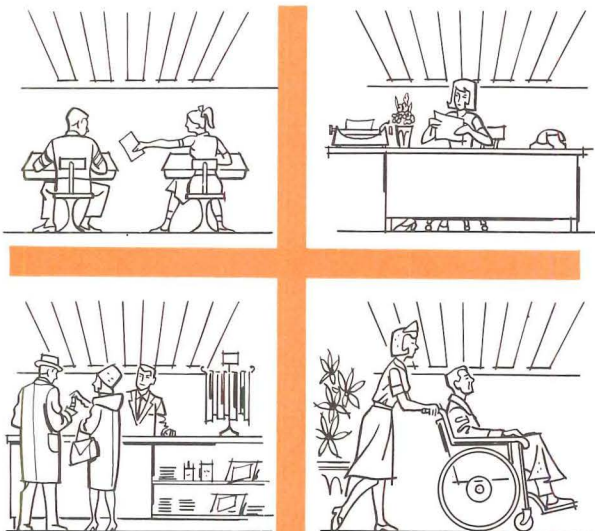
As a leader in the field of Air Handling Troffers, Sylvania now has hundreds of smooth-functioning installations of all sizes in all parts of the country. Sylvania representatives are trained and experienced to give you expert help with your problem.

THE EQUIPMENT . . .



Sylvania's Air Handling Troffers are designed and built specifically to provide long-lasting performance and to incorporate user benefits as well as practical installation and maintenance features . . . Miracoat finish, double-protection CBM ballasts, silver plated lamp holders, wide variety of shielding and compatibility with all popular ceiling systems.

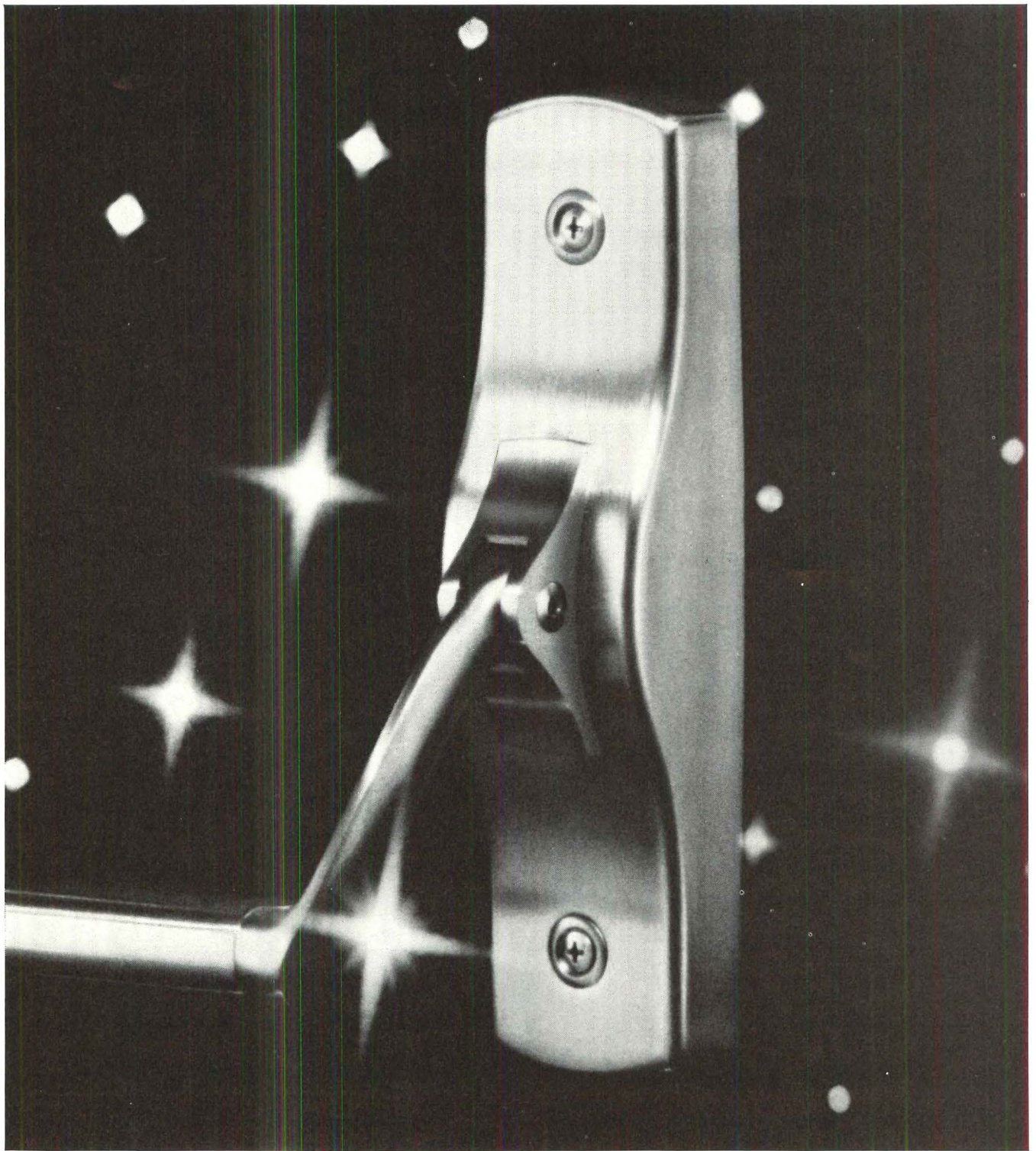
THE VERSATILITY . . .



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

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manufacturer of compact kitchens
to the exacting standards required
for rugged institutional use.
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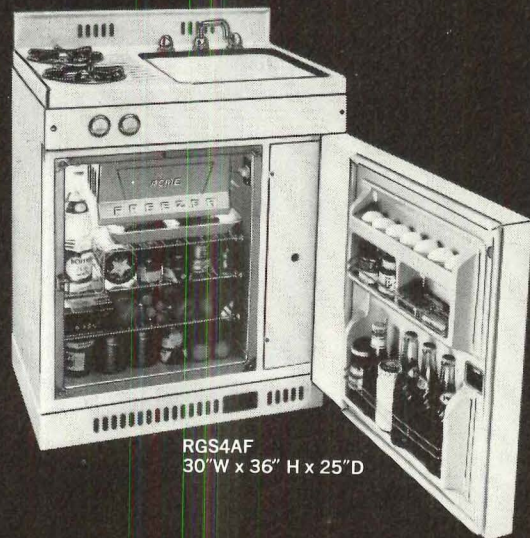
see our
catalog in
Sweet's 



SD51F
24" W x 34½" H x 25" D



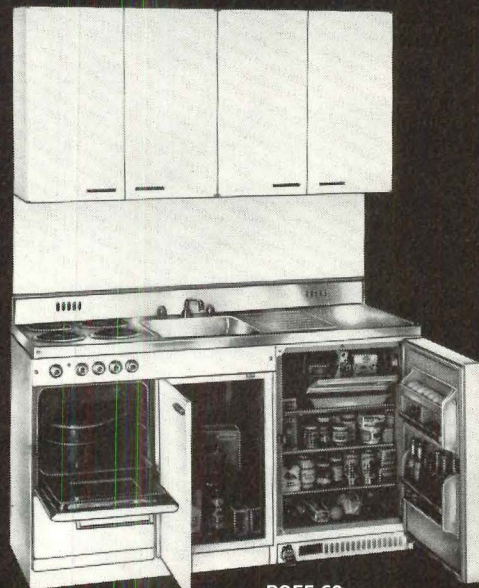
RE5F
27" W x 36" H x 25" D



RGS4AF
30" W x 36" H x 25" D



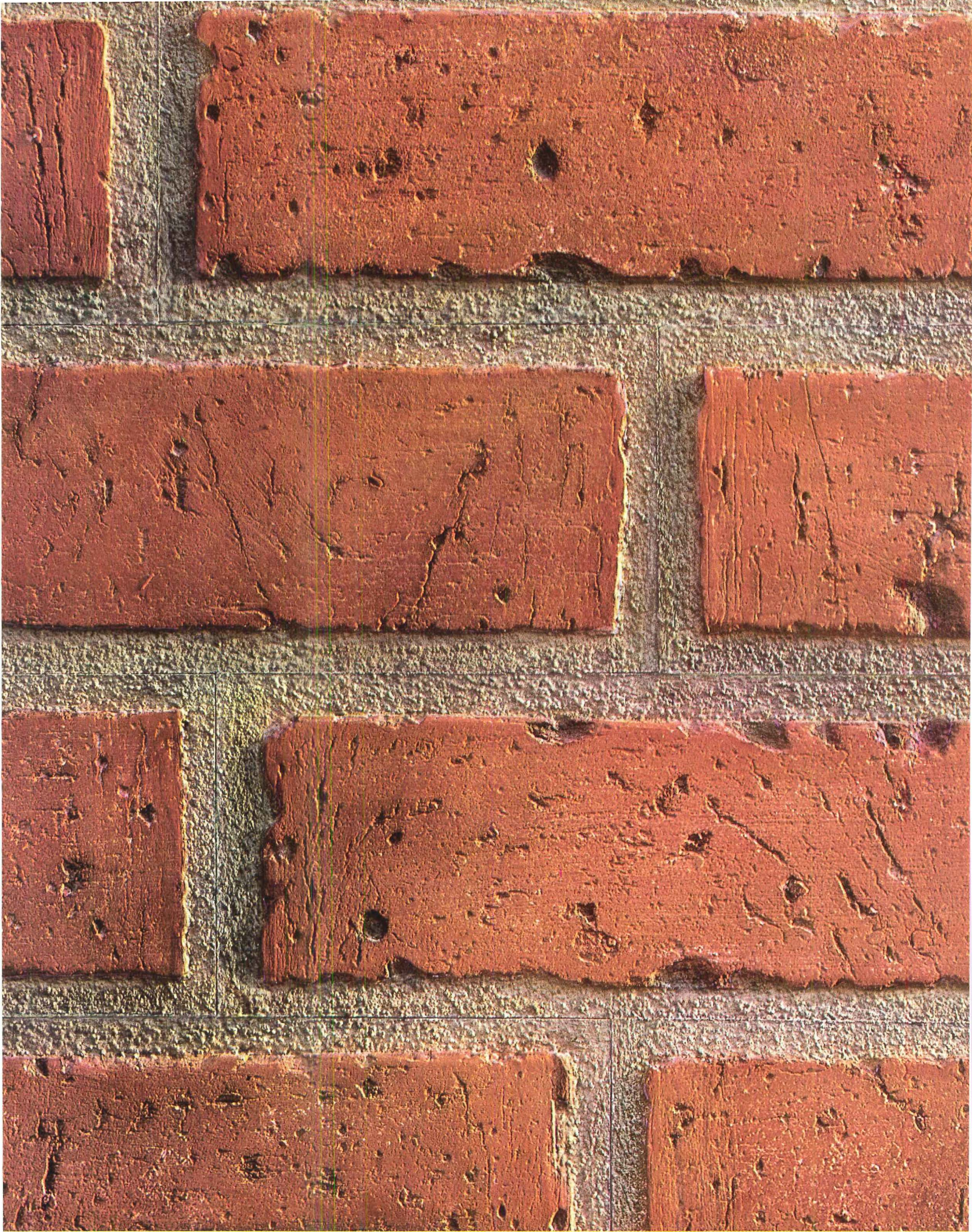
ROE5
48" W x 36" H x 25" D



ROE5-60
60" W x 36" H x 25" D

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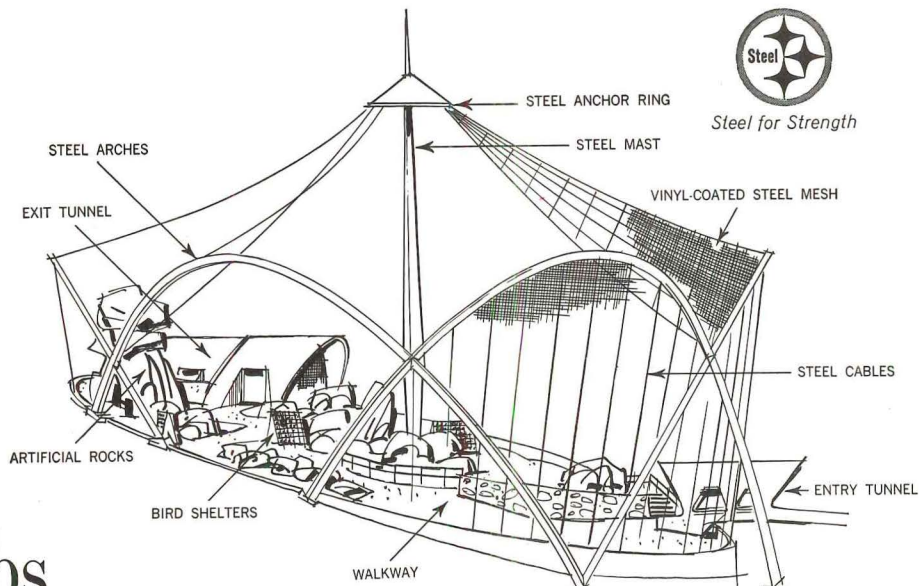


Available in 9" x 9" and 3" x 9" tiles. Write for free design booklet. American Biltrite Rubber Co., Inc., Dept. AR665, Trenton 7, N.J. Showrooms: New York (979 Third Avenue), Chicago, Los Angeles, San Francisco, Dallas, Toronto, Montreal, London.

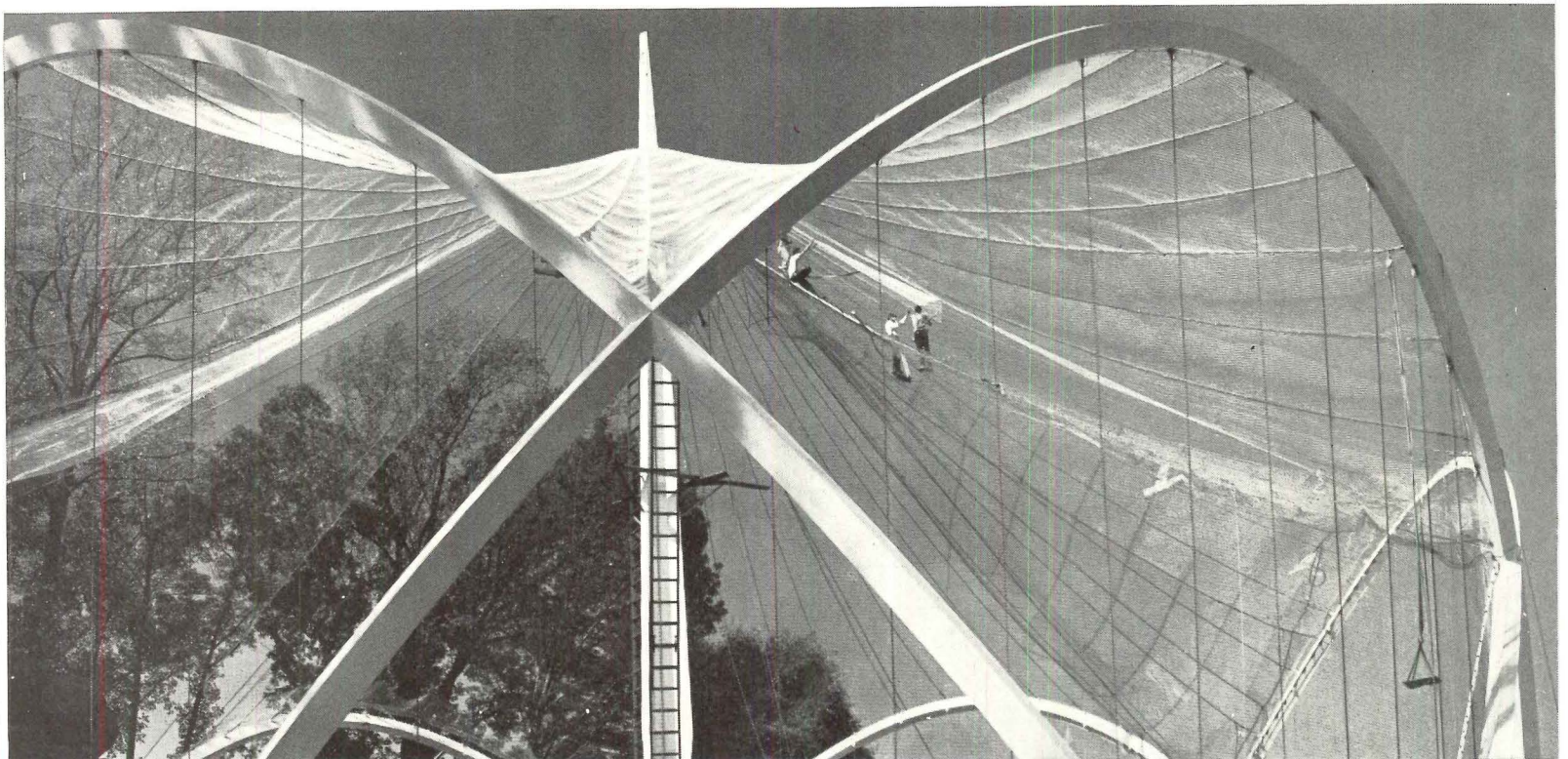
This is Amtico's new solid vinyl flooring, Beacon Hill. If you want something that looks more authentic, see a bricklayer.



Giant aviary framed with steel-and-steel-cable ribs



More than two miles of Bethlehem steel cable radiates from a cone 80-ft up the mast, extends to the crowns of the arches, and then descends to a wall rimming the cage's perimeter.



Rising from a wooded hillside in Washington, D. C., the Great Flight Cage has a steel framework that makes imaginative use of steel members and steel cable. Other features: heated perches for tropical birds, several bird shelters, a meandering walkway for visitors who enter and leave through double-door tunnels.

Steel wire mesh, precoated with white vinyl, was laid over and clipped to the cables. The "lacy" look of the mesh and the lithe arches and cable suspension give the structure a delicate appearance. Wind-tunnel tests proved the fabric alone would withstand 100-mph winds.

Architect: Daniel, Mann, Johnson and Mendenhall. *General Contractor:* Edrow Engineering Co., Inc. *Structural Engineer:* Donald J. Neubauer. *Consulting Detailer:* Rick Engineering. *Fabricator:* Fabricators' Steel Corp.

Recently completed at the National Zoological Park, in Washington, D.C., this aviary incorporates six parabolic steel arches which intersect in a 130-ft-diameter circle around a 90-ft mast. Its 72 steel cables stabilize the arches, which tilt outward at a 30-degree angle, anchoring the vinyl-coated, steel-wire mesh.

Arches and mast were fabricated from 75 tons of Bethlehem's corrosion-resistant Mayari R steel . . .

Painted white to contrast with the landscape and the variety of exotic birds. The high-strength Mayari R plate proved its excellent weldability in shop-fabrication and field connections.

If you are planning a structure, we're ready to give you help, whether it involves a cable-suspended roof, an expandable school, or a skyscraper. Bethlehem Steel Corporation, Bethlehem, Pa.

BETHLEHEM STEEL



For more data, circle 250 on Inquiry Card

What
wash fixtures give
you twice the
cleaning power
?



BRADLEY DUO WASHFOUNTAINS!

Twice, because space-saving Duos can serve two students at one time. Yet, they extend only 16" from the wall! And they're trim, colorful, attractive. So, progressive architects use Duos throughout modern schools: classrooms, cafeterias, and science and art rooms.

Foot-operated Duos are doubly sanitary, too: hands touch only a spray of clean, tempered water, never germ-laden faucets. And the bowl is automatically rinsed clean by the running spray. Result: Duos are

also ideal for food handling areas and first aid rooms.

Finally, Duos save water and water heating costs, maintenance time, and installation costs.

Choose from a rainbow of beautiful colors and stainless steel. But always choose Bradley Duo Washfountains — they belong in modern schools!

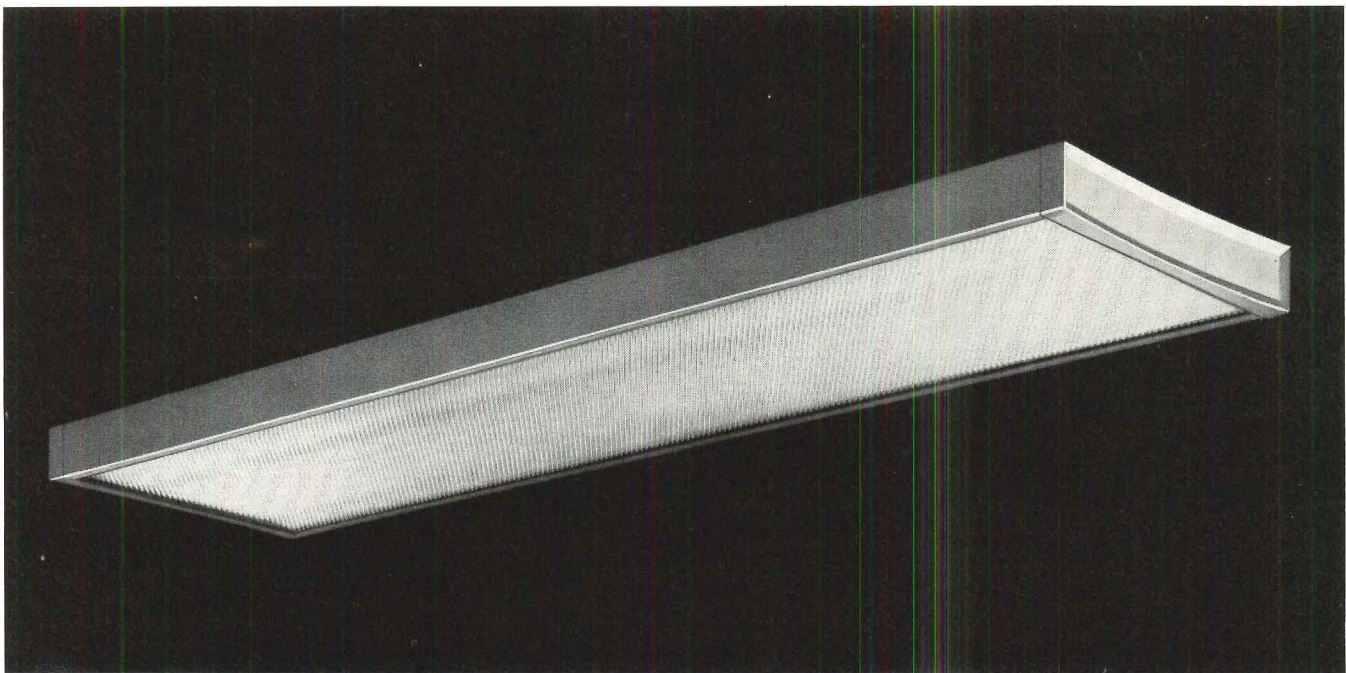
For details, see your Bradley representative. And write for latest literature. Bradley Washfountain Co., 9107 Fountain Drive, Menomonee Falls, Wisconsin 53055.



For more data, circle 251 on Inquiry Card

**LPI'S NEW VERSATAIRE SERIES
WAS DESIGNED TO PROVIDE
A CLEAN, CONTEMPORARY APPEARANCE,
DIRECT SURFACE MOUNTING – UL LISTED –
MAXIMUM LIGHTING EFFICIENCY.**

LOOK HOW WELL WE SUCCEEDED!



Shown with LPI frameless diffuser

The new Versataire series, only $3\frac{3}{8}$ inches in depth, provides a shallow profile which enhances modern architectural design. For a clean, unbroken line of light, the fixtures butt together precisely with no progressive lengthening when used in continuous rows. Full-length door frames eliminate separations between fixtures.

Optional illuminated side panels using linear prisms provide up-

light to achieve interesting decorative effects.

All standard Versataire luminaires are UL-listed for direct surface mounting on combustible cellulose fiberboard ceilings. No spacers are required.

Maximum lighting efficiency is obtained by lower ballast temperatures resulting from two separate ballast chambers, and by LPI's

high-reflectance baked enamel finish.

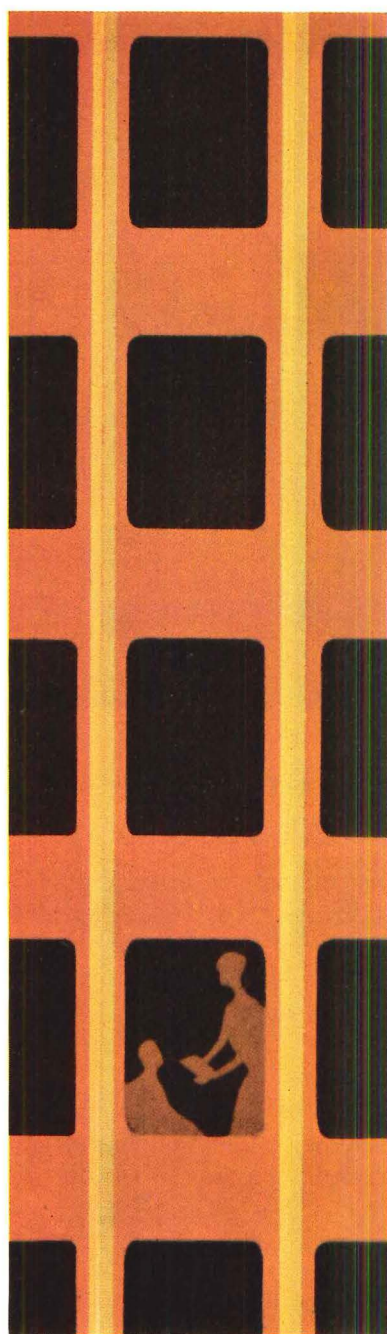
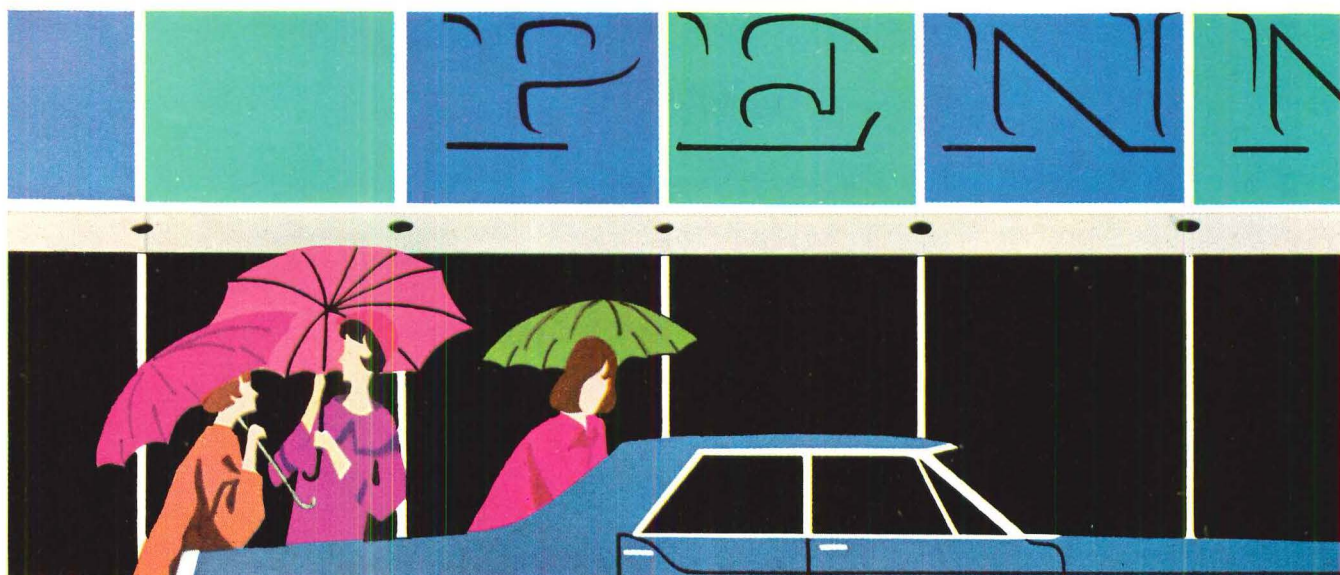
In addition, all the basic LPI quality features, such as exceptional rigidity and light-tight construction, make the Versataire series an outstanding value.

To see if we really succeeded in meeting your needs, find out about the complete new line of Versataire fixtures. Call your LPI representative or write for details.

LPI-5-214



Lighting Products Inc., Highland Park, Illinois 60036



Planning a new building?

Keep this in mind: FINISHES OF KYNAR* 500 project 30 years of useful maintenance-free life for architectural metals. These finishes are:

- Beautiful as porcelain...
cost much less!
- Durable as anodizing...
in a rainbow of colors!
- Longer lasting than films...
will not de-laminate!

Finishes using Pennsalt's Kynar 500 are made by the nation's leading paint companies. The finishes are used by manufacturers to deliver long-life metal protection at a cost lower than existing materials. If you're planning with metal, plan with Kynar 500 . . . the finish with a future! Write for new booklet, plus names of leading fabricators supplying these beautiful, durable components. Plastics Dept., Pennsalt Chemicals Corporation, 3 Penn Center, Philadelphia, Pa. 19102.

*KYNAR is a registered trademark of Pennsalt Chemicals Corporation. KYNAR 500 is the fluorocarbon resin used by leading paint manufacturers in new 30-year finishes.



For more data, circle 253 on Inquiry Card



Floors, please! THE NEW CISSELL PETITE DRYER is as much at home on the 20th floor... as it is the basement!

That's the beauty of the new Cissell Dryer. It is designed especially for high-rise apartments and can be installed anywhere. Because of its small size . . . 48" height, 28¾" width and 30" depth . . . it does not require a lot of space or extra ceiling height. It can easily be installed in the basement . . . or in smaller individual floor laundries. But that's only the beginning. The new Cissell Petite Dryer holds a full 16 pounds. It dries rapidly . . . has two temperature settings . . . 150 degrees Low and 185 degrees High. Its big 28" x 20" basket assures soft, fluffy clothes . . . will not snag the most delicate materials.

The W. M. Cissell Mfg. Co., Inc., has been manufacturing commercial laundry and dry-cleaning dryers, and a complete line of drycleaning finishing equipment, for more than a quarter of a century. Cissell Dryers and Finishing Equipment are in service today in virtually every country of the world. W. M. Cissell Mfg. Co., Inc., Louisville, Ky. **CISSELL***

*T. M. Reg. U. S. Pat. Off.

For more data, circle 254 on Inquiry Card



Every dimension of *SPA Southern Pine gives you enduring value



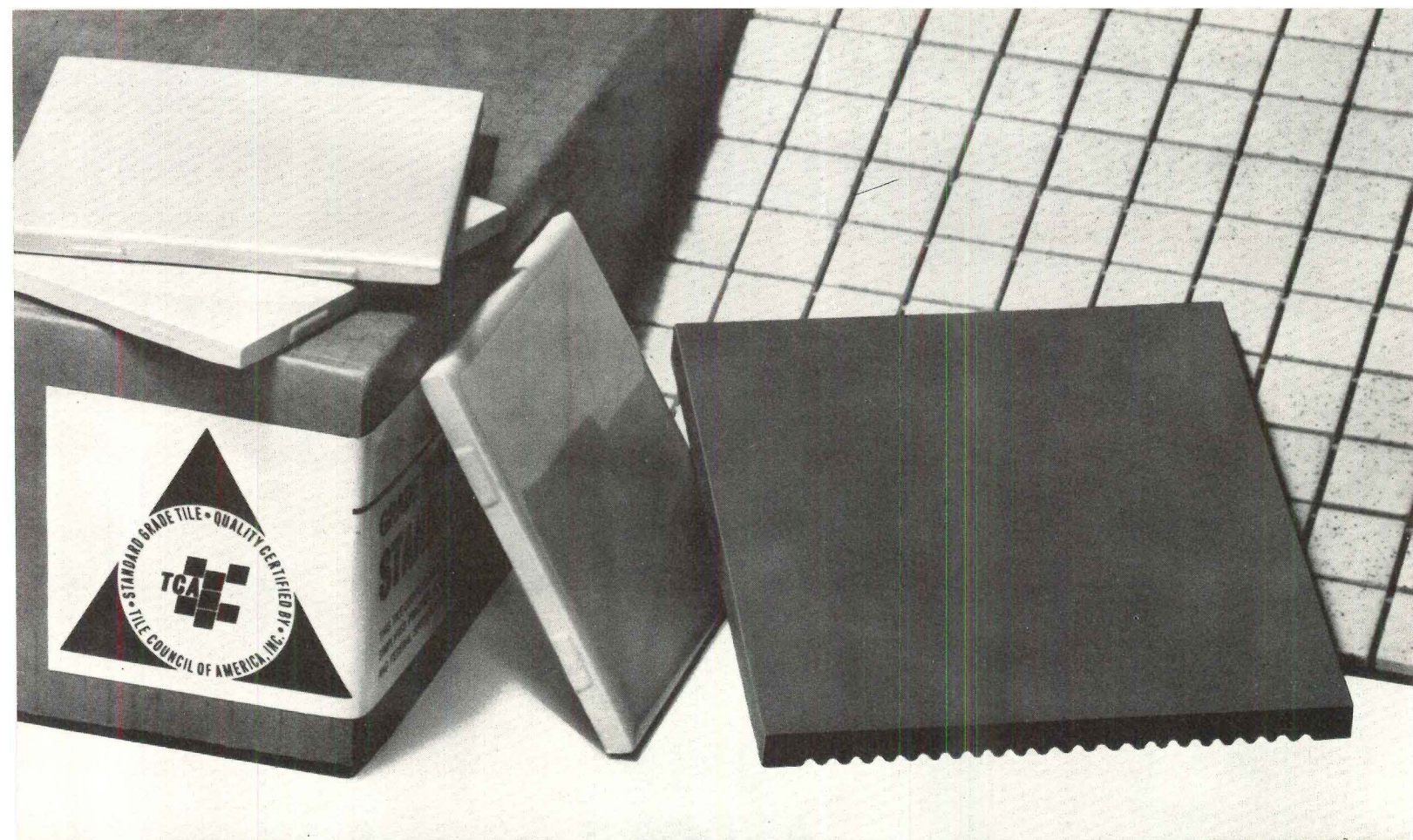
FROM MEMBER MILLS OF THE
Southern Pine Association
 P. O. Box 52468, New Orleans, Louisiana 70150

- Efficient roof systems of great strength permit fewer partitions, larger rooms and windows, more storage space.
- Exquisite paneling and trim embrace your rooms with the charm of nature . . . offer high resistance to wear . . . adapt gracefully to a variety of finishes.
- High insulation value of solid lumber means lower cost heating and cooling.
- Elegant exteriors add enduring beauty and infinite freedom of style.
- Resilient floor systems of wood offer the ultimate in strength and walking comfort.

