

BUILDING TYPES STUDY 455

A PLEA FOR PLANNED COMMUNITIES

A LOOK AT—AND AN ANALYSIS OF—NEW TOWNS
IN AMERICA, WITH SOME LESSONS FROM EUROPE

FULL CONTENTS ON PAGES 4 AND 5
SEMI-ANNUAL INDEX ON PAGES 213-216

ARCHITECTURAL RECORD

DECEMBER 1973

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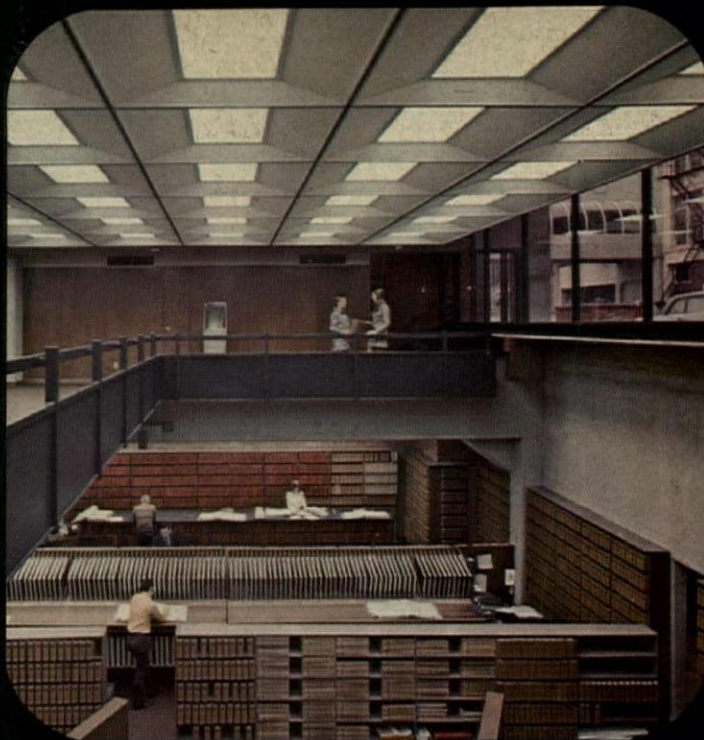
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Associated Architect: Robert H. Eyre, Seattle
General Contractor: KAM Construction, Inc.,
Tacoma
Mechanical/Electrical Engineers: Arnold N.
Bogue & Associates, Tacoma
Ceiling Systems Contractor: Tacoma Asbestos
Company, Tacoma



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Cover: A portion of the land-use map of Lysander New Community, New York State
Architects: David A. Crane and Partners

BUILDING TYPES STUDY 455: A PLEA FOR PLANNED

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85 A PLEA FOR PLANNED COMMUNITIES

In a world in which there is far too little idealism, far too little concern for detailed land planning, and almost no effective concern for social planning, new towns offer hope. Not just for the poor, but for the growing body of middle-class people who search for a comfortable compromise between city life and the traditional suburban life. New towns properly planned can offer some of the best of both of these worlds and this issue explores what is, in effect, a new option in the ways of living.

86 NEW HOPES, NEW OPTIONS —BUT NO MONEY

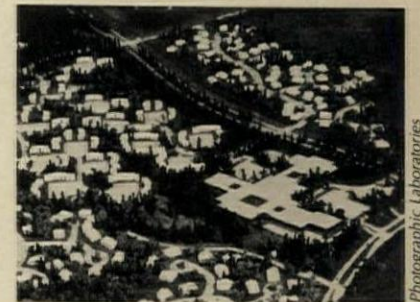
Whatever happened to Title VII?

At this time at the current Congressional hearings, the advocates of the Federally-Assisted New Communities Program are pressing to significantly alter President Nixon's proposed new housing legislation and his revenue-sharing concepts in the belief that this extremely promising program is being sabotaged by the President's moratorium. The outlook for the program is discussed in detail.

88 FEDERALLY-ASSISTED NEW COMMUNITIES

New towns have been part of a growing interest of the Federal government in land use as an integral part of national growth. The towns selected for publication fit the desired pattern of strengthening areas that are troubled economically and creating new areas planned with special emphasis on the economic and social needs of the poor.

- 88 Lysander, New York
- 90 Audubon, New York
- 91 Flower Mound, Texas
- 92 Riverton, New York
- 93 Park Forest South, Illinois
- 94 The Woodlands, Texas
- 96 Soul City, North Carolina
- 98 Roosevelt (Welfare) Island, New York
- 100 Fort Lincoln, Washington, D.C.
- 102 Cedar-Riverside, Minnesota
- 104 New towns-in town:
new prototypes for urban planning?
- 106 Jonathan, Minnesota



Photographic Laboratories



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COMMUNITIES...NEW TOWNS IN AMERICA—WITH LESSONS FROM EUROPE

**108 PRIVATELY FINANCED
NEW COMMUNITIES**

Enlightened private developers have pursued advanced social goals in their new towns without the aid of Federal loans and guarantees.

- 108 Columbia, Maryland
- 110 Reston, Virginia
- 112 Irvine, California
- 118 Valencia, California



Irvine Co.

**120 HOW ARE "PLANNED
COMMUNITIES" PLANNED?**

Designing new communities

Jonathan Barnett tells how some of the best architects and planners in the United States conduct the highly complex process of planning a new town. Following on page 130, social planner Felicia Clark discusses the contributions made by social scientists toward the establishment of a sense of community in new towns.

**134 LEARNING FROM
FOREIGN EXPERIENCE**

New towns in Britain and France

Architect William Fain has spent the last two years in Britain and France analyzing and comparing their new towns. Since these countries both have extensive town planning programs underway, much can be learned from Fain's timely report.



William Fain

142 A LAST WORD

**New Towns:
re-creation, not transformation**

Many New Towns seem to bear as much relation to suburbs as they do to towns. Some of the similarities, as well as the differences, are shown in this concluding essay.

THE RECORD REPORTS

- 9 Editorial
Now here's a place for experimentation
- 33 News briefs
- 34 News reports
- 39 Buildings in the news
- 43 Required reading

ARCHITECTURAL BUSINESS

- 55 Planned communities require new professional skills
- 59 Construction management
- 61 Building cost indexes
- 63 Building activity
- 151 Product Reports
- 153 Office Literature
- 203 A/E Update
- 210 Classified Advertising
- 213 Semi-Annual Index
- 218 Advertising index
- 221 Reader Service Inquiry Card

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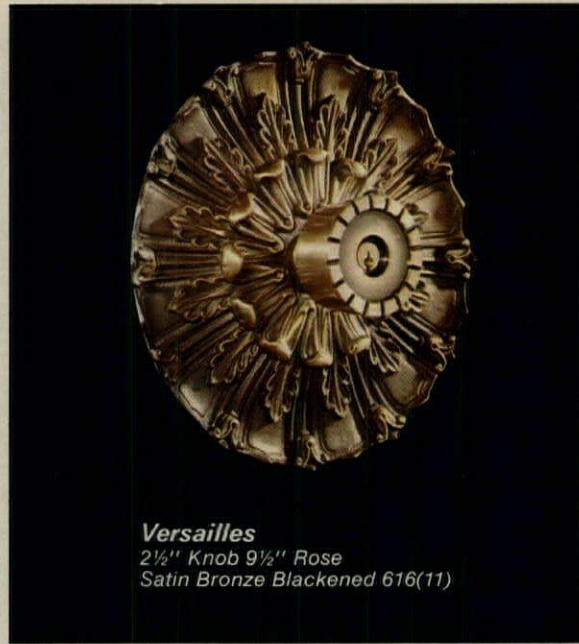
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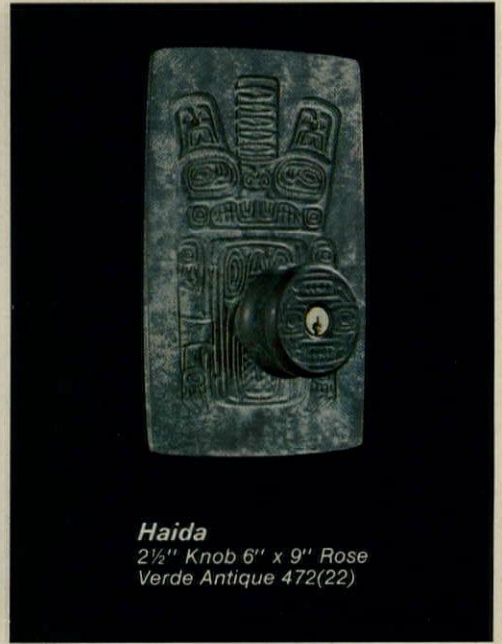
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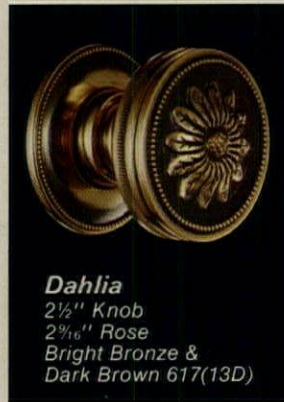
Florence
2 1/4" Knob
2 1/2" x 17 1/2" Rose
Bright Brass
Blackened 610(7)



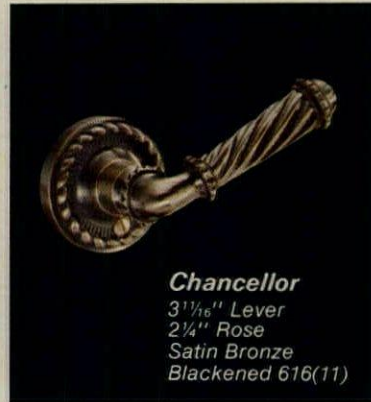
Versailles
2 1/2" Knob 9 1/2" Rose
Satin Bronze Blackened 616(11)



Haida
2 1/2" Knob 6" x 9" Rose
Verde Antique 472(22)



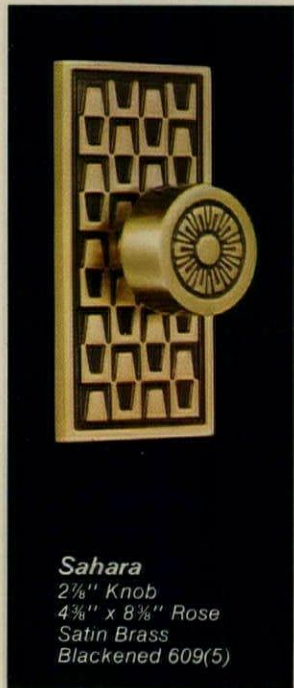
Dahlia
2 1/2" Knob
2 1/16" Rose
Bright Bronze &
Dark Brown 617(13D)



Chancellor
3 1/16" Lever
2 1/4" Rose
Satin Bronze
Blackened 616(11)



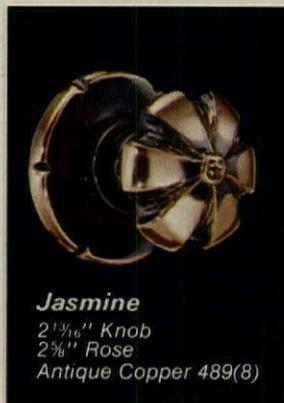
Lily
4 1/8" Lever
2 1/8" Rose
Satin Nickel
Blackened 620(15A)



Sahara
2 1/8" Knob
4 3/8" x 8 3/8" Rose
Satin Brass
Blackened 609(5)



Palace
1 3/8" x 2 3/8" Knob
2 3/8" Rose
Satin Brass
Blackened 609(5)



Jasmine
2 1/16" Knob
2 3/8" Rose
Antique Copper 489(8)



Cavalier
3 3/8" x 18 1/2"
Bright Brass 605(3)



Majorca
3 1/2" x 18 1/2"
Bright Brass
Blackened 610(7)

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Subsidized housing strategy: Now here's a place for experimentation

As faithful readers of this page will know, beginning with the first glimmers of what turned out to be Operation Breakthrough, I've done a lot of carping and criticizing about HUD's efforts to find ways to build housing cheaper out of pressed cornflakes.

In contrast, I'm all for experimentation in what really is a much more complex—and much more important—problem: How are we going to finance housing? Especially low- and moderate income housing? Where, oh where, is the money going to come from? And how—since we simply must continue to assume one kind or another of Federal subsidy—is that subsidy going to be divided up and dispersed?

There are no easy answers to these questions, of course. Earnest and dedicated men who know a lot more about money and mortgages and fiscal policy than I'd ever know don't have any kind of agreement on the answers to those questions.

Which seems to me to be an ideal circumstance under which to do some meaningful experimentation.

What we know—sort of—is where the Administration and HUD stand (see below). What we don't know—except in the form of anguished (and anticipatable) cries from members of the Congress who have been responsible for the evolution of the housing programs which the President and HUD wish to shut down—is where Congress (all of Congress) stands. And it looks as though we won't know that until sometime next year—since the Senate seems to be marking up the HUD legislation in a most leisurely fashion and the House hasn't even started.

What do we know as of now?

We know what the President has proposed

On September 19th, President Nixon sent his message on housing to the Congress, and on October 1st, bills incorporating his proposals were introduced in Congress.

Some of the proposals are pretty technical: For example, a proposal to set up a mortgage tax credit to encourage more financial institutions to invest in residential mortgages, and a proposal to provide market interest rates on FHA mortgages and prohibit discount "points."

Some of the proposals are modest experiments—like permitting FHA mortgages to be amortized at a variable rate (rather than in level monthly payments), permitting the homeowner to pay less in his younger years, more as his earning power grows.

Some are pretty non-controversial, like the proposal to increase maximum FHA mortgage insurance amounts and home improvement loan limits—which merely recognize that inflation is with us. But . . .

Some of the proposals are wildly controversial

The first of what will surely be controversial sections of the Administration proposal involves changing the Section 23 public housing leasing program to provide direct leasing contracts between HUD and the owner (instead of a local housing authority), providing that only a portion of the units in a structure (20 per cent seems to be the figure) are "assisted." If I read this right, it would mean among other things a mixture of public housing units among housing for higher-income families—which is surely a desirable goal but comes right up against some hard-core prejudices.

The second controversial (wow, is it controversial!) proposal is to phase out the interest subsidy programs under FHA Sections 235 and 236. The reasoning, to quote from a recent speech by HUD Secretary Lynn, goes like this:

"Technically, about 40 per cent of all the people in the United States are eligible to receive assistance under the subsidized housing programs now on the books.

"In 1972, the average family of four living in houses subsidized under the Section 235 homeowner program had an income of \$6,500. In the Section 236 apartment rental program, the average income was \$5,300. Both figures are well above the low-income line." (They may be well above the low-income line, but such incomes scarcely permit a family of four to live a life of luxury.)

Further, the Secretary argues, "The total number of people actually assisted—either in public housing or in other Federally subsidized houses or apartments—was a little over 6,000,000. This is less than a quarter of the 24½ million Americans living on incomes below the official low-income line." (But a quarter is better than none . . .)

And finally, the Secretary argues, ". . . projections indicate that some 19 per cent of the Section 235 subsidized houses and 20 per cent of the Section 236 subsidized apartments will be foreclosed upon default within the next decade." (Well, whose fault is that?)

Now the third controversy . . .

What of the alternate: cash assistance?

The Administration has said that a program of housing allowances—paid directly to the fami-

lies "who need it"—will be introduced in late 1974 or early 1975 if (big if!) pilot testing indicates that it will work.

The experimentation in this idea has been going ahead quietly. In 1970, Congress authorized housing allowance experiments involving some 18,000 families, at a cost of \$150 million. My understanding of the results so far is that they "have not been discouraging," but that much more study of the results is needed and is now being undertaken. In his September 19th message, the President raised some of the tough questions; "What, for example, is the appropriate proportion of income that lower-income families should pay for housing? Should this level be higher or lower for different kinds of families—for young families with children, for example, or for the elderly? . . . Should families receiving Federal aid be required to spend any particular amount on housing? If they are, and the requirement is high, what kind of inflationary pressures if any would that produce in tight housing markets, and what steps could be taken to ease those pressures? In the important case where poor families already own their own housing, how should that fact be weighed in measuring their income level? How should the program be applied in the case of younger families who have parents living with them?" Well, those are indeed good questions—which go right to the heart of whether "cash assistance" or "rent stamps" will work, and the President properly calls for expansion of the experimental program to test for the answers to these questions. But . . .

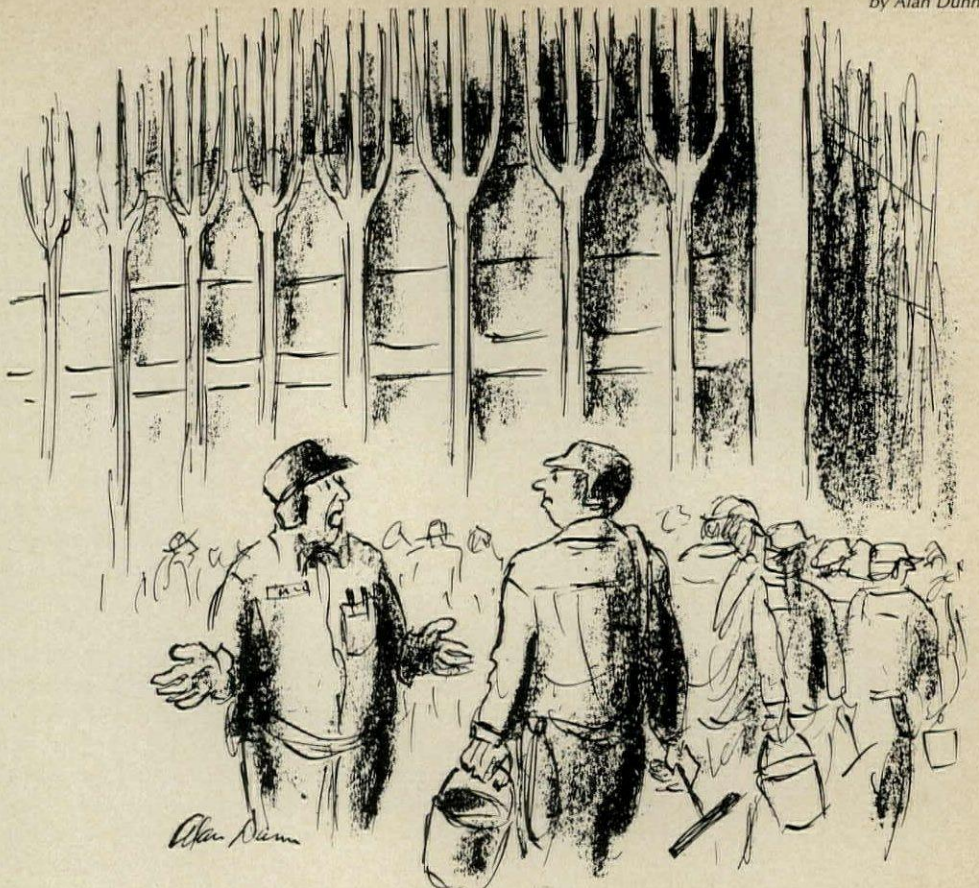
Can we possibly stop building housing while we see if the new system works?