Ask your Dealer for pre-shrunk Southern Pine . . . from the mills of the Southern Pine Association.

*Trade-Marked and officially Grade-Marked

For more data, circle 255 on Inquiry Card



**You can stake your reputation
on this mark**

It labels Certified Quality Ceramic Tile

Quality design and construction require quality materials. And the Tile Council of America knows it. That's why we developed the "Certified Quality" program. It means this: You can now select ceramic tile with complete assurance of quality—tile to tile, carton to carton. We put our reputation on it. You can too.

Here's how it works. Tile produced by participating companies now undergoes regular inspections by an independent laboratory. Certified Tile must meet the highest quality standards ever set for the industry. These standards

are published by the government in SPR R61-61 and in Federal Specification SS-T-308b.

So why take chances? Specify that each carton of tile shall be Quality Certified and bear the Certification Mark of the Tile Council of America. You will be glad you did.



MEMBER COMPANIES: American Olean Tile Co., Inc. • Atlantic Tile Manufacturing Co. • Cal-Mar Tile Company • Cambridge Tile Manufacturing Co. • Carlyle Tile Company
Continental Ceramic Corporation • Florida Tile Industries, Inc. • General Tile Company • Gulf States Ceramic Tile • Highland Tile Company • Huntington Tile, Inc. • International
Pipe and Ceramics Corporation • Jackson Tile Manufacturing Co. • Jordan Tile Manufacturing Co. • Lone Star Ceramics Co. • Ludowici-Celadon Company • Mid-State Tile Company
Monarch Tile Manufacturing, Inc. • Mosaic Tile Company • Oxford Tile Company • Pacific Tile Company • Pomona Tile Manufacturing Co. • Redondo Tile Company • Ridgeway Tile Company
Sparta Ceramic Company • Stylon Corporation • Summitville Tiles, Inc. • Texeramics Inc. • United States Ceramic Tile Co. • Wenzel Tile Company • Winburn Tile Manufacturing Co.

For more data, circle 256 on Inquiry Card

You get so much more with **SCHLAGE**

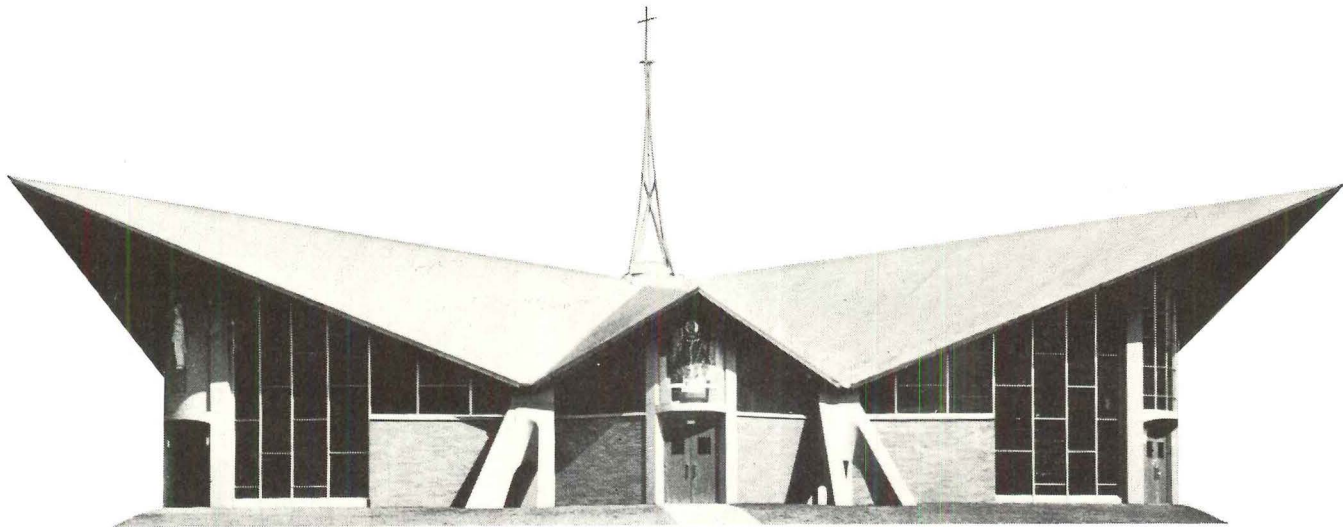


METEOR Shown here in bright brass, available in other standard finishes. Knob, 2" diameter; rose, 3 1/4" square.

Schlage offers 101 different lock designs—23 different finishes

Meteor is beauty gone modern, one example of Schlage beauty and quality. All over the world those who buy, manage, plan or construct residential and commercial buildings turn to Schlage for the finest in

locks. ☐ And for the best *selection* of locks. You can choose from 101 different locks—with the widest possible range of different finishes for each design. ☐ Your Schlage sales representative can tell you more. Or write directly to Schlage Lock Company, 2201 Bayshore Boulevard, San Francisco 19, California. **SCHLAGE**®



Architects—Engineers: J. G. Phelan & Assoc. • Bridgeport, Conn.

**Design: Modern
with Gothic space and spirit.**

**Heating/Cooling: Modern
with Arkla Gas economy and
efficiency.**

St. Mary's Church in East Hartford, Conn., presented an energy system space problem. A conventional boiler system would take much of the room allotted to the sacristy. Instead, engineers chose two Arkla Gas-fired water chiller-heaters.

Installed outdoors, the factory-sealed Arkla units provide all the hot and chilled water needed to heat and cool the church. Because these Gas-fired units have no moving parts, noise, vibration (and maintenance) are virtually non-existent. Service life is considered indefinite.

Another Arkla equipment advantage: the great economy of Gas. For trouble-free low cost, year 'round heating and cooling...investigate Arkla and Gas. Call your local Gas Company Sales engineer. Or write: Arkla Air Conditioning Co., 810 East Franklin, Evansville, Indiana. AMERICAN GAS ASSOCIATION, INC.



For heating and cooling...Gas is good business

You're looking at Houston through a new glass from PPG that shuts out 70% of the sun's heat and has a "U" value of .35



Photograph taken through a sample of SOLARBAN TWINDOW simulating typical building location. Camera: 4 x 5 Linhof, 1/10 second at f/22 with Ektachrome daylight.

COMPARATIVE PERFORMANCE DATA	U Value	Maximum Heat Gain (BTU/hr./sq. ft.)	Visible Light Transmittance %
PLATE GLASS			
Regular Plate Glass 1/4"	1.1	200	88
Solargray [®] 1/4"	1.1	150	42
Solarbronze [®] 1/4"	1.1	150	51
Solex [®] 1/4"	1.1	150	73
LHR Clear 1/4"	1.1	140	47
LHR Solargray 1/4"	1.1	110	24
LHR Solarbronze 1/4"	1.1	110	27
LHR Solex 1/4"	1.1	110	35
SHEET GLASS			
Clear Sheet Glass 3/32"	1.1	205	90
Graylite [™] 31 1/8"	1.1	170	31
Graylite 61 3/16"	1.1	195	61
Graylite 56 7/32"	1.1	190	56
Graylite 14 1/32"	1.1	150	14
Graylite 52 1/4"	1.1	185	52
HIGH PERFORMANCE (Insulating, Heat and Glare Reducing)			
Clear Twindow [®]	.60	170	78
Solarban Twindow	.35	65	20
LHR Solargray Twindow	.60	90	22
LHR Solarbronze Twindow	.60	90	25
LHR Solex Twindow	.60	90	32
Solargray Twindow	.60	115	36
Solarbronze Twindow	.60	115	45
Solex Twindow	.60	115	65

INDUSTRY'S MOST COMPLETE LINE OF ENVIRONMENTAL GLASSES.

It's called PPG SOLARBAN[™] TWINDOW[®]—the latest and most effective Glass Conditioning product. It transmits only one third as much heat as regular 1/4" plate glass, cutting heat loss or heat gain 66%. And it transmits only about 20% of the sun's visible rays, greatly reducing glare.

What gives PPG SOLARBAN TWINDOW these remarkable properties? Actually, it's two panes of glass enclosing a dry air space. On the air space side of the indoor pane, an exclusive coating reflects 46% of the sun's total energy.

SOLARBAN TWINDOW is the ideal environmental glass in any climate or location. It provides the ultimate in indoor comfort. And the savings in heating and air conditioning costs may more than make up the difference in price.

PPG makes environmental glasses to control the sun's heat and glare on any orientation, of any building, in any environment. For details on these modern glass products, contact your nearest PPG Architectural Representative, consult Sweet's Catalog or write: Pittsburgh Plate Glass Company, One Gateway Center, Pittsburgh, Pennsylvania 15222.

Pittsburgh Plate Glass Company, Pittsburgh, Pa.



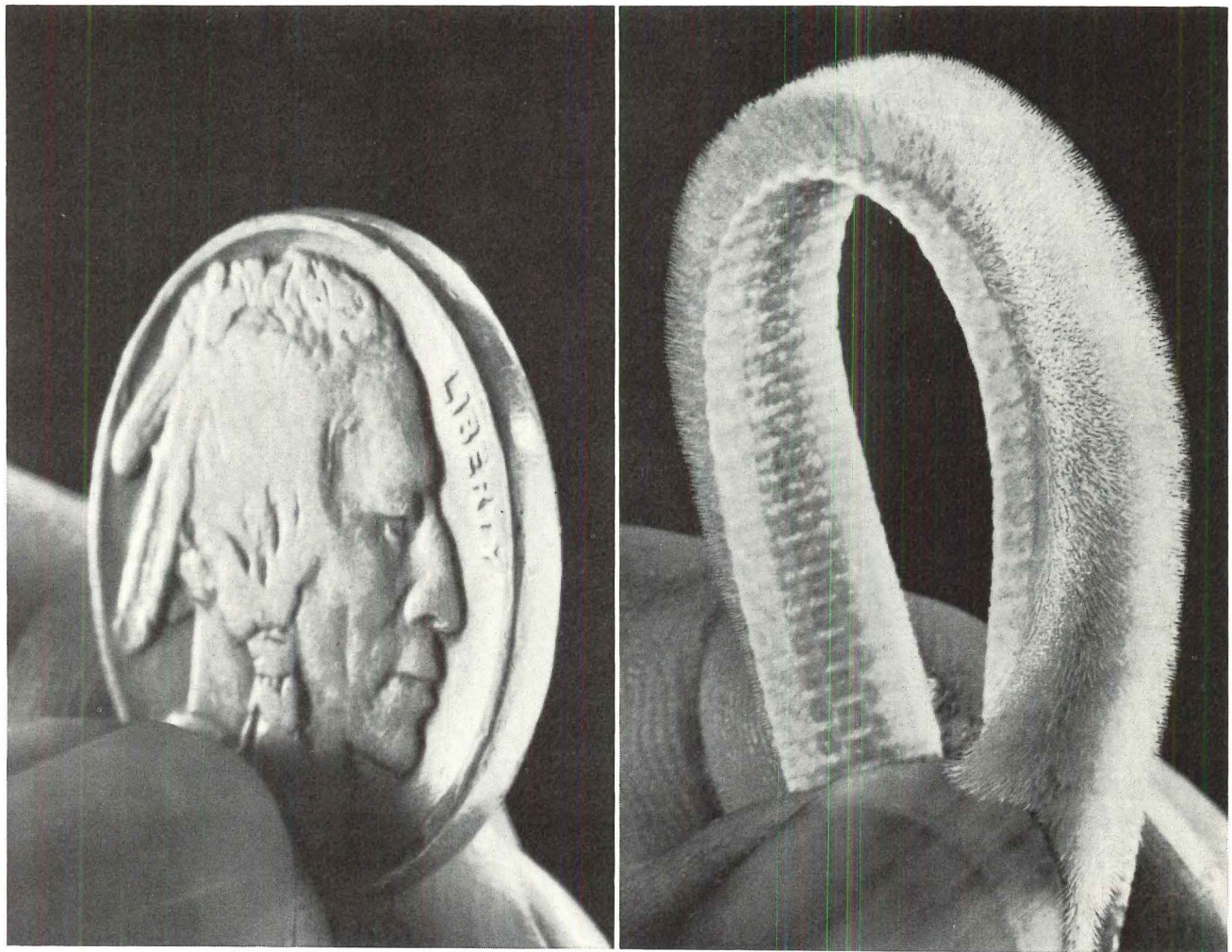
PPG makes the glass that makes the difference

another product for
Glass Conditioning from PPG

*Glass Conditioning is a service mark of the Pittsburgh Plate Glass Company

For more data, circle 259 on Inquiry Card

In weatherstripping a nickel still buys a lot



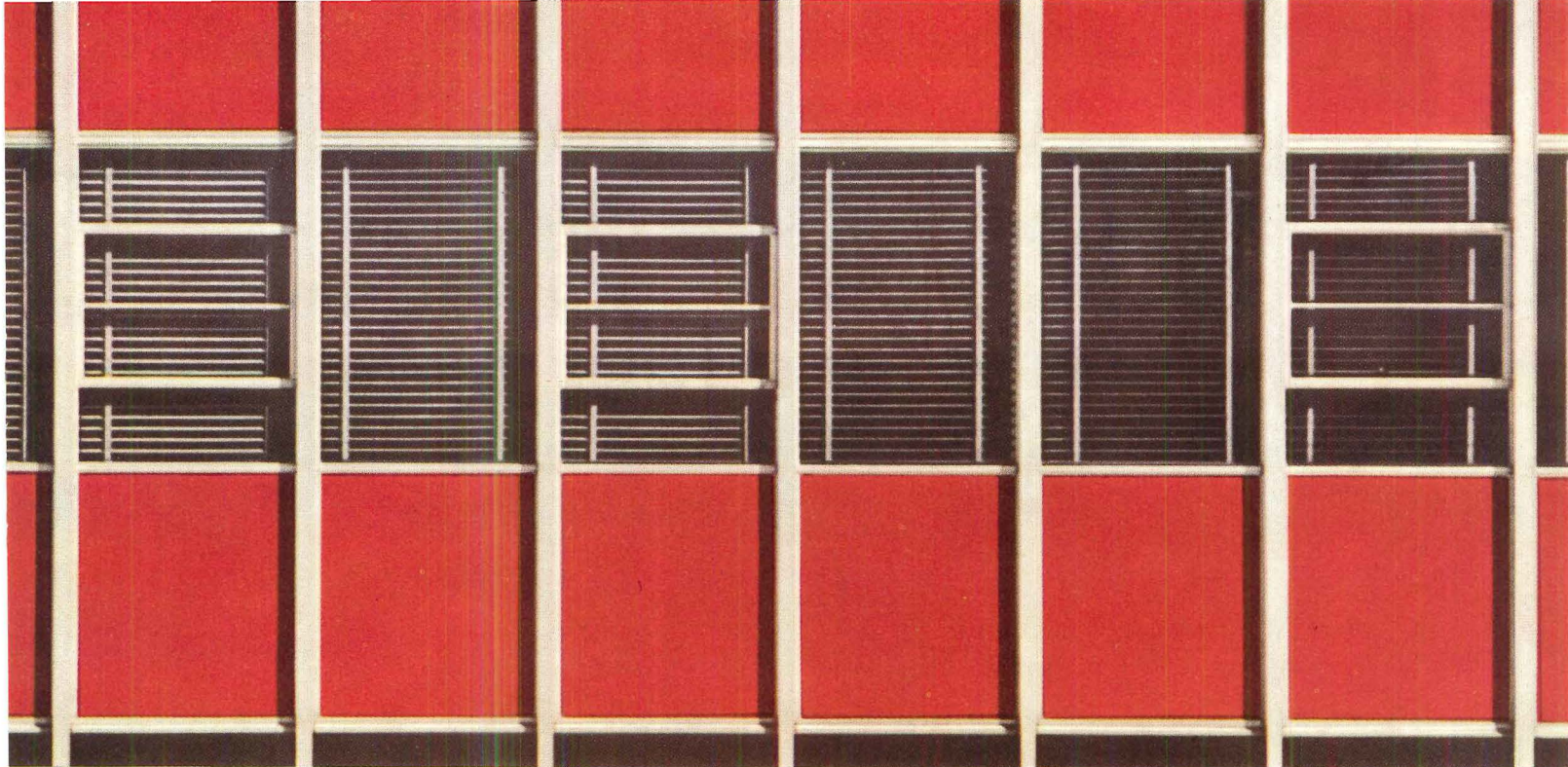
For about a nickel more per door or window, you can give your customers Poly-Pile.* And look what this means to them (and you) . . . *No sticking in hot weather.* Poly-Pile has a low coefficient of friction. *No plasticizers to migrate. No deformation in cold weather.* Poly-Pile doesn't take a set when cold. *Stays soft and flexible. No deterioration from use.* Tests show it outwears conventional weatherstrips 5 to 1. *No gaps, no cracks, no rattles, no leakage.* Poly-Pile has a thick pile that conforms to every surface, follows every irregularity, presents millions of polypropylene fibers as a thick barrier to infiltration of cold, dirt, water. Substantial heat savings are assured, about 9.5%. *No water absorption, no mildewing, no rotting.* Poly-Pile is silicone treated so moisture can't affect it. These are the things your customers expect when you tell them doors and windows have been weatherstripped. Why not avoid complaints? Invest a nickel more and give them the added values of Poly-Pile, by Schlegel.

*Poly-Pile is a trademark of The Schlegel Manufacturing Company

Schlegel WOVEN PILE WEATHERSTRIPPING

THE SCHLEGEL MANUFACTURING COMPANY • P.O. BOX 197 • ROCHESTER, N.Y. 14601





How to ease the load on funds and footings

With the unbeatable efficiency of today's steel building products working for you, your savings are automatic.

Consider, for example, the steel curtain wall system. This system is lighter, goes up faster, and yields a significant gain in usable inner floor space. Its cleanability assures big savings in future upkeep.

Economical stay-in-place steel forms for poured concrete slabs are also a cost cutter. They eliminate the need for slow, costly building and stripping of conventional wood forms and add the strength of steel to the structure.

Other products which merit your investigation include high strength structural bolting assemblies and ELECTRUNITE® Structural Steel Tubing. Two high strength bolts do the work of three rivets, cutting construction time and reducing overall fastening costs by as much as 40%.

ELECTRUNITE Structural Steel Tubing also saves construction time and is much lighter than the conventional structural steel it replaces. This lightweight permits a whole chain of related weight savings down to the very footings of a building.

There are many new ideas in steel waiting to give you a better return on your building investment. For information, write Republic Steel Corporation, Dept. AR-1326, 1441 Republic Building, Cleveland, Ohio 44101.

You Can Take the Pulse of Progress at

REPUBLIC STEEL



CLEVELAND, OHIO 44101

Strong, Modern, Dependable

For more data, circle 261 on Inquiry Card

Ever wonder why some cars have two-speed automatic transmissions while others give you three speeds for just about the same price?

When you order an automatic transmission for your Ford, you get only one kind, and that's the most flexible in the business—our 3-speed Cruise-O-Matic unit.

We have tried and tested all kinds of automatics: 2-speed, 4-speed, you name it. For normal driving on today's roads, the 3-speed system comes in first by a long shot.

Here's why. The Ford 3-speed Cruise-O-Matic unit gives you a choice of starting gears—one for normal driving and another for gentler starts on ice, snow, or other slippery surfaces. We give you a middle gear to take over in the vital 40 to 65 miles-per-hour passing range (right where the two-speeders bog down).

And Ford's Cruise-O-Matic unit actually saves you money on gas. That's because, with three

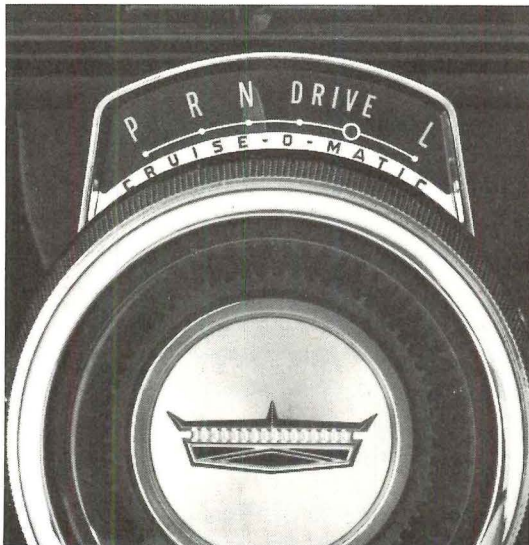
gear ratios to call on, your engine is more efficient in every speed range. With engine speeds kept to an efficient minimum, your Ford is smoother, quieter, more economical.

Drive a new Ford with Cruise-O-Matic. It makes a difference. Cruise-O-Matic is available on every 1965 Ford car: it's standard equipment on the big Ford Galaxie XL and LTD models and on Thunderbird. It is optional at extra cost on other big Fords, Fairlanes, Mustangs and Falcons.

PRODUCTS OF 

*Best year yet to go Ford!
Test Drive
Total Performance '65*

FORD
MUSTANG · FALCON · FAIRLANE
FORD · THUNDERBIRD



RIDE WALT DISNEY'S MAGIC SKYWAY AT THE FORD MOTOR COMPANY PAVILION, NEW YORK WORLD'S FAIR

Weathering Heights



For several months now, folks in Chicago have been watching Mother Nature “painting” their tallest building. All she needs is a little more time to complete the job of putting a permanent, rich, dark brown finish on the building—a finish that will never need refinishing—or even touching up.

Chicago’s new 648’ high Civic Center is completely sheathed in glass and bare steel. Exposed to the atmosphere, the steel simply becomes coated with an attractive, dense, tightly-adherent oxide which permanently protects the steel. It even provides its own maintenance. If the surface is scratched or marred, the oxide merely re-forms.

The steel is USS COR-TEN, a unique architectural metal which combines high strength, formability and permanent good looks at a price no other material can approach. USS COR-TEN Steel is used in the Civic Center’s column covers and spandrels.

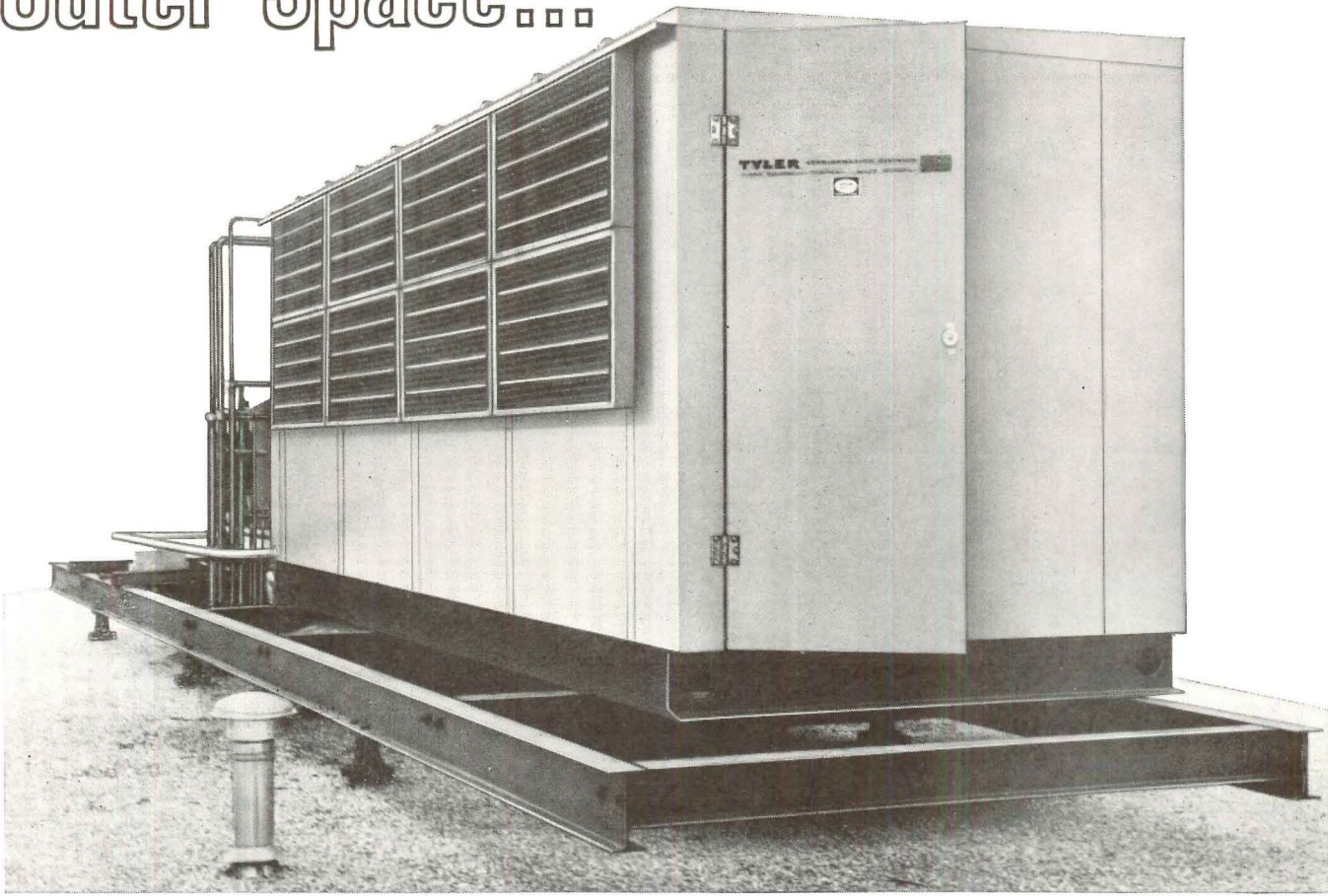
When you get to Chicago, see for yourself how dramatic bare USS COR-TEN Steel can be. The unfinished Civic Center is already arrestingly attractive. And it is getting better looking every day.

A great many exciting things are being done with exposed steel these days. A word of caution: The use of bare COR-TEN steel is not appropriate for all applications. An understanding of its limitations is necessary for satisfactory use. While COR-TEN steel is available in practically all forms produced in carbon steel, the designer should avoid specifying it where the quantity will be less than one ton of a size. This will help minimize procurement problems.

For more details on this remarkable high-strength low-alloy steel, contact a USS Construction Representative through our District Office nearest you. Also write for our new book, “USS COR-TEN Steel for Exterior Architectural Applications.” United States Steel, Room 8198, 525 William Penn Place, Pittsburgh, Pa. 15230.

USS and COR-TEN are registered trademarks.

Outer Space...



Opens Up Inner Space For More Sales and Profit

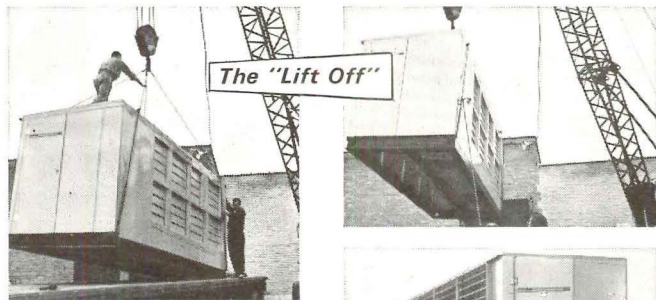
Successful store operators are taking to the air with *TMC to solve the problem of space. 300 square feet of inside floor area liberated for vertical displays, both food and non-food. And there's savings in first cost with a *TMC: up to \$1200 in electrical wiring alone—another \$1200 in refrigeration piping and miscellaneous fittings.

Before building or remodelling compare these *TMC features for roof or ground level mount: • One source, one package—no extras—ready to hook up. • Controlled temperature—case life of red meat

alone can be extended as much as a day. • Eliminates possibility of total malfunction. • No "out of town" training for refrigeration mechanics—easy to service—standard semi-hermetic machines and components available anywhere.

The illustration above is a typical *TMC air cooled system—also available for water cooled applications and if heat recovery, humidity controls or air conditioning is desirable you can get the *TMC in one package, too—at the lowest possible cost—any way you look at it!

*TYLER Mechanical Center



... from trailer bed to roof top the *TMC is complete and ready for Operation Go! Store usually opens up for business ahead of schedule—no mess or fuss to interfere with incoming inventory. Adjacent parking area simplifies the "lift off"—no doors or store fronts to be removed to make room for big machines.



TYLER

Refrigeration Division

CLARK EQUIPMENT CO. • NILES, MICHIGAN • U. S. A.

Canada: Tyler Equipment Sales Ltd., 732 Spadina Avenue, Toronto, Ont.
Export: Tyler Refrigeration International, C.A., Niles, Michigan, U. S. A.

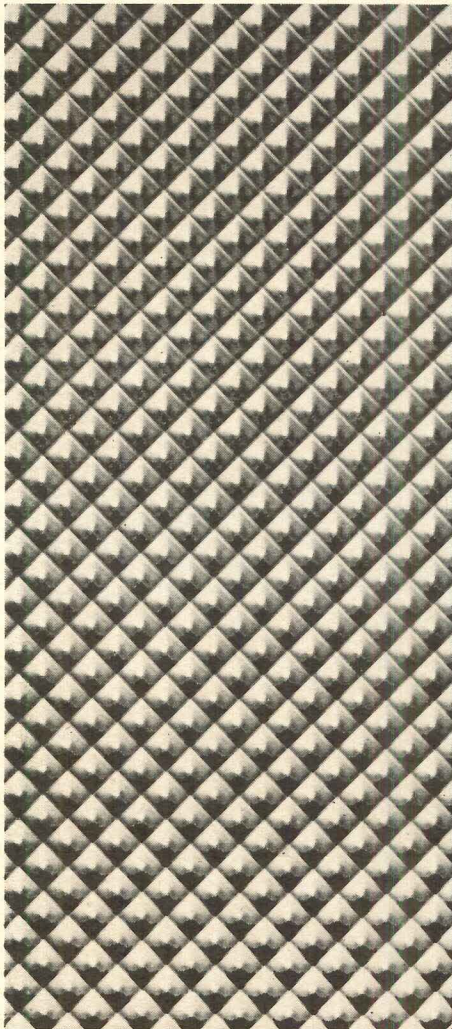
CLARK
EQUIPMENT

Send coupon today for specifications on *TMC air or water cooled systems including optional heat recovery, humidity control and air conditioning.

Name _____ (Please Print)
Title _____
Firm _____
Address _____
City _____ State _____ Zip Code _____

For more data, circle 123 on Inquiry Card

For more data, circle 124 on Inquiry Card ➔



**Go ahead.
Specify
K-Lite
Panels...**



"or equal"

**But insist on a comparison
from "or equal" bidders.**

Specify K-Lite plastic lighting panels, and you're setting standards you can enforce.

K-S-H will give you independent photometric reports on any K-Lite lens. Coefficients of utilization. Average brightness measurements. You'll even get reports proving that K-Lite lenses hold their color more than twice as long as IES-NEMA-SPI standards.

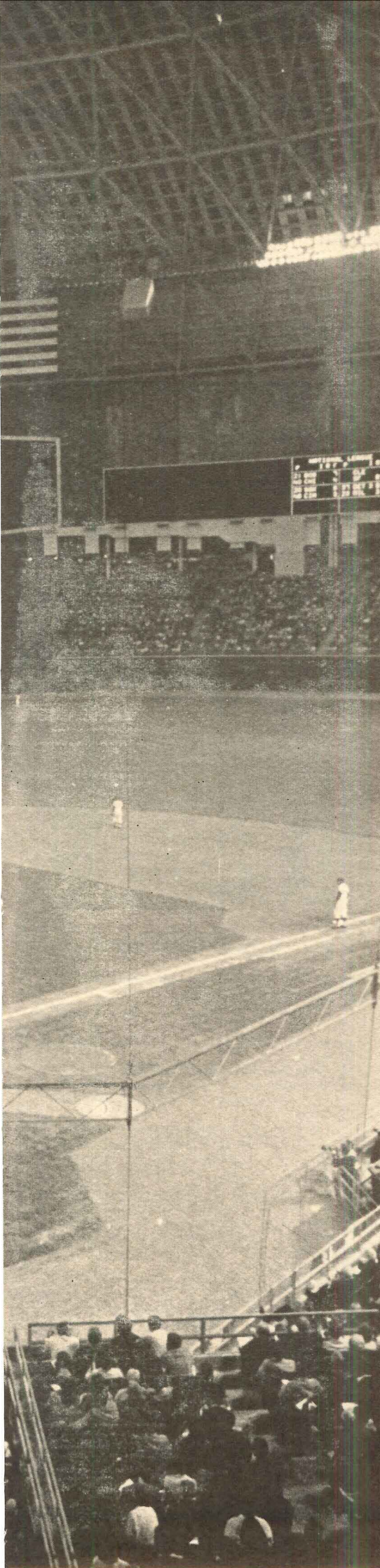
And remember the K-Lite reputation for living up to its specifications. Even if there's a difference in cost, it's never enough to justify an uncertain source. Specify K-Lite panels or pans in polystyrene, Tedlar film protected or acrylic. The major fixture manufacturers will provide them.

"Tedlar" is a Du Pont registered trademark

K-S-H PLASTICS, INC.
10212 Manchester • St. Louis, Mo. 63122



For more data, circle 127 on Inquiry Card



Sure, go ahead and smoke -all 45,000 of you

**AAF air filters remove dust
and smoke — make air conditioning
practical in Houston's Astrodome**

Eighty-two AAF air filter systems are removing the tiniest dust particles (even smoke) from the air in Houston's fabulous new Astrodome. They represent one of the world's largest air filter installations, are cleaning 2,500,000 cubic feet of air every minute.

This super cleaning job allows 90% of the interior air to be recirculated, which makes year-round air conditioning economically feasible. The systems are made up of Electro-Cell electrostatic precipitators which provide an efficiency in excess of 90% (by actual on-the-job test) with Roll-O-Matic automatic renewable-media units serving as pre-filters.

For complete product information on these outstanding filters, call your local AAF representative or write us direct for Electro-Cell Bulletin 258 or Roll-O-Matic Bulletin 249. Address: Mr. Robert Moore, American Air Filter Company, Inc., 389 Central Avenue, Louisville, Kentucky 40208.



American Air Filter
BETTER AIR IS OUR BUSINESS



Associated Architects: Lloyd and Morgan; and Wilson, Morris, Crain and Anderson, Associated Consulting Engineers; I. A. Naman & Assoc.; and Dale S. Cooper & Assoc. Mechanical Contractor: Sam P. Wallace.

For more data, circle 128 on Inquiry Card

Place your floodlights on a Pedestal - with superior Wide-Lite* features!

Fits All Types of Fixtures!

Functional Beauty!

3-Member Construction for Greater Strength!

Pre-Wiring Cuts Costs!

Aluminum or Steel!

Extra Ballast Room!

Pre-Aligned Anchor Bolt Kit!

WIDE-LITE

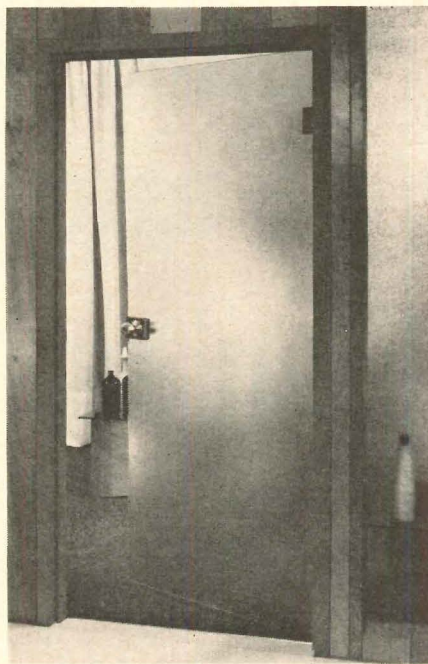
Floodlights • Ballasts
Indoor Luminaires • Poles

WIDE-LITE CORPORATION
A Division of Esquire, Inc.
4114 Gulf Freeway
Houston, Texas

*Trademark of Wide-Lite Corporation

Product Reports

continued from page 238



PATTERNED GLASS DOOR

The *Series 1000* patterned glass door is said to be extremely economical to install. The door is available in three sizes to fit standard wood and metal frames and is supplied ready to be installed with a cylindrical lock housing and specially-designed hinges. Glass in the door is $\frac{3}{8}$ in. *Muralex* patterned glass, which transmits light without sacrificing privacy. *American-Saint Gobain Corporation, Kingsport, Tenn.*

CIRCLE 308 ON INQUIRY CARD

CIRCULAR SILENCER FOR AIR HANDLING SYSTEMS

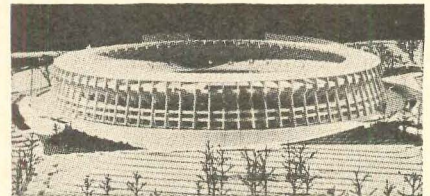
The newly designed *Type CFNJ Conic-Flow* silencer is a circular sound trap, planned for use with round ducts in high or low pressure air-handling systems. Available in two models, *Model S* for normal pressure drop and *Model LP* for low pressure drop applications, the silencer consists of a bullet-nosed acoustical cylinder centered in a steel circular casing. Aero-dynamic features include a semi-bellmouth entrance, a straight-through air passage and patented evasé shaped exit for maximum static pressure regain. *Industrial Acoustics Company, Inc., Bronx, N.Y.*

CIRCLE 309 ON INQUIRY CARD
more products on page 280



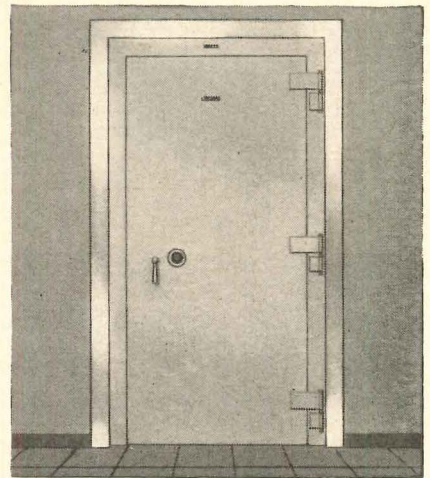
The Architect

Heery and Heery—Finch,
Alexander, Barnes,
Rothschild and Paschal



The Building

The Atlanta Stadium
Atlanta, Georgia



and our Vault Doors because—

the advantages are greater than those of an ordinary fire door.

Insurance rates are lower (qualifies for B rate).

Protection from both fire and theft is greater.

And our doors are equipped with an inside emergency escape device and an Underwriters Laboratories approved relocking device.

All five single door and three double door models are easily installed. Each has an adjustable vestibule—a Schwab exclusive. Each is a flat-sill, non-grout type. Every delivered model is accompanied by easy-to-understand installation instructions.

Our doors are built to Underwriters Laboratories specifications for prevention of heat damage to vault contents for $\frac{1}{2}$, 1, 2, 4 or 6 hours.

We offer customized service and a complete line of interior accessory equipment.

Write us for a complete vault door catalog or see Sweet's 34-A.

Our products are your protection

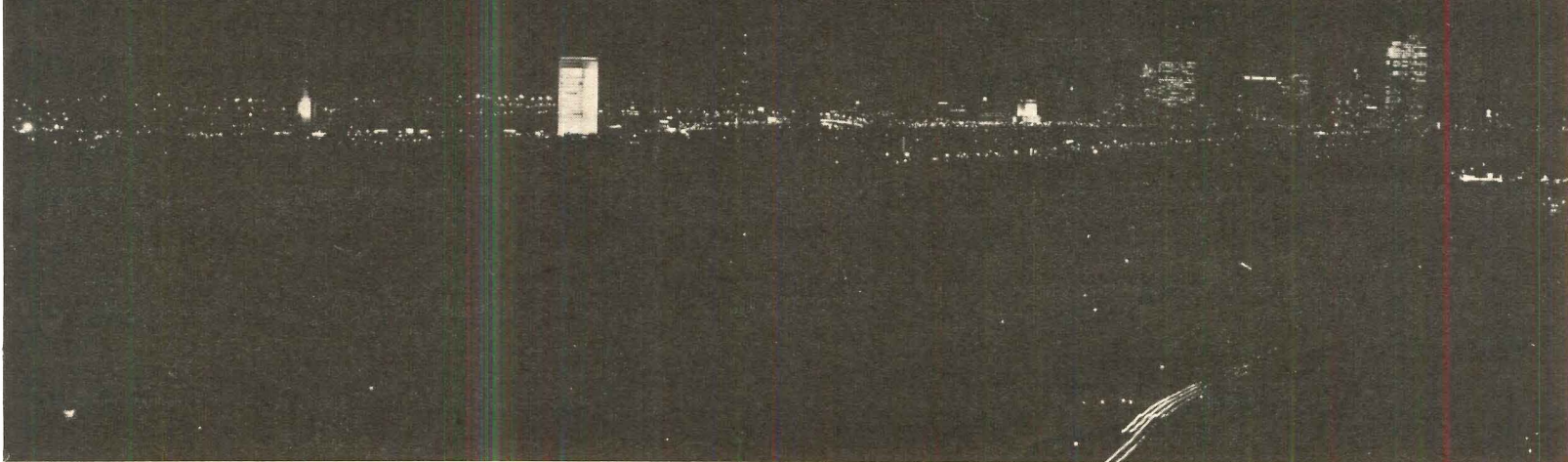
SCHWAB

Schwab Safe Co., Inc. / Lafayette, Indiana

For more data, circle 130 on Inquiry Card

For more data, circle 129 on Inquiry Card

Which Houston skyscraper has Wide-Lite* floodlighting ?



It's the new 25-story American General Insurance Company Building, and we'd be insulting your eyesight to point out where it is in the photo.

There *are* taller and larger buildings than this new beauty on the Houston skyline—in the daytime. But they tend to disappear when the sun goes down, and the American General Building seizes the skyline as its own.

What does it take to gain such dominance for a building?

"Wide-Lite" floodlighting. In this particular case, just 120 "Wide-Lite" 1000 watt fixtures, using new, devel-

opmental G E Multi-Vapor** lamps. These fixtures light *all four sides* of this 330-foot building, with the spectacular result shown in the photo above.

Whenever you need decorative lighting for a building—from a cottage in a housing development to a factory or skyscraper—there is "Wide-Lite" lighting equipment to do the job quite a bit better than any other equipment can do it. There's also a "Wide-Lite" representative ready to give you any help you'd like in planning the lighting. Just call him, or send the coupon.

**Trademark of the General Electric Company



American General Life Insurance Building
Houston, Texas
Architects: Lloyd, Morgan & Jones
Consulting Engineers: I. A. Naman & Associates
Electrical Contractor: Howard P. Foley Company



FLOODLIGHTS • BALLASTS • POLES • INDOOR LUMINAIRES

Wide-Lite Corporation, A Division of Esquire, Inc., 4114 Gulf Freeway, Houston, Texas. In Canada: Wide-Lite Division, Wakefield Lighting Limited, London, Canada — In Europe: Van Oostenryck, S. A., 9, rue de Formanoir, Bruxelles 7 (Belgium) — In Mexico: Inter-Lux, S.A., Apartado Postal No. 1586, Monterrey, N.L., Mexico

*Trademark of Wide-Lite Corporation

WIDE-LITE CORPORATION, 4114 Gulf Freeway, Houston, Texas
Dept. 24A-140

Send me more facts about "Wide-Lite" lighting for a _____

Name _____

Address _____

Firm _____

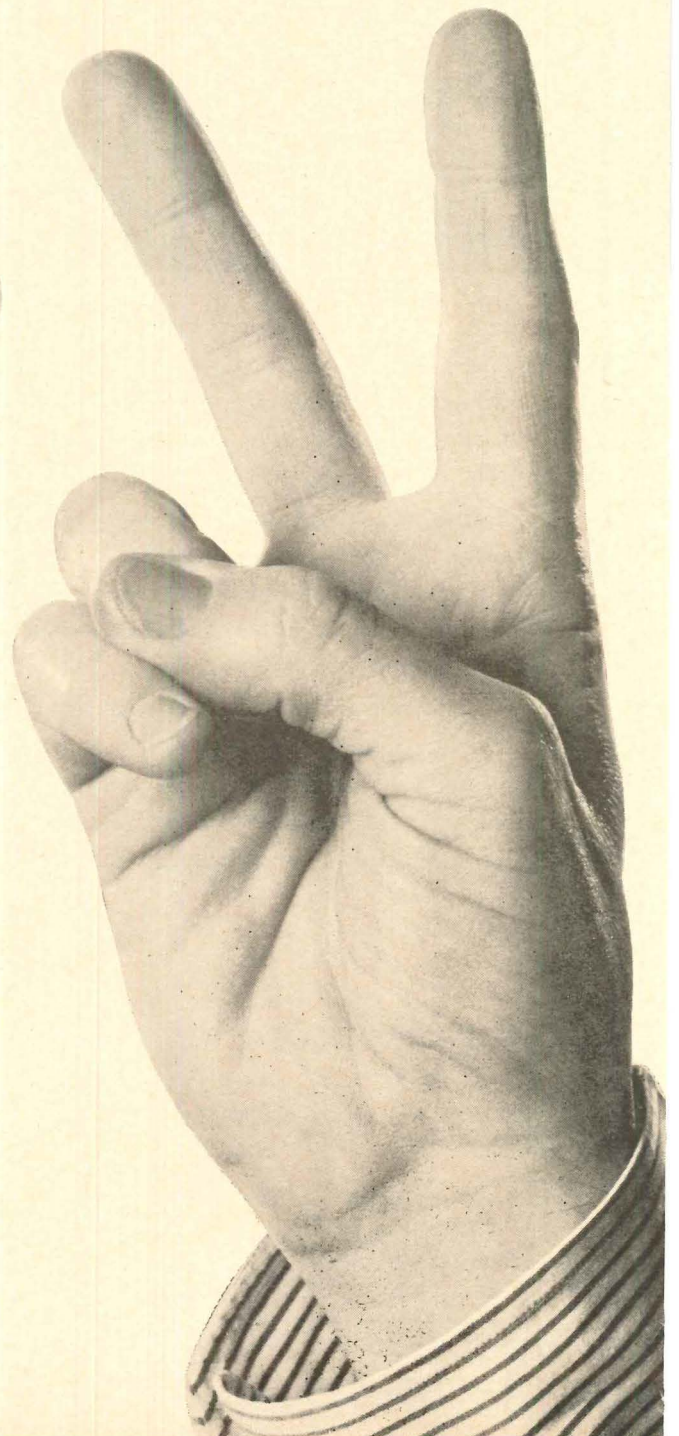
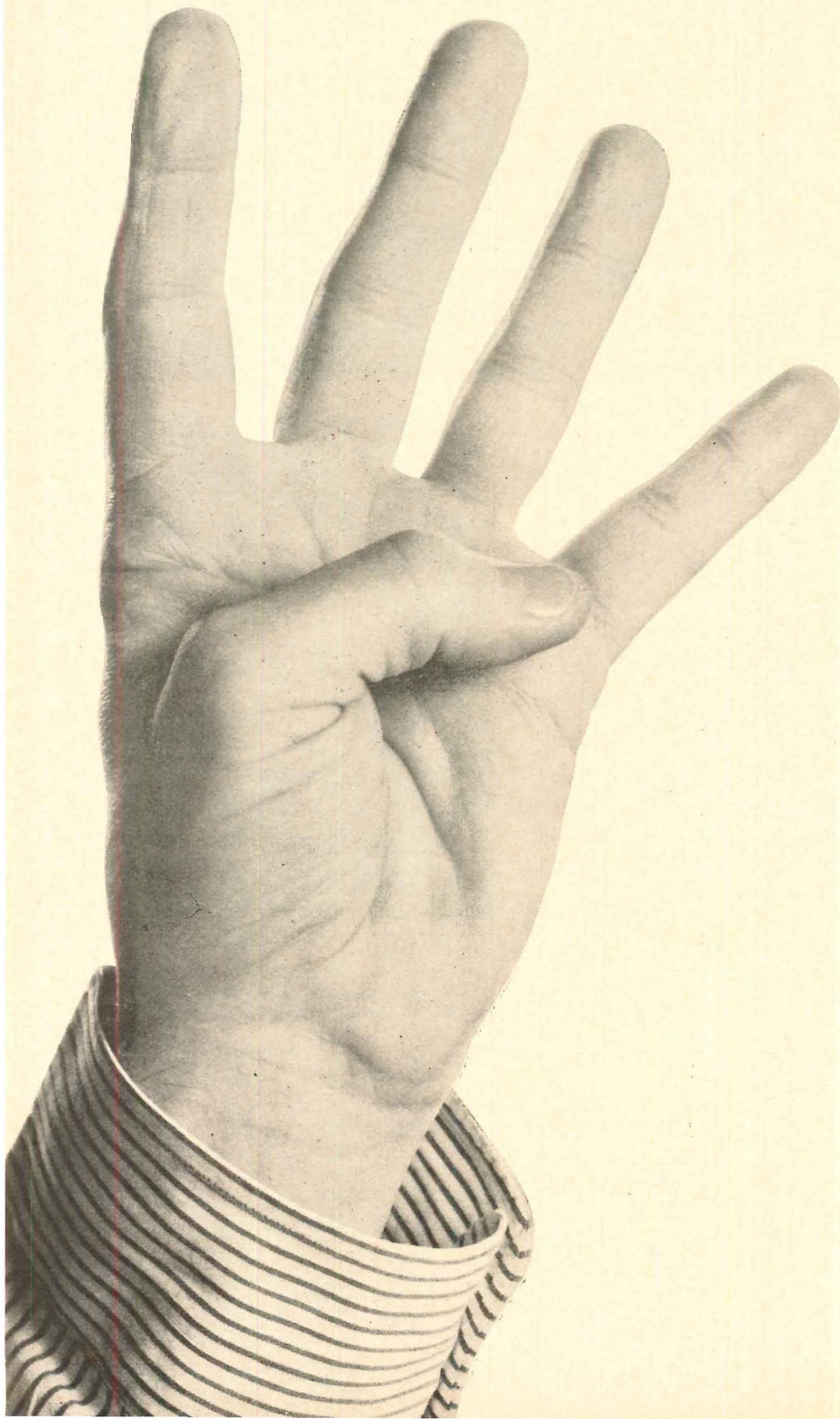
City _____ State _____ Zip _____

For more data, circle 131 on Inquiry Card

**Think twice
before you specify your
next built-up roof.**

**New Barrett Bond Ply
Roofing System gives 4-ply
Class A protection...**

with only 2 plies.



We don't do it with mirrors. We do it by coating each side of the Bond Ply Coated Roofing Sheet with a heavy, even layer of asphalt. These factory-applied coatings assure a more uniform distribution than is possible with on-the-job moppings.



You get exactly what you specify in quality, weather protection and long life when you specify Barrett Bond Ply, the new built-up roof that's bonded for 20 years just like conventional 4-ply systems.

By specifying the Bond Ply roof,

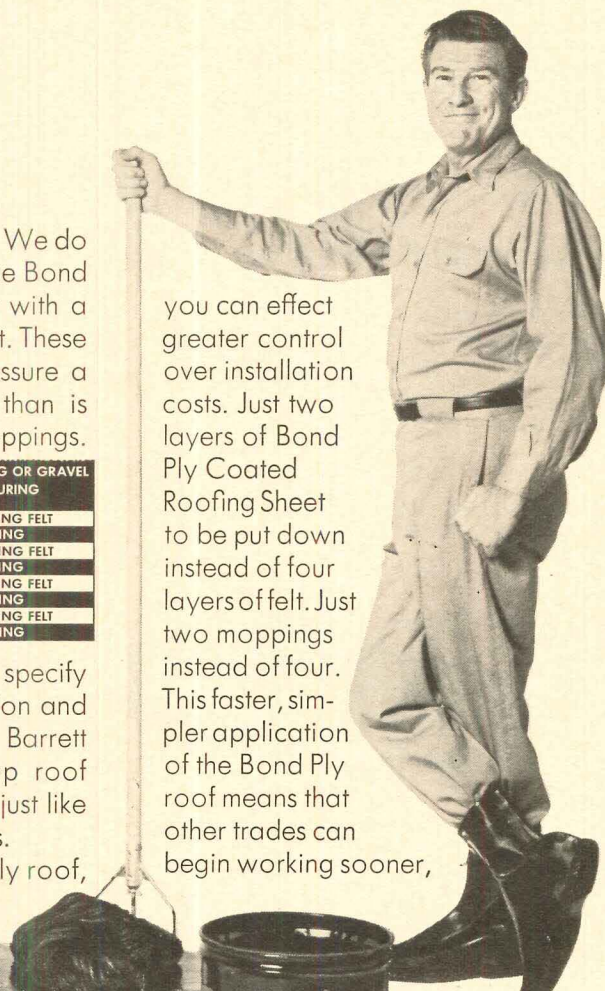
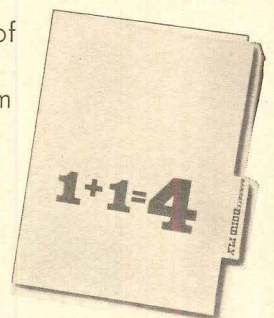
you can effect greater control over installation costs. Just two layers of Bond Ply Coated Roofing Sheet to be put down instead of four layers of felt. Just two moppings instead of four. This faster, simpler application of the Bond Ply roof means that other trades can begin working sooner,

too. So construction can proceed more efficiently, with important savings in time and money.

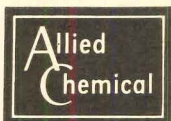
On your next built-up roof specification, be sure to indicate Barrett Bond Ply — the new kind of roof that provides maximum protection for your building . . . with just 2 plies. Write for a complete fact-file "1 + 1 = 4."

Address Barrett Division, Allied Chemical Corporation, Dept. ARC-6, 40 Rector St., N.Y., N.Y. 10006.

BOND PLY is a trademark of Allied Chemical Corporation



BARRETT®
BUILDING MATERIALS



For more data, circle 132 on Inquiry Card

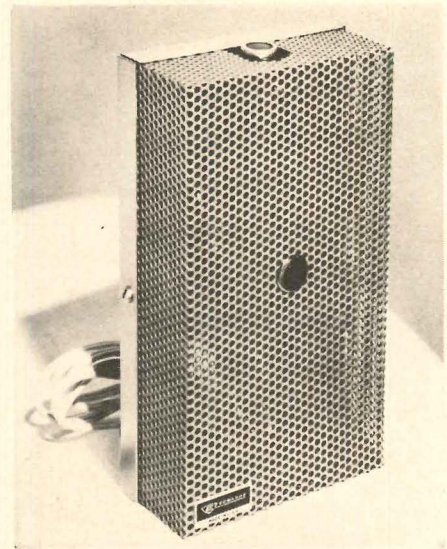
Product Reports

continued from page 276

SMOKE AND HEAT DETECTOR

This compact smoke and heat detector is designed to detect the presence of lethal concentrations of smoke and unsafe temperature, sound a penetrating warning signal, and give a continuous visual indication that it is in good operating condition. The model S-125 home fire alarm operates

on standard house current, and should be hung high up on a wall for best results. A built-in photo-electric cell detects the presence of about 4 per cent per ft obscuration by smoke particles and triggers a loud klaxon horn. This occurs at least 30 minutes before a fatal concentration is present. A heat detector calibrated at 135 deg F, functions independently to guard against flash fires. A red pilot light indicates that the unit is functioning correctly. *Edwards Company, Inc., Norwalk, Conn.*



CIRCLE 310 ON INQUIRY CARD

New
TALK-A-PHONE

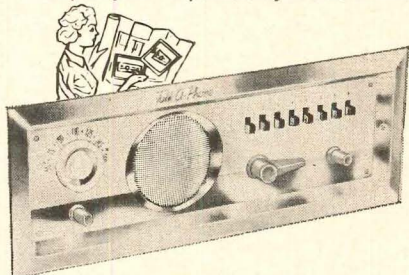
New
Apartment House Intercom

Provides instant and direct 2-way conversation between any Apartment and Vestibule... Greater Performance with Exclusive Talk-A-Phone Features:

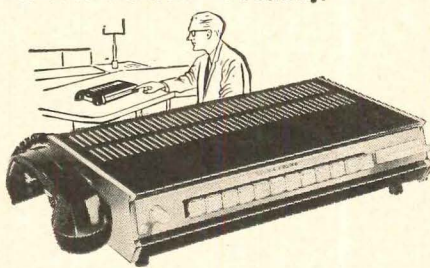
- Ample Volume—Whispers, shouts and normal voice are heard clearly without "boom"
- Automatic Privacy—On all Apartment Units
- Volume Selector—Each Apartment selects own volume. Concealed yet easily accessible
- Built-in Buzzer—Pleasant sound, in each Apartment Unit
- With one or two independent talking circuits and one or two independent door opener buttons.

Distinctively styled. Quality Engineered. Built to withstand continuous use.

TALK-A-PHONE . . . "Has Everything. Does Everything." The accepted standard of quality and dependability in Intercommunication for over a third-of-a-century.



Intercom For The Home. Enjoy comfort, convenience and peace of mind. From any room you can . Listen-in on baby, children or sick room . Answer outside doors . Talk to anyone—upstairs or downstairs, inside and out . Enjoy radio. Distinctively styled. Beautifully finished. Easily installed.

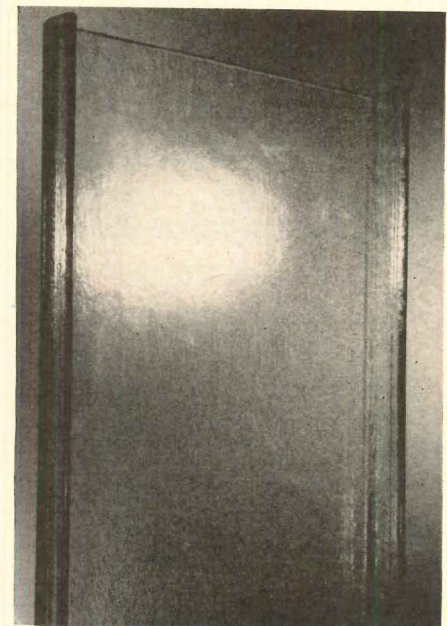


Intercom For Office and Industry. Saves thousands of man-hours, simplifies office routine. Distinctively styled, ruggedly built to withstand continuous day and night use. From 2-station systems to elaborate installations, you can do it better and more economically with Talk-A-Phone. Pays for itself many times over.

Send for Free Catalogs...

Dept. AR-6

TALK-A-PHONE CO., 5013 N. Kedzie Ave., Chicago, Illinois 60625



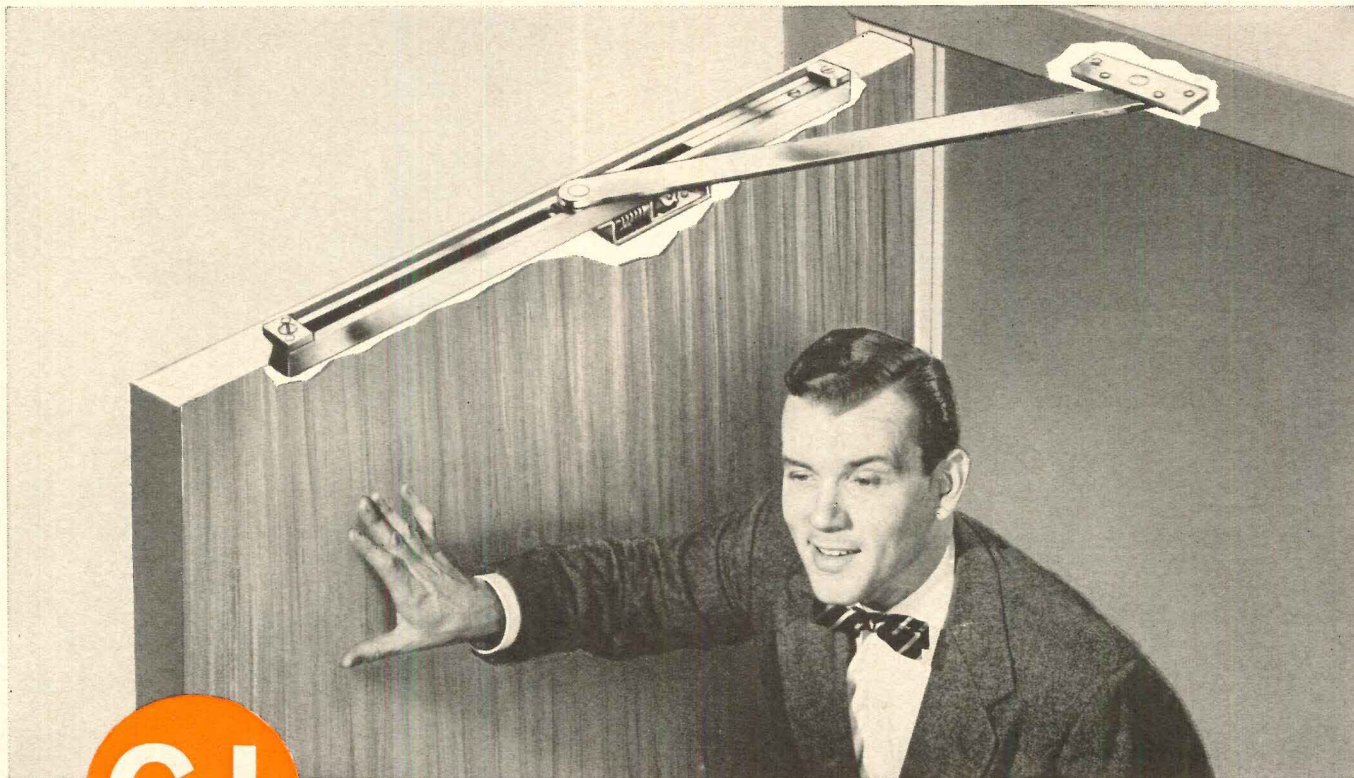
CHANNEL-SHAPED GLASS

Proflite channel-shaped translucent glass, which has been used widely in Europe, is now being manufactured in this country by Mississippi Glass Company. The channel-shaped section is designed to give the glass great strength and permit its use in unusually long lengths without cross bars. This makes it particularly suitable for daylighting installations in roofs, walls, partitions and screens. Weight is approximately 4.34 lb per lineal ft; when installed, each channel with sealant occupies 1 ft in width. *Mississippi Glass Company, St. Louis, Mo.*

CIRCLE 311 ON INQUIRY CARD

more products on page 284

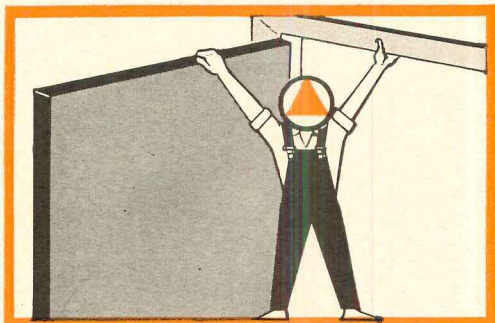
For more data, circle 133 on Inquiry Card



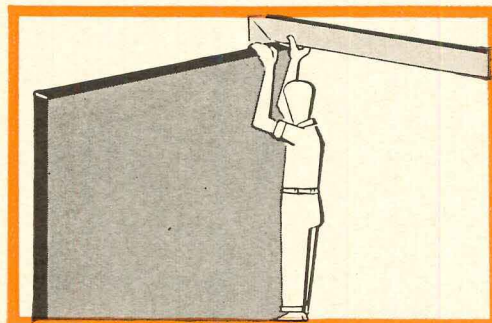
SEPARATELY INSTALLED

OVERHEAD DOOR STOP and HOLDER

... better positioned for stopping and holding
 ... spring-cushioned for absorbing shock



leverage control when
separately installed



leverage control when
"built-in"

GOOD DESIGN INCLUDES OPTIMUM FUNCTION....

To stop the opening action of a door—frequently violent—the utmost leverage advantage is needed. That is why many architects, builders and hardware men insist on *separately installed* overhead door stops and holders.

For, with stout arms, connected to door and jamb at widely separated positions, there's plenty of strength to safely stop the opening swing. Add the ample spring cushions that absorb the shock and sound of sudden stops and you have the *optimum* in function . . . protecting walls,

doors, jambs, hinges and closers.

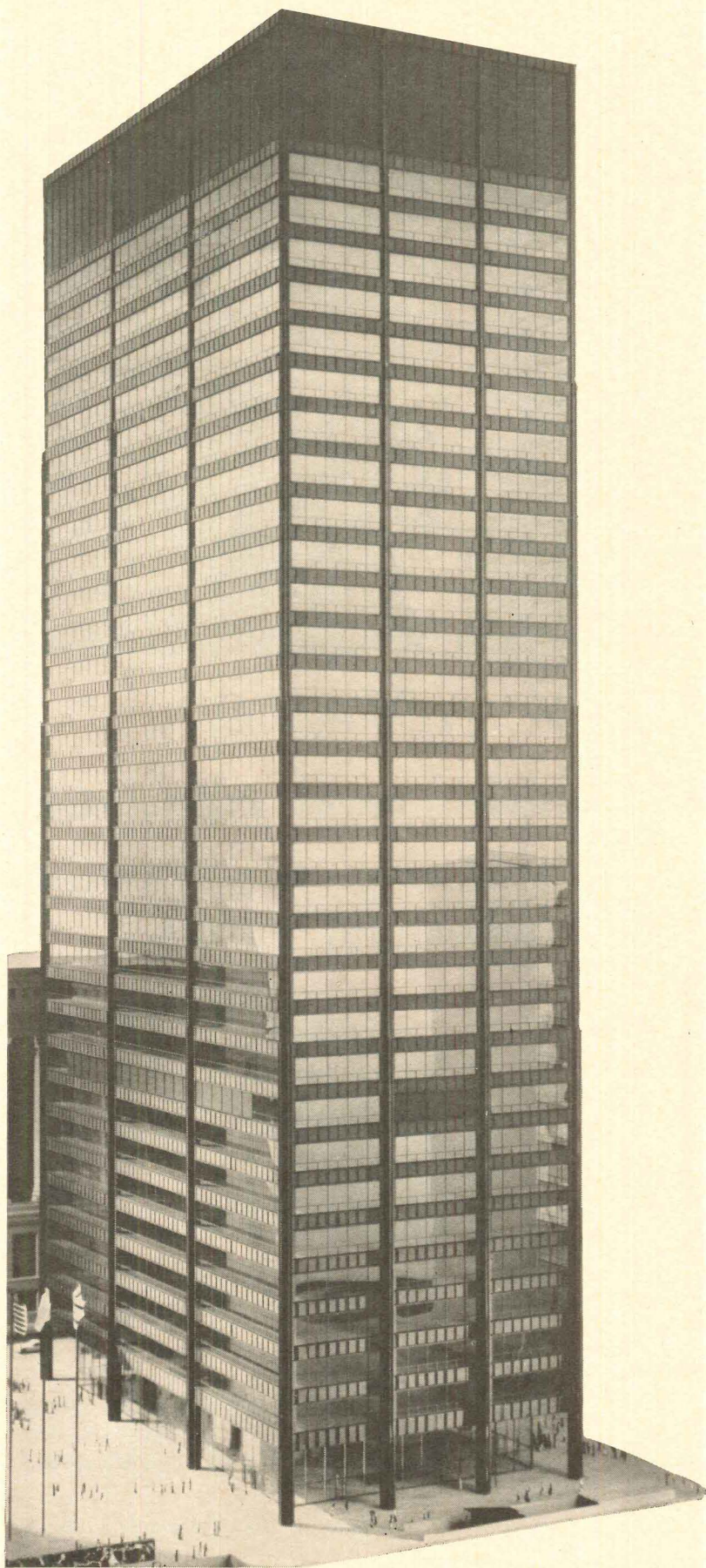
Only separately installed holders can be quickly site-set for choice of automatic hold-open or non-hold-open. And only GJ offers a wide variety for every preference and budget.

Insist on GJ top quality, consistent for over 35 years.