Surely the answer is no. Surely we must, while exploring carefully the very real possible benefits of the cash assistance program—in terms of human dignity, in terms of breaking up ghettos, in terms of giving the poor and near-poor a real choice of housing instead of boxing them together—continue our present program of subsidizing construction. The best figures indicate that next year's authorization for new subsidized housing will be limited to about 150,000 units—mostly those already in the pipeline when the January moratorium was announced. At the same time, credit market conditions will be holding privately-financed housing down. And thus we will be far below the goal of housing that we have set for ourselves and that we have come close to meeting in the last few years.

I guess I'd sum up this way: Let's experiment with new schemes—especially the cash assistance plan. But in the meanwhile, let's keep on with the building programs—phasing them out only as alternate solutions are phased in.

For this is not a theoretical economic exercise our Government is engaged in—our success or failure in subsidizing housing one way or the other affects one of the most basic needs of millions of people in cities and towns and rural areas across the country. We simply cannot fail, and we simply cannot stop and wait until, somehow, "something works out."

—Walter F. Wagner Jr.



Of course it's meaningful work—What other building has 43,600 windows

Three postscripts to last month's editorial on political contributions

■ Seven organizations of design professionals making up the Interprofessional Council on Environmental Design—the ACEC, the AIA, the AIP, the ASCE, ASCP, the ASLA, and the NSPE—have jointly issued a strongly worded statement expressing dismay at recent allegations of improper or illegal conduct by design professionals.

The statement said that "We condemn without equivocation any attempt by any person dealing with Government to influence the award of contracts to political contributions or by offering or providing services, materials or other gratuities in hope of obtaining work." The joint statement also reemphasized that the organizations saw their "clear responsibility to discipline their members for unprofessional conduct."

■ The American Consulting Engineers Council, at a special Board of Trustees meeting held October 30th, initiated "legal, legislative, and administrative action" by the Council to "put an immediate end to unprofessional practices on the part of consulting engineers seeking public agency work, and restore public confidence in and respect for our profession."

Key decision at that meeting: The adoption of "interim policies which will permit the national officers to institute disciplinary action against members involved in illegal or unethical conduct whenever state member organizations are unable or unwilling to act."

■ While the AIA keeps arguing (and well) that "it is important to protect architects' rights to support political parties and candidates—to participate as informed citizens in the political process"; the National Society of Professional Engineers (NSPE) is at least considering harsher

rules. Its president-elect Lester Gates recently pointed out that as long ago as 1962, the NSPE Board of Ethical Review suggest that any political contribution in excess of \$100 "should be given only with the understanding that the engineer ethically may be required to divest himself or his firm of contractual relations with the public agency which is controlled or substantially influenced by the candidate or party to whom the contribution was made." Said Gates to an NSPE press conference September 21st:

"Some may feel that such a rule is too harsh and discriminating against consulting engineers by being singled out for such a limitation of a basic right to support the candidate of his choice. But it may be a choice we will have to make to satisfy ourselves and the public that we mean what we say when we contend that consulting engineers should be selected solely on the basis of qualification and competence."

That's harsh medicine indeed. But don't we need to take it? I think this proposition needs to be carefully considered not just by NSPE, but by all professionals.

Coming in the RECORD to start a new year

It still remains to be written, of course, but next month's issue, as it develops here, has me excited. It will include RECORD INTERIORS 1974—the best of the year's architect designed interiors, and this year's submissions are a very high standard. The Building Types Study is on recreational facilities—with a heavy emphasis on ski resorts (which will be fun to look at!). Then there's some in-city housing by Davis, Brody that combines that firm's usual high standard of architectural design with a unique (and moving) effort at social design by the sponsors.

—W.W.

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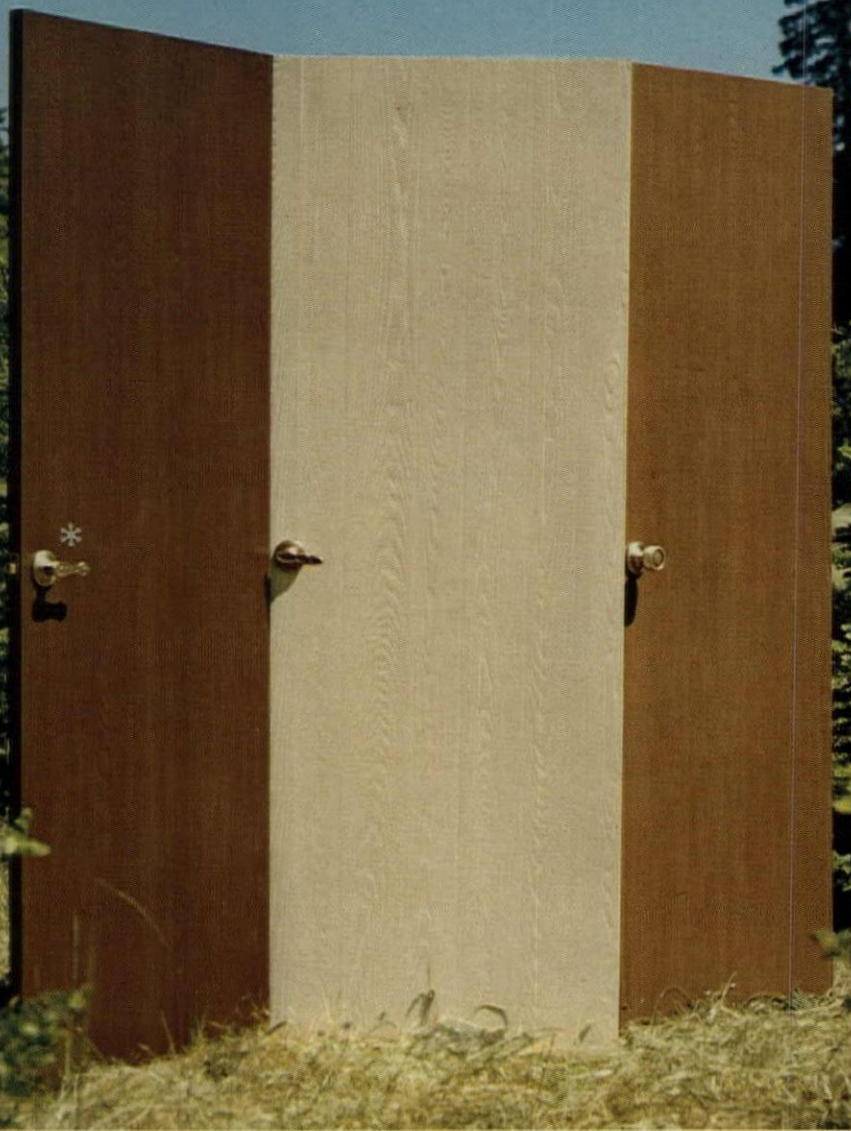
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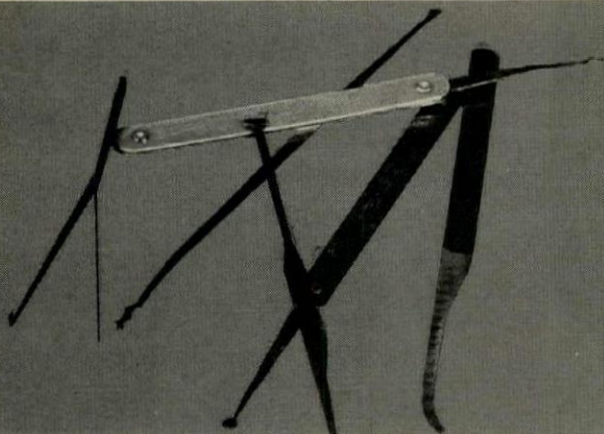
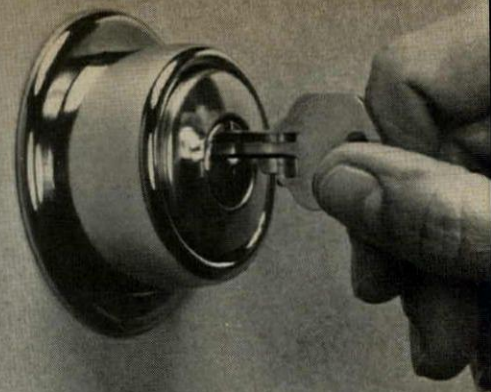
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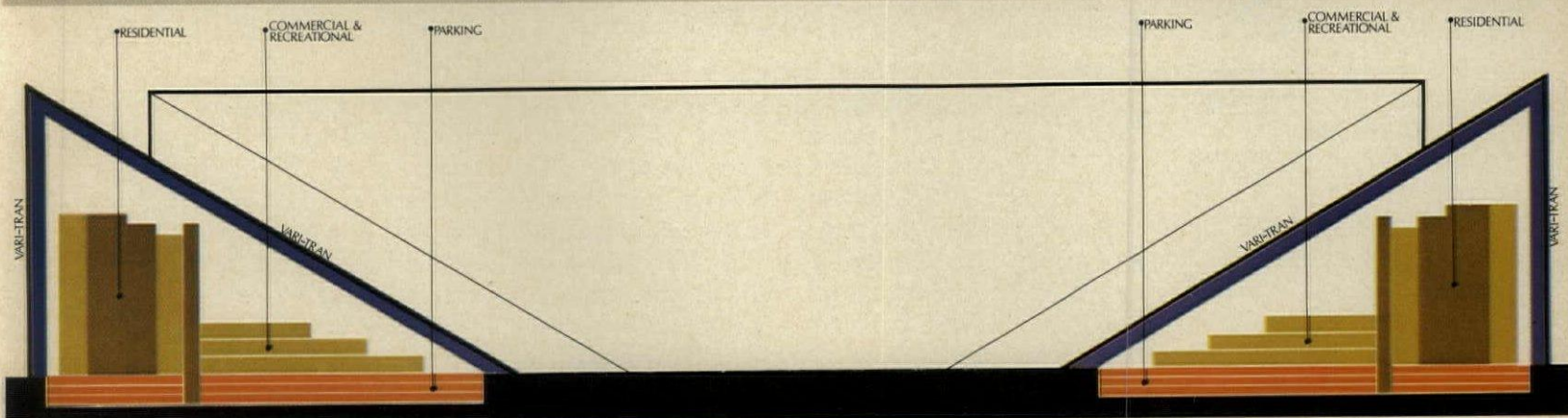
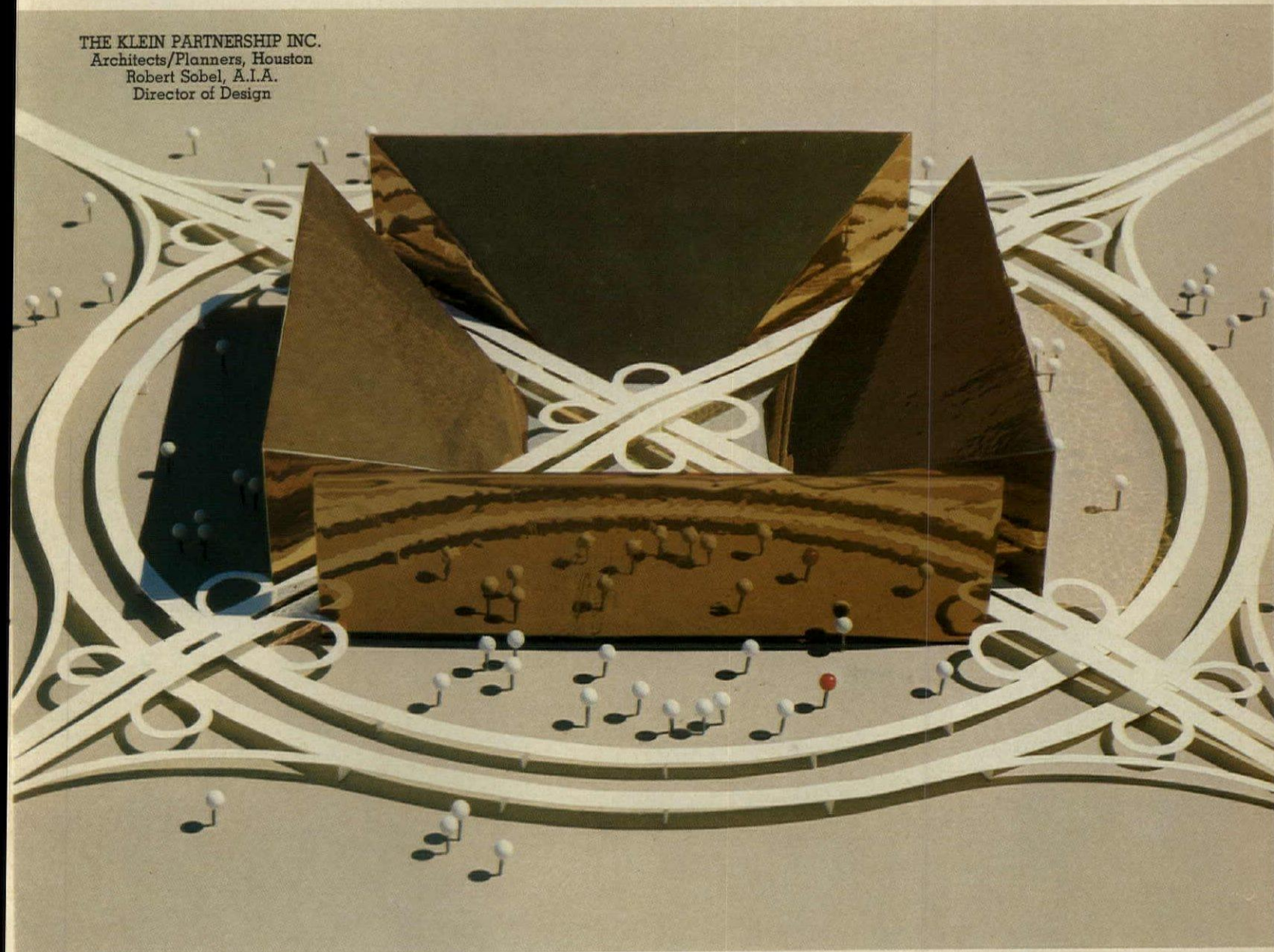


Box 2848D, Pasadena, Calif. 91105

For more data, circle 6 on inquiry card

CRYSTAL PALACE 2000 REFLECTS TOMORROW'S ENERGY SAVINGS

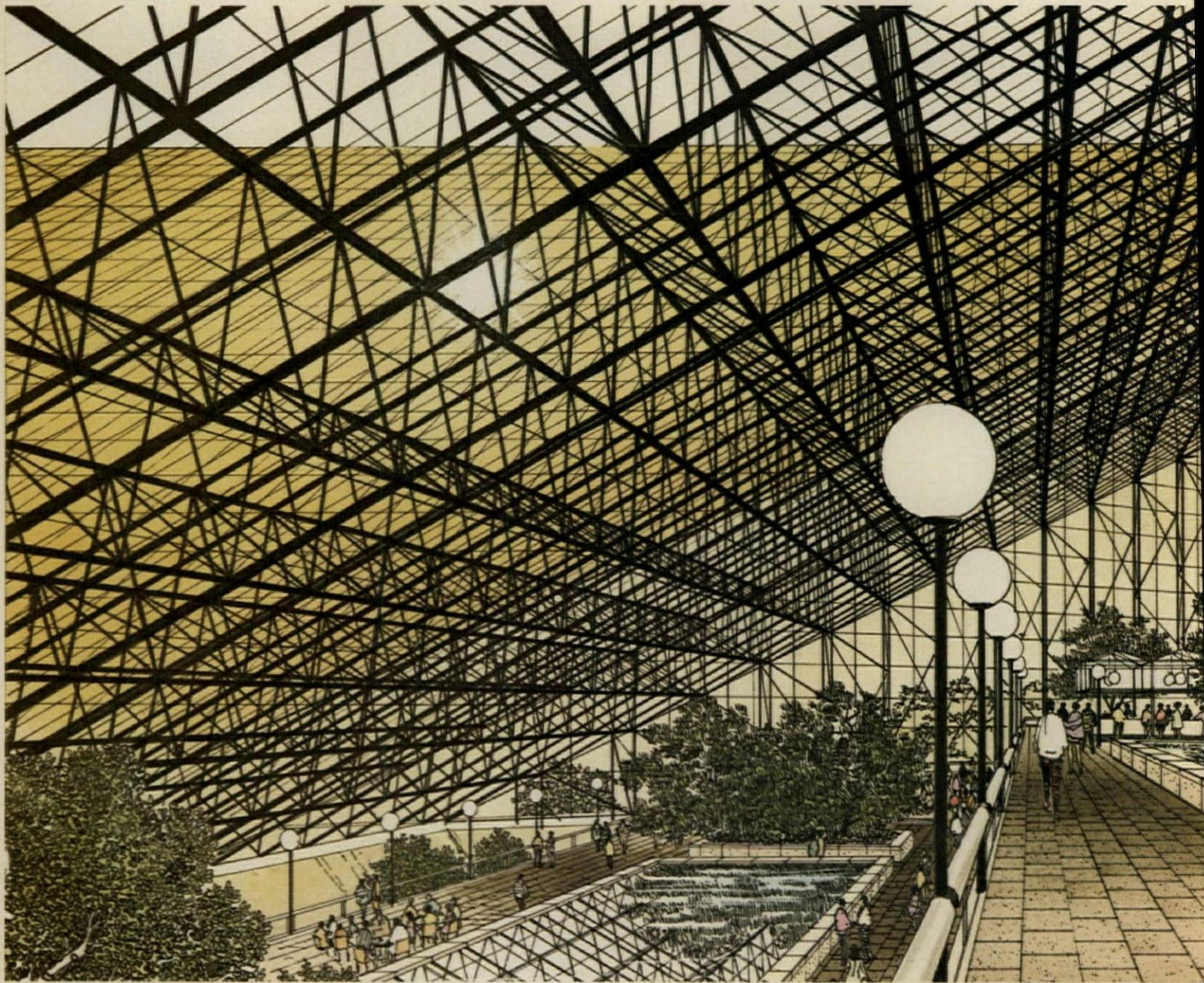
THE KLEIN PARTNERSHIP INC.
Architects/Planners, Houston
Robert Sobel, A.I.A.
Director of Design



Town Module Section

LOF

A PRIVATE SKY CONCEIVED



NEARLY FOUR MILLION SQUARE FEET OF GLASS.

The vision of the architects is a complete year-round community under glass. Crystal Palace 2000 is designed in four quadrants within an interchange at the intersection of two transcontinental highways.