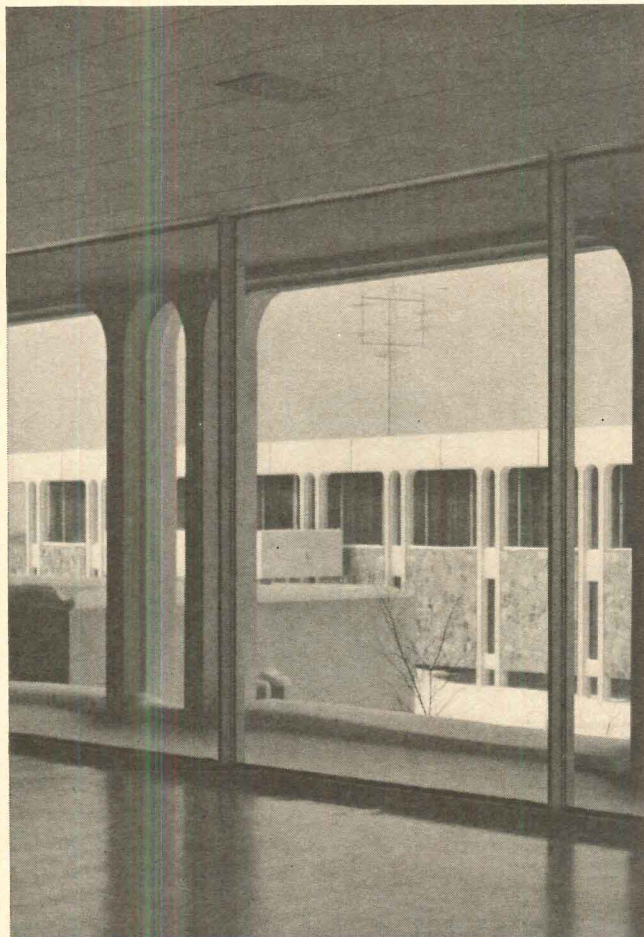
GLYNN·JOHNSON CORPORATION
 4422 N. Ravenswood Avenue • Chicago 40, Illinois



For more data, circle 135 on Inquiry Card



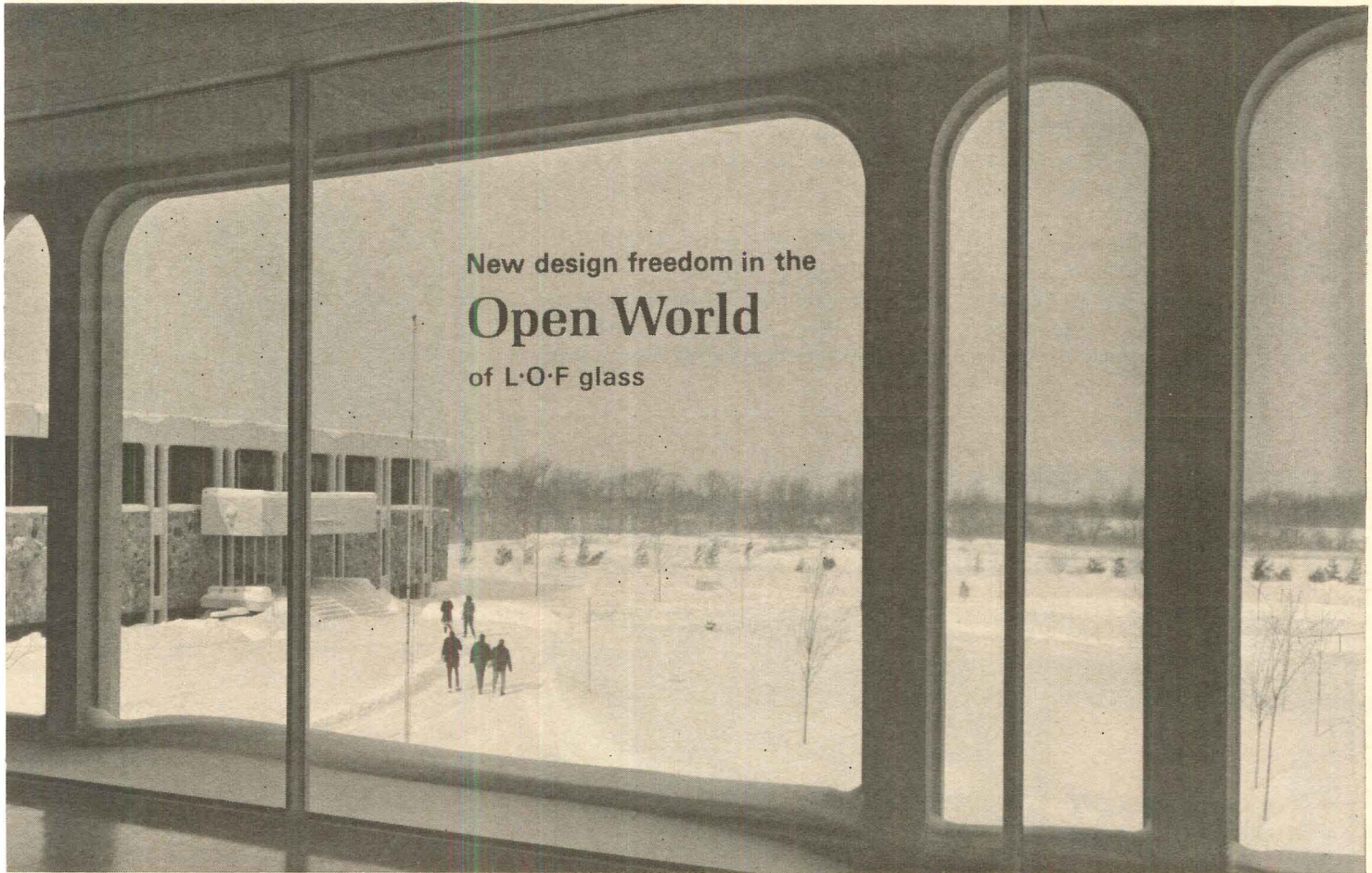
Chicago Civic Center. Architects: C. F. Murphy Associates; Skidmore, Owings & Merrill; Loeb, Schlossman & Bennett. Glaziers: Curtain Wall—Hooker Glass & Paint Mfg. Co. Other—Hamilton Glass Co., both of Chicago.



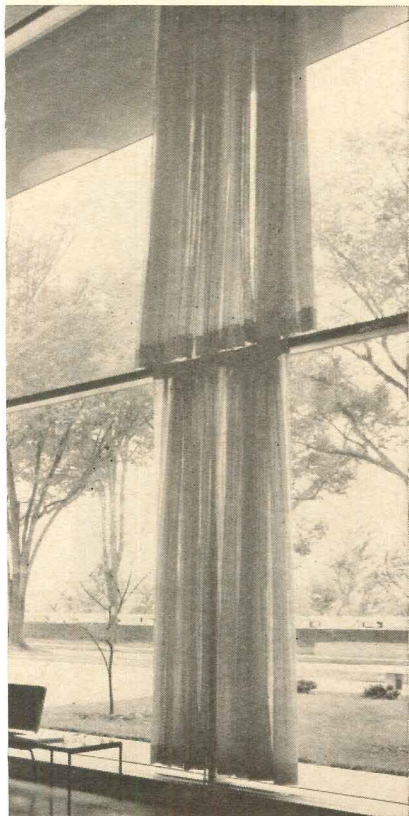
Grand Valley State College, Allendale, Michigan.



Louisiana State Library, Baton Rouge, La. Architects: W. R. Burke and J. J. Desmond of New Orleans.



Architects: Meathe, Kessler & Associates, Inc., of Detroit. Glazing Contractor: Ohio Plate Glass Co. of Grand Rapids.



Three building designs ... three kinds of L·O·F plate glass to reduce solar heat, soften glare

In the college building above, *Parallel-O-Grey*® plate glass blends in smoothly with the face of the building; and from the inside, sun and snow glare is reduced.

In the Chicago Civic Center Building, the city's tallest structure, heavy-duty *Parallel-O-Bronze*® adds a rich over-all color and cuts transmittance of sun heat. It's $\frac{3}{8}$ " thick in the lower floors and $\frac{1}{2}$ " thick in the areas above where wind loads are greater.

In the library on the left, blue-green Heat Absorbing plate glass softens the light entering the building, yet transmits ample daylight.

These three kinds of tinted glass are made in a variety of thicknesses to give you various degrees of solar-heat control and depth of tone. In $\frac{1}{4}$ " thickness, they are used as the outer pane of *Thermopane*® insulating glass units.

L·O·F offers you over 50 choices of plate glass types and thicknesses—each made to fill a specific need. For technical information, refer to Sweet's Catalog File 26A. Or call your L·O·F distributor or dealer (listed under "Glass" in the yellow pages of the phone book). Libbey·Owens·Ford Glass Company, Toledo, Ohio 43624.

MADE IN U.S.A.



Libbey·Owens·Ford . . . TOLEDO, OHIO

For more data, circle 136 on Inquiry Card

Product Reports

continued from page 280

SMALL SIZE LAUNDRY DRYER

The new *Petite* commercial laundry dryer has a 16 lb dryweight capacity and stands only 4 ft in over-all height. Other dimensions are 30 in. depth and 28³/₄ in. width, making the unit sufficiently compact to be easily installed in buildings in which there are problems of awkward corners,

low archways, etc. The dryer is available in gas-fired and electrically-heated models. Coin-operated, the *Petite* is supplied in a wide range of colors. *W. M. Cissell Manufacturing Company, Inc., Louisville, Ky.*

CIRCLE 312 ON INQUIRY CARD

POTTERY CANDLE HOLDER

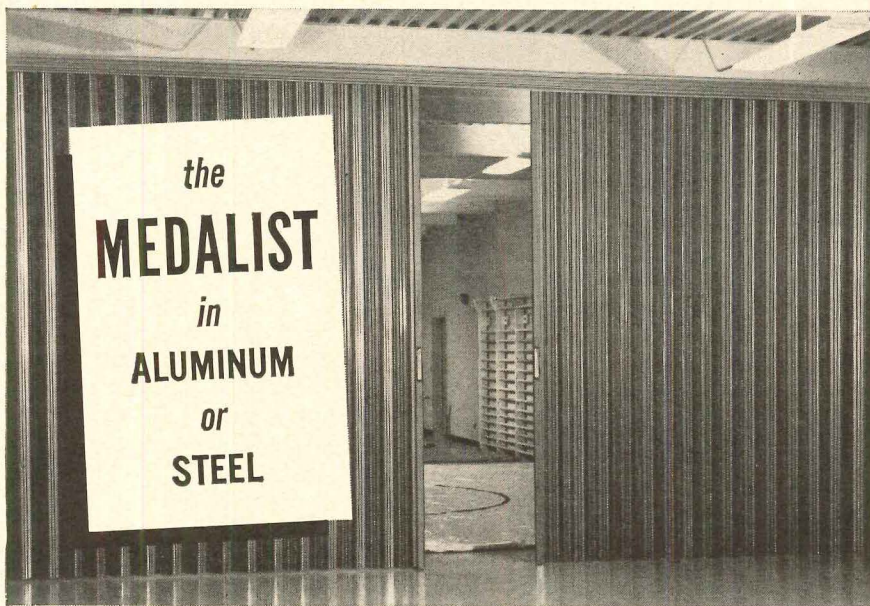
Architectural Pottery's *candle tree* can be used to give an unusual decorative effect indoors or outside. Each pottery lantern is hung from a branch



of black metal, firmly planted in a weighted pottery base. The lanterns are available in white glaze, or a choice of seven other glaze colors as well as in a natural unglazed off-white finish. *Architectural Pottery, Los Angeles, Calif.*

CIRCLE 313 ON INQUIRY CARD

NEW METAL FOLDOOR



Stay-new beauty and rugged service!

The all-new FoIDoor MEDALIST offers a combination of qualities found in no other type of folding partition. Beauty and ruggedness are combined in a neat, compact package.

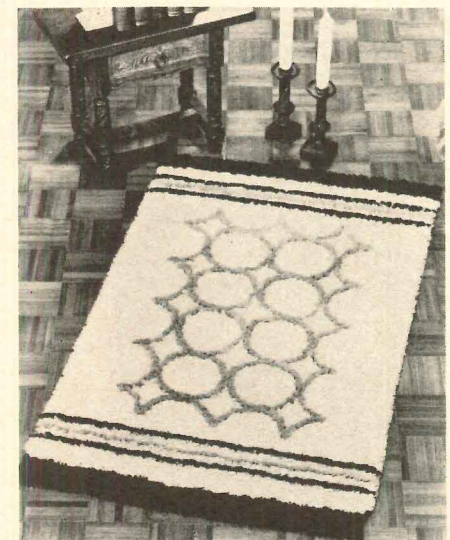
Hospitals, gymnasiums, nursing homes, shops, offices, cafeterias, high traffic areas . . . wherever hard surfaced "wearability" or antiseptic "scrubability" is required, the FoIDoor MEDALIST is the best buy. Even the colorful finishes are an integral part of each panel.

Pale gold or silver finishes are available in anodized aluminum or a selection of complementary decorative colors in vinyl copolymer enamel finishes on

steel. Narrow slimline vinyl flex-joints serve as inconspicuous hinges, accenting the MEDALIST's overall beauty.

Very little stacking space is needed (only 1¹/₈" per foot of opening width) and each panel is individually supported with quiet nylon treads, affording easy operation. This feature also permits smooth operation with minimal effort for very high partitions.

Low first cost and little or no maintenance outlay make the MEDALIST an ideal choice for heavy duty, utility-type service areas. Contact Holcomb & Hoke or FoIDoor Distributor for complete details and specifications on the MEDALIST.



was developed to give the rugs a handmade appearance. The four designs are called *Mediterranean* (illustrated) *Rusticana*, *Mexicana* and *Finlandia*. *Aldon Area Rugs, Inc., Lenni Mills, Pa.*

CIRCLE 314 ON INQUIRY CARD



Another FoIDoor Total Excellence product from

HOLCOMB & HOKE MFG. CO., INC.

1545 CALHOUN STREET • DEPT. F34 • INDIANAPOLIS, IND. 46207

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why...

specify Duracron® thermo-setting acrylic enamel? Because it protects metal products—building panels, windows and doors, siding, gutters and downspouts, office and toilet partitions, lighting fixtures, laboratory furniture, air conditioning, commercial refrigerators—better than any other metal finish.

{ **PPG DURACRON®** }

the pioneer and pacesetter in its field continues to establish high performance standards for product finishes. It possesses more outstanding properties than can be found in any other single coating of any known organic film today. Phone or write for information today.

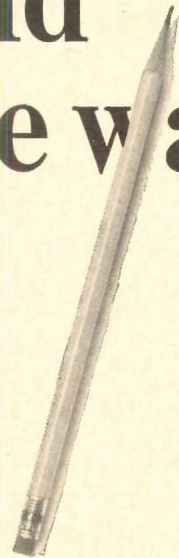
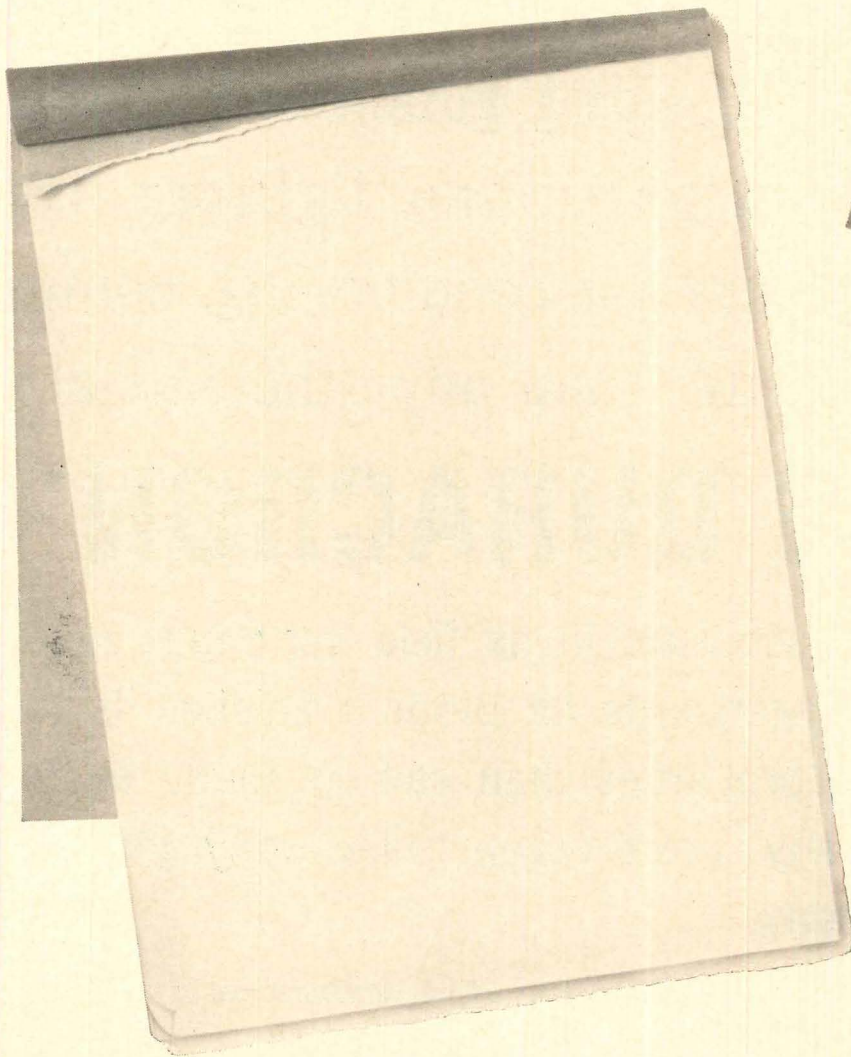
When you start with metal . . . finish with Duracron!



1 Gateway Center, Pittsburgh, Pa. • Phone: 412-281-5100
Pittsburgh Plate Glass Company • In Canada: Canadian Pittsburgh Industries Limited

For more data, circle 138 on Inquiry Card

**Go ahead. Design a
ceiling that cools, heats,
lights, communicates,
controls sound and
beautifies just the way
you want it to...**



I will install it. And guarantee its performance, too!

By combining many essential functions into one system, today's electric integrated ceiling gives you new freedom in interior design. Take full advantage of that freedom. Create the ceiling that does what you want it to do, looks the way you want it to look. Then make it part of the electrical specifications and let your qualified electrical contractor take it from there.

Why an electrical contractor? Because most of the functions of an integrated ceiling are powered or controlled

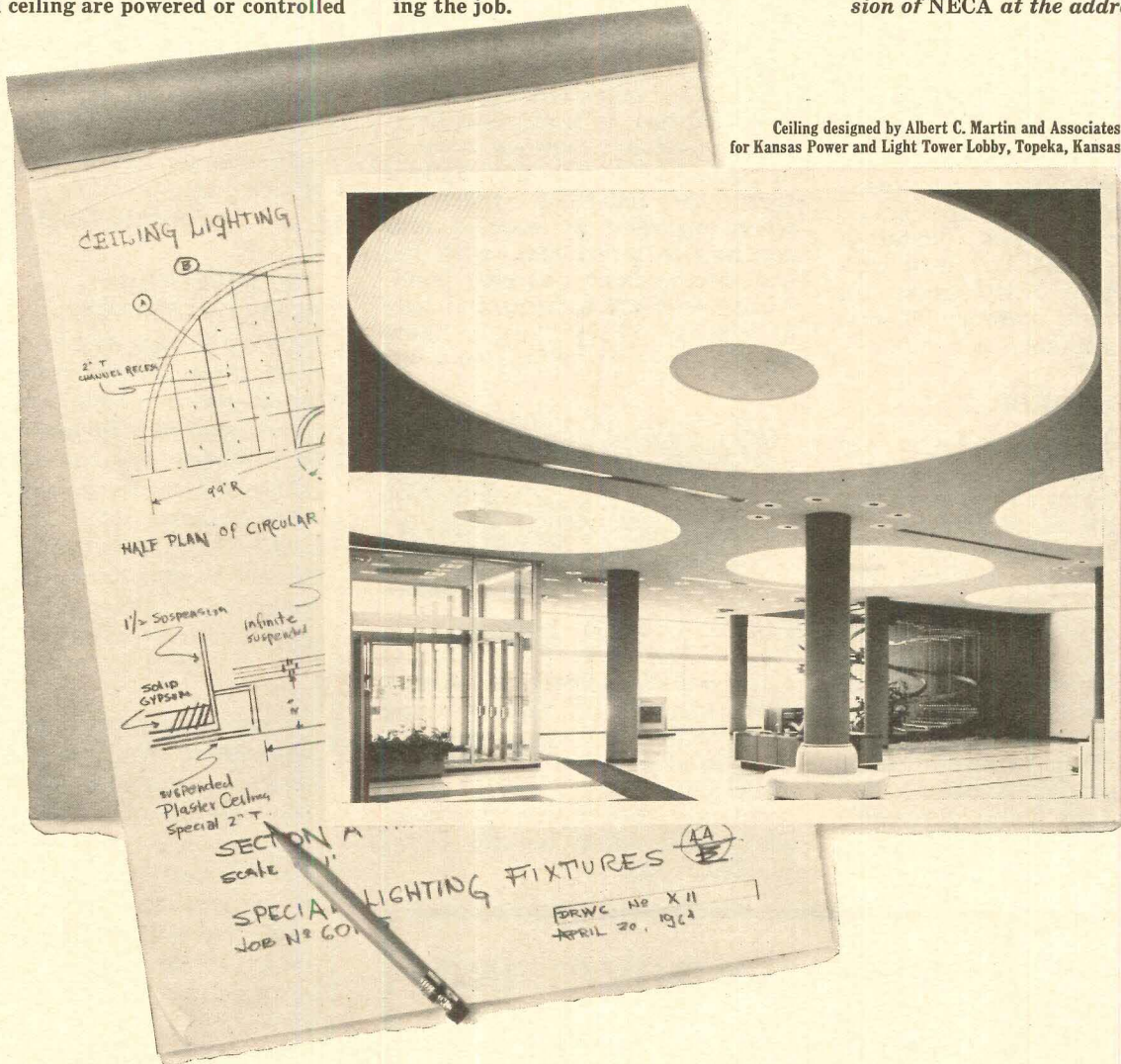
by electricity... and electricity is the electrical contractor's business.

Of course, proper installation will require the services of carpenters, sheet metal men, plasterers, plumbers, heating and refrigeration men. But your qualified electrical contractor has plenty of experience in coordinating the efforts of these specialists—and he has available to him established and recognized procedures through which jurisdictional questions can be settled without delaying the job.

And that's not all. Place the responsibility for your integrated ceiling in the hands of your qualified electrical contractor and he'll guarantee the performance, not only of the electrical functions, but of the entire electrically space-conditioned ceiling system.

NECA has prepared a film on integrated electric ceilings. To arrange a showing, contact the Marketing Division of NECA at the address below.

Ceiling designed by Albert C. Martin and Associates for Kansas Power and Light Tower Lobby, Topeka, Kansas



Your Qualified Electrical Contractor

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



For more data, circle 139 on Inquiry Card

If you've tried other vapor seals and they failed... isn't it time to switch to the very best?*

As a conscientious architect or contractor you have undoubtedly specified and used various types of vapor seals many, many times. If you have never had a vapor seal failure or complaint, read no farther—you're already using **PREMOULDED MEMBRANE Vapor Seal**. If, however, you have found that the vapor seal you used did not stop the ravages of excessive moisture, then we believe this message will be of interest to you. It's an academic fact that 80% of the moisture that enters a structure originates in the site. It makes little difference where the structure is placed... somewhere below the site water exists and vapor will infiltrate the structure. Dampness, condensation, insulation failures, cracked plaster, dank smells, blistering and peeling paint, fungal or bacterial attack on construction and furnishings and masonry efflorescence soon follow.

YOU KNOW THE PROBLEM...

While the building industry has recognized the need to install a vapor seal between the structure and the site there has been a promiscuous use of permeable materials as vapor barriers. The only sure way to permanently eliminate moisture migration into the structure is to install true inviolate, impermeable vapor seal during the original construction. The following chart graphically illustrates that saturated felts, building and duplex papers, and plastic films are highly permeable and should not be considered as effective vapor seals.

MATERIAL	WATER-VAPOR TRANSMISSION*
Duplex Paper (coated both sides with reflector material, reinforced)	.347
Polyethylene Film (.006 in. thick)	.17
55-pound roll roofing	.081
PREMOULDED MEMBRANE Vapor Seal	.0048

*grains/per square foot/per hour as measured in accordance with ASTM Designation E96-53T, Procedure A.

WE HAVE THE ANSWER...

In addition to an almost nil water-vapor transmission rating, **PREMOULDED MEMBRANE** with **PLASMATIC Core** offers many other important and exclusive qualities. It is durable, flexible, and strong...will not rupture or tear under normal installation, traffic, and handling. Monolithic when installed to expand and contract in direct ratio with the concrete without breaking bond. Available in 4' x 8' sheets and rolls 4' wide to 50' long. It is lightweight, easy to handle and install.



PREMOULDED MEMBRANE Vapor Seal with **PLASMATIC Core** provides a practical, permanent method of waterproofing both vertical and horizontal surfaces in all types of construction; including slab-on-grade, basement and crawl space. For complete information request Catalog No. 753.

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PRODUCTS
FOR BETTER
CONCRETE
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OF CANADA, LTD.**

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WESTON, ONTARIO, CANADA

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Office Literature

continued from page 226

HARDWARE FOR HOLLOW METAL DOORS

A four-page brochure shows how *Amweld* hollow metal doors can be adapted for use with a wide range of hardware. The brochure is set out in chart form to illustrate the products of a number of different manufacturers, which are suitable for use with this hollow metal door line. *Amweld Building Products, Niles, Ohio**

CIRCLE 410 ON INQUIRY CARD

SWIMMING POOL DESIGN MANUAL

A new manual, prepared for use by pool builders, architects and engineers, contains a variety of construction details, installation drawings and written specifications. A design and engineering section includes sample plans of pools of various shapes and sizes, and notes on the elements which affect design and layout as well as engineering requirements. Minimum codes and standards affecting construction are also given. *Paddock of Texas, Inc., Dallas, Tex.*

CIRCLE 411 ON INQUIRY CARD

ARCHITECTURAL WALLCOVERINGS

A new 135-page swatch book of gravure printed, vinyl-coated textured wallpapers in a wide range of colors is now available. Designed to serve as homogeneous backgrounds in areas where patterned wallcoverings are not desirable, this collection provides a wide variety of textural accents, and is said to give hard wear and easy maintenance. *James Seeman Studios, Inc., Garden City Park, N.Y.*

CIRCLE 412 ON INQUIRY CARD

STAINLESS STEEL DOOR AND FRAMING SYSTEM

Two four-page brochures now detail the company's new *Challenger* stainless steel door, and the *Compak Special* stainless steel door and window framing system. The brochures include specifications, and installation details in the form of diagrammatic drawings. *Schacht Associates, Inc., Bronx, N.Y.**

CIRCLE 413 ON INQUIRY CARD

*Additional product information in *Sweet's Architectural File*

more literature on page 302



EYE APPEAL: built in with hardware by Corbin

Architectural hardware may be a functional detail. But attention to detail adds up to better design. So it is with hardware by CORBIN; it works day after day creating important first impressions in your plant and offices.

With CORBIN hardware you'll find classic simplicity that quietly complements contemporary architecture. CORBIN designs are modern, clean — qualities which help give your building a look of enduring good taste.

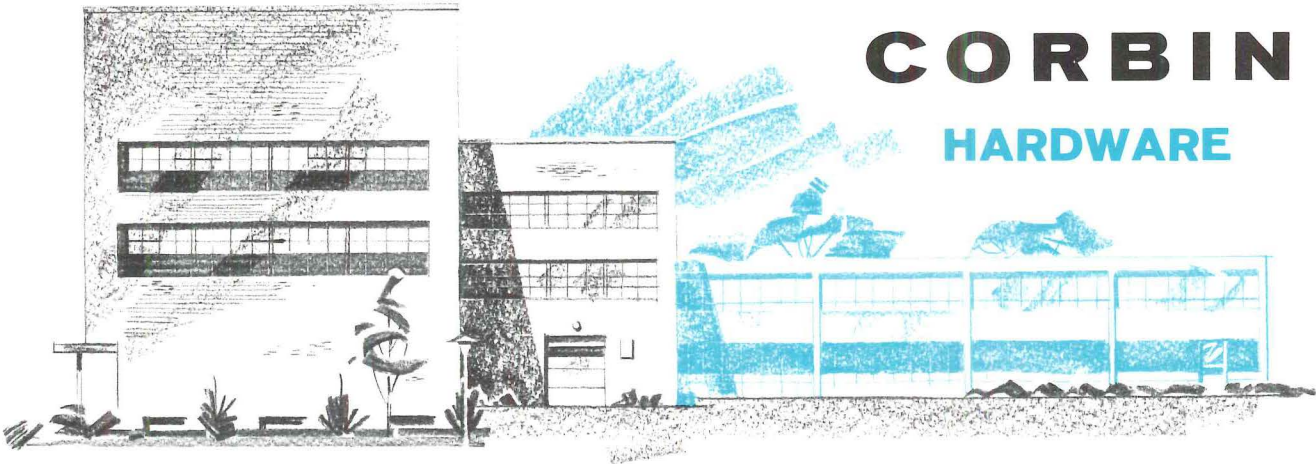
To prove it to yourself, simply turn the page . . .



P. & F. CORBIN DIVISION OF EMHART CORPORATION, NEW BRITAIN, CONNECTICUT

THE INS AND OUTS OF PLANNED INDUSTRIAL EXPANSION CALL FOR

CORBIN HARDWARE

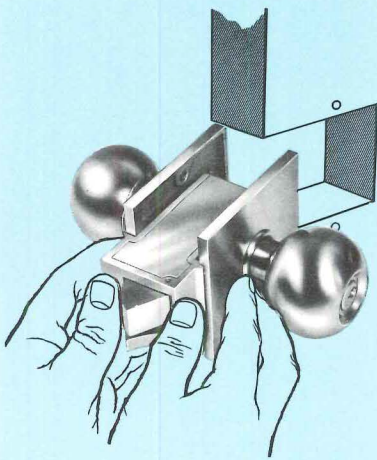


Everywhere you look plants small and large are expanding, modernizing... taking on a new look in industrial parks throughout the country. Bright offices welcome visitors on business. Clean, efficient, safe factory work areas are planned with appearance as well as safety in mind.

Attractive, functional, quality-built Corbin locksets give

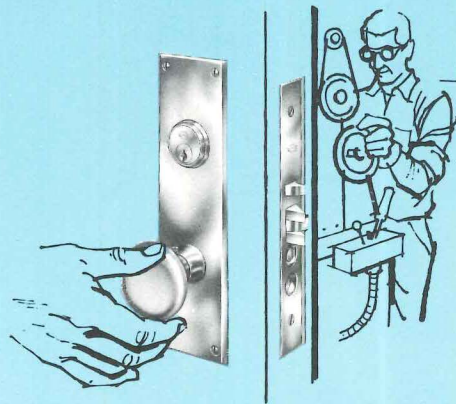
many of these expanding plants a look of enduring good taste. In addition, they are engineered for years of rugged punishment. They provide a choice of many lock functions for maximum security. They are built for precise, foolproof operation with a minimum of maintenance.

Look them over. Everyone else does.



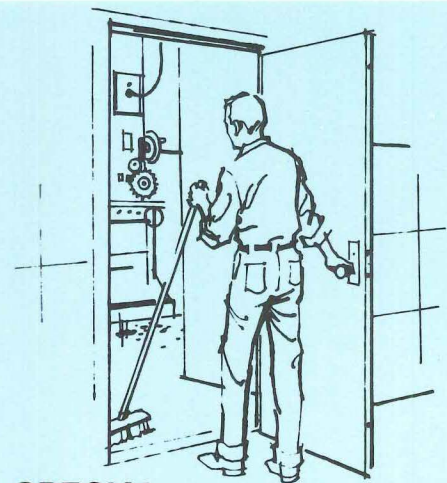
UNIT® LOCKSETS

They come as a unit, install as a unit, require no adjustment, assembly or re-assembly. Three simple, fast steps — and the lock is in the door. Unit® locksets feature the finest lock mechanisms for heavy-duty service... minimum maintenance.



MORTISE LOCKSETS

In this lock, machine-finish shanks operating in nylon bushings are virtually friction-free for long-life performance. And the hub is 60% heavier than most... built to take a tremendous amount of wear. Ideally suited where flexible keying security is required.



SPECIAL LOCKING DEVICES

Corbin manufactures the No. 3000 3-Point Lock for hollow metal doors especially for use as boiler and transformer room doors. Designed to prevent doors from warping and opening because of fire. Single-Point mortise cylinder lockset is ideal for sound-deadening doors; in cast brass or bronze.



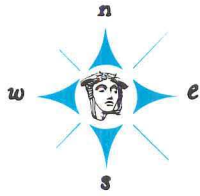
P. & F. CORBIN

DIVISION OF EMHART CORPORATION
NEW BRITAIN, CONNECTICUT 06050

IT PAYS TO MAKE IT CORBIN — THROUGHOUT!

Timeless Stone Mountain . . .
an apt setting for
enduring terrazzo made with

MEDUSA WHITE



For Colorful Construction Everywhere

Architects, with the artistry of a terrazzo contractor, achieve a timeless beauty with a terrazzo floor using Medusa . . . the original White Portland Cement . . . as the matrix.

Used in countless installations, Medusa White lends true color fidelity to any terrazzo color theme because of its innate true whiteness. It sets off and enhances the natural beauty of marble chips. And Medusa White meets all ASTM and Federal specifications for strength. Ask your terrazzo contractor about Medusa White.



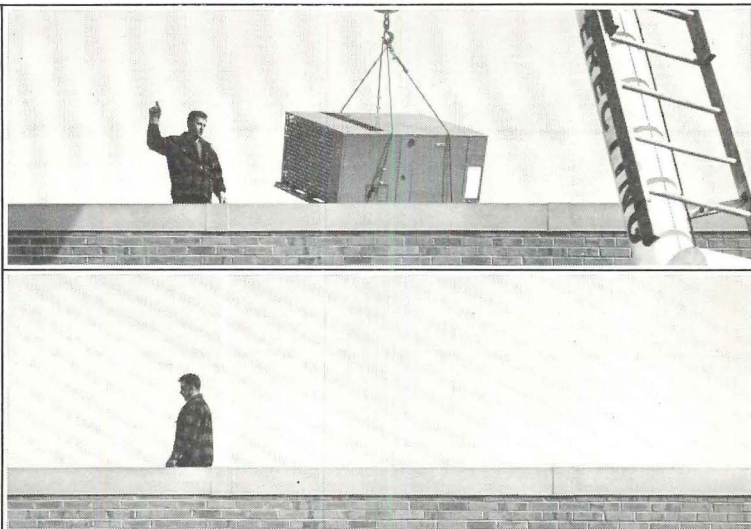
MEMORIAL HALL BUILDING, Stone Mountain State Park, Georgia. Architect: Robert & Company, Inc., Atlanta, Ga.
Gen. Contractor: Van Winkle & Company, Atlanta, Ga. Terrazzo by: Williams Tile & Terrazzo Co., Atlanta, Ga.



MEDUSA PORTLAND CEMENT COMPANY

P. O. Box 5668 • Cleveland, Ohio 44101

**Worthington's
Climatrol® low profile
Roof-top line
installs easily...
stays out of sight**



The Climatrol Roof-top offers you the lowest-profile, completely packaged year 'round Climate conditioner in the industry. Its low lines harmonize with the clean look of today's modern architecture.

Here's a single, attractive unit that cools, heats, filters, dehumidifies, and circulates air and is easily installed. It requires a bare minimum of duct

work—even when installed at ground level; and simplification of curbing detail eliminates construction problems. The Worthington Climatrol Roof-top line ranges in capacity from 2-40 tons cooling and 60,000 to 640,000 BTUH heating. It's the most economical way to air condition single story buildings.

Most important of all, the Climatrol

Roof-top is designed, styled, and engineered to work *with you—not against you*. We designed it to meet the sleek sweep of modern styling. That's just what you would expect from Worthington.

Get the full story. Contact your Worthington sales engineer, or write: Worthington Air Conditioning Co., Dept. 12-58-5, East Orange, N.J.

**The big move
in air conditioning**

UP

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HEATING AND COOLING FOR HOME, BUSINESS AND INDUSTRY
WORTHINGTON

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For more data, circle 143 on Inquiry Card

For more data, circle 144 on Inquiry Card →



R_x FOR BETTER DAYLIGHTING

Controlled daylighting is a principal ingredient in the jet age formula employed by Western Airlines in its modern maintenance base recently constructed at the Los Angeles International Airport.

Sidewall glazing in metal sash highlighted by the use of Mississippi SMOOTH ROUGH® in giant sliding glass doors contributes eye-soothing illumination within this immense structure where skilled craftsmen work in a favorable environment conducive to greater efficiency and comfort.

Translucent SMOOTH ROUGH is but one of many rolled glass patterns created by Mississippi to help control raw daylight. "Visioneered" to meet virtually any daylighting requirement they are available wired and unwired through leading distributors of quality glass.



Architects and Engineers: Quinton Engineers, Ltd.,
Los Angeles, Calif.
General Contractor: S. Patti Construction Co.,
Inglewood, Calif. and Kansas City, Mo.
Glass: Ful-Trim Division of Texas Aluminum Co.
Glazing: Imperial Glass Company, Los Angeles, Calif.



MISSISSIPPI GLASS COMPANY

88 Angelica Street • St. Louis, Missouri 63147

NEW YORK • CHICAGO • FULLERTON, CALIF.

LARGEST DOMESTIC MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

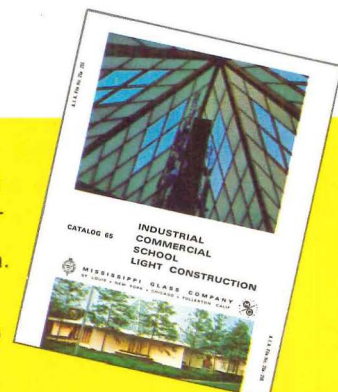


Architects: Grassold & Johnson, Milwaukee, Wisc.
 General Contractor: Bauer Construction Co., Milwaukee
 Glass: Lurie-Patek Glass Co., Milwaukee
 Skylight Erection and Glazing: Super Sky Products, Inc., Thiensville, Wisc.

Glass BRINGS THE BEAUTY OF NATURE INDOORS

Skylights of ¼" Mississippi SMOOTH ROUGH MISCO (wire) glass crowns the Milwaukee County Zoo Aviary with softly transmitted natural light . . . create a feeling of spaciousness and help to simulate the native habitat of feathered songsters.

In keeping with modern architectural trends, the high levels of diffused illumination through patterned glass are coupled with the beauty and utility of MISCO, diamond-shaped welded wire netting for proven fire and breakage protection. See your nearby distributor of Mississippi glass.



NEW CATALOG

Contains pattern descriptions, light distribution charts, transmission data. Send for your free copy today.

See our catalog in Sweet's 

MISSISSIPPI GLASS COMPANY

88 Angelica Street • St. Louis, Mo. 63147

DISTRIBUTORS IN PRINCIPAL CITIES OF THE UNITED STATES AND CANADA



Photo courtesy of Reality Associates Ltd. Walter W. Ahlschlager, Dallas, Tex., architect

11-STORY OVERCOAT

*Looks like ceramic,
costs less than glazed brick,
goes on like paint,
provides lasting, tile-like beauty*

The brilliant glazed appearance of the new Wedgwood Apartments overlooking Dallas, Texas has been achieved with an Aroflint-based coating system.

Coating the exterior of the 11-story structure with this new coating system afforded the same beauty and long wearing brilliance of glazed materials—at savings up to \$2 per square foot.

An Aroflint-based coating system opens

up intriguing possibilities for other exterior applications. It can be applied equally well over masonry, wood or metal . . . it comes in gleaming white or bright pastels that won't fade or yellow or in clear finishes to accent a distinctive exterior. Like paint, it can be applied by brush, spray or roller.

Consider and evaluate the advantages of an Aroflint-based coating system for your upcoming projects. Write for full particulars.



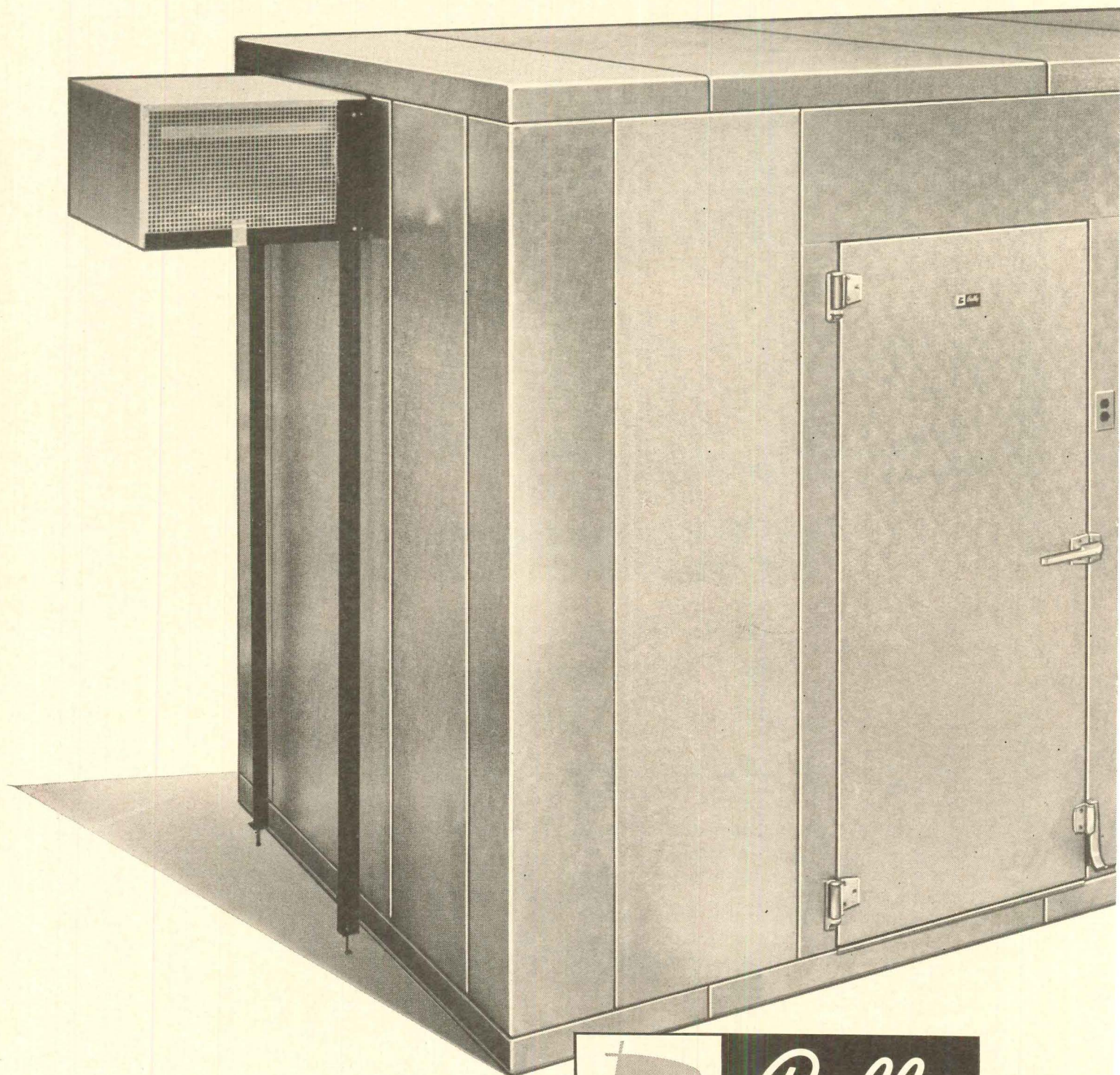
ARCHER DANIELS MIDLAND COMPANY 733 MARQUETTE AVENUE, DEPT. 38 MINNEAPOLIS, MINNESOTA 55440

R-9

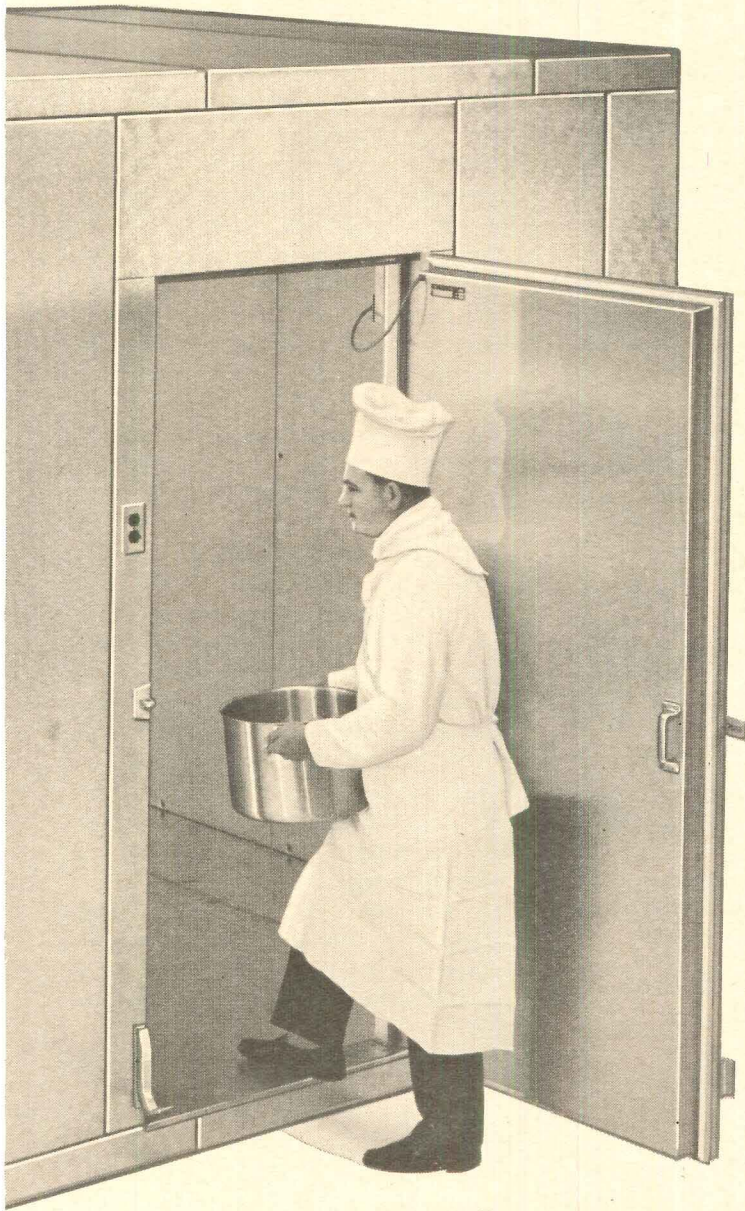
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For more data, circle 146 on Inquiry Card

There is no such thing as



or equal to a Bally Walk-In Cooler or Freezer



THE PROBLEM OF "OR EQUAL" HAS LONG BEEN THE CONCERN OF MANY ARCHITECTS AND ENGINEERS

Everyone knows the use of "or equal" in specifications encourages the attempt to establish non-equals as equals . . . even invites outright substitution.

However, when it comes to Walk-In Coolers or Freezers there is no "or equal" to a Bally. The proof of this is that no other Walk-In made today has all of these important construction techniques and unusual features developed for exclusive use in Bally Walk-Ins:

Urethane insulation 4" thick is foamed-in-place (not frothed). Has efficiency of 8½" fibreglass. Suitable for minus 40° F. temperature.

Assemble any size or shape from standard modular sections. Urethane has 97% closed cells and is ideal for outdoor use.

Superior section strength resulting from urethane foamed against metal skins eliminates need of wood structure. 100% of every section is hospital-clean insulation (vermin and rodent proof).

Bally Speed-Lok fasteners join sections quickly and accurately. Unlock easily for enlargement or relocation.

Foamed lightweight door has self-closing hinges, modern hand lock (inside safety release) and convenient foot treadle. Opens and closes with feather touch. Magnetic gasket provides tight seal.

Metal interior and exterior provides maximum sanitation. Your choice of hammered aluminum, galvanized steel or stainless steel.

Hermetically-sealed refrigeration systems, self-contained, available for all sizes of normal and low-temperature Walk-Ins. Easy to install . . . reduce service problems.

Mass-produced to be substantially lower in cost than "built-ins" constructed by building trades. Cubic-foot cost is less than half that of "reach-ins".

When you specify a Bally there is never a need to accept an "or equal" or a substitute. Bally Walk-Ins are available to all dealers everywhere at uniform established prices. *Write for Fact File with 12-page brochure, specification guide, sample of urethane wall. Learn about our on-the-spot engineering program that provides assistance in layout and specifying.* Bally Case and Cooler, Inc., Bally, Pa.

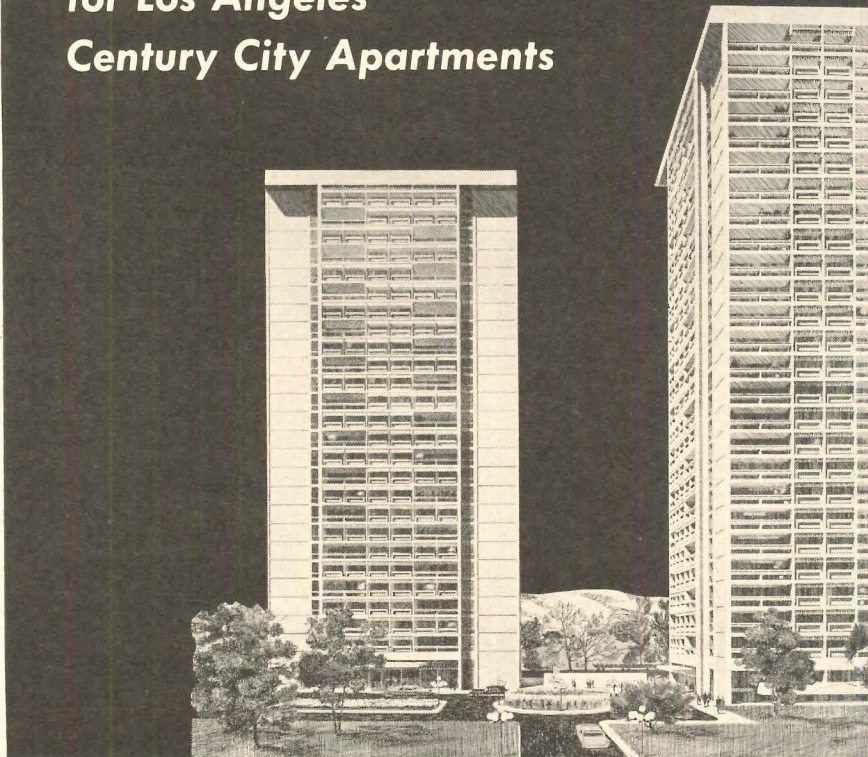
Look for this hallmark on the Bally Walk-In you specify. It is our registered guarantee that your specifications have been fulfilled with the highest quality workmanship and materials.



For more data, circle 147 on Inquiry Card

X-panda SHELF®

—A Better Shelf at a Better Cost
for Los Angeles'
Century City Apartments



Professionally finished closets enhance the rentability of the Century City apartment complex in Los Angeles. Customer-pleasing, pre-finished X-Panda Shelf not only provides a superior closet shelving of expandable steel construction but installs at an overall lower cost — and eliminates future maintenance cost. Here's the report from Century City:

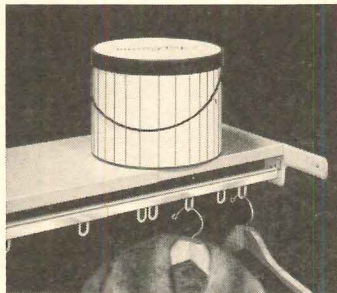
"We specified Home Comfort X-Panda Shelf for the closets. It was our understanding that the erection cost, because of its expandable features and pre-fabrication, would reduce our installation costs . . . and the bids for the Century Towers apartments proved this to be a fact."



—D. H. McCauley
Director of Purchases
Century City

X-PANDA SHELF is factory finished in five fashion colors . . . with Bonderized steel construction . . . available in a variety of styles to fit any type of wardrobe, linen or utility closet — including continuous shelving on storage walls. Can't warp . . . never needs painting . . . guaranteed by Good Housekeeping. Send coupon for details.

A.I.A. File 17-D ^{38-d}
Hom



hc
home comfort
products co.
box 68
princeville,
illinois
Phone 309 385-4323

Please send information on X-PANDA SHELF, plus other proven Home Comfort products: AR

VENT-A-SYSTEM attic ventilation LOUVERS & SHUTTERS

Name _____

Firm _____

Address _____

City _____ State _____ ZIP _____

For more data, circle 148 on Inquiry Card

Office Literature

continued from page 288

BUILDING PRODUCTS DIGEST

A spiral-bound 64-page book has recently been published to provide a ready reference source for buyers of building products. Among the products listed in the catalog are: insulated metal curtain walls; metal-clad fire walls, single-sheet siding and architectural facing for walls and interior partitions; power-operated and special rolling steel doors, grilles and shutters; steel cellular subfloors for electrified installations; standard and longspan steel roof decks; floor and ceiling air distribution systems. The text is illustrated with charts, graphs and tables as well as photos, schematic and cross-sectional drawings. R. C. Mahon Company, Detroit, Mich.*

CIRCLE 414 ON INQUIRY CARD

WATERPROOFING FOR PARKING GARAGES

A bulletin and specification sheets describe the properties, uses and application techniques of *Sure-Seal* butyl rubber sheeting and *Ply-deck* neoprene-hypalon surface coating. Both products were developed to prevent water seepage through the roof decks of concrete parking garages. *Sure-Seal* is recommended for new roof and ramp construction, while *Ply-deck* is recommended for use in existing structures. *Special Products Department, Carlisle Tile and Rubber Division, Carlisle Corporation, Carlisle, Pa.**

CIRCLE 415 ON INQUIRY CARD

WATER FOUNTAIN SPRAYHEADS

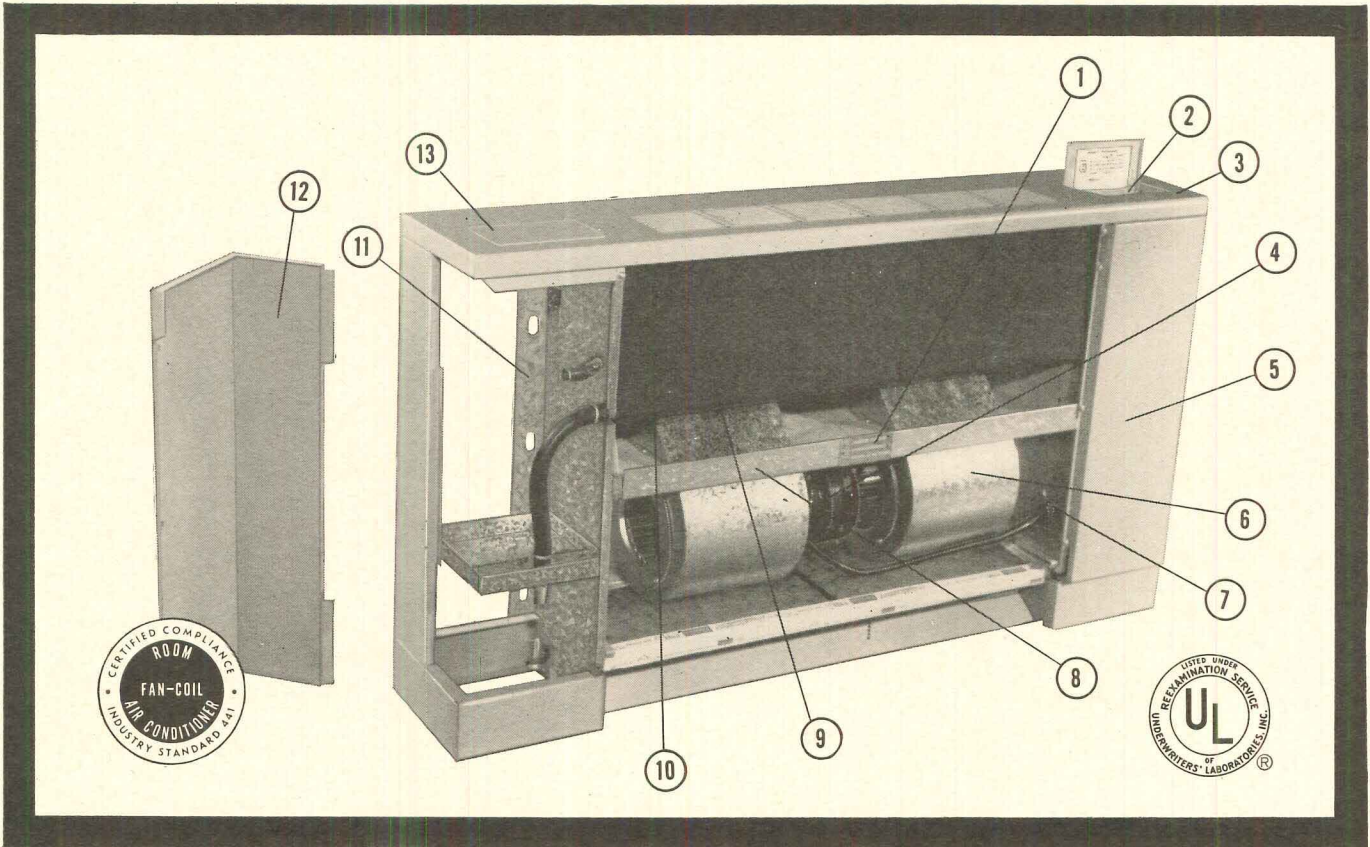
Water Sculpture fountain display heads are shown in an illustrated folder. The heads, some of which are stationary, while others rotate by hydraulic turbination, are individually hand fashioned and brazed from solid copper and brass and finished with an oxidized bronze finish. Spray heads can be operated by any water source at approximately 145 gal per hour at 5 psi. Suitable for indoor and outdoor use, they can be supplied separately, or as complete units with a fiberglass bowl, in diameters from 3 ft to 6 ft. *Canal Electric Meter Company, Inc., New York, N.Y.*

CIRCLE 416 ON INQUIRY CARD

*Additional product information in *Sweet's Architectural File*

A R I

**Certification
is 1 reason why
BOHN-AIRE
fan coil units
are your Best Buy!**



Certification by the Air-Conditioning and Refrigeration Institute gives you extra assurance. Bohn-Aire fan coil units have Approved Standard Ratings in accordance with Industry Standard 441-61 for Equipment Testing and Rating.

Designed for heating and cooling in new or old buildings, Bohn-Aire units combine the one-water-source advantages of a central system with the great flexibility of individual units. Ideal for Motels, Offices and other Single Room needs where individual control is desirable. Floor and ceiling mounted models available with both concealed and High-Styled exposed cabinets.

Request Bulletin 470 from Your BOHN Representative, or write:

Here are 15 others:

- | | |
|--|--|
| 1 Underwriters' Laboratory Listed | 8 Removable motor and blower deck assembly |
| 2 Push button control, 3 speeds and Off | 9 Air passage lined with acoustic and thermal insulation |
| 3 Slender, 8½" cabinet | 10 Three row high-capacity coil |
| 4 Quiet, tapped winding, 1050 RPM motors with resilient bases and overload protection | 11 Sturdy support brackets that are an integral part of unit casing |
| 5 High-styled cabinet models with neutral beige baked enamel finish | 12 Removable hinged end panels for easy piping |
| 6 Low air velocities | 13 Manual air vents, easily accessible |
| 7 Electrical junction box for connection of power supply | 14 A complete line of 4 models |
| | 15 Full complement of accessories and control packages |

BOHN

ALUMINUM & BRASS COMPANY

Heat Transfer Division • Danville, Illinois

A DIVISION OF UNIVERSAL  AMERICAN CORPORATION

For more data, circle 149 on Inquiry Card

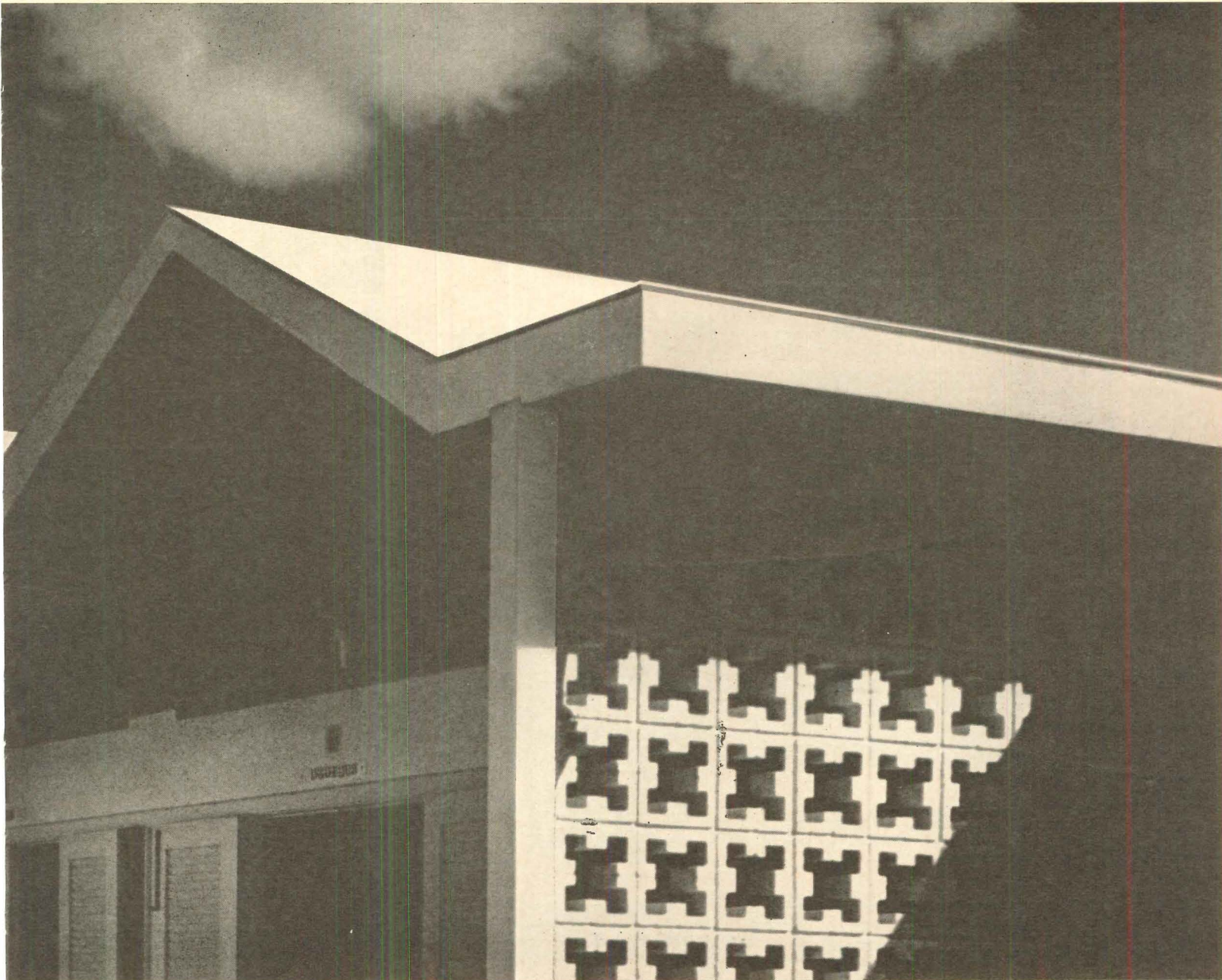
New Du Pont TEDLAR® keeps this cabana roof



A single ply of roofing gives long-lasting whiteness to the prominent, folded-plate roof of this hotel cabana. The surface of Du Pont TEDLAR* PVF film will remain a brilliant white, even after years of exposure. The roofing is Ruberoid T/NA 200† with TEDLAR. T/NA 200 is easily installed with conventional roofing techniques. It weighs less than conventional built-up roofing, and it can fit roofs of unusual contour and of any slope.

The whiteness of the surface of TEDLAR gives high reflectivity (it has less than

brilliantly and lastingly white—without maintenance



half the solar absorptance of crushed stone or marble), which lowers under-roof temperatures and air-conditioning loads.

The whiteness stays white because TEDLAR is a tough, inert, flexible film that's too smooth to trap dirt. There is no loss of color with TEDLAR because the surface cannot erode as it can from liquid topcoats applied in the field. Re-coating maintenance is eliminated. The roofing stays tough and flexible from minus 50°F. to over 250°F.

More and more architects are specifying TEDLAR as the finish on roofing and siding for their new designs. For a detailed case history and a sample, write Du Pont Film Dept., Box 2372, Wilmington, Delaware 19898; or, for more information, see Sweet's Catalog.

Kenilworth Hotel Cabana, Miami Beach, Florida
Architect: Stefan Zachar, A.I.A., Miami Beach, Florida
Contractor: John C. Woodruff Co., Miami Beach, Florida

*Du Pont registered trademark
†Ruberoid's registered trademark



BETTER THINGS FOR BETTER LIVING...*THROUGH CHEMISTRY*

For more data, circle 150 on Inquiry Card

CHICAGO HOLDS ELEVENTH ANNUAL AWARDS PROGRAM

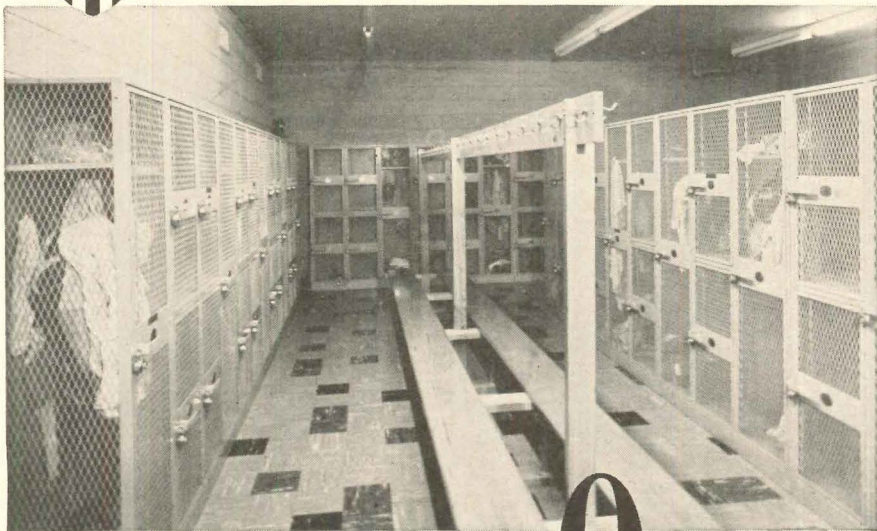
continued from page 10

On this page and on pages 310, 314, 330 and 334 are shown the 14 citations of merit for new buildings and the three citations of merit for rehabilitation and remodeling.



For over 30 years . . .

All-American Athletic Lockers



Have Set the Standard for **Quality**

There's an All-American Locker to meet every need . . . full length, double tier and gym lockers . . . all completely ventilated . . . in a choice of 7 baked enamel finishes (or custom finished) . . . available for uniform installation or in combination.



The original All-American Locker was a custom locker . . . built to particular specifications for a particular installation. They were ordered because lockers of the size, quality and serviceability were not available in standard locker packages.

Since that time the line has been adapted, expanded, altered and refined . . . but the *Quality features of design, materials and construction have never been compromised.*

Today the All-American Locker is the leader in the quality field . . . providing maximum ventilation, light, roominess and cleanliness . . . exactly built of heavy duty materials to assure long life service.

The All-American Line has been copied, imitated, adapted and appropriated *but it has never been equalled.* Ask the coaches and players who demand the best . . . and have All-American!

Send for our complete line catalog and complete information.

DeBourgh Manufacturing Co.

9300 JAMES AVE. S., DEPT. AR, MINNEAPOLIS, MINN. 55460

For more data, circle 151 on Inquiry Card



Hedrich-Blessing

Home Federal Savings & Loan Association Building, Chicago
Architects: Skidmore, Owings & Merrill
General Contractor: George A. Fuller Company



Hedrich-Blessing

U.S. Gypsum Building, Chicago
Architects: The Perkins & Will Partnership
General Contractor: A. L. Jackson Company



Hedrich-Blessing

Jens Jensen Elementary School, Chicago
Architects: Harry Weese & Associates
Structural Engineers: The Engineers Collaborative
Mechanical & Electrical Engineers: Samuel R. Lewis & Associates
Landscape Architect: Ned Samuels
General Contractor: Mercury Builders, Inc.

continued on page 310

“All right, just what *is* prestressed concrete?”