The light of the sun is always the friend of architecture; the heat of the sun, even in northern latitudes, can be its enemy. Vari-Tran gives the architect almost total

freedom to choose. Without Vari-Tran, Crystal Palace 2000 would be difficult even to conceive.

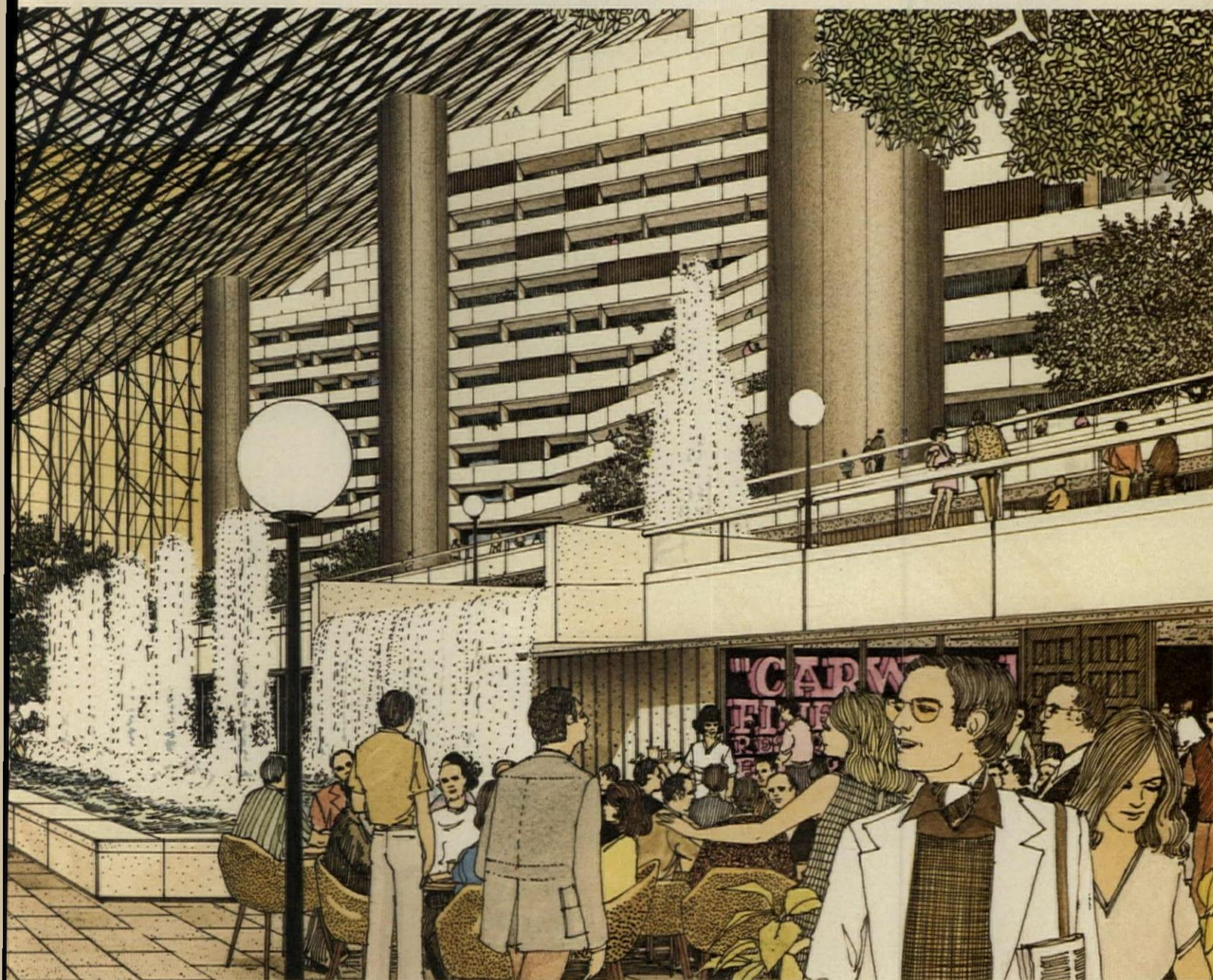
Today, with Vari-Tran, up to 86% of the solar energy falling on Crystal Palace 2000 can be rejected back into the atmosphere. And an unprecedented environment for human life can be created.

Most of the technology of Crystal Palace 2000 was available to Joseph Paxton when he built the Crystal Palace of 1851. The great exception is Vari-Tran. Whereas the conventional glass

available to Paxton made possible the building of a magnificent greenhouse, the reflective properties of Vari-Tran make possible the creation of a totally controlled human environment for year-round living.

This is not to say that the inhabitants of Crystal Palace 2000 will never go out of doors. It is to say, rather, that the inhabitants of Crystal Palace 2000 will always have the option of an environment that brings the outdoors in—and on the most desirable terms.

OF GOLDEN VARI-TRAN®



It is interesting to speculate on the implications of Crystal Palace 2000 as a 21st century sun machine. In this case, the use of reflective glass plays a major role. Since it's anticipated that by the year 2000 there will be economically viable ways of directly harnessing solar energy, it seems reasonable to project the use of sun-catchers as an energy source for the building.

These sun-catchers would be mounted above the Vari-Tran skin of Crystal Palace where they would receive solar radiation two

ways, directly from the sun and by reflection from the skin of the building. Here, more than ever, Vari-Tran would contribute a property totally unavailable in conventional glass.

Yet in the most conventional terms, whether in the year 2000 or now, Vari-Tran would contribute to a more economical project in the following ways: by rejecting the major percentage of the sun's energy, Vari-Tran could substantially reduce the heat load of the building. This, in turn, would lead to a saving in

the initial cost of air-conditioning equipment and a continuing saving in terms of reduced operating costs.

Architects will always search for new materials and technology. Vari-Tran is one of the rare examples of a material that is truly and totally right for its time.

LOF

DESIGNS FOR PEOPLE. GLASS FROM LOF.

PLATE/FLOAT GLASS

Parallel-O-Plate®/Float, 1/8", 3/16", 1/4"

Parallel-O-Grey®, 3/16", 1/4"

Parallel-O-Bronze®, 3/16", 1/4"

Heat-Absorbing Float, 3/16", 1/4"

HEAVY-DUTY PLATE/FLOAT GLASS

Parallel-O-Plate®, 5/16" to 7/8"

Parallel-O-Grey®, 3/8", 1/2"

Parallel-O-Bronze®, 3/8", 1/2"

LAMINATED SAFETY PLATE/FLOAT GLASS with Vari-Tran® Coating

INSULATING GLASS—Thermopane®

Regular, tinted or with Vari-Tran

Coating

VIGILPANE®—Safety Plate/Float Glass

ROUGH PLATE, Regular or Tinted

(Rough 2 Surfaces)
(Polished 1 Surface, Rough 1 Surface)

SPANDREL GLASS—Vitrolux®
Vitreous colors fused to back of heat-strengthened glass

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Windows, Doors and Sidelights

WINDOW GLASS

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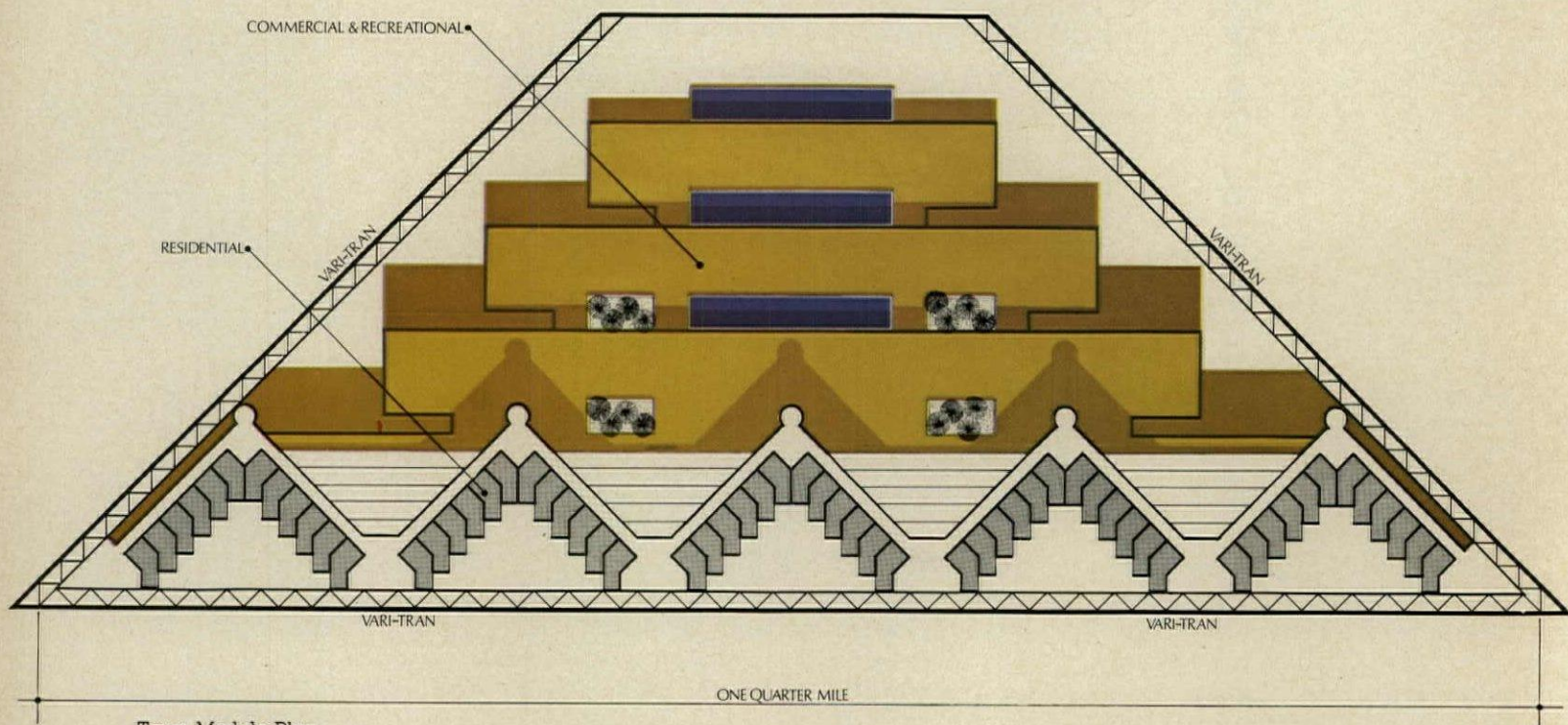
MIRROPANE®

One-Way vision glass

Listed above are many of the LOF types of glass for construction.

In addition, we have an informative brochure complete with pictures of installations utilizing Vari-Tran across the country. Product data and specifications are, of course, included too. The brochure is entitled, "Reach for a Rainbow." We'd be pleased to answer your request.

Phone (419) 242-5781, or write Libbey-Owens-Ford Company, 811 Madison Avenue, Toledo, Ohio 43695.



Town Module Plan
Crystal Palace 2000

LOF

For more data, circle 7 on inquiry card

DON'T PLAY WITH FIRE.

CCC's New Naturalweave spongebonded carpet has a Class "A" Flamespread rating.

If you're looking at carpet for an office building and it doesn't have a Class "A" flamespread rating—25 or less in the Steiner Tunnel Test—you may be playing with fire. The danger of fire always exists, that's why fire safety standards are becoming more and more stringent. At CCC, we know all about fire safety. We've become experts, because we've installed millions of yards of carpet in offices, hospitals, schools and stores.

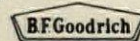
Since fire safety is a major concern to us, we've just introduced a fire-retardant, spongebonded carpet with a Class "A" flamespread rating. We call it NATURALWEAVE FLAMEGARD and it meets all governmental flamespread standards.

NATURALWEAVE FLAMEGARD is an addition to our heavy duty Densylon Carpet series. It has a five-year wear guarantee and is made of tightly-twisted, densely-packed ANSO nylon bonded to B. F. GOODRICH fire-retardant sponge rubber cushioning. This built-in cushion extends the carpet's wear-life by one-third compared to carpet without padding. It's

guaranteed not to lose resiliency, enhances the carpet's appearance retention, reduces leg fatigue and increases floor safety. Among its other benefits, NATURALWEAVE contains a static control system, is easy to clean and keep clean, and helps cut maintenance costs.

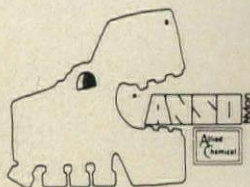
But you get more than just superior carpet from CCC. We're the largest manufacturer of commercial and institutional carpet systems in the country. With CCC, you get SINGLE SOURCE RESPONSIBILITY for every aspect of your carpet projects anywhere in the country, starting with product selection and guaranteed installation through a comprehensive maintenance program that gives you maximum carpet wear-life at minimum life cycle cost. We even know how to effectively integrate carpet with subfloor access systems and can show you how it's done with trench headerducts and handhole covers.

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 Attention: Mr. Walter Brooks
 Please have a representative call.
 Please send brochure.

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 Title _____ Phone _____
 Organization _____
 Address _____
 City _____
 State _____ Zip _____

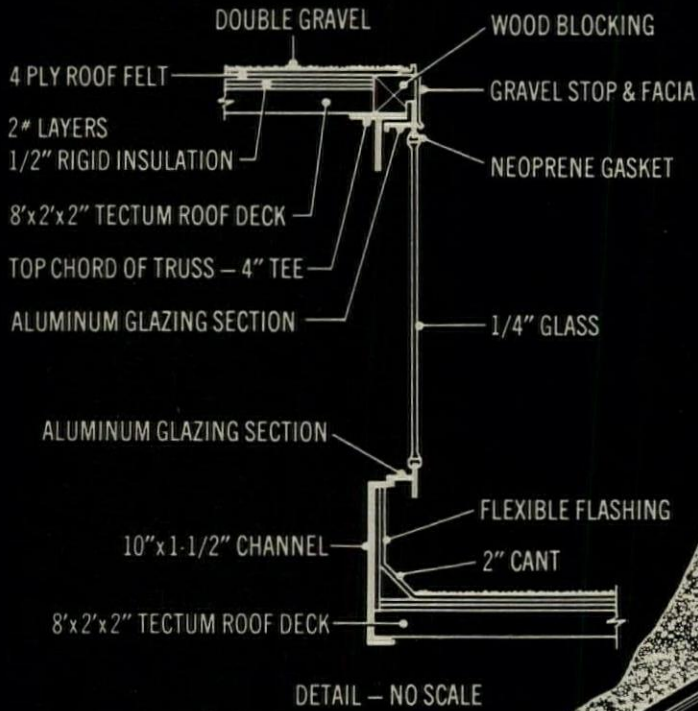


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 carpet systems.

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Tectum: decorative, insulating,



At Gund Hall, Harvard's Graduate School of Design, Tectum was used as a structural roof deck and exposed ceiling in this unique and distinctive canopy of glass and steel. Toronto architect John Andrews specified 2" thick Tectum to span the translucent roof truss enclosures and develop a thin profile for the stepped roof section. The detail shows how this section was constructed. In the open central studio space under the canopy, Tectum's sound absorption is an important factor. Its NRC is in the .50-.60 range.

SEE DETAIL ABOVE

#218 BULB TEES 24" O.C.

10"x1-1/2" CHANNEL

8'x2'x2" TECTUM PLANKS

structural, acoustical, non-combustible.



Gund Hall Graduate School of Design, Harvard University, Cambridge, Mass.
Architects: John Andrews, Edward R. Baldwin and John Simpson, Toronto.
Structural Engineers: Le Messurier Associates, Boston.
Tectum Contractor: Bay State Structural Specialties, Boston.

Texture is the thing about Tectum,
but not the only thing.

There's no end to the ways you can be constructive with Tectum Roof Deck. Look at the way it was used in Gund Hall, shown at left. As a structural material, Tectum gives the roof a thin, efficient section, and demonstrates impressive insulating values as well. In the two-inch thickness, resistance to heat transmission is 3.50. With its Noise Reduction Coefficient in the .50-.60 range, it soaks up sound. And with its rugged finish, Tectum looks good exposed.

The reason Tectum is so constructive is because of the way it's put together. An exclusive inorganic binder bonds long wood fibers into a compact sheet under heat and pressure. Like wood, it's easy to cut, shape and install. Unlike wood, it's rated noncombustible and Tectum has been given an uplift rating of Class 90.

Long Span Tectum Roof Deck

Tectum is also available in Long Span

Tectum. This adaptation allows even greater areas of the exposed Tectum surface to remain unbroken by purlins. Tongue and groove edge of Long Span Tectum is designed for galvanized 16-gauge steel channels. These channels permit spans of up to 6' for 3", 5' for 2½", and 4' for 2" thick Long Span Tectum.

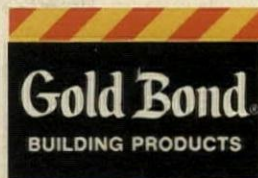
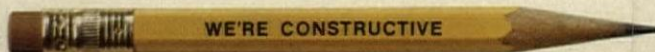
Like other Tectum Roof Deck, Long Span Tectum has factory-applied asphalt felt membrane, and is applicable to flat or pitched roofs with steel, wood or concrete framing.

So, for a good-looking way to cut roofing costs, why not cut down on the number of materials you use? With Tectum, or Long Span Tectum.

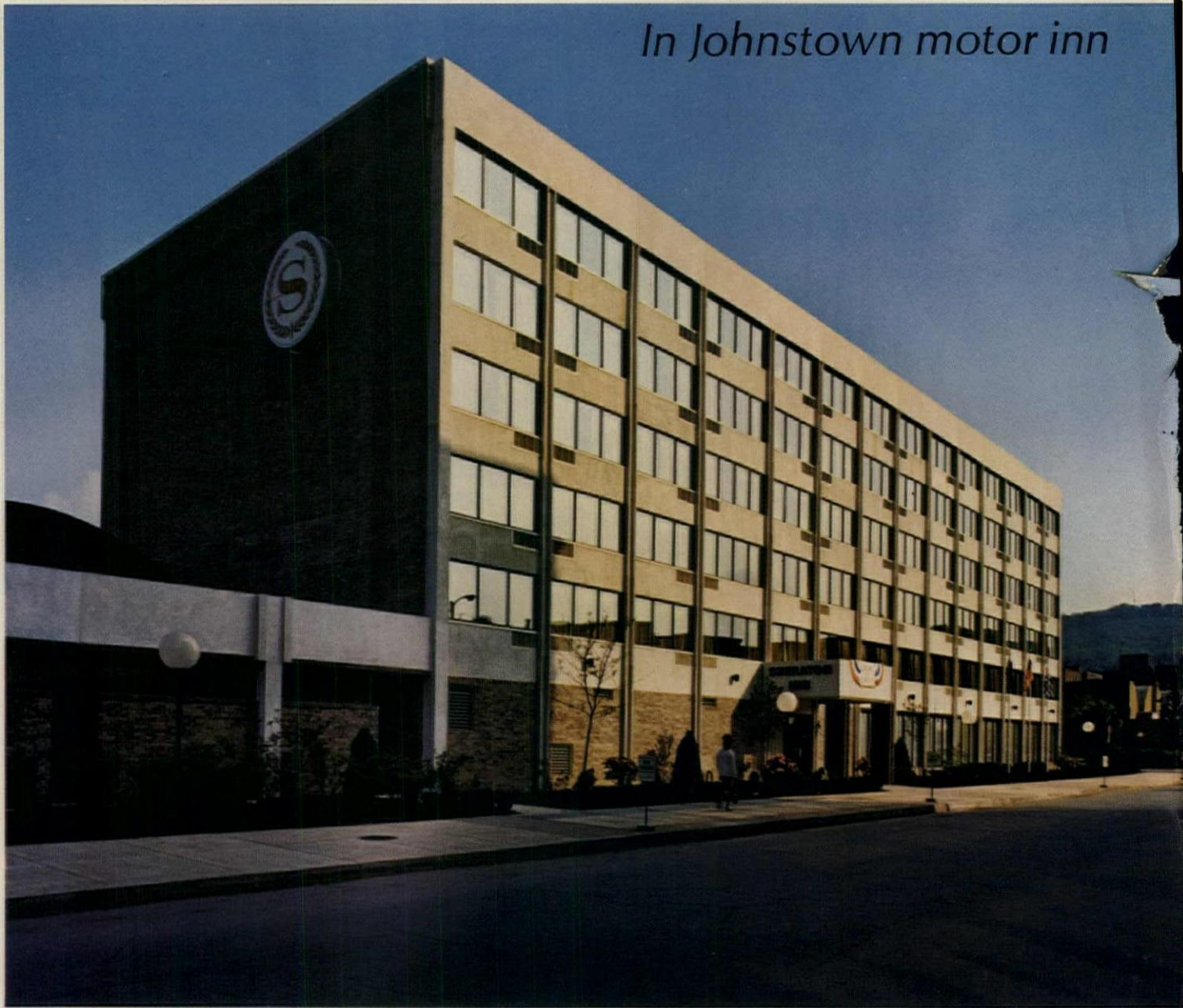
For more information, write Gold Bond Building Products, Division of National Gypsum Company, Dept. AR-123T, Buffalo, New York 14225.

TRANSLUCENT
FIBERGLASS
ENCLOSURE
(SKYLIGHT)

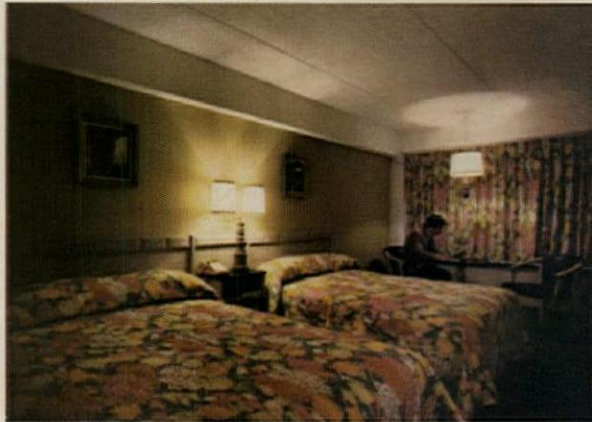
TOP CHORD
OF TRUSS
12" DIAMETER
PIPE 24' 0" O.C.



In Johnstown motor inn



Owner, developer, architect, and general contractor: Crown American Corporation; structural engineer: Norman Alterman Company; fabricator: Claster Steel Company; erector: Kent Steel Company. Sheraton Inn's framework incorporates a total of 226 tons of Bethlehem structural steel. All of the structural steel framing is ASTM A36. The six floors of the \$2-million Sheraton Inn encompass 71,086 sq ft.



The five upper floors accommodate 135 guest rooms and suites. Each upper floor contains 13 single rooms and 12 double rooms typically measuring 12 by 24 ft.



Steel framing provided economy, erection speed, and early occupancy

The Sheraton Inn which recently opened in Johnstown, Pennsylvania, is a six-floor, steel-framed motel.

Originally the inn's framework was designed for precast concrete construction. But a switch was made to steel when a comparative framing analysis indicated that steel framing was more economical . . . and would permit completion of the framework more than one month before the alternate method.

Total time from start of design to delivery of the steel was eight weeks. A further saving in time was accomplished because the general contractor was able to complete all the underground site work—curbing, sidewalk, utilities—before the steel was delivered. This preliminary effort got the job "out of the mud" and enabled the builder to proceed with steel erection quickly with less lost time due to bad weather. The steel framework was erected in only 8 weeks.

Inn features enclosed swimming pool

The six floors of the Sheraton Inn encompass 71,086 sq ft. The structure was built at a total cost of \$2 million.

The ground floor measures approximately 100 by 223 ft. It includes a registration desk and spacious lobby, administrative offices, gift shop, dining room, cocktail lounge, banquet and meeting rooms, kitchen area and a laundry. An enclosed swimming pool features a sliding, vaulted skylight roof.

Major clear span area in the first floor is over the 1,050-sq-ft pool. The enclosure measures 45 by 74 ft. The next major span is over the largest of the four meeting rooms, which measures 36 by 64 ft. This room can be evenly divided by a movable partition.

The five upper floors accommodate 135 guest rooms and suites. Each contains 13 single rooms and 12 double rooms typically measuring 12 by 24 ft. The guest floors of the inn measure 60 by 178 ft. This area is framed by 15 bents typically 12½ ft apart with three 20-ft bays in each bent. Column spacings were dictated by room layouts and the use of existing footings which were already in place when the framing was changed to steel.

Framed with 226 tons of Bethlehem steel

The inn structure rises 58 ft, 8 in. above ground and is topped by a 20-ft-high elevator penthouse. Floor to floor height for the ground floor is 12 ft; the remaining five floors have a floor to floor height of 8 ft, 8 in.

All of the steel framing is ASTM A36. Typical columns range from W10 x 54 to W8 x 17 sections. Typical girders are W8 x 28's and W8 x 17's. Wind struts are W6 x 15.5 members and pairs of 6-in. channels at the pipe chases. Spandrels are W12 x 19 sections. Floor construction is of 8-in.-deep precast, prestressed concrete planks spanning 20 ft and welded to the girders between each bent. All field connections are bolted with ASTM A325N bolts.

Whether you're thinking about a high-rise or a low-rise structure, steel gives you a lot for your dollar. Its speedy erection often means earlier occupancy. There is a Bethlehem sales engineer near you, or write: Bethlehem Steel Corporation, Bethlehem, PA 18016.

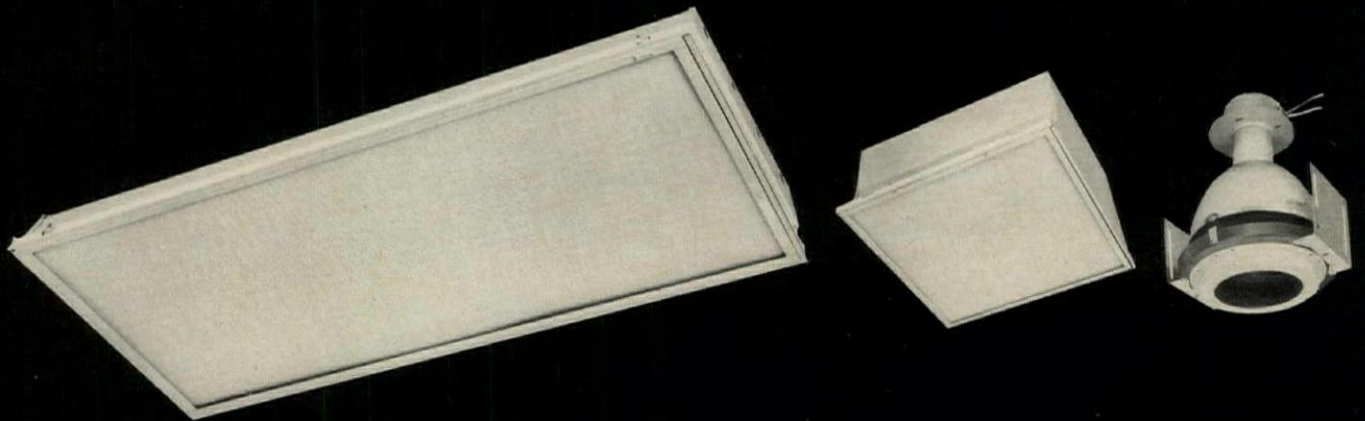
Bethlehem



Major clear span area in the first floor is over the pool. This enclosure measures 45 by 74 ft. The next major span is over the largest of the four meeting rooms, which measures 36 by 64 ft. This room can be evenly divided by a movable partition.



Bring your ideas to light



from plain...

Run the spectrum of your ideas.

Then bring them all to light from one source.

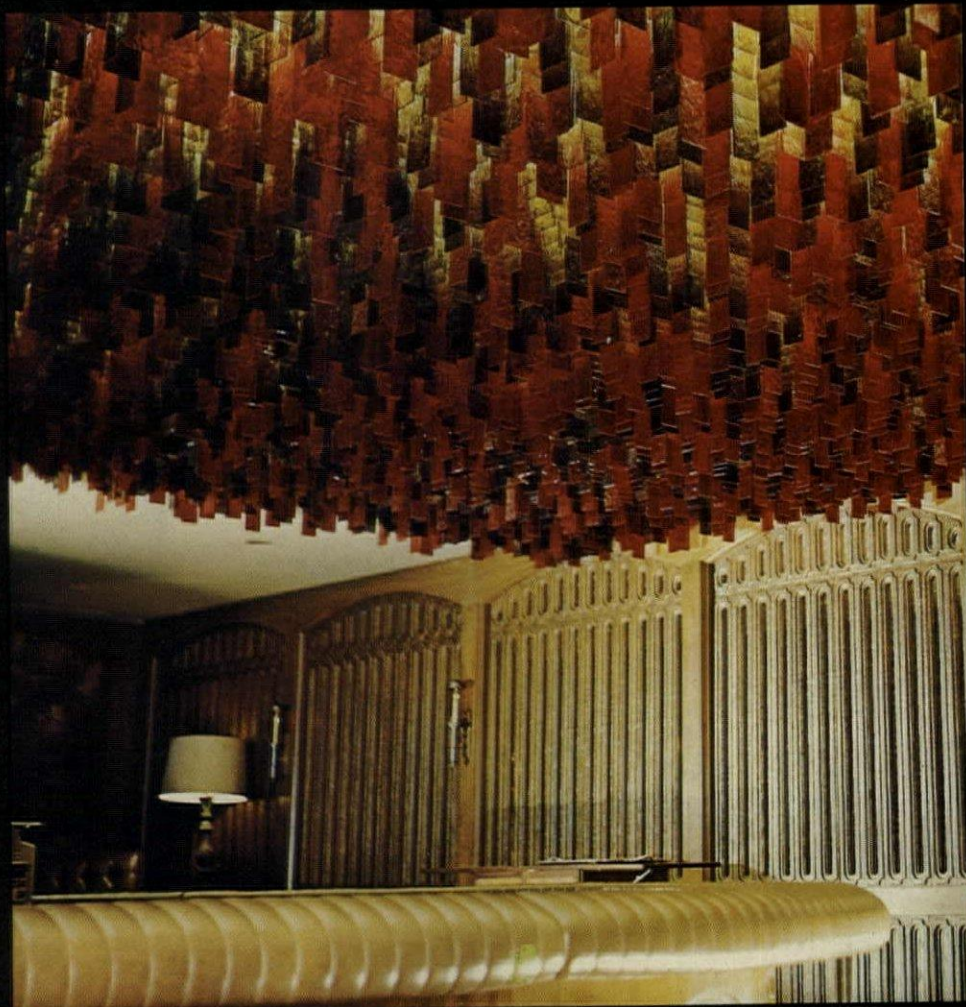
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Litecraft. Luminous Ceilings. Two names to remember. One source to rely on.

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to fancy

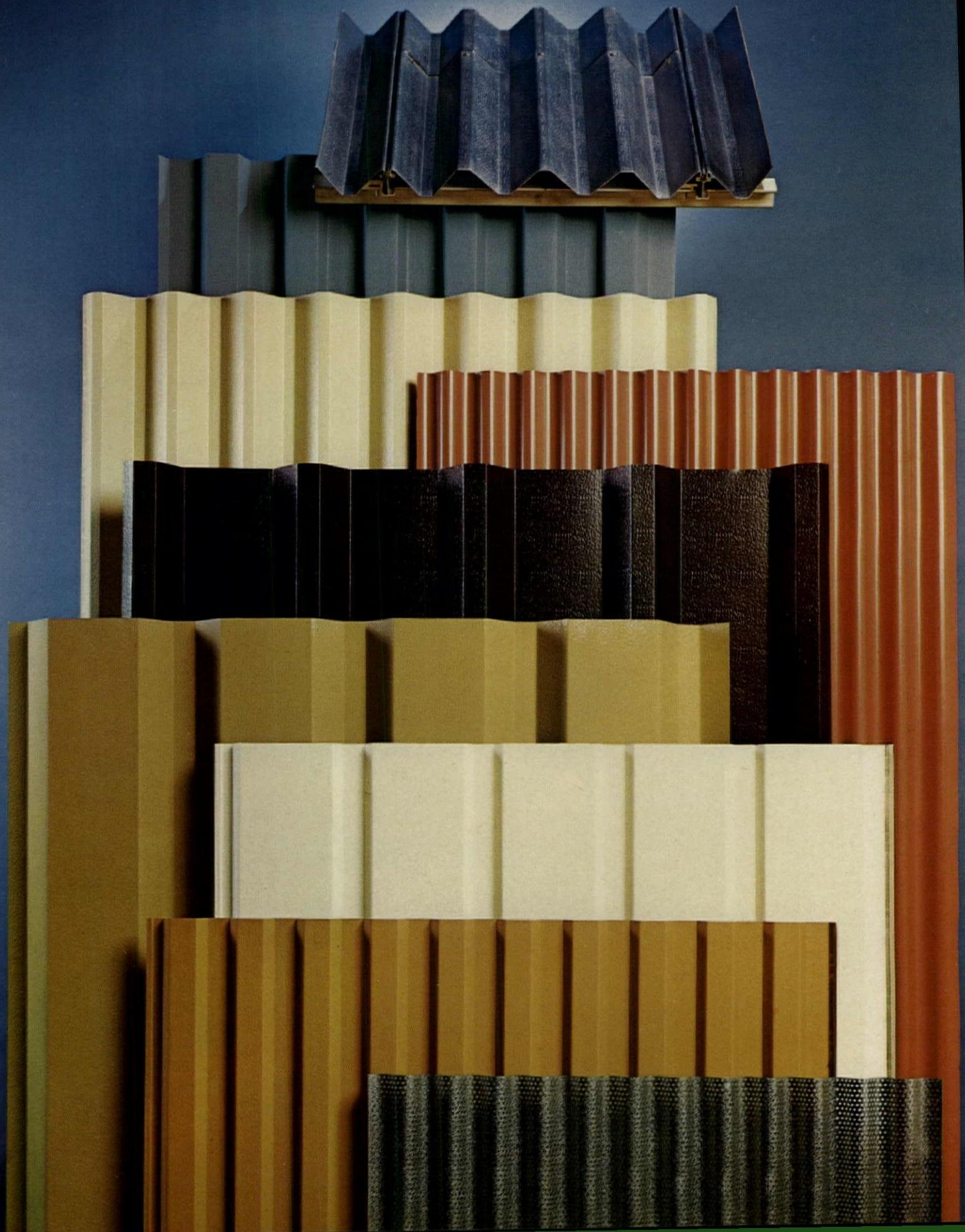
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Bringing your ideas to light

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For more data, circle 10 on inquiry card



Look ahead.

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Formed aluminum industrial siding products with deep profiles for added strength (V-Beam) . . . profiles that blend texture and shadow line (Bold Rib I and II sheet and Box Beam) . . . profiles that combine function and economy (4-inch and 8-inch ribbed and corrugated sheet) . . . and special-purpose profiles (perforated corrugated and curved corrugated). Plus a roofing system that resists water leakage by eliminating through-fasteners (Snug Rib® roofing). All Alcoa industrial building products

can be finished in any of the 10 attractive colors of Alcoa Super Aluma-lure® finish, a baked-on, factory-applied, fluoropolymer enamel, rich in beauty and color integrity.

What doesn't

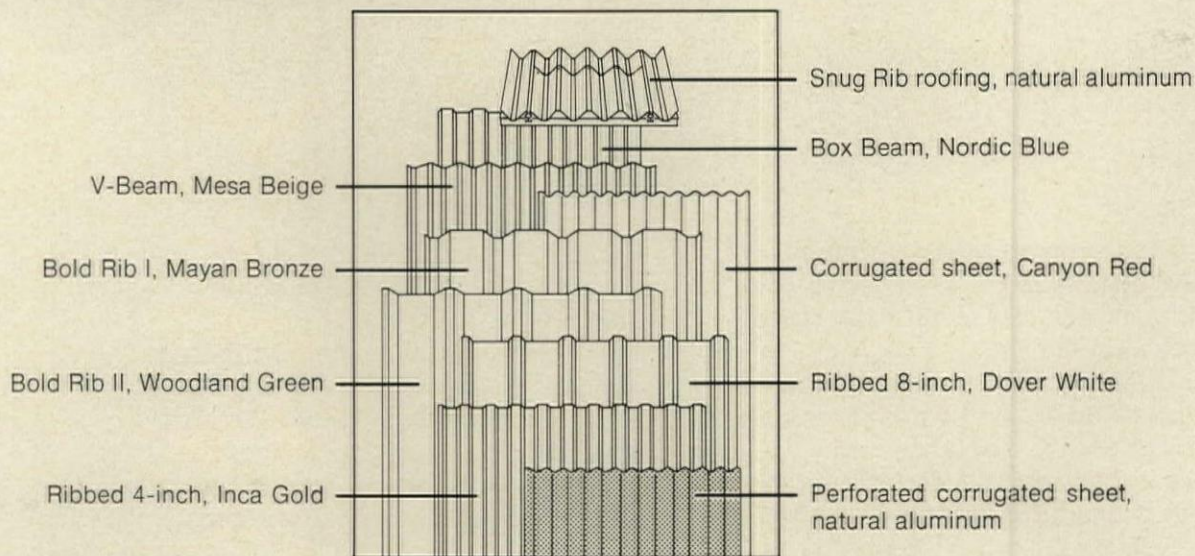
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For complete information on our commercial and industrial building products, see *Sweet's Architectural* or *Industrial* files. Or write Aluminum Company of America, 1130-M Alcoa Building, Pittsburgh, Pa. 15219.