How do you answer your client—in layman's language—when he asks that question?

As an Institute, we face this task daily. So perhaps you'll be interested in how we handle it.

First thing we do is establish the fact that prestressed concrete is an *architectural and structural material*—a material with its own unique characteristics.

Then we go on to describe what this material is and how it is manufactured. We say:

Prestressing places engineered stresses in architectural and structural concrete units—stresses which more than offset the stresses that occur when the unit is subjected to loads. This is accomplished by combining two quality materials: *high strength concrete* and *high tensile steel*.

There are two methods of prestressing. They are *pretensioning* and *post-tensioning*. The commonest, pretensioning, is generally more economical due to its adaptability to mass production in a plant.

PRETENSIONING. High tensile steel strands are stretched between abutments. Concrete is then placed into forms which encase the strands. As the concrete sets, it bonds to the tensioned steel. When the concrete reaches a specified strength the tensioned strands are released. This *prestresses* the concrete, putting it under compression and creating a built-in resistance to loads which produce tensile stresses. Pretensioned prestressed concrete is manufactured in the plant, resulting in completely finished, prefabricated members ready for delivery to the job site.

POST-TENSIONING. High tensile steel strand, wires or bars are encased in tubing or wrapped, positioned in the forms, and then concrete is placed. After the concrete sets and reaches a specified strength, the high tensile steel is then stretched and anchored at the ends of the unit. Effect? Same as pretensioning.

While post-tensioning is sometimes done in a plant, it is most often done at the job site for units too large to be transported or for other unusual applications.

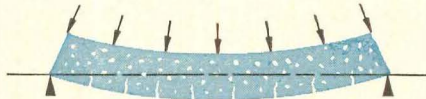
Basically, *pretensioned* prestressed concrete means that the high tensile steel is tensioned *before* the concrete is placed in the forms; *post-tensioned* prestressed concrete means that the steel is tensioned *after* the concrete is placed and has gained a specified strength.

Now, if your client has followed this pretty well, take a pencil and make a few simple sketches dramatizing the chief difference in behavior of an *ordinary* concrete beam and a *prestressed* concrete beam.

ORDINARY CONCRETE BEAM. Even without a load, the ordinary concrete beam must carry its own considerable weight—which leaves only a portion of its strength available for added loads.



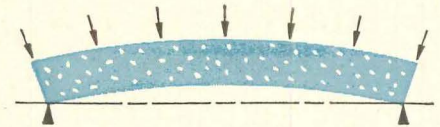
Under load, the bottom of the beam will develop hairline cracks.



PRESTRESSED CONCRETE BEAM. Prestressed before it leaves the plant, a slight arch, or camber, is noticeable. Energy is stored in the unit by the action of the highly tensioned steel which places a high compression in the lower portion of the member. An upward force is thereby created which in effect *relieves the beam of having to carry its own weight!*



The upward force along the length of the beam counteracts the load applied to the unit.



Your client will now feel like an expert on the subject! So it's only proper to let him know what *else* prestressed concrete is—namely, the answer to a lot of problems an owner faces.

Prestressed concrete lets him occupy his new building sooner. Prestressed concrete structural units, mass produced in the plant while excavation and foundation work proceeds at the site, are delivered on schedule. In almost every instance, units are erected directly from truck to structure. They fit readily into place shortening total construction time and saving labor costs.

What's more, with prestressed concrete he can increase the value of his building many times—and avoid obsolescence at surprisingly small difference in total building cost. Long spans typical of prestressed concrete eliminate columns, provide more *useable* floor space, more *flexibility* in the use of the building.

Among other economies: No painting or maintenance is required. Durability and fire resistance mean low insurance premiums. Two, three and four hour Underwriters Laboratories service is available on commonly used prestressed concrete members.

We then suggest he consider using prestressed concrete, a truly 20th century material, if he wants a permanent, quality structure erected in a hurry at a competitive price.

And we invite you to see your local PCI member for standard shapes available in your area.

TYPICAL PRODUCTS: ROOF AND FLOOR UNITS, GIRDERS, BEAMS, COLUMNS, WALL PANELS, SLABS, JOISTS, PILING

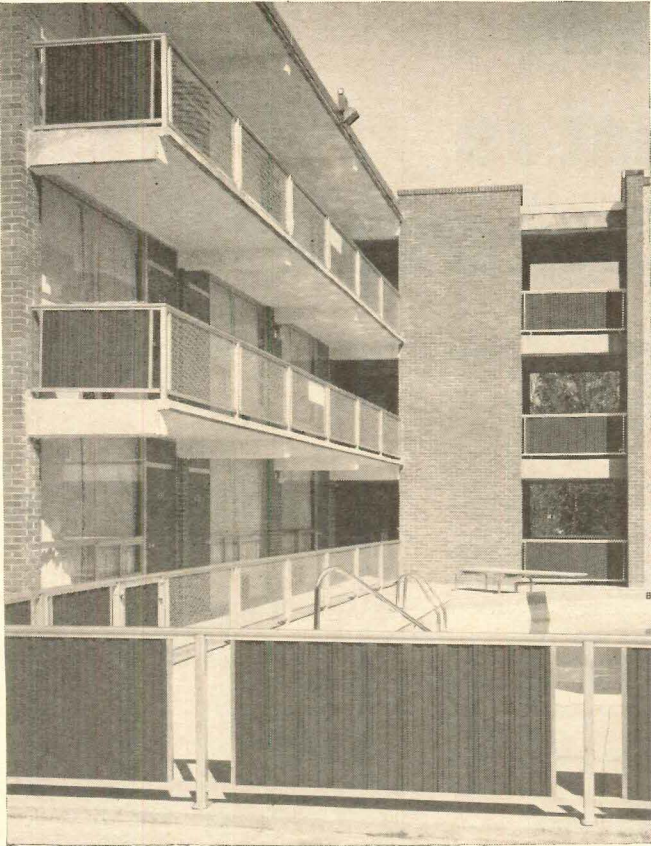


PRESTRESSED CONCRETE INSTITUTE

205 WEST WACKER DRIVE • CHICAGO, ILL. 60606



Sheraton Motor Inn, Williamsburg, Va.



ANCHOR® RAILING SYSTEMS Functional and Fashionable

Anchor Railing Systems, all beautifully constructed of rust-proof aluminum, are available in a wide variety of attractive designs. You may choose the design, or combination of designs, you want from vertical square pickets, colored panels, and Modernmesh®.

For balconies, swimming pools, walkways and decks, Anchor Railing Systems are your assurance of quality, security, and attractiveness. You can depend on Anchor for beauty and safety . . . at low initial cost and with all the low maintenance advantages of aluminum.

Anchor's national network of company erectors will install any of our railing systems fast and efficiently . . . anywhere in the United States.

For detailed information, call your local Anchor man, or mail coupon for your free, 4-color booklet, "Anchor Railing Systems."



**ANCHOR POST
PRODUCTS, INC.**

Plants in Baltimore, Houston, Los Angeles

FREE, 4-COLOR BOOKLET

Anchor Post Products, Inc.
6831 Eastern Ave., Baltimore, Md. 21224
Please send me "Anchor Railing Systems."

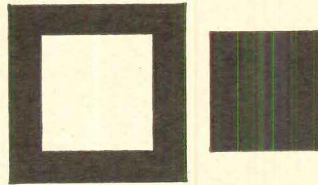
Name

Firm

Street

City State Zip

For more data, circle 134 on Inquiry Card



IS IT SQUARE TO BE SQUARE?

Many lay people (perhaps even some of your clients) are being misled and confused these days — every time the good name of marble is misused. We don't like it, and we mean to do something about it. ■ Of course, we're told, "Don't be square." What's the harm? No one's being fooled. ■ We wonder. ■ Our members furnish over 300 varieties of marble for building purposes. We mean **marble** . . . real marble . . . the natural substance you mean when you **specify** marble. ■ So we take exception when a manufacturer of soft floor tile advertises certain marbled patterns as ARCHITECTURAL MARBLES. ■ And we object when the manufacturers of non-marble materials adopt nomenclature long identified with well-established marble varieties, such as CLASSIC CREMO or TRAVERTINE or NATURAL VERDE to describe their synthetic products. ■ Furthermore—how about those plastic substances that are offered as MAN-MADE or CULTURED marble? No man can make, no one can culture marble, and we think such terminology often misleads and confuses the average person. ■ So—we're asking those who misuse our name and nomenclature not to do so. We'd just like to keep things square. ■ We'd also appreciate your opinions, and any ideas you might have on the subject of misrepresentation in selling. Perhaps if we work together we can clear up this confusion.



MARBLE INSTITUTE OF AMERICA
848 Pennsylvania Bldg., Washington, D.C. 20004

For more data, circle 155 on Inquiry Card

THE WIEDEMANN
BAPTISTRY
Quality WITH THE
GUARANTEE

of Fiberglass,
of course
by Wiedemann

- Quality guaranteed up to 10 years on workmanship and materials
- Superior strength with Wiedemann's exclusive Fiberstressing process.
- Unit-molded.
- Skid-resistant steps and bottom.
- Complete line of heaters and accessories.

Write for free information kit.

Originator and Leading Baptistry Specialists.

Wiedemann Industries, Inc.

BOX 672 — MUSCATINE, IOWA

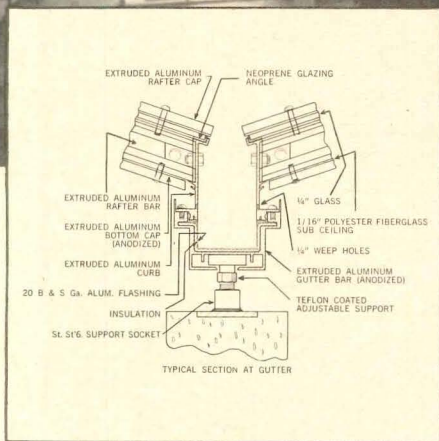
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SUPER *Skylighting*

Charles Leaming Tuft Library
Colorado College, Colorado Springs, Col.
Architect: Skidmore, Owings & Merrill



Create a Unique Environment from Natural Light



Engineering Features:

- Fifteen 11 x 11 ft. extruded aluminum pyramids
- 1900 sq. ft. of skylight
- Double glazed
- Complete skylight bears on Teflon for noise-free expansion and contraction
- Supported by precast concrete beams
- Light fixtures suspended from skylight

Super Skylighting creatively uses natural light to put mood, beauty and function into the total design of a building — gives a new shape to space within the visual environment. Consider its imaginative possibilities on your next project — whether in a standard or custom dome, ridge or pyramid, or a highly specialized unit. From *your* plans Super Sky will design, fabricate, erect and even *guarantee* the skylight. Write for detailed drawings, engineering data, estimates and suggestions. No obligation.

Write direct or contact representatives listed:



BOX 113-K THIENSVILLE, WISCONSIN 53092

PHONE: CHestnut 2-2000

Milwaukee phone: FLagstone 4-6700

Don Endres
18514 Mack Avenue
Grosse Pointe Farms 36, Mich.
Phone: TU 1-3496

Frederic N. Dodge
2648 Marion Drive
Ft. Lauderdale, Florida
Phone: 524-9169

Dekkers Davidson
101 Park Avenue
New York, New York
Phone: MU 3-6740

Earl Ham
819 Dietz Street
Marengo, Illinois
Phone: 568-7113

Jack Perling
8947 Terrace Rd. N.E.
Minneapolis, Minnesota
Phone: 927-8465

For more data, circle 152 on Inquiry Card

**You Can
Afford These**

DeVAC

**Windows with
Your Savings
on HVAC
Plant Alone!**

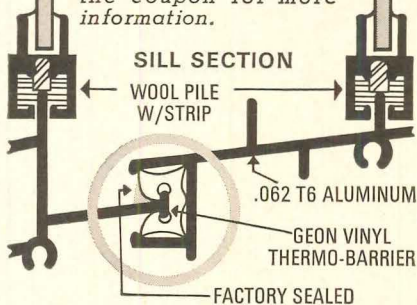
DeVAC Thermo-Barrier Windows reduce heat transfer so greatly that you can safely specify lower capacity heating and air conditioning. The savings should more than cover the costs of the patented DeVAC dual glazed windows.

Client Bonuses are year-after-year savings in HVAC plant operating costs plus the virtual elimination of future maintenance.

Take heating in Northern zones: DeVAC Thermo-Barrier construction is 82% more efficient than standard, twin-pane-type dual glazing in reducing heat losses.

Take cooling in Southern zones: DeVAC Thermo-Barrier Windows are 130% more efficient than standard single glazing in reducing heat gains.

Look for DeVAC Windows in Sweets and clip the coupon for more information.



DeVAC, INC. 10074 Hwy. 55,
Minneapolis, Minn. 55427

- Send me your Savings Analysis Kit comparison of operating window types.
- Show me your Dry Ice comparison test.

NAME _____

FIRM _____

ADDRESS _____
City State Zip

DeVAC Windows
Without Equal

Chicago Awards

continued from page 306

Citations of Merit for New Buildings



Hedrich-Blessing

Temple Building—North Shore
Congregation Israel, Glencoe, Ill.

Architects: Minoru Yamasaki &
Associates

Structural Engineers: Worthington,
Skilling, Helle and Jackson

Landscape Architect: Lawrence
Halprin

General Contractor: George A. Fuller
Company



Hedrich-Blessing

United Parcel Service Distribution
Center, Chicago

Architect: Edward D. Dart

Structural Engineers: Samartano &
Robinson

General Contractor: Pepper
Construction Company



House on a Bluff, Olympia Fields, Ill.

Architects: Brenner-Danforth-
Rockwell

Structural Engineers: The Engineers
Collaborative

Mechanical Engineer: Norman Migdal
General Contractor: H. H. Roberts
Construction Company



Rus Arnold, Photography

Madison Elementary School, Skokie, Ill.

Architects: Cone and Dornbusch

Structural Engineers: The Engineers
Collaborative

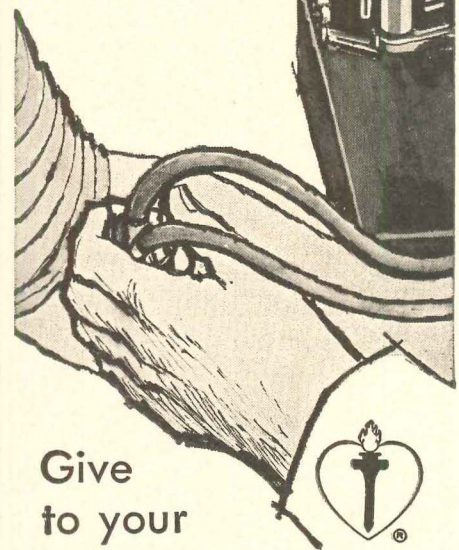
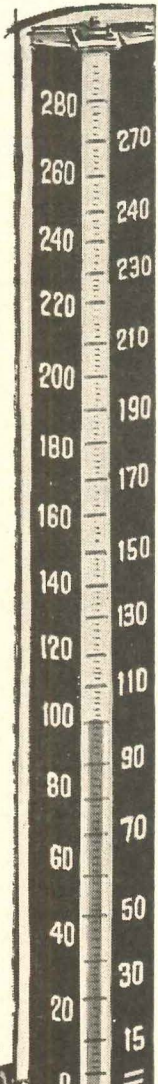
Mechanical Engineer: Norman Bueter
General Contractor: Ockerlund Con-
struction Company

continued on page 314

Is your
Blood Pressure

HIGH?

Only your doctor can tell. And he can now help most cases of this disease with new drugs and new methods of treatment developed with the help of your Heart Fund dollars. More Heart Fund dollars will support more research to prevent and cure this leading cause of heart attack and stroke.

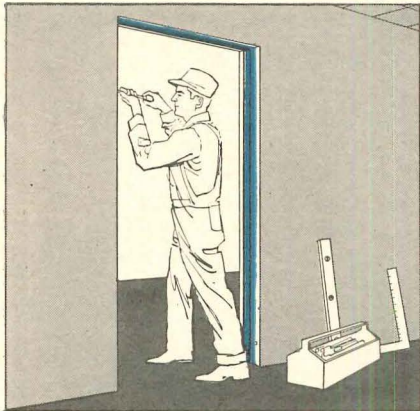


Give
to your
HEART FUND

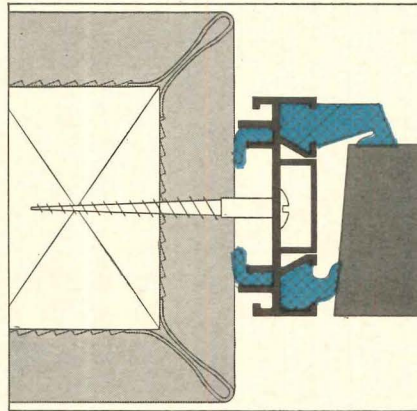
For more data, circle 153 on Inquiry Card

New Overly/Koller door and frame system solves five problems of wall openings

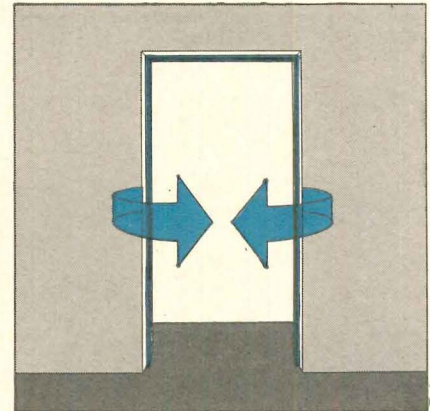
You can take a fresh new look at construction of a wall and its openings with this revolutionary new Overly product. It simultaneously solves five common problems of construction and function.



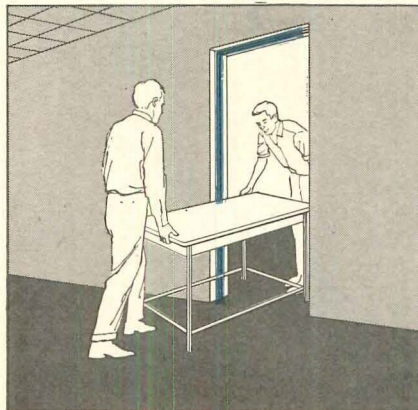
Installation—Aluminum frames are installed after wall construction is complete and the trades involved—even painters and paperhangers—are finished. Scheduling is simplified. Frames are free from damage.



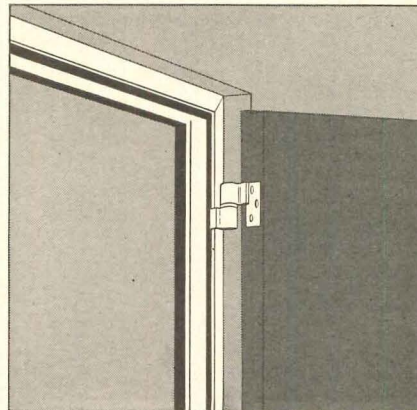
Silence—Neoprene gasketing around the frame seals out sound and dust and provides noiseless closing. This feature is particularly appropriate in designs for apartments, office buildings, schools and hospitals.



Rehanging—Symmetrical design of the O/K system permits doors to be rehung at any time for opposite swing. A special hinge design and removable gasketing permits this change to be made quickly and simply.



Damage Prevention—Furniture moving through the opening can neither damage the frame nor be damaged. The Neoprene gasketing provides safety as well as silence. Because the frame is anodized aluminum, it never needs painting.



Cost—Door frames need not equal the wall in thickness with the Overly/Koller system. Since the cross section is smaller, there are cost savings in materials. Installation practices also reduce costs, particularly with Overly Erection Service.

For additional information on the Overly/Koller Door and Frame System, write to Manager of Product Development, Overly Manufacturing Company, Greensburg, Pennsylvania 15601

Patents Pending

a new concept in metal from **Overly**

For more data, circle 154 on Inquiry Card



..for style

monolithic reinforced concrete
is the architects' design material

■ Architecture has come of age in America! In this architectural evolution, monolithic reinforced concrete is the preferred construction material. It can be molded freely into any contour and shape, and eliminates the many design restrictions imposed by all other construction methods. Through the use of reinforced concrete, architects can exercise complete freedom in the achievement of style, elegance, and individuality. Decide now to utilize the great design opportunities of monolithic reinforced concrete in your next building.



Edens Theater, Northbrook, Illinois
Architects: The Perkins & Will Partnership
Engineers: The Engineers Collaborative
General Contractor: Chell & Anderson

CONCRETE REINFORCING STEEL INSTITUTE
228 North La Salle Street • Chicago, Illinois 60601



St. John's Mercy Hospital, St. Louis, Mo. Architect: Bernard McMahon & Assoc., St. Louis, Mo. — Consultants: Gordon A. Friesen Assoc., Inc., Washington, D. C.

Call TROY® for the most efficient laundry plans!

Take advantage of the TROY Laundry Planning Service that can save your time . . . your client's money. Find out how Hospitals, Motels, Nursing Homes and other institutions often can save 3¢ or more per pound of laundry per day with a TROY on-premise laundry.

Then, just specify the space available for a laundry and the number of beds involved . . . TROY will do the rest. We will analyze your needs. We will plan the entire laundry and prepare floor plans and equipment specifications that will take best advantage of the space for maximum efficiency at minimum cost.

With TROY, your clients are guaranteed installation supervision, system follow up and nationwide mechanical service for the life of the equipment. Use TROY planning facilities on your next job. Just write or see your local TROY representative for the facts.



TROY LAUNDRY MACHINERY

A DIVISION OF AMETEK, INC.
EAST MOLINE, ILLINOIS

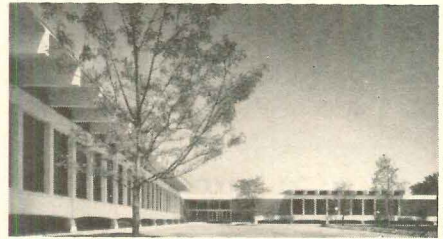
IN CANADA: AMETEK (CANADA) LTD., MONTREAL 9, P. Q.

For more data, circle 156 on Inquiry Card

Chicago Awards

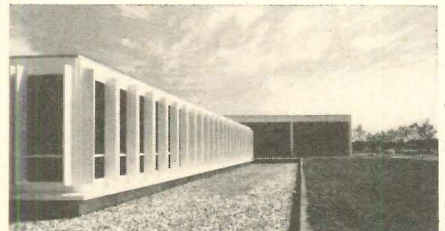
continued from page 310

Citations of Merit for New Buildings



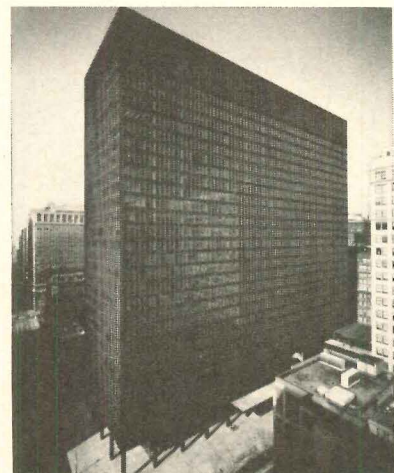
Robert Nowell Ward

Medical Merchandise Mart,
Lincolnwood, Ill.
Architects: Fridstein and Fitch
Structural Engineers: George Kennedy
& Associates
General Contractor: Fred Berglund
& Son



Baltazar Korab

Volkswagen Building, Deerfield, Ill.
Architects: Hausner & Macsai
Structural Engineers: Robert Darvas
and Frederick Wiesinger
Mechanical Engineers: Gamze,
Korobkin & Associates
Electrical Engineer: Woodrow Dolphin
General Contractor: George Sollitt
Construction Company



Hedrich-Blessing

United States Courthouse and Federal
Office Building, Chicago
Architects: Ludwig Mies van der Rohe;
A. Epstein & Sons; C. F. Murphy
Associates; Schmidt, Garden &
Erckson
General Contractors: Paschen
Contractors and Peter Kiewit Sons
Company

continued on page 330

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**different buildings,
different budgets**



Old Kent Bank and Trust Company,
Grand Rapids, Mich.
Architects and Engineers:
Daverman Associates
General Contractor: Owen-Ames-Kimball Co.

**...all with tomorrow's
comfort control**



The Montgomery Bldg., Bethesda, Md.
Architect: John Samperton
General Contractor: Thomas H. Ryon Co.
Mech. Elec. Engineers: Frieden & Arey
Structural Engineer: R. Weiss

The Inland Radiant Comfort System is making indoor climate history. Each building on this page provides the most advanced heating, cooling and air treatment ever available to man. Yet, each building has a different plan, a different client to please, and a different budget. The Inland Radiant Comfort System is completely flexible and meets the requirements of every building. It is designed as an integral part of the building itself, and each component is tailored to give utmost performance. The IRC System assigns heating and cooling loads primarily to radiant ceilings, reducing air volumes to those required only for ventilation. Chemical air conditioning keeps close control of humidity

and airborne contamination. For a complete explanation, send for the booklet, "Breakthrough in Office Comfort Control." Write for it today to Inland Steel Products Company, 4400 W. Burnham Street, Milwaukee, Wisconsin.



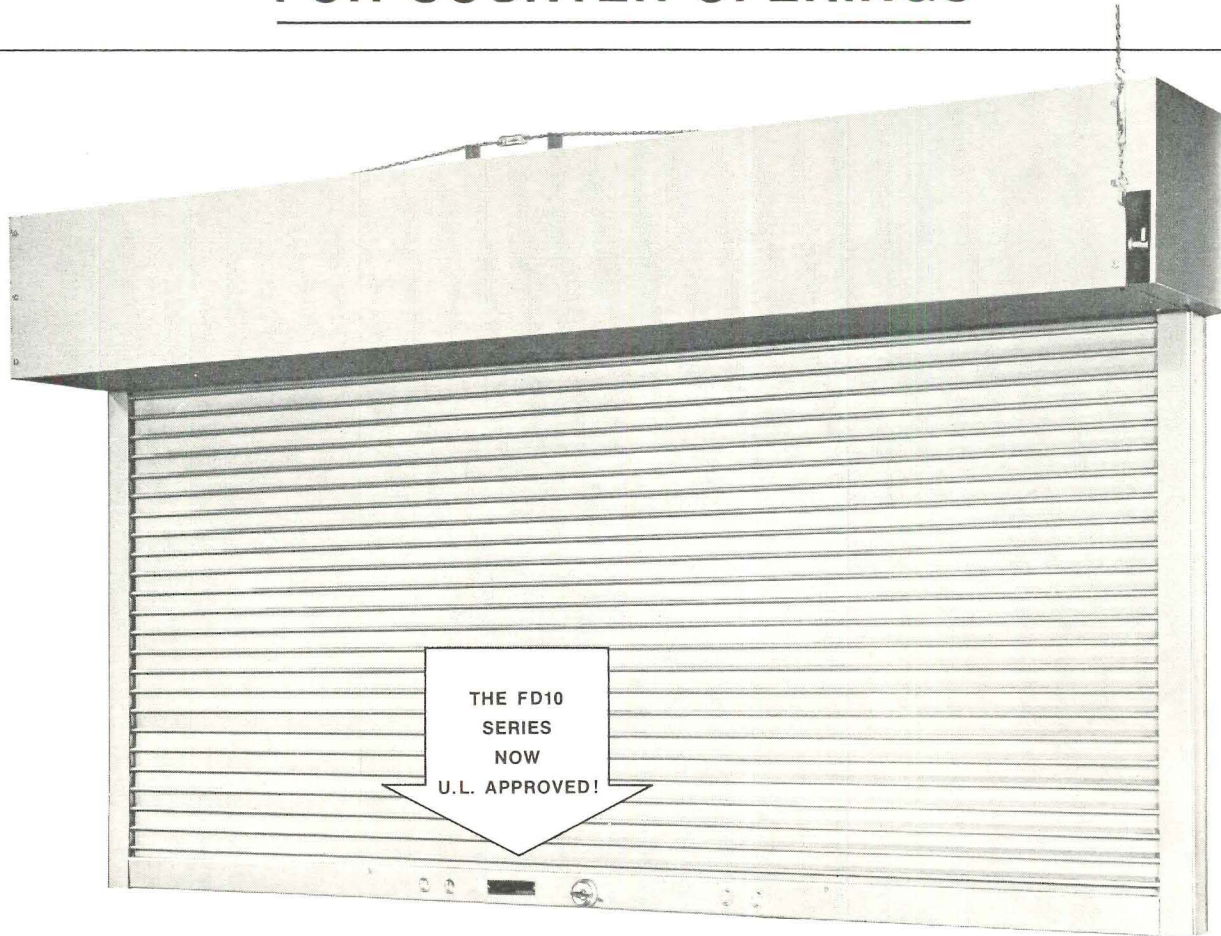
Administration Building, State College
Of Iowa, Cedar Falls, Iowa
Architects: Altfillisch, Olson Gray & Thompson
General Contractor: John G. Miller,
Waterloo, Iowa
Mechanical Engineer: Harold E. Rucks
Structural Engineers: Peterson and Appell

Inland Steel Products



INTRODUCING

the new **COOKSON**
ROLLING STEEL FIRE DOOR
FOR COUNTER OPENINGS



Now, for the first time, you can specify a "miniaturized" fire door that carries the Underwriters' Laboratories Label. It's brand new, with slimline styling that packs maximum performance in minimum space. Another Cookson "first"! All FD10 Series fire doors are manufactured to the rigid stand-

ards of quality you recognize in Cookson products. Specify them with confidence for schools, cafeterias, service entrances, pass windows, post offices, ticket windows, and stores.

Available in galvanized steel and stainless steel.

Write for new Bulletin No. 6505.



THE COOKSON COMPANY

700 PENNSYLVANIA AVE., SAN FRANCISCO, CALIFORNIA 94107

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For more data, circle 158 on Inquiry Card ➔



FOR A NEW DIMENSION IN ARCHITECTURAL DESIGN

greater dimension, greater depth in exposed aggregate walls

Architects and designers—get greater depth and dimensional effects in exposed aggregate wall construction with Tuff-Lite Mosaic Wall Matrix by Fuller.

This specially formulated epoxy has superior bonding power that allows more aggregate exposure on interior and exterior walls. Trowels easily, on the job, over concrete block, around corners and columns, in new construction or in remodeling. Adheres securely to brick, wood, concrete, or any dry, clean substrate.

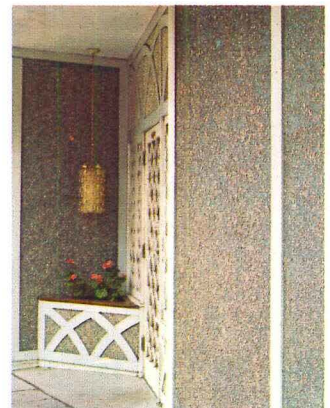
Can be applied off-the-job to plywood, foam or other materials for pre-formed, lightweight, easily handled panels.

Tuff-Lite is 8 times lighter than concrete . . . 5 times stronger. Building designs need

no special load-bearing properties. And Tuff-Lite is available in any color. Permits you to blend or contrast with the aggregate used or with other construction materials . . . or to create multiple color designs. It retains its color. Is self-cleaning. Will not pit, spall or peel. Will not shrink, chip, crack or craze.

As soon as Tuff-Lite has been troweled on, aggregate can be seeded. Chips or stone, from No. 1 to 8, may be used. Tuff-Lite cures in less than 24 hours.

In remodeling existing structure, architect blended aggregate with wood trim. Even with no maintenance, Tuff-Lite walls will remain bright and clean.



Refer to Sweet's Catalog 3C or Write for Free Brochure.