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**the
undistorted
facts**



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The Weldwood Collection. A paneling created exclusively for those once-in-a-lifetime opportunities when nothing less than the finest in quality is acceptable. Where superb hardwoods are crafted into face veneers worthy of the term "heirloom".

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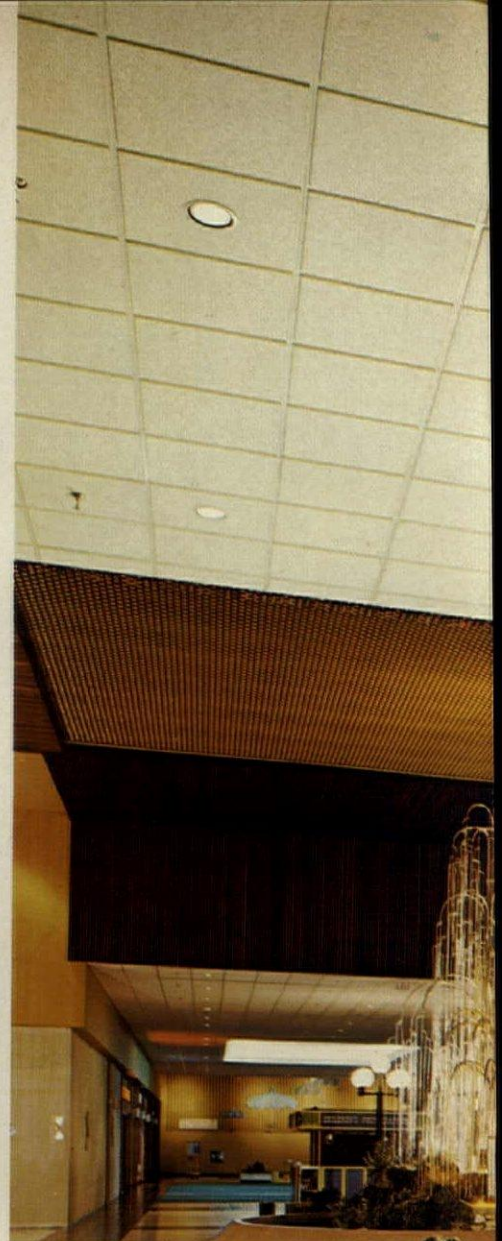
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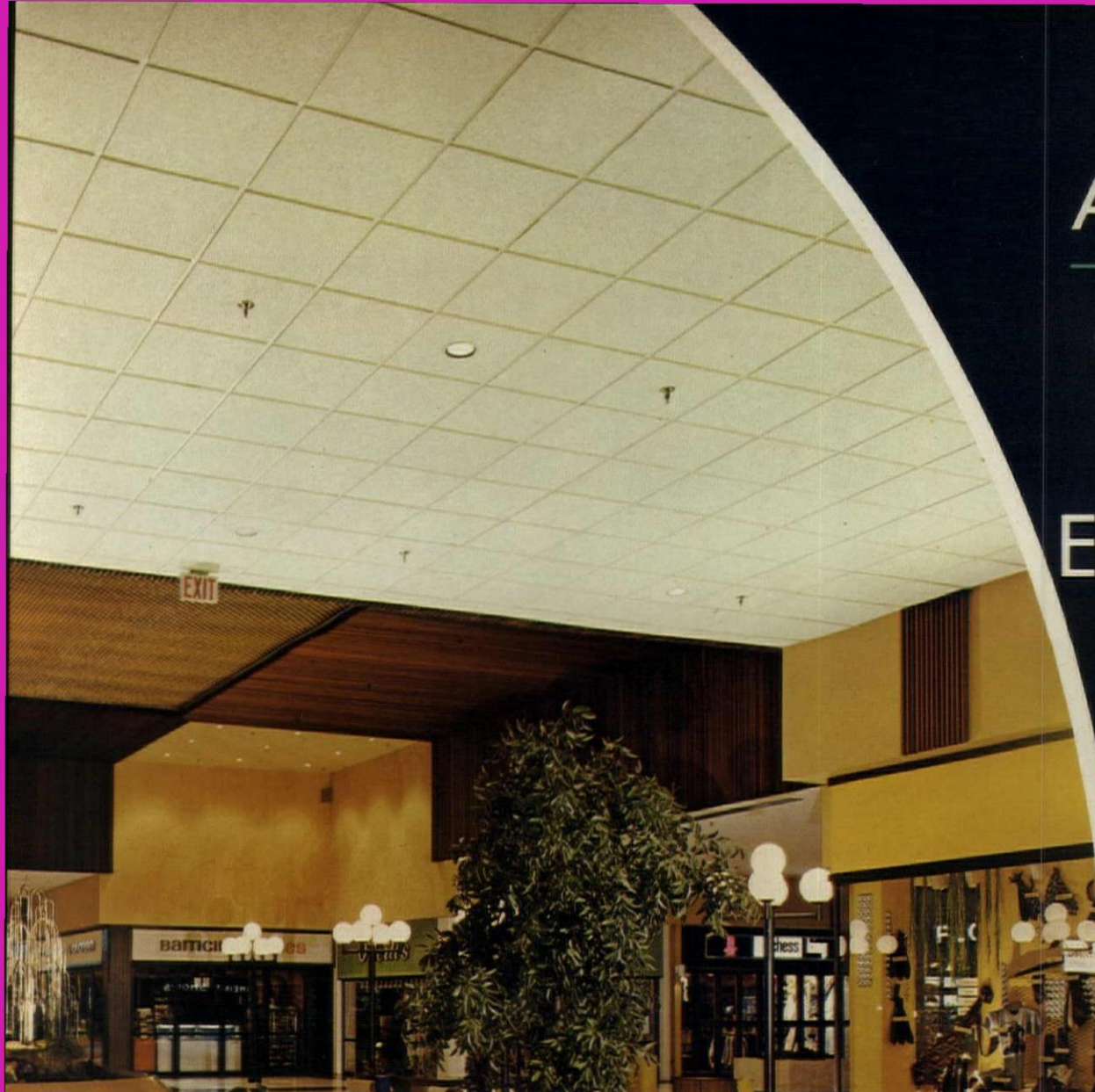
First Federal Savings & Loan Assn. of Danville, Martinsville, Virginia. Architect: Calvert, Louis & Smith. Acoustical Contractor: J. W. Squire. Banking area ceiling: Conwed 12" x 12" Rock Face Ceiling Tile.



Fort Wayne Elementary School, Fort Wayne, Indiana. Architect: Cole Matson & Matott. Acoustical Contractor: C. N. Parker Co. Lobby and Corridor area ceiling: Conwed 24" x 24" Rock Face Ceiling Panels.

Indianapolis 500 Hospitality Suite, Indianapolis, Indiana. Engineers: Fink, Roberts and Petrie, Inc. Acoustical Contractor: Perry Acoustics. Ceiling: Conwed Rock Face 24" x 24" Reveal Ceiling Panels.





Cloverleaf Mall, Richmond, Virginia. Architect: Carneal and Johnson. Acoustical Contractor: Consolidated Tile Co. Ceiling: Conwed Rock Face 24" x 24" Reveal Panels.

Conwed® Rock Face...the ceiling family with beauty, character, and stamina.

Over a thousand ceilings ranging from locker rooms to executive offices, from corridors to lounges, prove Rock Face ceilings are more than abuse resistant. This one-of-a-kind ultra hard ceiling has a surface texture that's handsome and natural. It stays that way during installation, when removing panels for plenum access and when there are unexpected bumps and jars.

Now a choice of 10 types and sizes including U.L. labeled fire rated formulations make up the Rock Face family for ceiling design variety... Reveal Panels... 24" x 24" and 24" x 48" Lay-in Panels... Concealed Tiles. Each ready to give its own characteristic to the particular design. All maintaining surface texture continuity and abuse resistance.

You can have ceiling beauty and toughness too! Rock Face ceilings have proved it. Write Conwed for Rock Face family data or refer to Sweets Catalog 9.1/Co.

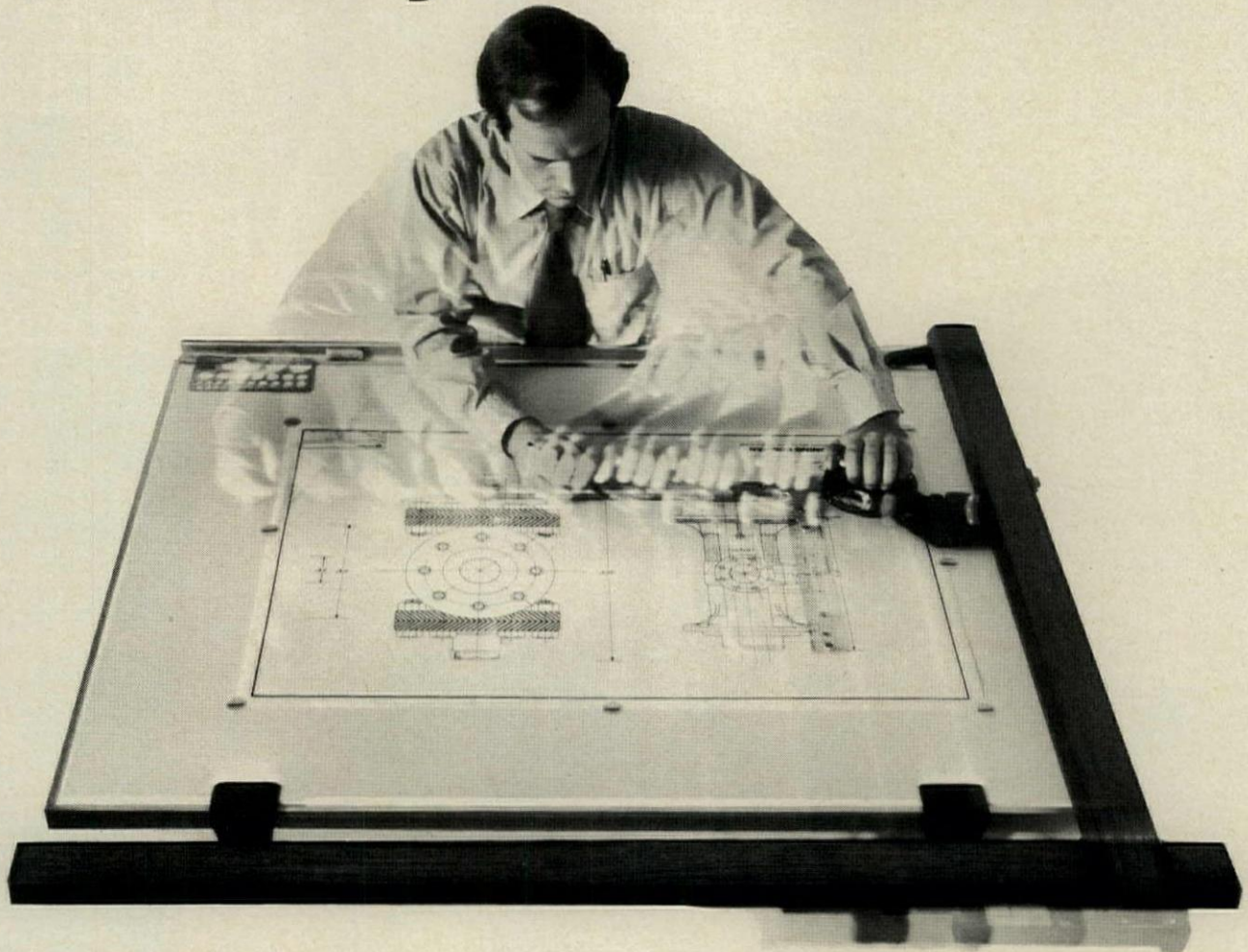
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What it offers you is the last word in convenience—no waiting, no unpleasant odors—it goes right into your drafting area. Your draftsmen take a few steps from their desks, feed tracings at once, and get finished prints in seconds.

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Kydex wallcovering, the latest material used to face hockey rink dasher boards, can now be used to give truly rugged protection to your walls.

Available in pleasing decorator colors, Kydex gives walls exceptionally high resistance to scuffs, dents, gouges and the effects of most commonly used chemicals. Easy to install and easy to clean, rugged Kydex in the standard wallcovering thickness of .028" meets the requirements for a Class I interior finish under most building codes. Write for a brochure and the names of suppliers near you.

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For more data, circle 16 on inquiry card

Kydex Sheet:
For Class I interior finish, bond .028" KYDEX permanently to non-combustible substrate with contact cement or mastic adhesive. Flame spread and smoke ratings of .028" and thicker panels depend upon thickness, adhesion and substrate. UL ratings available. Colors may not be outdoor stable. Avoid exposure to heat. For handling and application information, consult Rohm and Haas bulletins.



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2. 4 kw through 40 kw.
3. Up to 5 tons of cooling may be added at time of installation or later.
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6. Units are specifically designed for 208, 240, 277 and 480 volt, single and three phase applications.
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For more data, circle 17 on inquiry card

Strict contribution limits and strong punitive actions are asked, following kickback scandals. As part of recommendations for curbing illegal activities by professionals, the National Society of Professional Engineers and the American Consulting Engineers Council are calling for criminal action and license revocation for offenders. See page 34.

Nearly 69,000 housing units for low-income families will be funded by HUD. In easing up on the housing subsidy freeze, HUD will fund some projects with applications on file and others for which applications must be filed by June 30, 1974. Of the total units earmarked for funds, 55,000 will serve urban renewal, rehabilitation and Operation Breakthrough areas, while the remaining 14,000 are designated for other programs. HUD will announce a state-by-state allocation of funds soon.

Architects will not be responsible for guaranteeing energy conservation, states an AIA staffer. The question arose at a recent joint workshop on energy standards co-sponsored by the National Conference of States on Building Codes and Standards, and the National Bureau of Standards. Several participants urged development of a simple energy guide that could be referenced and signed by architects and engineers, certifying compliance on their plans. This drew immediate response from AIA staffer J. A. Demkin who stated no architect would be willing to sign his name to such a guarantee. The conference was part of steps being taken to prepare a national performance code.

Energy conservation in buildings is given new emphasis, following the Presidential energy message. Last month's moves by President Nixon are expected to have long-range implications, and some states such as California are enacting laws requiring energy conservation standards for state construction. More on page 37.

Most cities prefer to negotiate professional contracts, according to a spot check around the country. With isolated moves to require competitive bidding for professional services, many states and cities are continuing with accepted procurement practices. Details on page 34.

How architects can profit as builder-developers will be heard in a series of national seminars starting this month. The first one is December 13-14 in New York City, with subsequent programs being held January 14-15 in San Francisco, and February 11-12 in Chicago. Sponsored by ARCHITECTURAL RECORD, the seminars featuring experts in law, financing, marketing and contracting will be presented by Management Concepts International, 505 Park Avenue, New York, New York 10022. For further information, phone toll free 800-223-5681.

Brick, plumbing fixtures and lumber shortages will ease next year, while steel and cement demands continue. This according to a building materials forecast released by the U. S. Commerce Department. With the expected reduction in housing starts in 1974, and strong advances in non-residential construction, the mix of materials usage is expected to change. Also, shortages of steel products, especially rebars, are increasing at an alarming rate, according to the Associated General Contractors. And, the Architectural Aluminum Manufacturers Association has petitioned the Cost of Living Council to remove all price controls from aluminum building products, in the wake of anticipated domestic shortages due to increased aluminum exports, this year up 84 per cent over 1972. Details on page 37.

AIA dues will be adjusted in 1974 to reflect a 5.9 per cent increase in the Consumer Price Index, effective July 1. The increase will raise first-year corporate dues to \$32, second-year dues to \$64, and third-year dues to \$96. Dues for associate members will be \$38. Supplemental dues will decrease from the present 5 per cent of a firm's FICA (Social Security) contributions to 4 per cent.

A land use planning and policy measure now moving through Congress may become law in a few months. The Senate-passed version of the legislation would authorize more than \$1 billion in planning grants to the states to encourage comprehensive planning under Federal guidelines. The National Association of Home Builders is seeking amendments to the measure that would require that all state land use plans contain a housing element, approved by HUD.

James V. Rice has been elected president of the Producers' Council, succeeding John R. Baldwin. Also elected were: Richard I. Morris, first vice president; Fred W. Rexford, second vice president; Norman L. Rutgers, secretary; and Robert C. Findlay, treasurer. Producers' Council is a national organization of building product manufacturers.

The Atomic Energy Commission hopes to demonstrate a breeder reactor by 1980. According to Thomas A. Nemzek, director, division of reactor research and development at AEC, the breeder reactor is the Commission's highest priority energy program, as a means of achieving energy self-sufficiency for the United States—a goal spelled out in the President's recent energy message.

President Nixon has been urged to continue wage controls in the construction industry by the National Constructors Association, an organization of some 40 of the nation's largest engineering and construction firms. The group also wants the Construction Industry Stabilization Committee through 1974.

A Bicentennial restoration for Philadelphia

A \$7.4 million Bicentennial project that will restore the Pennsylvania Academy of the Fine Arts building to its original condition (shown in 1876 photo below) was announced last month by John Gribbel 2nd, president of the Academy Board of Directors. Planners project a February 1976 re-opening of the building.

Designed by Frank Furness, the Academy building at Broad and Cherry Streets in Philadelphia was an architectural sensation when it opened for the 1876 Centennial. Since then, the building has come to be regarded as a masterpiece of 19th century architecture.

Responsibility for restoration work has been assigned to the architectural firm of Day and Zimmermann. The firm's restoration experts, Hyman Myers and Marc-Antoine Lombardini, have been assigned to the project. Myers is known as a Furness scholar.

Main elements of the restoration plan include climate control, lighting, security systems, storage vaults, administrative offices, increased public areas, roof repairs and restoration of the many decorative elements that have suffered weather and other damage.

The building is, according to Dr. John P. Coolidge, professor of fine arts at Harvard University, a monument to the American spirit in those "Years

of Promise" during which the building was designed.

"It is that spirit which explains a Greek statue between Gothic columns under a Mansard roof; a Baroque staircase (shown) leading to Moorish arcades; an hydraulic elevator; tile, sandstone, brick, iron, glass; a floor of custard yellow with scarlet accents; raspberry walls above a Delft-blue dado; chocolate spandrels diapered in gold leaf; all of these elements which, as the astonished visitor perceives, make up the Pennsylvania Academy," wrote Coolidge of the building.

The restoration of these features is expected to last from May 1974 to February 1976, during which time the Academy will relocate elsewhere. A temporary site has not been chosen, states a spokesman.