H. B. FULLER COMPANY

1150 Eustis St., St. Paul, Minnesota 55108, Dept. 412
INDUSTRIAL ADHESIVES SINCE 1887

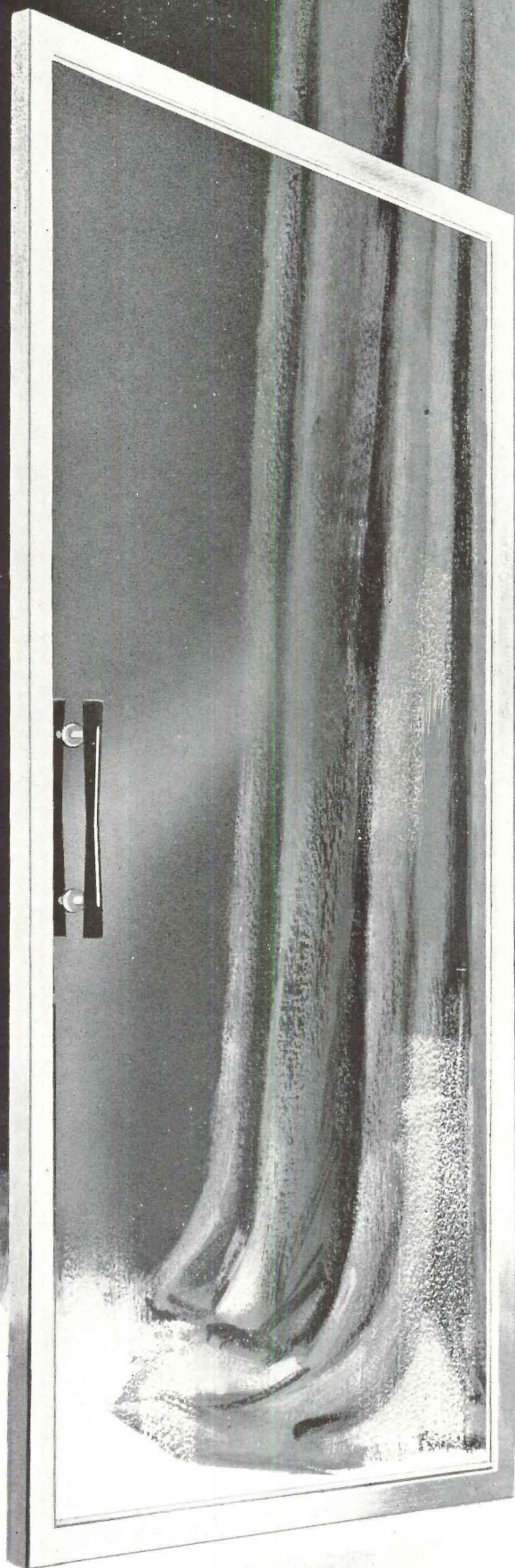
New!

the first and only
EXTRUDED
stainless steel door

*Rexteel*TM
BY INTERNATIONAL

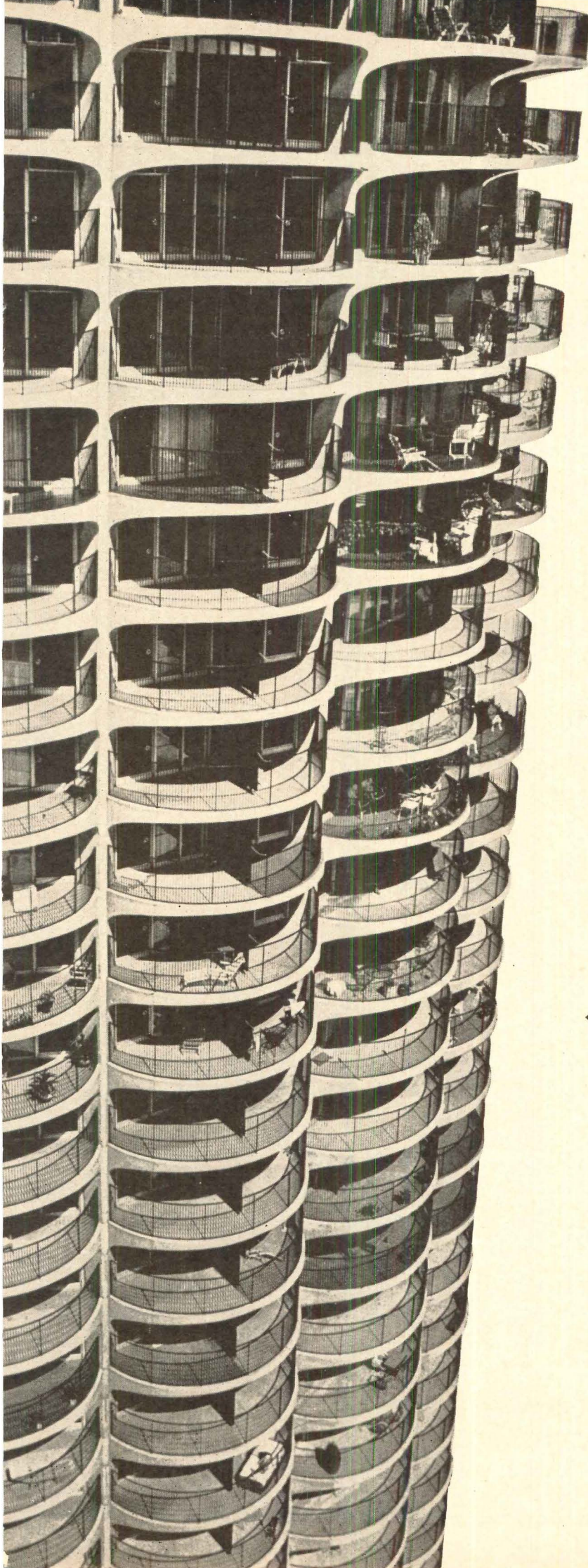
a major achievement
to give you crisp,
jewel-like beauty
never possible with
formed metal

Write for details:
**INTERNATIONAL
STEEL COMPANY**
1629 Edgar Street
Evansville, Indiana



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For more data, circle 160 on Inquiry Card ➤



Coatings based on Shell Epon[®] resin protect terrace railings against corrosion in Chicago's Marina City

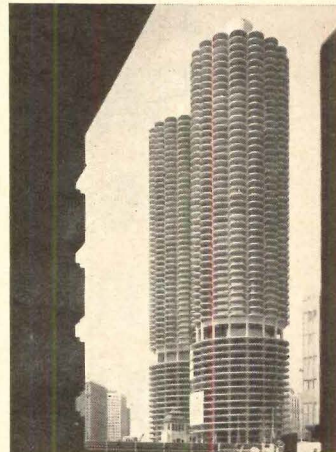
Applied in Spring 1963, these rugged epoxy-based coatings are still in excellent condition, despite corrosive atmospheres and severe weathering, on twin 600-ft. towers.

STEEL for Marina City's 1360 curved balcony railings was specially processed to resist exposure. It was plated with zinc and dipped in a dichromate solution. But there was still a need for a surface coating to improve the zinc plate's resistance to corrosion.

Coatings based on Shell Epon resin were chosen after a thorough testing program. Test panels with coating 1.0 to 1.4 mils thick were exposed to over 100 hours of salt spray, ultraviolet light and water.

Result: only slight blistering on the coated panels. Uncoated galvanized steel panels, subjected to the same tests, did not stand up nearly as well.

Interested? Just fill out and mail the coupon if you would like to be put in touch with a supplier of Epon resin-based architectural coatings.



« Each of the 1360 railings on Marina City apartments is about 20 feet long and 4 feet high. They are protected with a durable coating of Epon resin-based paint, manufactured by Tousey Varnish Company, Chicago, Ill. Application by Enameled Steel & Sign Co., Chicago, Ill.

Shell Chemical Company
Plastics & Resins Division
110 West 51st St.,
N. Y., N. Y. 10020

Shell Chemical
Company
Plastics and Resins Division



Please put me in touch with a manufacturer of coatings based on Epon resin. I am interested in coating _____

Name _____

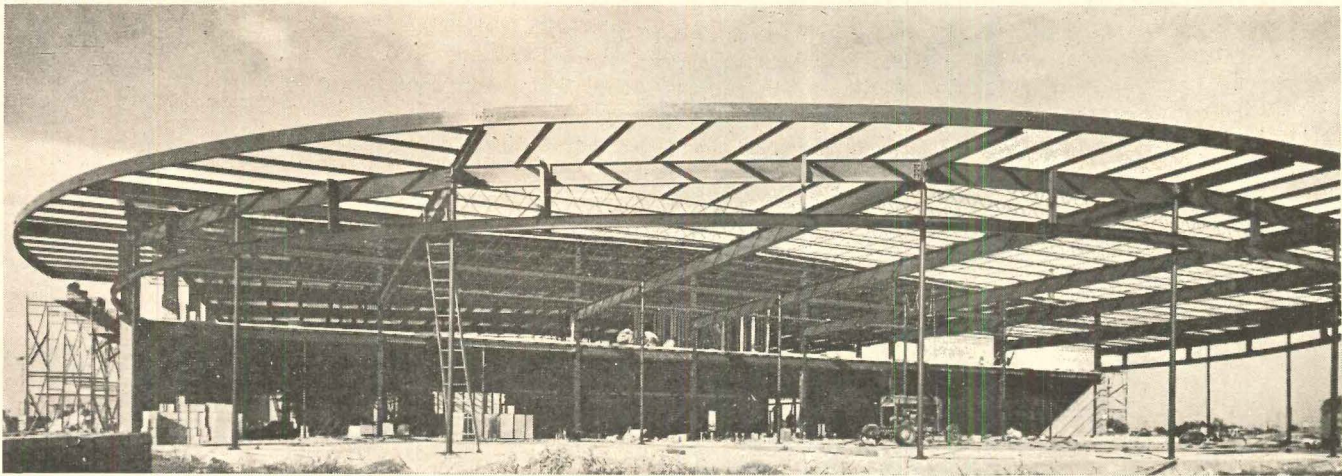
Company _____

Address _____

City _____ State _____ Zip _____

AR-6

For more data, circle 165 on Inquiry Card



Designer and Contractor: Shannon Boatman, Investment Builder, Houston, Texas.

This unusual semi-circular auto agency was designed with Sheffield High Strength (H-Series) Steel Joists for the roof. Each joist was supplied in a specified length, simplifying erection.



High Strength Sheffield Steel Joists used in unique semi-circular auto showroom

The new 140,000 square-foot Richardson Chevrolet Company building complex in Houston, Texas, includes a new-car showroom of an unusual semi-circular design. A special framing arrangement, within the circular shape of the roof, made it possible to use economical Sheffield High Strength (H-Series) Joists in seven rectangular areas.

Sheffield H-Series Joists are made from steel having a 50,000 psi minimum yield point, and are produced to the widely-accepted specifications of the Steel Joist Institute.

By taking advantage of the high-strength-to-weight-

ratio of Sheffield High Strength Joists, designers can minimize dead weight. Reduction of dead load permits lighter framing, and may even permit foundations designed for less loading. In addition, the open space in all Sheffield Joists web sections accommodates ductwork, wiring and other mechanical equipment.

Sheffield Joists, including the J-, LA-, and LH-Series, are readily available through leading fabricators and constructors. For complete data on Sheffield Joists, write for our latest catalog, or see Sweet's Architectural File. **Armco Steel Corporation, Steel Division, Department W-305A, 7000 Roberts St., Kansas City, Mo. 64125.**

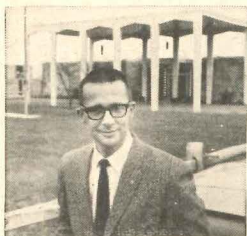
ARMCO STEEL 

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20 MILES EAST of Cleveland, Jim Forsythe, E.E. (in dark suit), and five enthusiastic assistants point up advantages of all-electric design in new Sheraton Motor Inn, Willoughby, Ohio.

New Ohio motel illustrates six big benefits of all-electric design!



Consulting engineer Jim Forsythe of Karl R. Rohrer Associates, Akron, Ohio, sees all-electric design as "a valuable tool for improving efficiency and operation in any type of commercial building."

He reports, "A good example is the new 84-unit Sheraton Motor Inn our firm worked on in Willoughby, Ohio, together with architect Lyle Leslie. After a thorough study of every possible system, all-electric design proved the most practical approach by far, offering initial cost savings of 25% in the heating and cooling system alone."

Six basic benefits that influenced the choice of all-electric design for this new motel are shown in the picture above. They include:

- 1 Greater comfort with savings:** Through-the-wall combination heating and cooling units (visible under each window) permit guests to select individually desired room temperature and ventilation. Unoccupied rooms can be cut back to minimum temperature levels.
- 2 Flexibility of system:** Complementing individual units in guest rooms, the main building area, comprising lobby and dining, banquet and conference rooms, uses a combination of electric baseboard units and ducted central heating and cooling for better control and greater efficiency.
- 3 Freedom of design:** Elimination of need for long pipe runs reduced construction costs and allowed architect

more latitude in choice of floor plan and utilization of terrain.

- 4 No need for roof-top equipment:** All heating and cooling equipment is contained within building, presenting a more attractive exterior and simplifying any required servicing.
- 5 Ease of expansion:** Planned addition of 18 guest units can be completed with no problem of adding to boiler capacity.
- 6 Savings in space:** Useful main storage area replaces space which would normally be needed for a boiler room with other types of heating.

If you are interested in finding out more ways all-electric design can help you in your commercial, industrial or institutional buildings, contact your local electric utility company. They will welcome the opportunity to work with you.

BUILD BETTER ELECTRICALLY

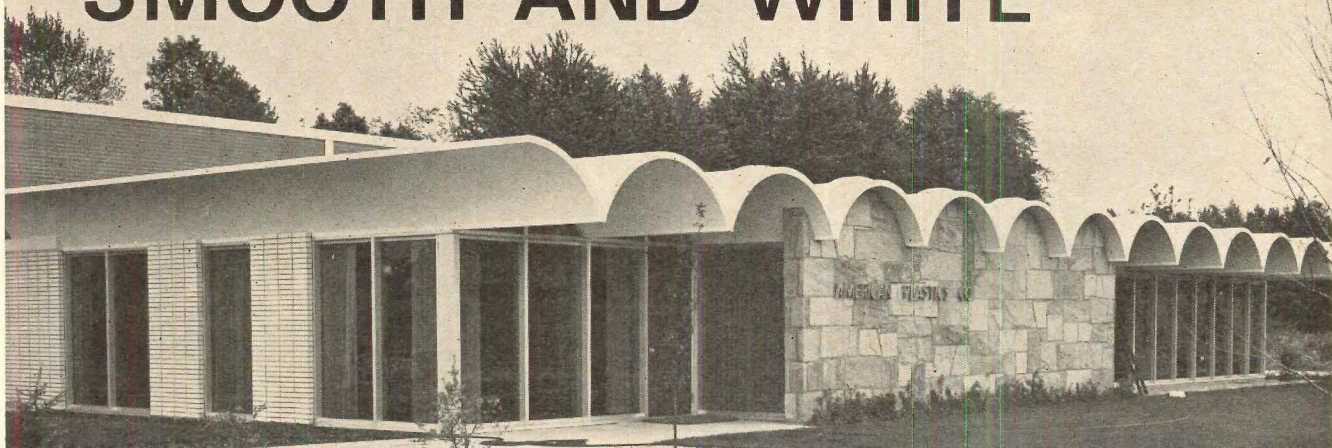
Edison Electric Institute, 750 Third Avenue, New York, N.Y. 10017

THIS PLAQUE, now given by many electric utility companies, identifies a modern building which has met the high standards of electric heating, cooling, lighting—and other applications—set by the Edison Electric Institute. On your clients' buildings, this All-Electric Award serves as a reminder of your role in specifying clean, automatic, economical electric equipment.



For more data, circle 167 on Inquiry Card

On any roof contour...
durable weatherproofing that is
SMOOTH AND WHITE



ADDEX COLOR-SHIELD over ADDEX HEAVY DUTY ROOF SHIELD

NO LAPLINES: Color-Shield and Roof Shield emphasize the unbroken, monolithic character of advanced roof designs. The materials feather-edge perfectly to form a smooth surface that is completely free of unsightly laplines, seams or joints.

ENDURINGLY WHITE: Color-Shield's high reflectivity permits only one-fifth the amount of heat to enter through the roof as a conventional black surface, helps keep interiors cool in hot weather and cuts air conditioning costs.

DEPENDABLY WATERPROOF: Sixteen years of outstanding performance guarantees the durability of Roof Shield waterproofing. Roof Shield conforms perfectly to any roof contour and provides a stable and durable base for Color-Shield.

American Plastics Co.
Cleveland, Ohio
Architect: Thomas J. Browning

FOR COLOR-SHIELD AND
ROOF SHIELD SPECIFICATIONS,
WRITE TO DEPT. 114,
ADDEX MANUFACTURING CO.,
WICKLIFFE,
OHIO



A-5061

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*Whatever Your
Fountain Requirements...*



— elaborate or modest —
Kim's 35 years of
experience are at your disposal.

See Sweets 39/E or, better yet, see our 26 min. color/sound motion picture: "Report on Fountain Design." Write:



KIM LIGHTING & MANUFACTURING COMPANY, INC.
1467 NO. LIDCOMBE EL MONTE, CAL. CU-3-7621
Manufacturers of display fountains,
landscape, swimming pool and mall lighting.

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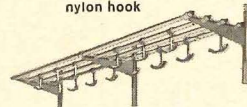


**Schooline®
ADJUSTABLE WALL MOUNTED
HAT AND COAT
RACKS**

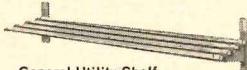
- Heavy duty steel construction
- Adjustable in height
- Tailored to fit any length
- Choice of colors

These beautifully styled, heavy duty, steel wall mount units are built to fit your exact length and multiple shelf requirements. Shelf brackets are held at wall in box formed channel mountings for vertical adjustment. Finish in choice of Mist Green, Desert Sand or Medium Gray, baked on enamel. They come with hanger rail or double pronged nylon hooks in Black, Red, Blue and Gray. Matching overshoe racks are also available.

Double prong nylon hook



MODEL SL 300 U shelf with double anchor style coat hooks



General Utility Shelf SL 100 U matching all-purpose shelf



UTILITY CH HOOK STRIP

Write for catalog SL-52

VOGEL-PETERSON COMPANY
"The Coat Rack People" ELMHURST, ILLINOIS

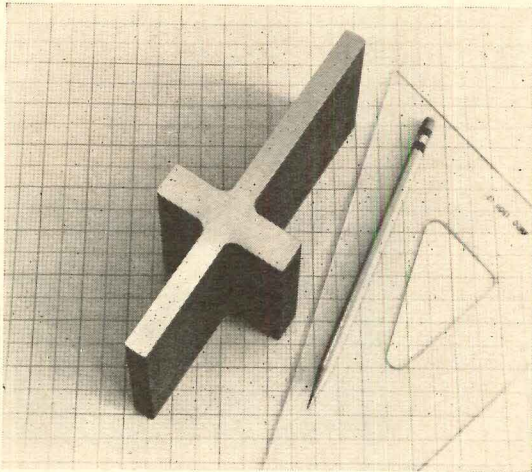
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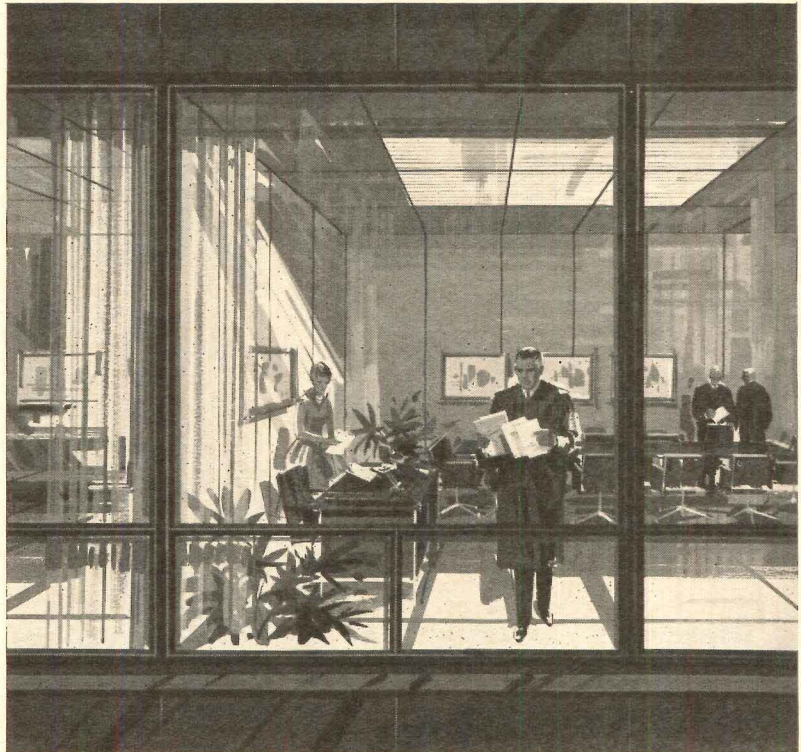
STRUCTURAL DESIGN NEWS

FROM BETHLEHEM STEEL

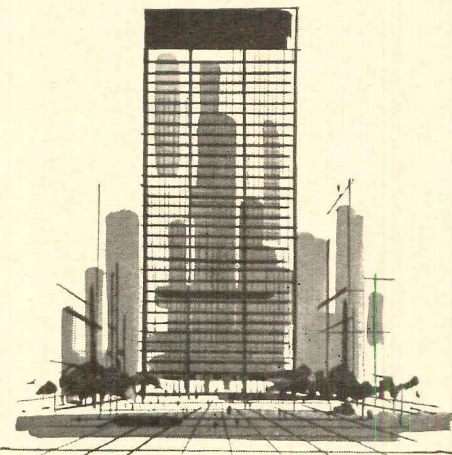
NO. 10



3 x 8-in. cruciform-shaped sash section weighs 20 lb per ft. Bethlehem supplied 1,400 tons of this special bar section, in lengths up to 35 ft, to Ceco Steel Products Corp., Chicago, which fabricated the window frames.



SPECIAL WINDOW-SASH SECTION FOR CHICAGO CIVIC CENTER



CHICAGO CIVIC CENTER.
Owner: Public Building Commission of Chicago
Architects: C. F. Murphy Associates; Skidmore, Owings & Merrill; Loebl, Schlossman & Bennett

This section was rolled by Bethlehem to extremely close tolerances, and furnished in Mayari R Weathering Steel to be consistent with the building's skin material.

Unpainted Mayari R steel eliminates paint maintenance. It develops a closely grained and tightly adherent oxide finish which acts as a barrier to moisture and oxygen, and prevents further corrosion. The oxide finish ripens into an attractive russet-purple color within months.

Bethlehem has rolled hundreds of special shapes, each one tailored to a customer's individual requirement, just as this window-sash section was tailored to the architect's design. Is there a section we can develop for you?

Like to have our full-color folder describing the architectural uses of low-alloy, high-strength Mayari R Weathering Steel? Just phone our nearest sales office. Or write to us at Bethlehem, Pa.



BETHLEHEM STEEL CORPORATION, BETHLEHEM, PA.

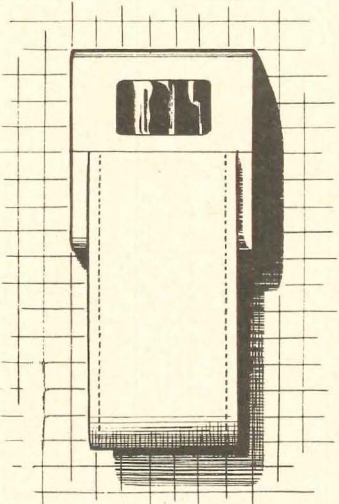
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continuous performance at popular prices

(very popular)

Greatest idea since talking pictures—a soft, hygienic cotton towel always waiting. All you need is a little pull. Presto!—the continuous roll rolls—and a dry, clean towel is yours.

You'd think an all-star performer like this would be costly. Not so! (Continuous cloth towels do away with incessant cleanups of litter, constant servicing. They're a continuous saving—so



economical to install and use.)

Want more facts? Call your local linen supplier. You'll shout "Bravo!" when he goes into his

dramatic discourse describing all of the many advantages of linen supply service.

Look him up in the yellow pages under "Linen Supply" or "Towel Supply." Send for him. When it comes to towel know-how, he's the leading man.

FREE DESIGN GUIDES!

They give case histories and suggestions for providing more efficient linen supply service in hospitals, motels, hotels, schools and restaurants, as well as for commercial firms, professional offices and various institutions. Write today.

LINEN SUPPLY ASSOCIATION OF AMERICA
975 Arthur Godfrey Road, Miami Beach, Florida 33140

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Chicago Awards

continued from page 314

Citations of Merit for New Buildings



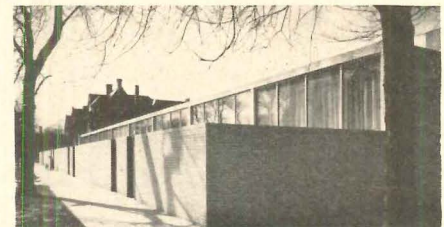
Herrin Studio

Decorel Corporation, Mundelein, Ill.
Architect: Don Erickson
Structural Engineers: Kolbjorn Saether & Associates
Mechanical & Electrical Engineers: Cartland Engineering
General Contractor: Tonyan Construction Company



Baltazar Korab

Henrich Residence, Barrington, Ill.
Architect: Edward D. Dart
Structural Engineer: Samartano & Robinson
General Contractor: Carlo Carani & Sons



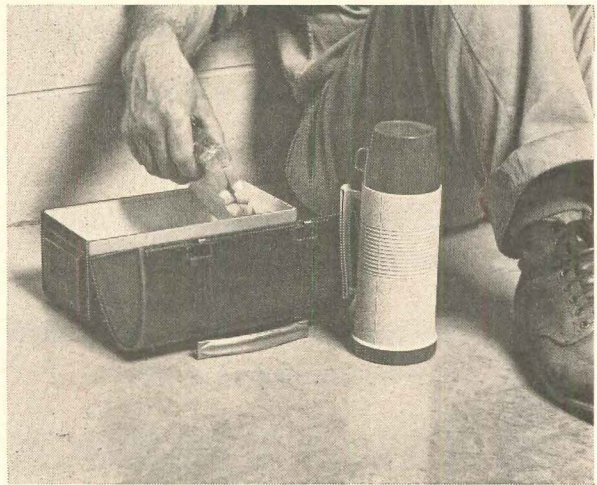
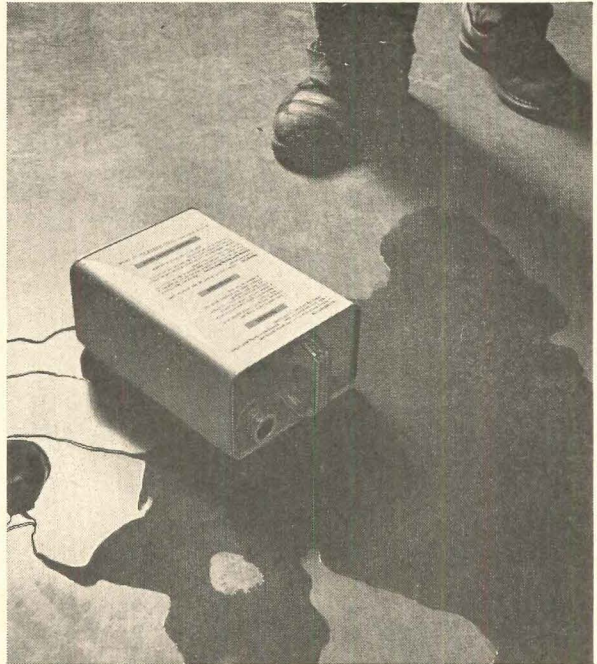
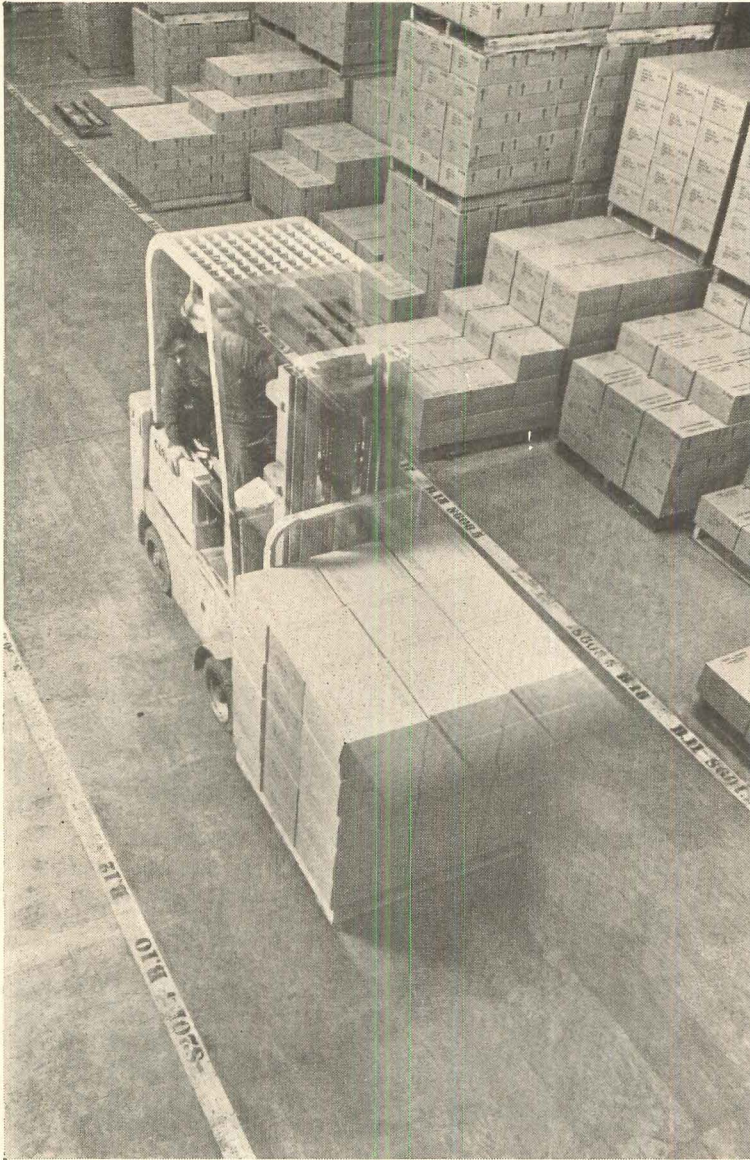
Hedrich-Blessing

Garden Townhouse, Chicago
Architects: Y. C. Wong, R. Ogden Hannaford & Associates
Electrical Engineer: Paul Kwong
General Contractor: Nick Galione & Son



Hawthorne Court Townhouses, Chicago
Architects: Ralph Anderson Associates
General Contractor: Zari Construction Company

continued on page 334



**For floors that resist heavy traffic, harmful chemicals
yet clean to a gleam... specify Sonothane**

Clients never complain about the *performance* or *appearance* of concrete floors—when you specify treatment with Sonothane.

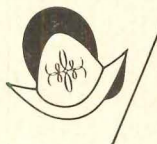
Sonothane—the *only* one-component polyurethane sealer-hardener designed specifically for concrete—provides unequalled abrasion resistance to heavy, load-bearing traffic. Toughens and hardens floors through resin reinforcement so they give *up to six times the wear of conventional finishes!*

Colored or clear Sonothane also assures better protection against acids, solvents, alkalies, greases, cleaners, detergents and other chemicals than *any other floor treating product.*


Couple this protection with Sonothane's deep-gloss, tile-like finish, and you eliminate most floor cleaning and maintenance problems.

Only Sonothane Solves All Five problems common to concrete floors. What's more, Sonothane applies and dries in *less than half* the time taken by other finishes... never "holds up occupancy."

And when Sonneborn supervises Sonothane application, you get a 5-year guarantee against dusting of the concrete due to wear and abrasion. Clip the coupon for further details.



Sonneborn Building Products, Inc.
subsidiary of **De Soto** Chemical Coatings, Inc.



SONNEBORN Building Products, Inc.
1700 South Mt. Prospect Road,
Des Plaines, Illinois 60018 AR-5

Please send Technical Data Guide #87

Name _____

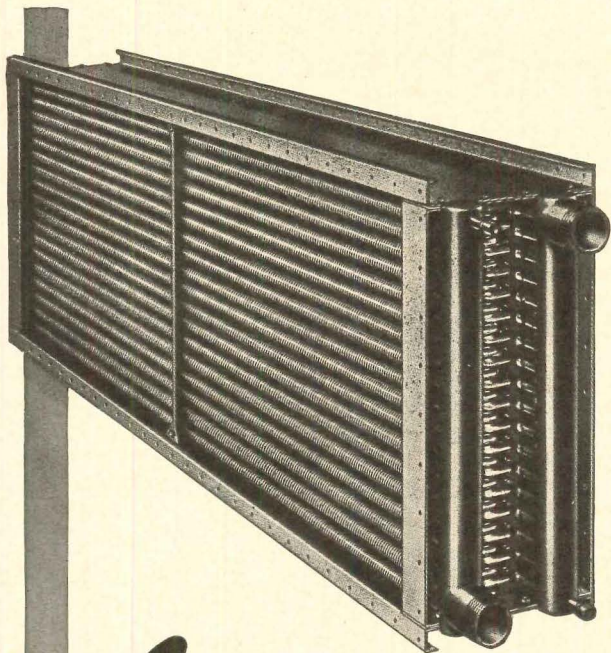
Title _____

Company _____

Address _____

City _____ State _____ Zip Code _____

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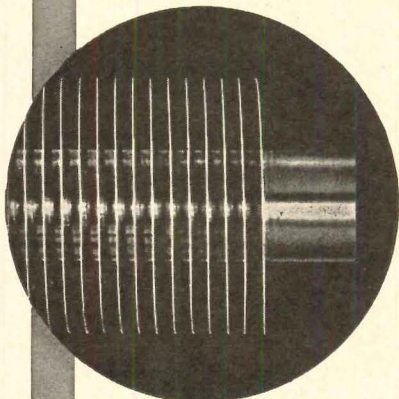
AEROFIN

Smooth-Fin Coils offer you:

Greater Heat Transfer per sq. ft. of face area

Lower Airway Resistance - less power per c. f. m.

Aerofin smooth fins can be spaced as closely as 14 per inch with low air friction. Consequently, the heat-exchange capacity per square foot of face area is extremely high, and the use of high air velocities entirely practical. Tapered fin construction provides ample tube-contact surface so that the entire fin becomes effective transfer surface. Standardized encased units arranged for simple, quick, economical installation.



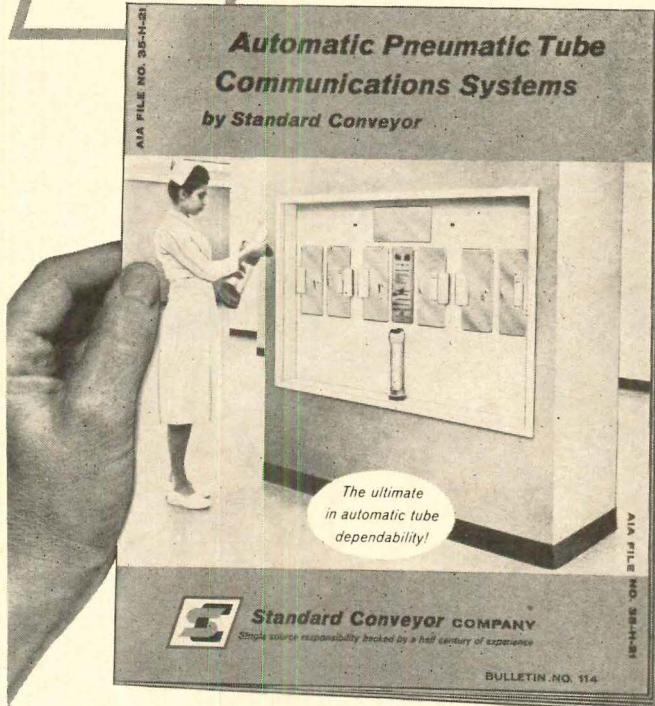
Aerofin is sold only by manufacturers of fan system apparatus. List on request.

AEROFIN CORPORATION
101 Greenway Ave., Syracuse 3, N. Y.
ENGINEERING OFFICES IN PRINCIPAL CITIES

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NEW

All you need to know about



Get your free copy! Describes, illustrates new type automatic tube systems featuring greater dependability, quieter operation. 12 pages. **Standard Conveyor Co., 312-F Second St., North St. Paul, Minn. 55109.**

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FREE! New Terrazzo BASICOLOR® Chart

Keep on top of what's new and beautiful in terrazzo floors.