Some funds for the work are anticipated from Federal, state and local sources, and proposals are to be made for foundation support. Says architect Hyman Myers in a letter to the Academy director, "The Academy building was an experiment in structural technology and a pioneering example of a new architectural philosophy. The building even today is remarkably modern in the concepts of space and function as in its handling and use of natural light and ornament. There is in Frank Furness' design a productive Victorian marriage of art and technology."



Peter Max redesigning interior of One Times Square

Perhaps one of the most re-done and abused buildings in New York City is the Allied Chemical Tower in Times Square, built originally in 1904 (above left) by The New York Times Publishing Company.

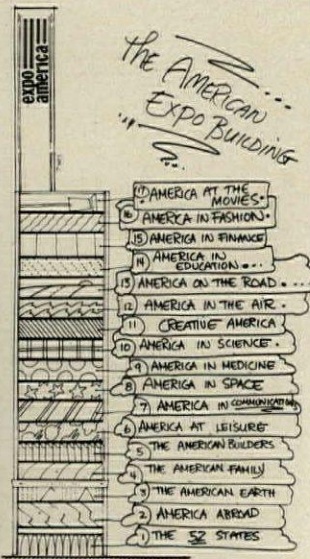
In 1963, the landmark was

acquired by Allied Chemical Corporation which renovated the building, facing it in marble (center photo, above).

Now, the 17-story structure—apparently not to be left in peace—has been taken over by real estate developer Alex

Parker who plans to convert it into an exposition center called Expo: America.

Artist Peter Max will design the spaces (section below), which will portray major facets of the American lifestyle. This will be an interior remodeling. Parker estimates his costs for purchase and remodeling will



be about \$12 million.

Mr. Max said at the announcement press conference, "we clearly envision that Expo: America will showcase America's excellence in education, space, business, communications, transportation, fashion, and technology."

How about architecture?

Engineer groups ask license revocation for kickback offenders

Two major engineering organizations—the National Society of Professional Engineers and the American Consulting Engineers Council—have made recommendations aimed at preventing involvement by their members in kickback, payoff and similar operations which reflect on the profession as a whole.

The NSPE, after two months of intensive study of the problems has issued a task force report which recommends adoption of laws at Federal, state and local levels which would limit political contributions by engineers seeking work with public agencies to \$100 in the aggregate. This would be the top permitted for the two-year period preceding elections, and would include payments to political parties, committees or organizations on behalf of office holders or candidates.

To bind the proposal, NSPE says such limitations should be enforced by contract provisions in the form of an affidavit.

In its move, ACEC called for limits on campaign contributions, strong contractual prohibitions against illegal practices,

and revocation of violators' licenses to practice. This grew out of a special meeting of the executive officers of the Council in New York City October 30 where these leaders asserted that consulting engineers who degrade the profession through improper actions should be expelled from membership.

The ACEC officers said engineer registration boards should have the responsibility for discipline applied to all engineers guilty of misconduct. This would take the form of suspending or revoking licenses—Professional Engineer Registration Certificates—where illegal kickbacks, payoffs or conflicts of interest have been proven. Member organizations are urged to examine any barriers to effective discipline by these boards and to press for appropriate legislation or administrative action to remove such shortcomings.

NSPE said it realized that the extreme nature of its proposals might be attacked as an invasion of the rights of engineers to participate in the political process. But, its statement added, in the light of what has

happened recently and of the charges brought against some engineers, "the profession should recognize that for every right there is a responsibility."

The Society, like the Council, would throw more responsibility to state licensing boards. It would give these bodies new authority to adopt binding rules of professional conduct. Violation of these rules would then be grounds for suspension or revocation of license. It offered an eight-point program to combat unethical or illegal activities by engineers.

In short, NSPE said it would like to see laws making it a criminal offense for any engineer or public official to seek, agree to, or accept any payment or monetary benefit in return for the award of engineering contracts. Total disclosure of all political contributions, including identification of the contributor's business interests, is also part of the NSPE plan.

Both statements abhorred suggestions that professional services be acquired by the competitive bidding process. There has been more talk of this method in Congress.

1973 Energy Conservation Awards announced by Owens-Corning Fiberglas

Three buildings—one institutional, one commercial and one industrial—have been selected for the 1973 Energy Conservation Awards sponsored by Owens-Corning Fiberglas Corporation to encourage an awareness of the urgent need to conserve energy resources and lessen pollution. No award was given this year in the government category.

Winning in the institutional category was the 400-bed Boca Raton (Florida) Community Hospital, designed by The Smith, Korach, Hayet, Haynie Partnership. A major feature in the design is the use of five unitized air-conditioning modules (UAM) that are said to save \$24,230 per year in heating and electricity costs. The major component of this patented system is the air-to-air total energy recovery wheel which absorbs and transfers latent heat as well as sensible heat from the exhaust air (top photo).

In the commercial category, Skidmore, Owings & Merrill won first place honors for the Weyerhaeuser World Headquarters in Tacoma, Washington. Among the energy-conserving aspects of this building is the low-profile, large-floor-area configuration which, when combined with overhangs, produces minimal summer solar heat gain and maximum winter solar heat entry (below).

General Electric's Lynn (Massachusetts) Utilities Operation won top honors in the industrial category for the design of its in-house combined-cycle

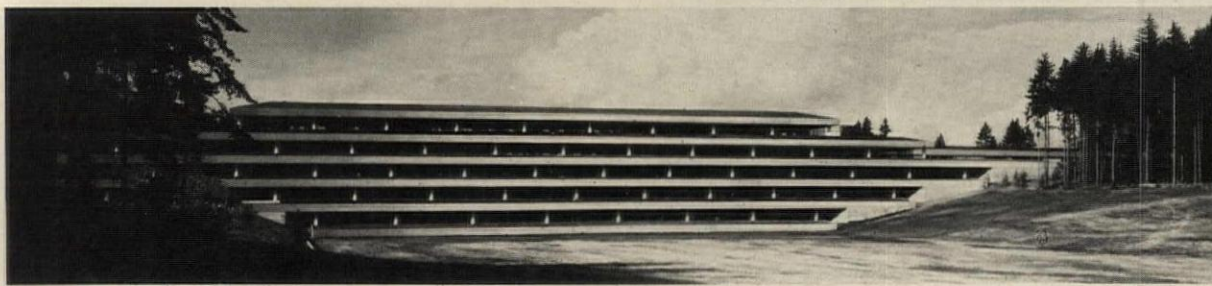
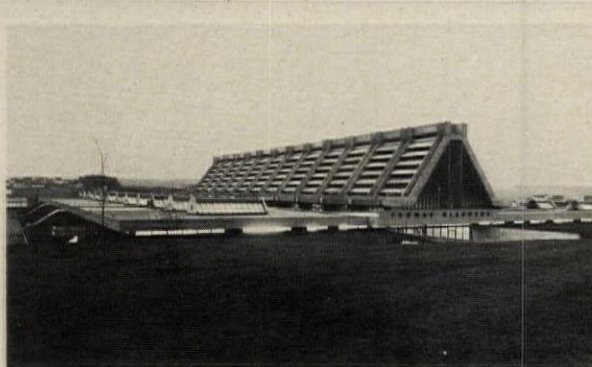
generation system, which will provide an annual savings of two million gallons of fuel over a previous configuration.

Honorable Mentions were awarded to the Cambridge Seven Associates, Incorporated in association with Arthur D. Little, Incorporated for the Massachusetts Audubon Society office building (see RECORD, Mid-October 1973, page 15); The Architects Collaborative, Incorporated for the Thomas Glass Factory; and Unthank Seder Poticha, for the Oregon State Board of Higher Education's Recreational Facility.

The glass factory was cited for its "natural and scientific way" of venting the intense heat of liquid glass. The 54-foot-high A-frame roof allows the heat to rise, where it is exhausted by fans along the ridge of the roof; cool air is drawn in from ground level (right).

The Oregon recreational facility, which includes tennis and handball courts, was designed to avoid complete enclosure; the roof planes, somewhat like large Venetian blinds, exclude rain and direct sun, while allowing natural ventilation and adequate light for tennis. Handball courts placed below ground reduced the external heating loads, and cooling was unnecessary (right).

The Owens-Corning program will again be conducted in 1974, and registered and licensed architects and engineers practicing in the United States are eligible to enter. Details will be announced later.



In spite of political kickback scandals in parts of the country, most cities sticking with negotiated contracts

Last month, we reported that fall-out from the Maryland political contributions scandal included a decision by the Omaha, Nebraska mayor to reverse accepted practices for selecting architects and engineers for city work—Omaha will now require competitive bidding by professionals in lieu of negotiated contracts.

A quick check of some major cities shows that Omaha's move is isolated, with most cities preferring to retain present methods of selection based on competence.

For instance, the cities of San Francisco, St. Louis, Houston, New Orleans, Phoenix, Denver, Kansas City, Indianapolis, Chicago, Atlanta, Seattle, Los Angeles, Cleveland, and Dallas all report no plans for replacing the negotiated contract method of selection.

Competitive bidding is under consideration in Pennsylvania. Republican members of the state legislature are drafting bills that would require competitive bidding on all architectural and engineering services for public works projects in

the state, and reportedly, the Pennsylvania Society of Professional Engineers and the state Bar Association are starting separate investigations of the selection of professionals for government contracts.

Several cities report they have (or are now appointing) A/E selection committees who choose architects and engineers from lists of qualified firms. In Dallas, any professional firm wanting city business must fill out a detailed questionnaire listing the firm's members and capabilities. When a project

comes up for design, the committee interviews prospective firms and recommends three in the order of adjudged capability and qualifications to the city council which makes the final selection. The selected firm is expected to quote a fee based on printed fees for the state of Texas. This plan has local AIA chapter support. Kansas City and Seattle have such selection committees, and Oklahoma City is considering a measure presented by a professional committee to rotate city projects and impose a limit on city work.

New group will aid in metric conversion

"While the final form of the metric conversion bill to be passed by Congress has not been determined, there is general agreement that a metric plan and program with strong Federal support is emerging, and will be backed up by legislation and a Federal appropriation."

These were the remarks of Congressman Robert McClory at the October briefing held in New York by the newly-formed American National Metric Council, to acquaint national trade associations, labor and consumer groups on the role and function of the Council.

According to Roy P. Trowbridge, president of the American National Standards Institute (ANSI), the American National Metric Council was formed because the accelerating rate of U.S. metric legislation has underscored the need for a private sector body to serve as a coordinating center for metric activities in the U.S.

This will be accomplished through a voluntary structure representative of all affected sectors. Chairman and vice chairmen have been appointed in the areas of primary materials, industrial products, construction, consumer goods and education/industrial training.

A bill on metric conversion has strong support of Congress, and has reached the House Rules Committee after final approval in mid-October by the House Science and Astronautics Committee. Action may come before January.

Features of the U.S. legislation most likely to be passed include: metric units predominant but not exclusive; a government Metric Conversion Board; a voluntary 10-year conversion period; and no subsidies (costs will lie where they fall).

Establishment of the American National Metric Council is said to assure that the private sector will be able to provide coordinated inputs to the Government Conversion Board when it is established.

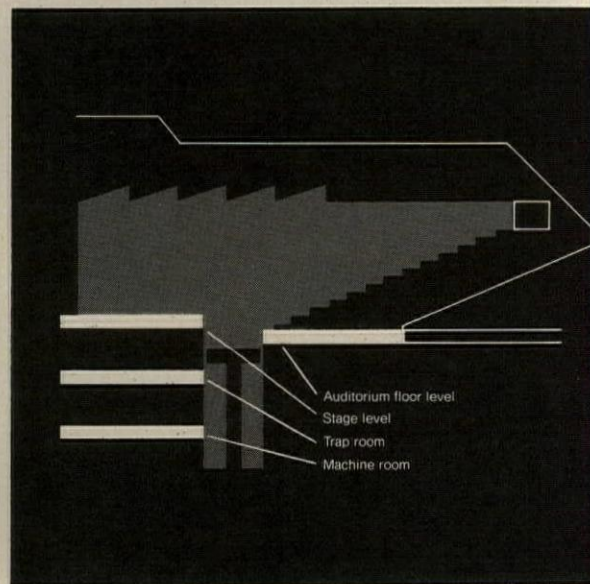
Canadian plans for metric conversion were presented by executive director of the Canadian Metric Commission Paul Boire, who said Canada's economy will be substantially metric by 1980.

Meanwhile, conflicts over U.S. readiness to go metric were expressed recently in two areas.

The American Management Association released results of a nationwide survey of

continued on page 37

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approximately 5,500 U.S. business firms, and in general the responses strongly suggest that American commerce and industry are both willing and able to begin conversion on short notice. Construction interests were part of the survey.

However, the Senate commerce committee heard a representative of the National Federation of Independent Business claim that in spite of popular belief, there has been no widespread shift to metrics by the business community, and America's small businesses are apprehensive about conversion because of the cost/benefit ratio.

Forecast of building materials issued

Forecasting building materials availability next year, the Commerce Department anticipates that shortages will ease somewhat for brick, plumbing fixtures and lumber, and that the demand for cement and reinforcing steel, felt keenly in some localities this year, will continue to rise in 1974. This is part of the *U. S. Industrial Outlook* published recently.

The government views high housing output and new production levels in mobile home manufacturing as factors squeezing the materials market this year. Tight supplies have developed in cement, brick, some plumbing fixtures and reinforcing bars in some localities. Commerce states that shortages and high prices of lumber products have had a "rippling effect" on the demand and price picture of competitive products.

"The overall tightness in wood structure building products has encouraged the development of new building systems involving the applications of metal framing (aluminum and lightweight steels) and precast and prestressed concrete elements," the outlook says. "During 1974, with an expected reduction in housing starts and strong advances in the nonresidential sector, the mix of materials use is expected to change. For some products such as brick, plumbing fixtures and lumber, the 1973 tight supply situation should be somewhat alleviated." Plastics in building products will gain increasingly wider acceptance next year, the government believes.

Summarizing some Commerce Department opinions: Structural steel shipments now measuring \$4 billion annually should advance to \$4.4 billion next year reflecting higher prices expected for structural

shapes and plates. Cement and concrete shipments of \$2 billion, 8 per cent over this year, are expected in 1974. Plumbing and heating—with housing off—will show slower growth in 1974. The metal fixture industry anticipates shipments to go up by 4 per cent. Commerce says the demand is for fixtures that are easier and less costly to install, and that plastics are making inroads into many areas such as sinks, fittings and, to a limited degree, water closets.

Lighting and wiring equipment shipments will remain strong next year, reaching \$5.2 billion, 8 per cent over 1973. Softwood plywood shipments were expected to remain at \$2 billion next year after an increase of 6 per cent this year over last.

Raw materials availability continues to be the determining factor in both plywood and lumber output. Lumber production is expected to drop about 1 per cent below the 1973 level. This would reflect the housing decline. Timber sales from national forests are being raised to 11.8 billion board feet this year and next, a 10 per cent increase over 1972.

Developing energy shortages have begun to influence the building materials market as a whole. For example, there is new demand for a large variety of improved insulations.

Report calls for fewer correction facilities

The nation would stop building new major institutions for detention of juveniles (and most of those for adults) if the Justice Department were to follow recommendations contained in the recent report of the National Advisory Commission on Criminal Justice Standards and Goals.

Chapter 11 of the 636-page publication deals with planning of new correctional institutions. Usually liberal in its approach to the whole subject of detention, it states that in those instances where studies show a need for a new physical plant, its planning and design should include simultaneous participation by administrators, architects, planners, inmates, community representatives, and those involved in developing and operating inmate programs and activities.

The Commission makes this flat-out recommendation which would severely curtail the planning and construction of such facilities: "Each correctional agency, administering state institutions for juvenile or adult offenders should adopt immediately a policy of not

building new major institutions for juveniles under any circumstances, and not building new institutions for adults unless an analysis of the total criminal justice and adult corrections systems produces a clear finding that no alternative is possible."

The Commission's detailed report was produced under grant contracts awarded by Justice's Law Enforcement Assistance Administration and at this point is being "digested" by the Department's Bureau of Prisons, particularly its administrative services division personnel who are responsible for construction and maintenance services. Its sections on planning, locating and building facilities is must reading for architects and engineers involved in such construction.

In short, the Commission felt that security elements and detention provisions should not dominate the design. It would avoid the ubiquitous "cage" and "closed" environment, approaching as nearly as possible normal living conditions. It even opts for co-educational detention under certain circumstances.

It is recommended that facility design emphasize flexibility and amenability to change

Boston Society of Architects sponsors sandcastle competition

From the Boston Society of Architects, this item:

Last summer, Boston architects and other children resurrected an ancient building form which has been bypassed by the proponents of prestressed concrete and other twentieth-century construction techniques.

The Sandcastle Competition sponsored by Emily Hiestand and Associates, the Boston Society of Architects, The Children's Museum, and the Boston Society of Landscape Architects was the impetus for some of the most arresting, if temporal, architectural forms this city has experienced of late.

Turrets, often tiered and flag-topped, spiraling monolithic structures and planned sand-cities which were a pleasure to visit, were rampant. The one-stage competition was held in four categories: 1) Professional Architects and Landscape Architects 2) Nonprofessionals 3) 12-and-unders with families 4) None of the above.

Prizes included *The Art and Industry of Sandcastles* by Jan Adkins, the Flying Gold Sandbucket Trophy, a one-pound bag of sand (first prize), a five-pound bag of sand (second prize), a rare recording of *Love Letters in the Sand* by Pat

Boone, and, for the professional winners, certificates silk-screened on sandpaper and suitable for framing. Parts of the invitation read as follows: Objectives: "The design should not only stagger the imagination but complement the natural surroundings in which it is set. The sandcastle must be capable of sustaining itself until the first high tide. Permanence of the structure is not crucial."

Nixon energy message calls for controls

There's no more doubt that architects will be increasingly energy conscious as they design America's buildings.

In a sense, the designers have a "head start" on the problem of altering more conventional design techniques to accommodate energy conservation principles. The National Bureau of Standards for some years has been engaged in developing and testing new methods and materials applications aimed at conserving energy over the life cycle of a building. Cooperating with its National Conference of States

on Building Codes and Standards and with groups such as the American Institute of Architects, the American Society of Heating, Refrigeration and Air Conditioning Engineers, and the American Consulting Engineers Council, the Bureau has moved this year toward development of a consensus standard. If this can be effected, it will be the first such standard in existence and is expected to result in a savings of up to 30 per cent in energy consumption.

California, for example, has a new law requiring the state architect to develop and apply energy conservation standards in the design of new state buildings. It establishes as policy that saving resources for heating, cooling, and illuminating buildings will be a prime consideration in their design.

The White House has already requested the Atomic Energy Commission to shorten the time for licensing and construction of nuclear plants. It now requires approximately nine years for the entire process and Mr. Nixon said he would like AEC to take steps to reduce this to six years, posing a tough problem for the agency and putting new pressure on environmental-protection agencies.