Get this new terrazzo BASICOLOR® Chart. Shows the striking beauty of natural marble chips in five harmonious tones.



Terrazzo Chips Produced By

BILBROUGH MARBLE COMPANY

A WHOLLY-OWNED SUBSIDIARY OF MARBLE PRODUCTS COMPANY

Marble Products Company 67 Peachtree Park Drive
Atlanta, Georgia 30309

Please send _____ BASICOLOR® Charts

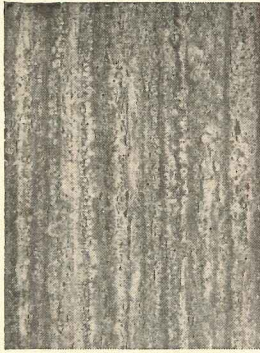
Name _____

Company _____

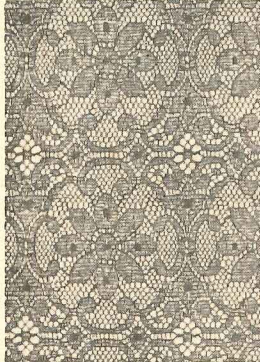
Address _____

City _____ State _____ Zip Code _____

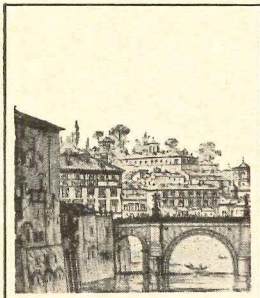
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MARBLE PATTERNS
including Travertine for luxurious walls in any decor, any building.



DECORATOR PATTERNS
including four Chantilly designs plus Fleece, Lace and Nugget designs.



MARLITE MURALS
including Ponta Roma, River Landing and Williamsburg for custom-decorated walls.



TRENDWOOD FINISHES
including Colonial Maple and Provincial Walnut for distinctive interiors.



6526

New Marlite Decorator Paneling

Beautiful decorating ideas come easy with Marlite!

Now more than ever, Marlite plastic-finished paneling offers infinite decorating possibilities to help your customers plan distinctive and luxurious interiors. With Marlite's 1965 line of smart Decorator Paneling, no other material gives you such a wide selection of colors, patterns and designs.

Unique decorator patterns, rich marbles, authentic Trendwood® reproductions, bold

new designer colors, and striking new Marlite Murals make this soilproof paneling at home in any decor.

And wash-and-wear Marlite resists heat, moisture, stains and dents. It's easily installed over old or new walls, never needs painting or further protection. Marlite stays like new for years with an occasional damp cloth wiping.

Get details on Marlite Decorator Paneling from your building materials dealer, consult Sweet's File, or write Marlite Division of Masonite Corporation, Dept. 605, Dover, Ohio.

Marlite®
plastic-finished paneling

ANOTHER QUALITY PRODUCT OF MASONITE® RESEARCH

For more data, circle 171 on Inquiry Card



darling...

*nobody but nobody
delivers a disposer with
more quality features
than In-Sink-Erator*

Surveys prove women want homes with disposers. This disposer is engineered to set quality and performance standards others would like to live up to!

In-Sink-Erator Model 77 gives the Lady what she wants! Grinds in both directions, doubles shredder life, thanks to patented automatic reversing switch. Exclusive Self-Service Wrench frees accidental jams quickly, cuts customer complaints and costly call-backs. Special Detergent Shield guards against corrosion damage from caustic agents. Nobody offers a 5-year protective warranty the equal of In-Sink-Erator's! Models for homes and apartments in every price range.

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Chicago Awards

continued from page 330

Citations of Merit for Rehabilitation and Remodeling



Hedrick-Blessing

Chicago Police Headquarters
Architect: Paul Gerhardt, Jr.
Structural Engineer: Alex Alexander
Mechanical Engineer: Harry Watson
& Associates
Electrical Engineer: Samuel R. Lewis
& Associates
General Contractor: Phase I—R.S.R.
Construction Company; Phase II—
Coath & Goss, Inc.; Phase III—
M.A. Lombard & Son Company



Hedrick-Blessing

St. John's Lutheran Church,
Lincolnwood, Ill.
Architects: Stade, Dolan & Anderson
General Contractor: Arthur M. Boebelt



Graham Foundation, Chicago
Architects: Brenner-Danforth-
Rockwell
Associate Architect: C. F. Murphy
Associates
General Contractor: Paschen
Contractors

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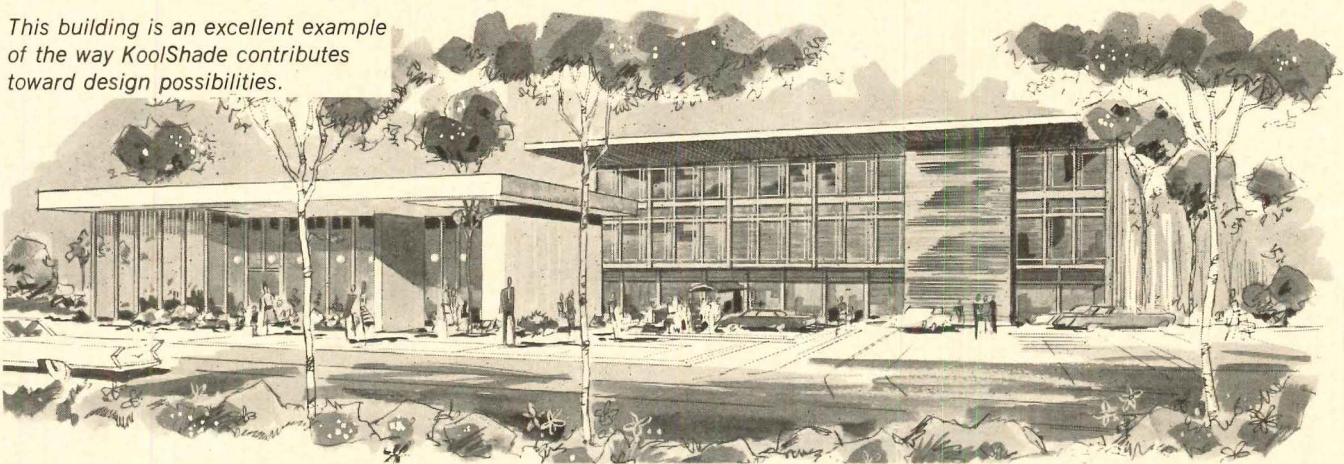
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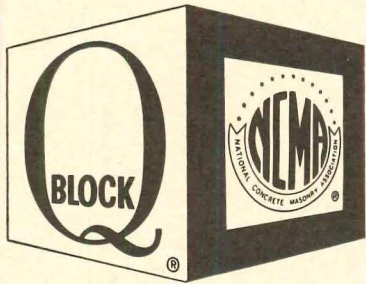
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GENERAL OFFICE: 1705 GARDENA AVE., GLENDALE, CALIF. 91204

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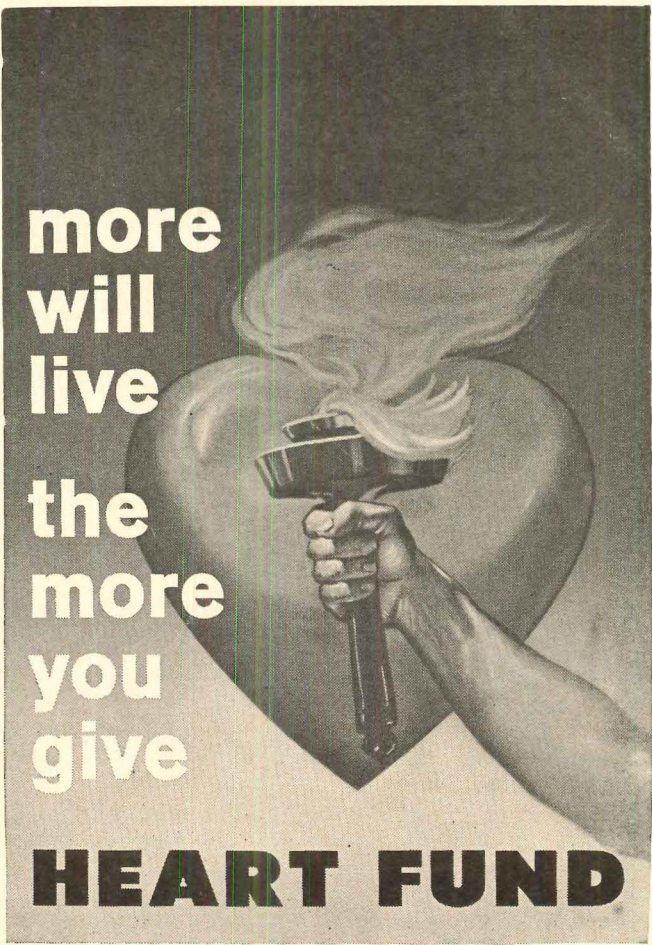


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"Harvard Conference"

continued from page 23

cremental development and a logical sequence of the industrial revolution. Jobs are not disappearing, they are changing. We have finally learned how to make an industrial economy work." Moynihan reminded us that in spite of our phenomenal economic growth, we are the only major industrial nation with an unemployment

problem. "If full employment is a measure of equality," he said, "it is a goal which has been reached in the other developed nations. . . ."

Sizer, in his comments, stressed that design students must wrestle with the philosophic and moral problems involved in city design. Hatch, whose Architects Renewal Committee for Harlem (ARCH) is invited by Harlem community groups to instruct them in matters urbanistic, believes that "architects must see

themselves as advocates of the poor. . . . These poor must be given the opportunity to make their own plans under the guidance of architects who should become *determiners* of policy. . . . Architects must become social planners."

Robert C. Wood, Professor of Political Science at M.I.T., discussed urban design in the political context. "Urban design has many publics and the urban political process has many power centers . . . it is an atmosphere of great uncertainty . . . one cannot find a central focal point in the public. . . . The urban designer shares the crucial role of joining in the decision making process . . . therefore he must be educated to understand the *politics* of change. . . . The urban designer is now more powerful than he has been in the past, but he faces a more hostile system. He should know more of the social sciences, but he need not know as much as a basic researcher. The basic researcher's motivation is different from the urban designer's to the degree that the latter is more practical. . . . We must learn to feed and care for the basic researcher in the planning process, remembering, however, that the urban designer can solve design problems not only in *conceptualization* but in *implementation*. . . ."

James Q. Wilson, Associate Professor of Government at Harvard University and Director of the Joint Center for Urban Studies of M.I.T. and Harvard conceded that "designers and social scientists do to some degree speak the same language." The designer takes the systems analysis approach, the social scientist makes intimate studies of people in their habitat.

The common language is discovered when both disciplines work within the middle range of the spectrum. Wilson told his audience: "You may live too much in the model world and lose sight of the people in their habitat. You could use the anthropological approach or bias to learn how to identify with your client. . . . You need to know the limits of the possible change which can be made on people. . . . Planners have only marginally influenced our environment, the concentration of power is not there to make change larger than marginal." Wood added that "the people, who have done the most to the urban landscape have not been

continued on page 343



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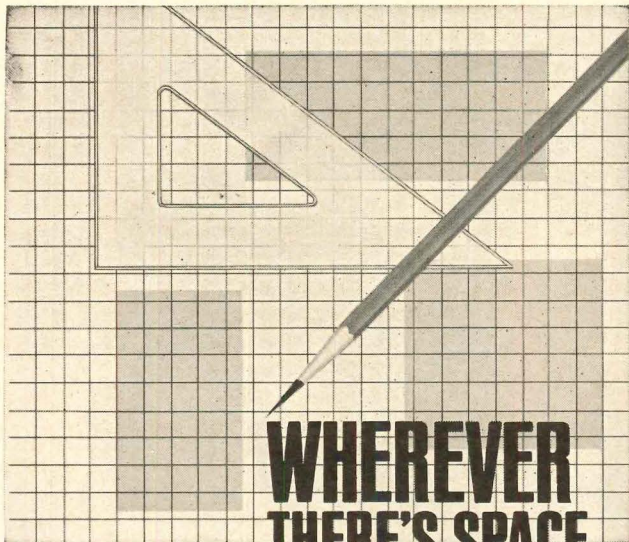
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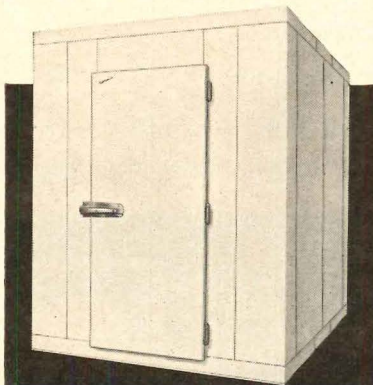
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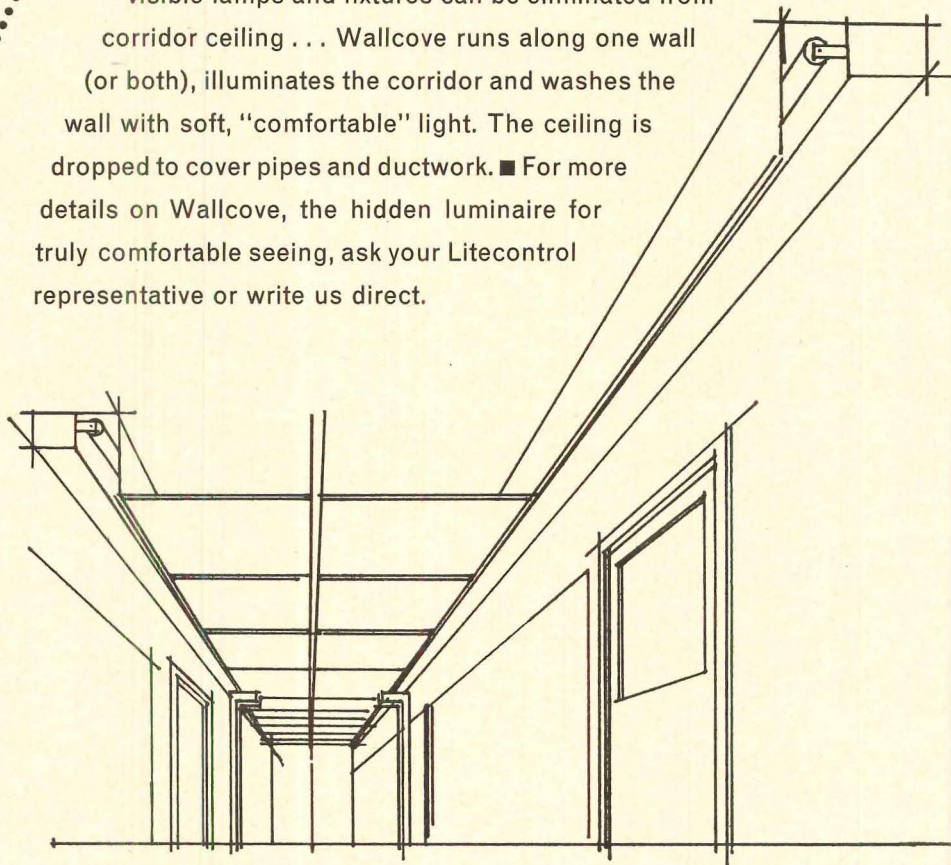
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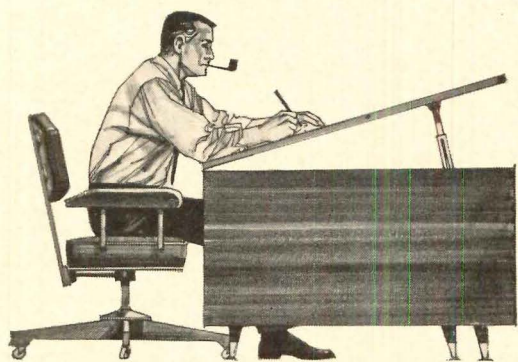
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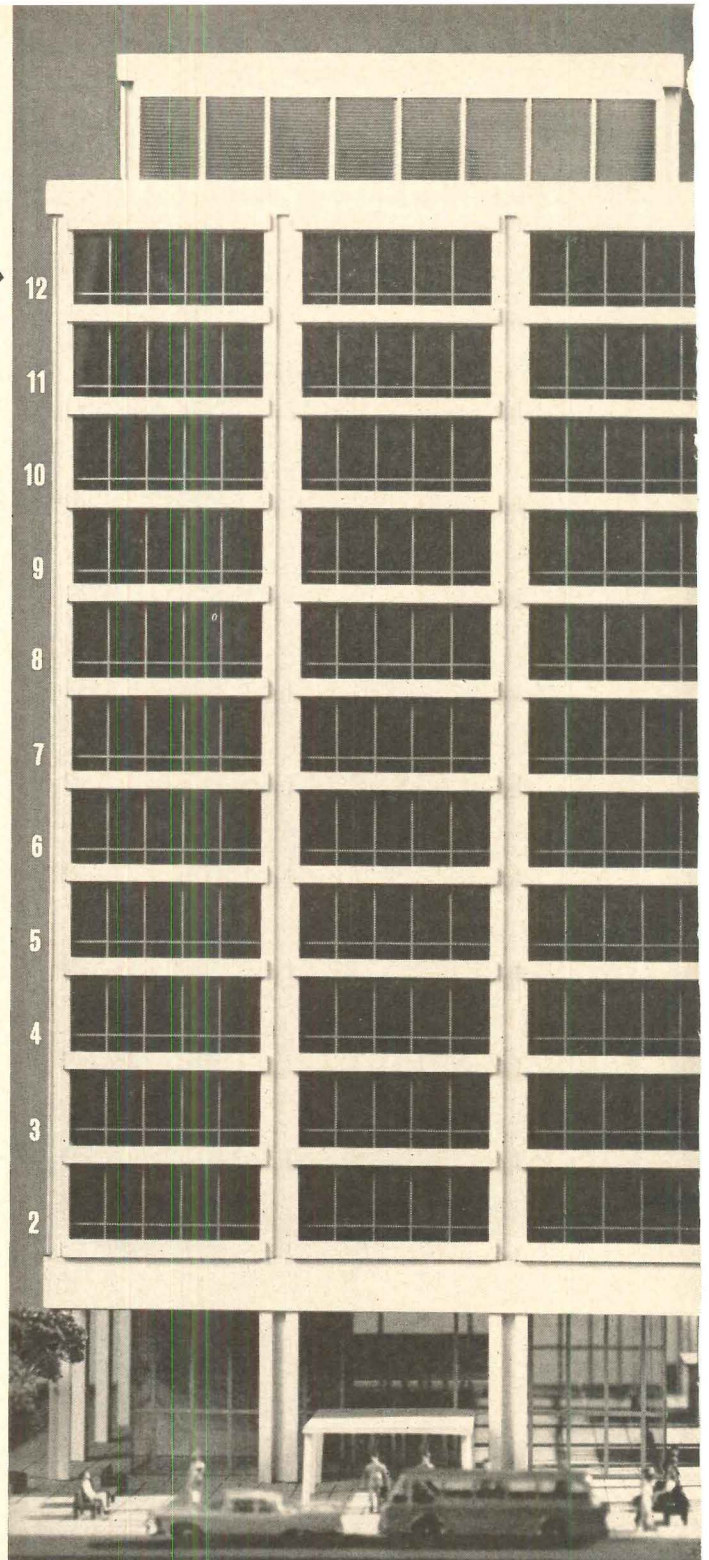
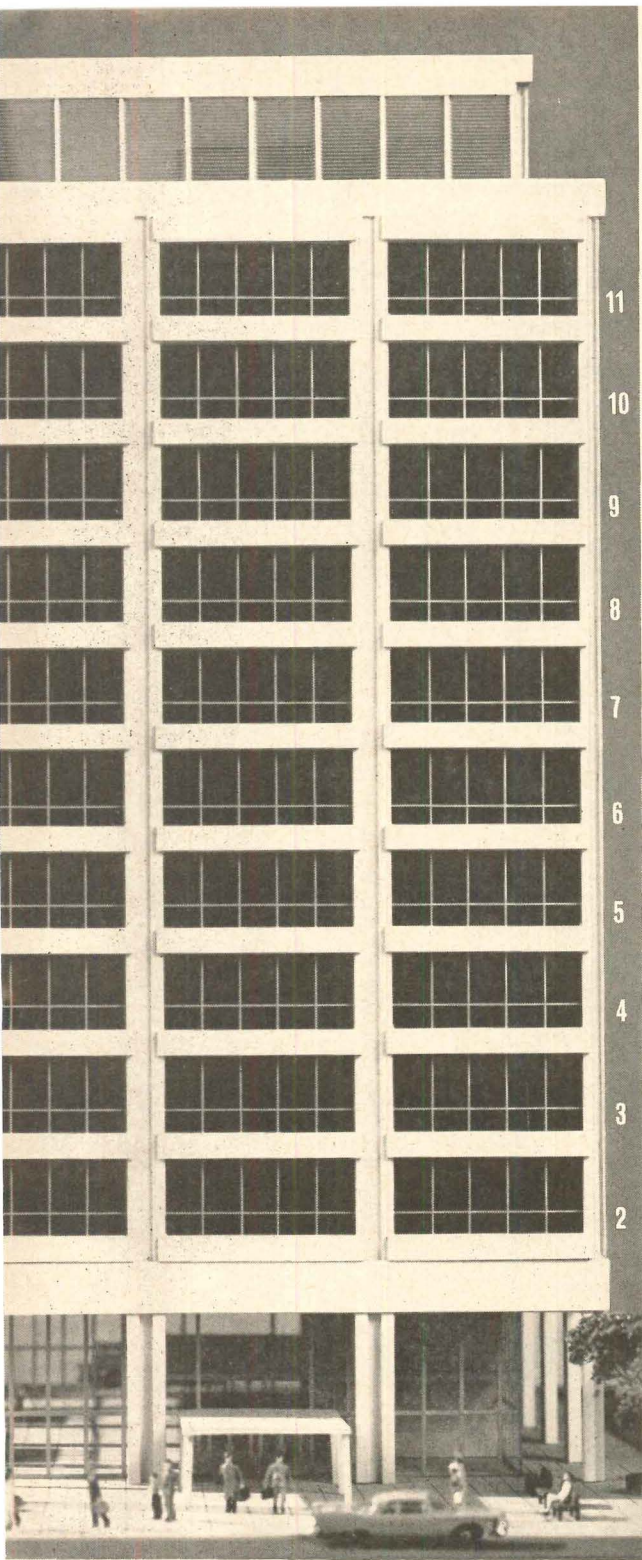
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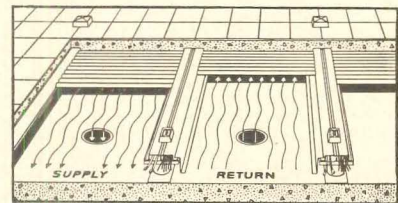
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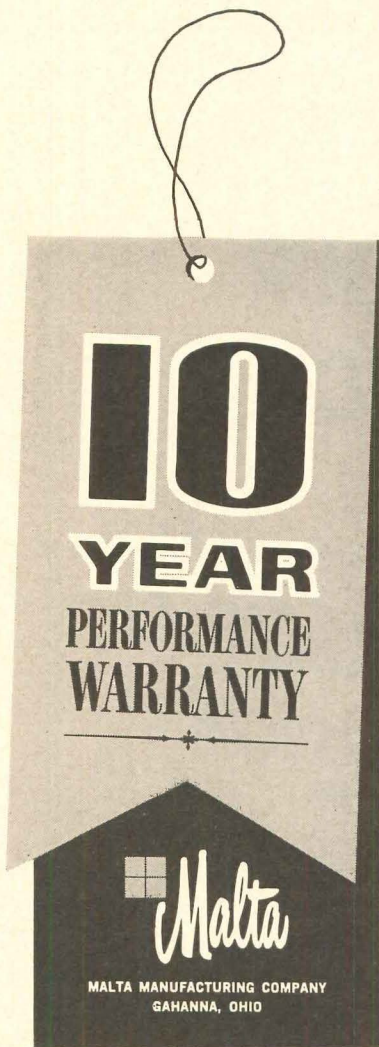
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"Harvard Conference"

continued from page 338

planners, . . . neither Moses nor Levy nor Logue nor the business men are planners, but these are men who know what they want and are goal oriented people. They are coalition builders who set up relationships between organizations. . . Skill in working between nominally competing organizations cannot be taught." Nor are goals easily devised. Their formulation requires, Wilson said, "a leap of faith, an activist spirit, and contact with those who have goals."

The topic of the third panel was "Can the Natural Environment be Saved?" The speaker was J. B. Jackson, Editor, *Landscape* magazine. These were his comments in brief: "Amateurs of the outdoors are looking less for natural beauty . . . they are out looking for other people . . . to enjoy a kind of existentialist picnic. . . They prefer an environment less structured than that of the city but they no longer seek a solitary Thoreau like experience . . . they crowd together in camp sites and make friends. . . Of the two kinds of experiences in the natural environment, the solitary and the shared, they prefer the shared. We have opened up unsurpassed landscape to the crowds. The landscape has suffered and the crowds have not benefited. People prefer a synthetic environment if it offers a social experience. . . True sanctuaries of nature should be difficult of access to all. . . In creating new recreational facilities, however, we must consider the majority and provide environments for social interaction. This new feeling lacks sensitivity, knowledge, emotion . . . but we should have no illusion about how widespread our interest in the natural environment is."

The fourth panel topic was "Designing the Human Environment." The speaker was Robert L. Geddes, Dean, School of Architecture, Princeton University. "Architecture," he said, "is a science and an art and a moral force in the world . . . but commercial exploration of architecture separates it from the real problems which must be solved."

At the end of the conference Dean Sert made some concluding remarks:

continued on page 346

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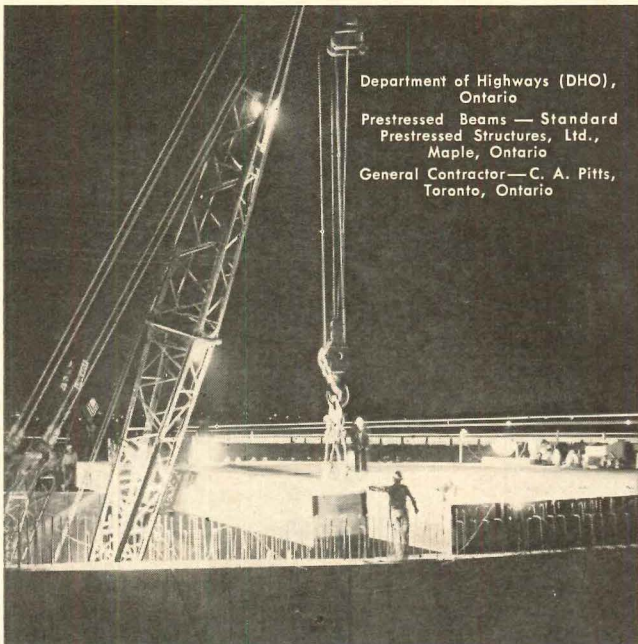
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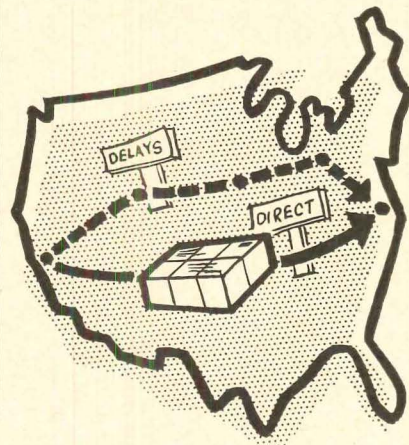
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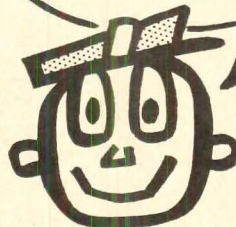
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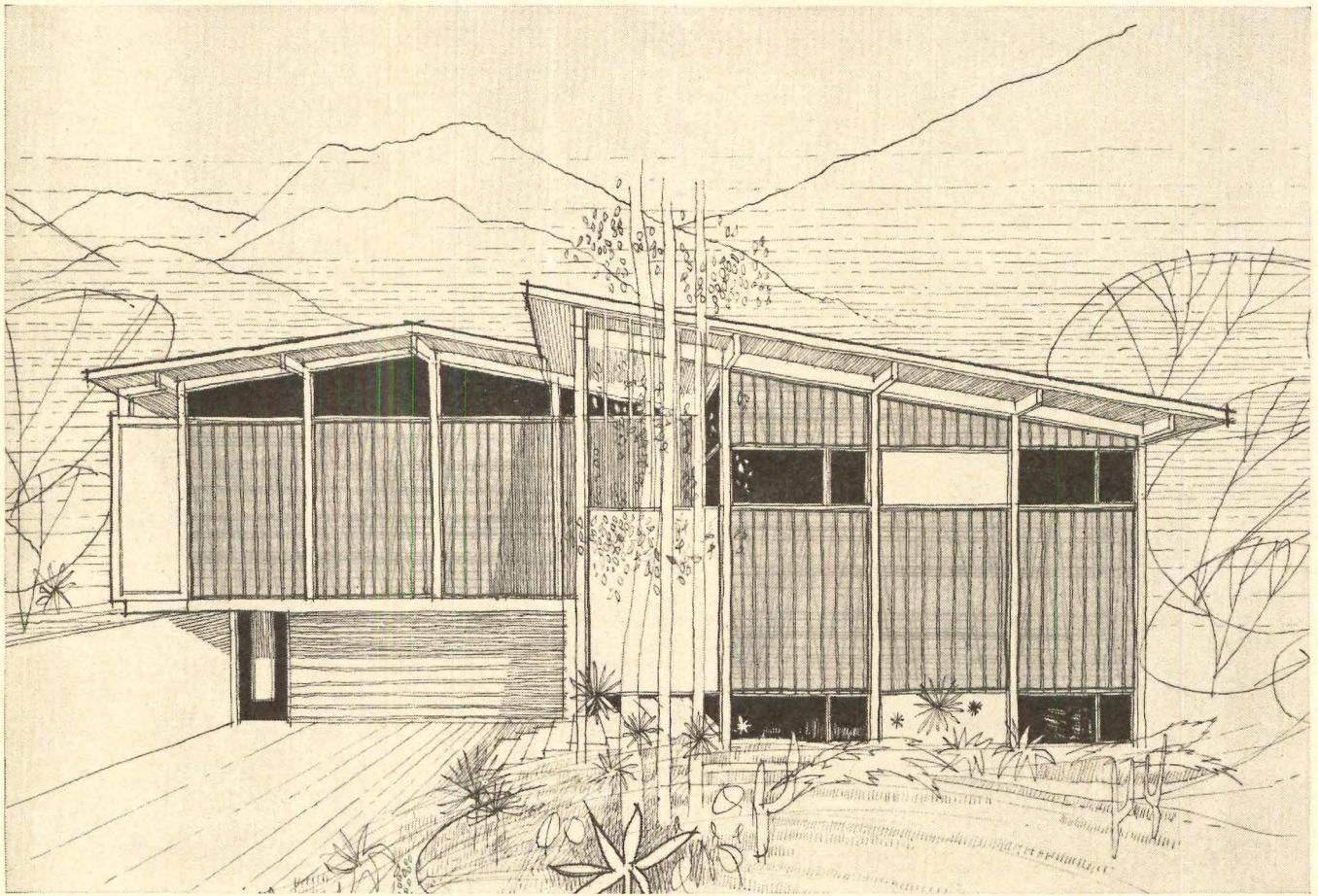


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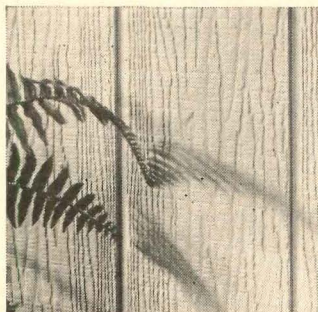
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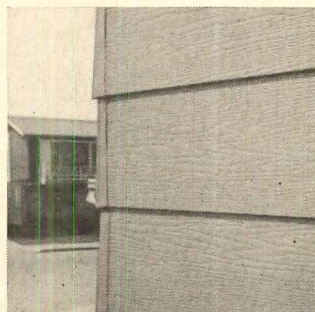


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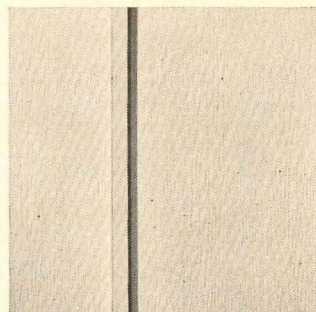
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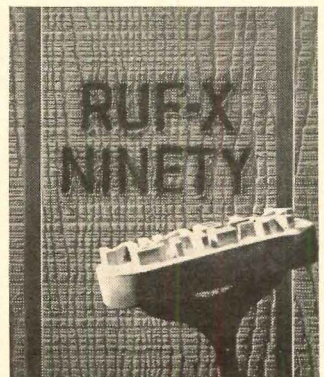
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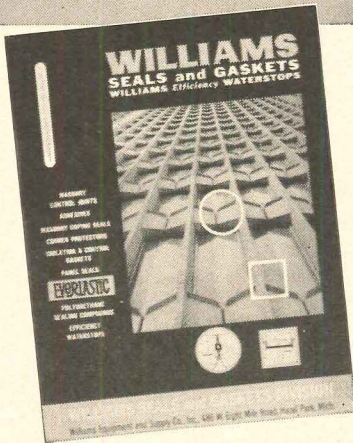
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“Harvard Conference”

continued from page 343

“Schools cannot instruct in everything . . . we must be modest . . . we must get rid of the unrealistic notion of the architect as God with the social sciences in his pocket. . . . The architect must know enough to know what he doesn't know in the social sciences, but collaboration requires a different attitude. . . . We all feel we know something the other man doesn't know, but we get nowhere if each man keeps his own knowledge a secret, in his pocket. . . . I am tired of the arguments about who should direct the planning process, architects or social scientists or whomever . . . leaders are born leaders. They are not produced by university degrees. It is nonsense for you to think because you are the architect, you are the leader. We must have an end to the misgivings and hostilities among the professions.”

—Mildred F. Schmertz

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ABBREVIATIONS: BTS—Building Types Study; AE—Architectural Engineering; TSS—Time-Saver Standards; BC—Building Components

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