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Parts of the invitation read as follows:

Objectives: "The design should not only stagger the imagination but complement the natural surroundings in which it is set. The sandcastle must be capable of sustaining itself until the first high tide. Permanence of the structure is not crucial."

Allowed materials and forms: "The castle may take any form proposed by the competitor within the conditions of the program; pools, walls, fountains, sculpture, plantings, moats, knights, dragons, turrets,

horses (fake) and damsels in distress are permitted. Each entry will be judged on the basis of its design in relation to the ocean, creative use of materials and whim."

Tide times were, of course, a crucial consideration, and judges gave bonus points for constructions which withstood the waters.

The architectural community of Boston has recognized this return to sandcastling as an important environmental advance. There are hopes that the competition, in future years, "will draw upon the architectural skills of other large Eastern cities looking for answers to urban problems."

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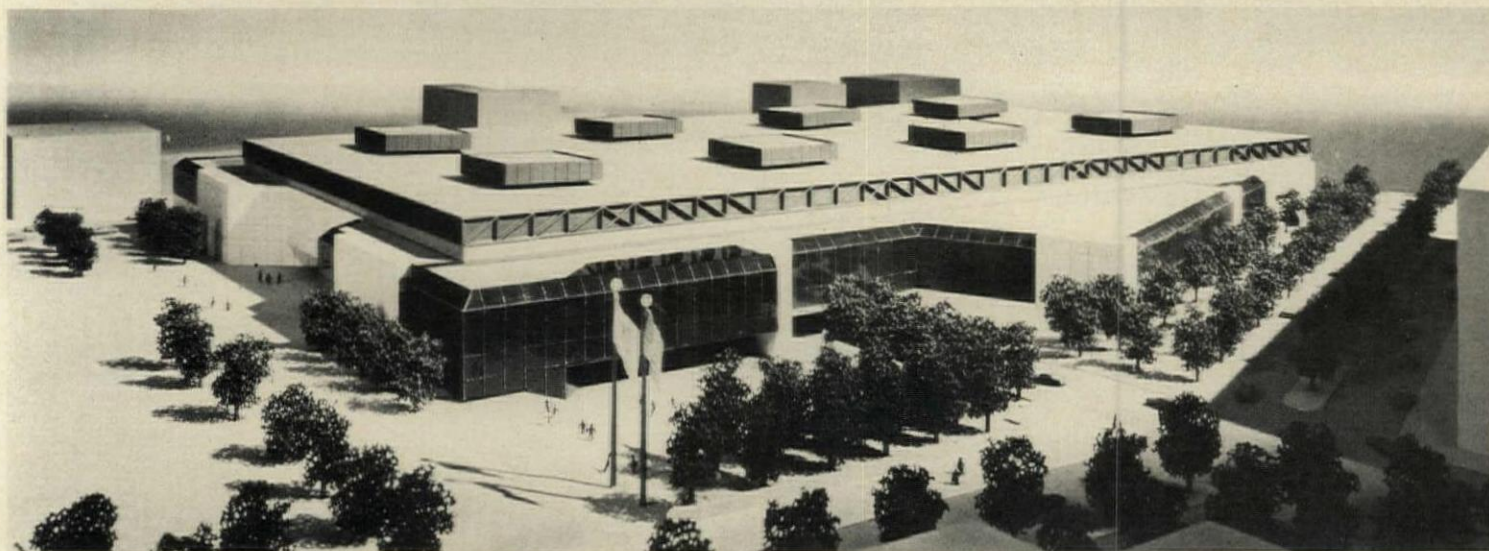
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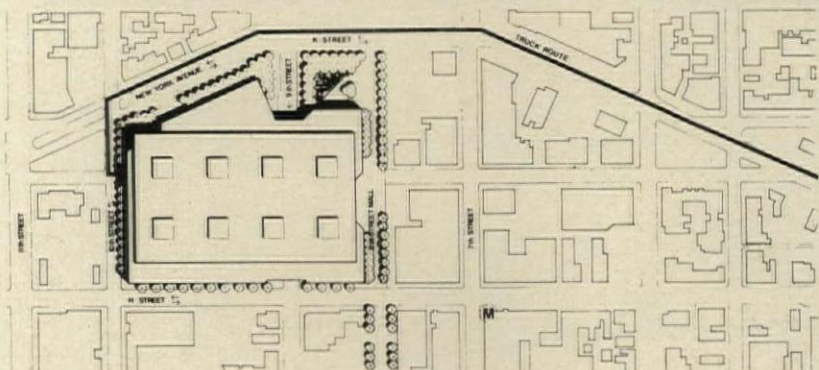


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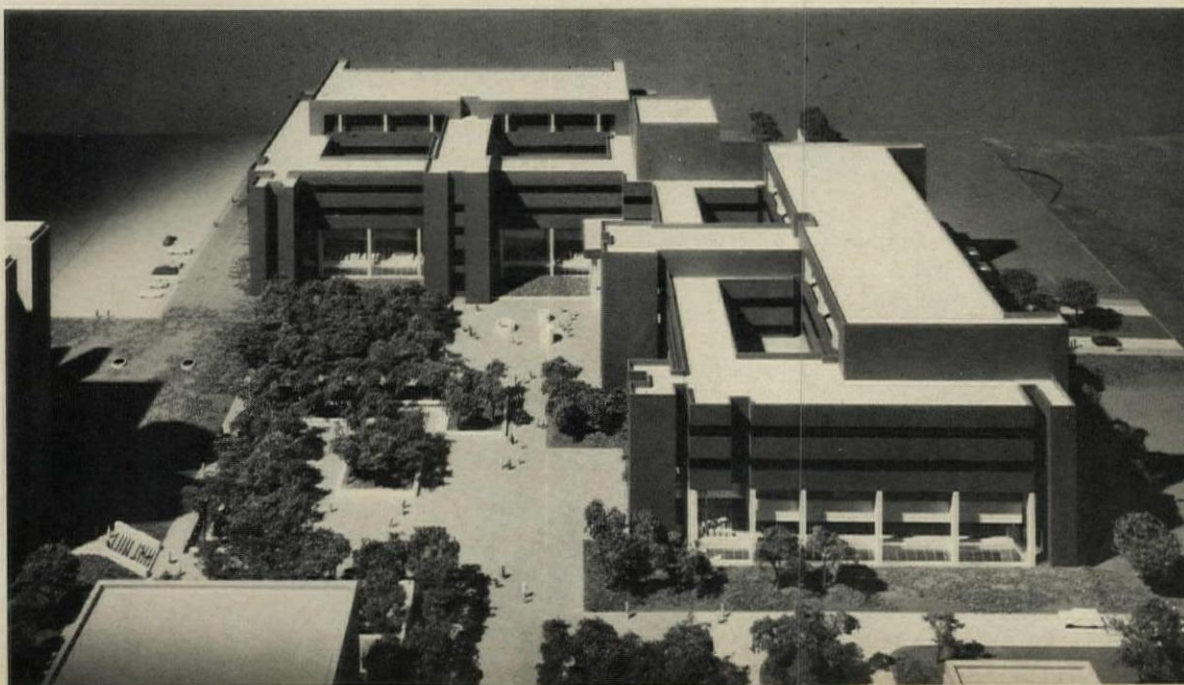
Eisenhower Civic Center proposed for Washington, D.C.

The \$41 million Dwight D. Eisenhower Bicentennial Civic Center design was recently unveiled, after approval by the Washington, D.C. Commission of Fine Arts. It now must be approved by the National Capitol Planning Commission and Congress before construction can begin. Designed as a joint venture by Welton Becket and Associates; Gray & West; and H. D. Nottingham & Associates, the center will contain a 300,000-square foot exhibition hall. The proposed design calls for a low-level structure of fluted limestone with glass-walled lobbies and exposed steel trusses. The site is bounded by Mount Vernon Square and New York Avenue on the north, H Street on the south, 8th Street on the east, and 10th Street on the west. The center will bridge 9th Street.



Rutgers medical unit planned for 1976

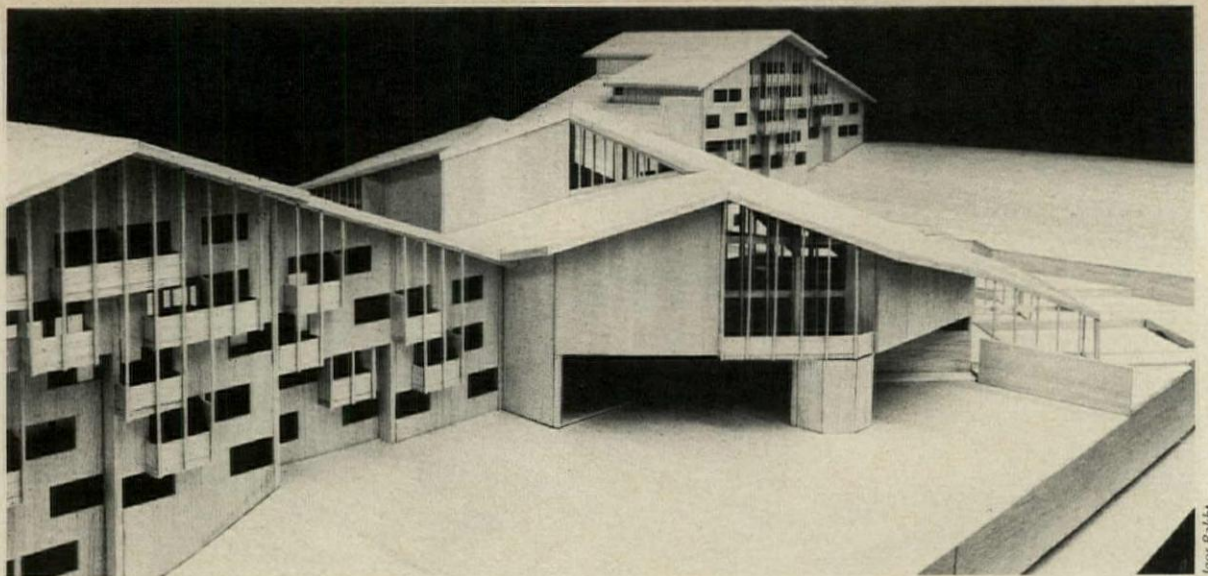
This hospital is projected for the Piscataway, New Jersey campus of Rutgers College of Medicine and Dentistry. Designed by the Office of Max O. Urbahn, and John Diehl and Associates the 325-bed facility would serve an estimated 100,000 persons a year, as well as serve the teaching needs of the College. Siting adjacent to existing College buildings will create the central court which is to be visible from all levels of the new building. Traveling around the court is the circulation spine leading to the service towers. Generous use of natural light is accomplished by skylights for tunnels connecting the three buildings, and interior patient rooms will be located on inside courts. The building is budgeted at \$45 million.



Louis Checkman

New type of hostelry for Jackson Hole

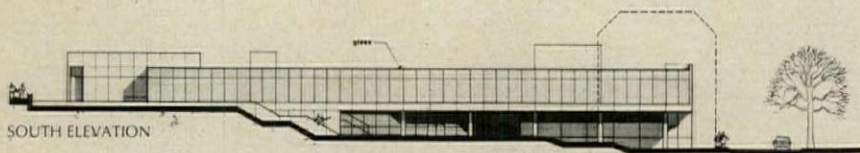
A 200-room hotel-conference center will be built at the base of Snow King Mountain, Jackson Hole, Wyoming. Designed by MacFadyen/De Vido and Corbett/Dehnert, the project will include meeting rooms for up to 1000 people, and circulation will permit direct access to the ski slopes. Adjacent condominiums are in the planning stage. Natural cedar will be used in construction; the use of natural materials and pitched roofs are intended to complement the site's natural characteristics—a design breakthrough in what is termed the present visual blight of the area's motels.



Igor Bakht

Terraced library retains vistas for neighbors in Hudson Valley town

Under construction is the 66,000-square foot Newburgh (New York) Library/Board of Education building by Hugh Stubbins and Associates, with consulting architects, Flemming and Silverman. The \$3 million building will contain a 40,000-square foot library with a 200,000-volume capacity, offices for the now dispersed education board, and a community meeting space. The masonry and glass structure is being developed by the New York State Urban Development Corporation. Its three levels will slope toward the Hudson River, opening views for the county courthouse as well, and creating a new central square linking the community's major civic buildings. Completion of the building will be in 1975.



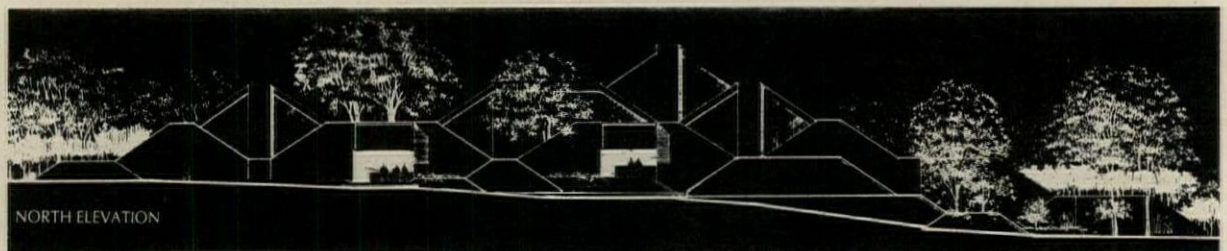
SOUTH ELEVATION



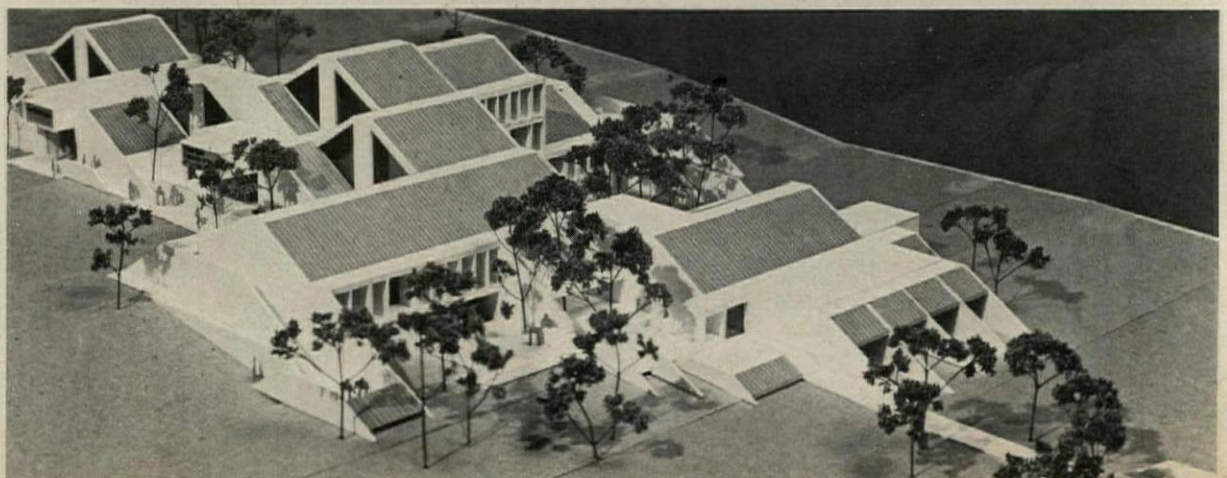
WEST ELEVATION

Alabama county starts mental health center

The Huntsville-Madison (Alabama) County Community Mental Health Center by Tele-dyne Architects will provide upon completion 42,000 square feet of space for day care, outpatient services, consultation and education, research, and administration. Located near the central business district, the three-level structure has been designed to retain the slope of the site, by terracing the levels and developing courtyards around trees. This also will break up the massing and afford a more human scale. Large areas of glass are planned on the north and south sides. Concrete frame and brick veneer construction are to be used, with exposed wood deck and laminated wood beams supporting a terne metal roof.

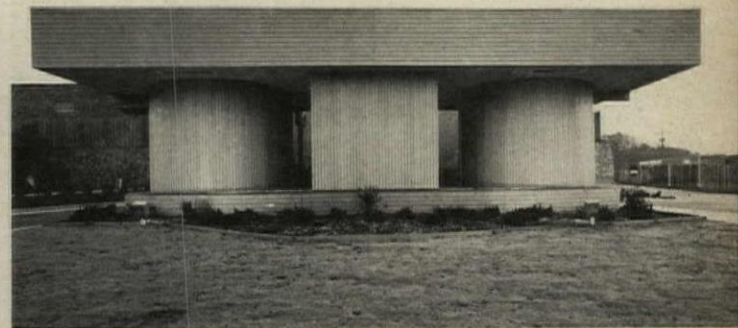
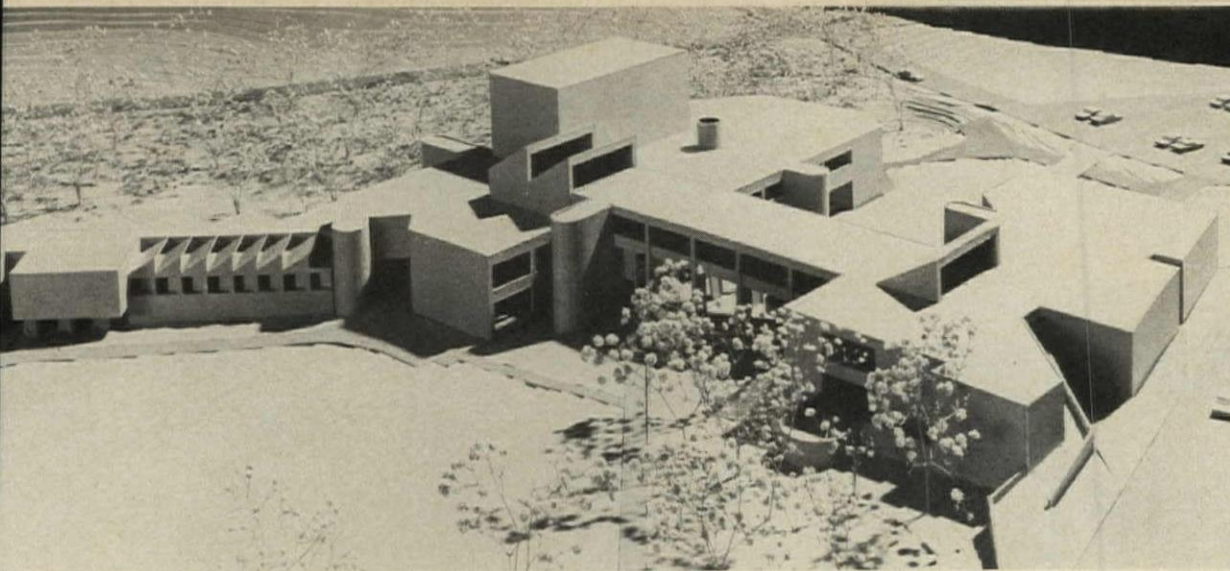


NORTH ELEVATION



Fine arts center for Wake Forest University

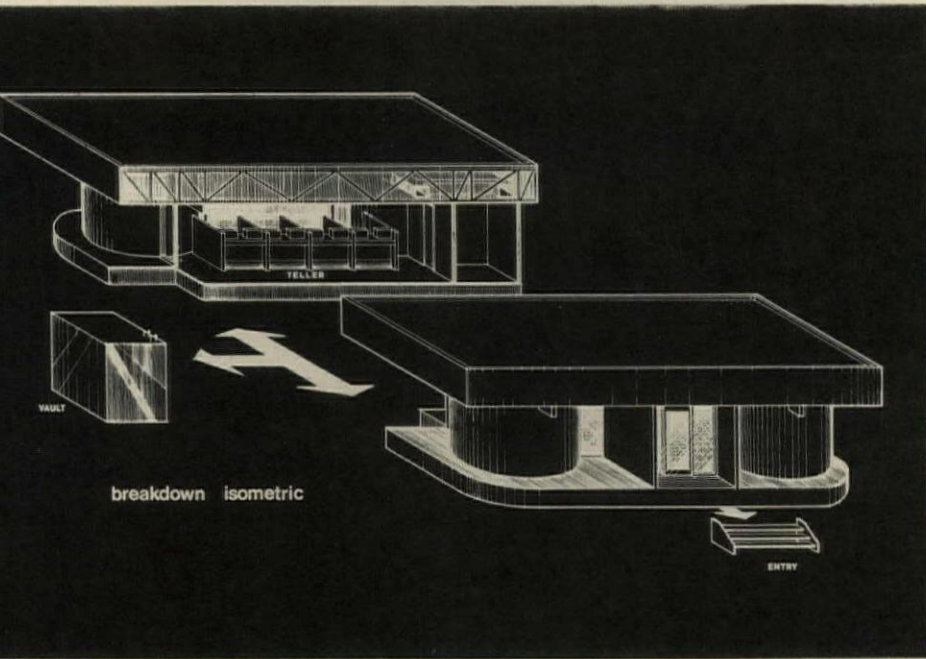
Architects Caudill Rowlett Scott, last month credited here for the performing arts center at the University of Akron, have developed this Fine Arts Center design for Wake Forest University in Winston-Salem, North Carolina. Theater arts, visual arts and music will be accommodated in juxtaposed forms on a steeply sloping site. By bridging the land's contour the architects were able to retain views and a natural creek. The proposed \$4.5 million center will contain over 100,000 square feet and is scheduled for completion late next year.



Portable bank in Atlanta improves on trailer type

Shown here is a modular, but permanent-looking structure for branch banking, developed by the Atlanta firm of Campbell & Associates for the Citizens & Southern National Bank. An attractive alternative to the trailer bank, these square buildings of wood and glass can be set up in

a weekend, and include carpeting, furniture and equipment. The building splits in the middle, each half being transported on a flatbed truck. The original cost of construction is said to be \$70,000, and the cost of relocation and new foundation is estimated at \$7,000.



Shopping center in the Swiss resort of Davos recognizes need to create experiences for shoppers

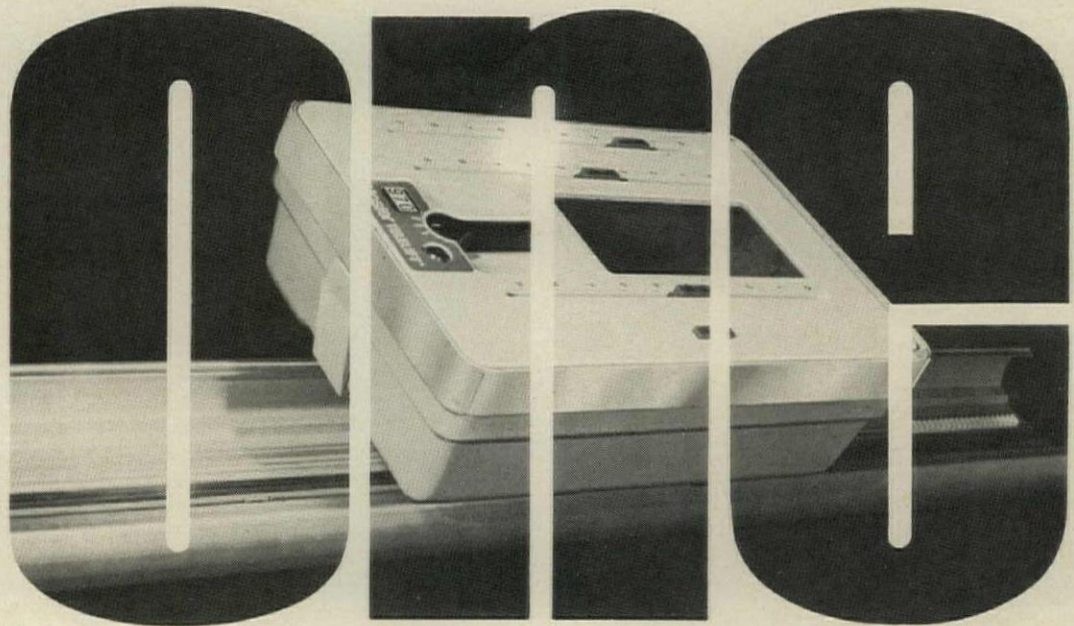
Smaller than most of its American counterparts, this Swiss shopping center recognizes just the same that shopping is becoming a leisure activity; so such buildings have to be recreational in that they create experiences for the shopper. This design philosophy led Zurich architect Dr. J. Dahinden to the design shown here. Three shopping floors are arranged as balconies under a sloping roof, all immediately perceived from the main entrance. Vertical circulation from the underground parking to the several apartments and offices on the top floors is via escalators and elevators in the center of the building. A first-floor restaurant is linked to the shopping floors by stairs.



Michael Wolfensinger

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Recently Received Books on New Towns and Town Planning

FEDERALLY ASSISTED NEW COMMUNITIES: *New Dimensions in Urban Development*, by Hugh Miels, Jr.; *The Urban Land Institute*, Washington, 1973, 277 pages, illus., paperback, \$16.00

This book is designed to give developers, builders, architects, planners and other professionals interested in housing and community development an opportunity to learn in comprehensive detail the opportunities, problems and accomplishments of the Federal government's new community development program. The book gives detailed project information on 12 Federally funded new communities and eight new-towns-in-town.

The author gives a step-by-step description of the application process, including requirements, proposals, forms, regulations and eligibility. He also describes the extent to which the Federal government is prepared to assist and encourage both private and public developers, and partnerships of the two, to undertake the building of new communities.

The book chronicles the history of the new communities movement in the United States, including a discussion of the best-known modern new communities; it also provides a history of Federal involvement in new community development with emphasis on the provisions of Title VII of the Housing and Urban Development Act of 1970, Title VII participation, and the Title VII application process. In an appendix are printed the Housing and Urban Development Act itself, together with the Ohio New Communities Act and the Riverton Cash Flow Model.

PLANNED UNIT DEVELOPMENT: *New Communities American Style*, by Robert W. Burchell with James W. Hughes; *Center for Urban Policy Research*, Rutgers University, New Brunswick, New Jersey, 1972, 254 pages, illus., \$12.95.

This book attempts to demonstrate the evolutionary rather than the revolutionary aspects of planned unit development, together with its current and future impact on residential patterns. It also deals with the local costs and revenues associated with planned unit development, and describes the types of communities that are being sought for PUD, the mixture of tenants who are seeking its inclusive housing forms, and the intricacies, guarantees and loopholes in the planned unit development process. Specific recommendations to all levels of government and a model municipal ordinance are also included.

A READER IN PLANNING THEORY, edited by Andreas Faludi; *Pergamon Press*, New York, 1973, 399 pages, paperback, \$10.00, hardcover, \$15.75.

A Reader in Planning Theory is a collection of writings, mainly from American sources, designed primarily for planning students and professional planners.

Light on Construction Management?

CONSTRUCTION MANAGEMENT: *A Handbook for Contractors, Architects and Students*, by Vincent G. Bush; *Reston Publishing Company*, Reston, Virginia, 1973, 203 pages (price not available).

One of the reviewers of this book has written that "this is the book we have been waiting for." It is probably not that, but it is a worthwhile and thoughtful primer on construction management.

Mr. Bush brings to bear a broad range of experience gained at one of the leading general-contracting-oriented construction management firms—Turner Construction. As a result, this book provides a useful companion volume to William B. Foxhall's *Professional Construction Management and Project Administration*.

It is a primer, however, and most of the book clearly presents information already familiar to most experienced firms in the industry. Construction management is not a topic that can be covered in any depth in 200 small pages. Typical is the compression of design phase cost estimating and cost management into about four pages. Its primary presentation of the CM contract is an extract from the GSA standard document and it does not cover such difficult technical issues as change orders or claims in sufficient detail to be an effective guide to a CM team.

It also has some serious omissions. Technical design review, value engineering, design scheduling, community relations and a number of other common construction management services are missing.

And, of course, it is slanted. It has an appendix devoted to the basic AGC public relations piece on CM. Non-contractor CM's are largely dismissed as former "computer firms." Even more serious, a disproportionate amount of the book is devoted to the details of construction with a minimum emphasis on the all-important pre-bid services. CM is clearly something different or something more general than contracting, but this central CM issue is not answered by this book.

In summary, while it does represent an intelligent skimming of some of the major issues facing a very experienced general contractor that also acts occasionally as a construction manager, it is not the book many people have been waiting for. It really adds very little material to the slowly growing construction management bibliography. —Bradford Perkins

Mr. Perkins is managing partner of the New York office of Llewelyn-Davies Associates, and he has been a frequent contributor to the ARCHITECTURAL RECORD during his former association with McKee-Berger-Mansueto, Inc.

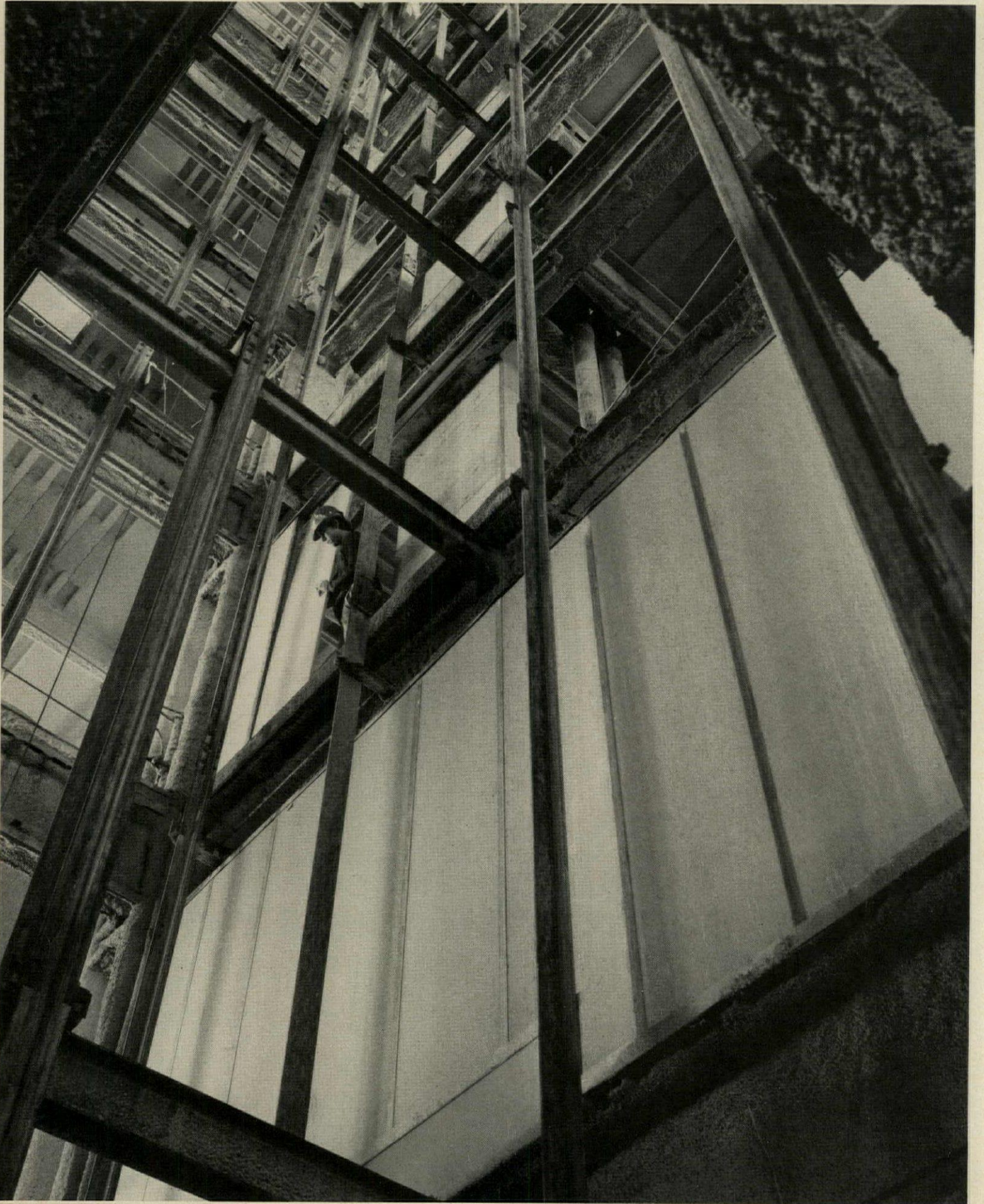
Also Received (and good for giving)

BUILD YOUR OWN EARLY AMERICAN VILLAGE, by Forest Wilson; *Pantheon Books*, New York, 1973, 32 pages, illus., paperback, \$2.95.

BUILD YOUR OWN MOON SETTLEMENT, by Forest Wilson; *Pantheon Books*, New York, 1973, 32 pages, illus., paperback, \$2.95.

These amusing books have texts which respectively describe abodes of the past and the future; they also have paper punch-out parts with "fold here" "insert there" instructions that allow you to do just what the titles tell you to do. Great gifts for children who think they might become architects; great, too, for architects who wish they were still children.

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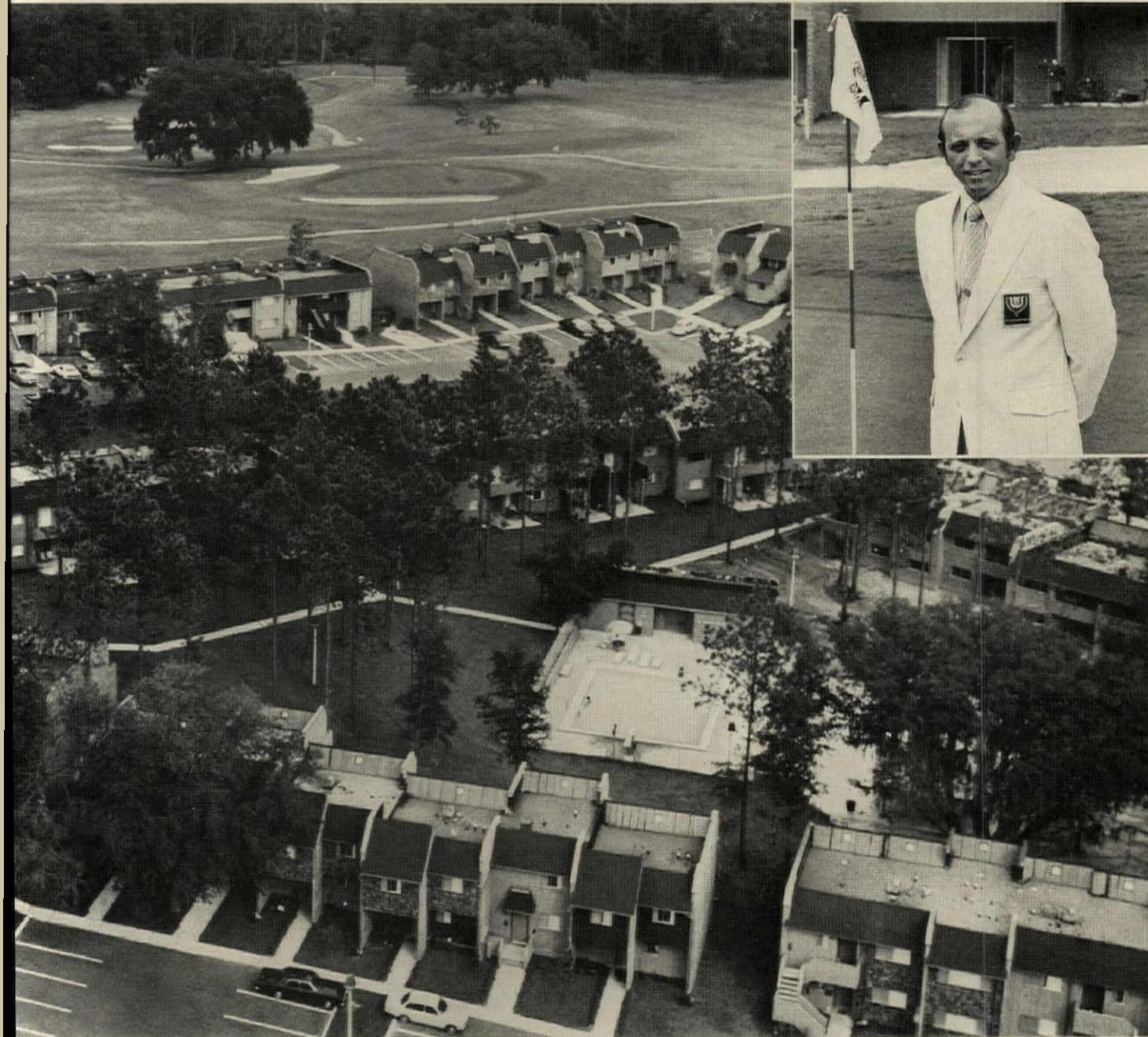
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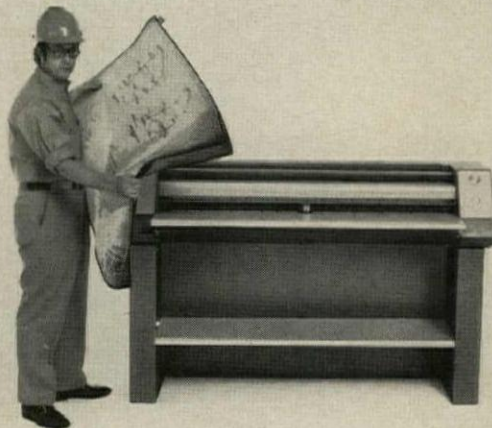
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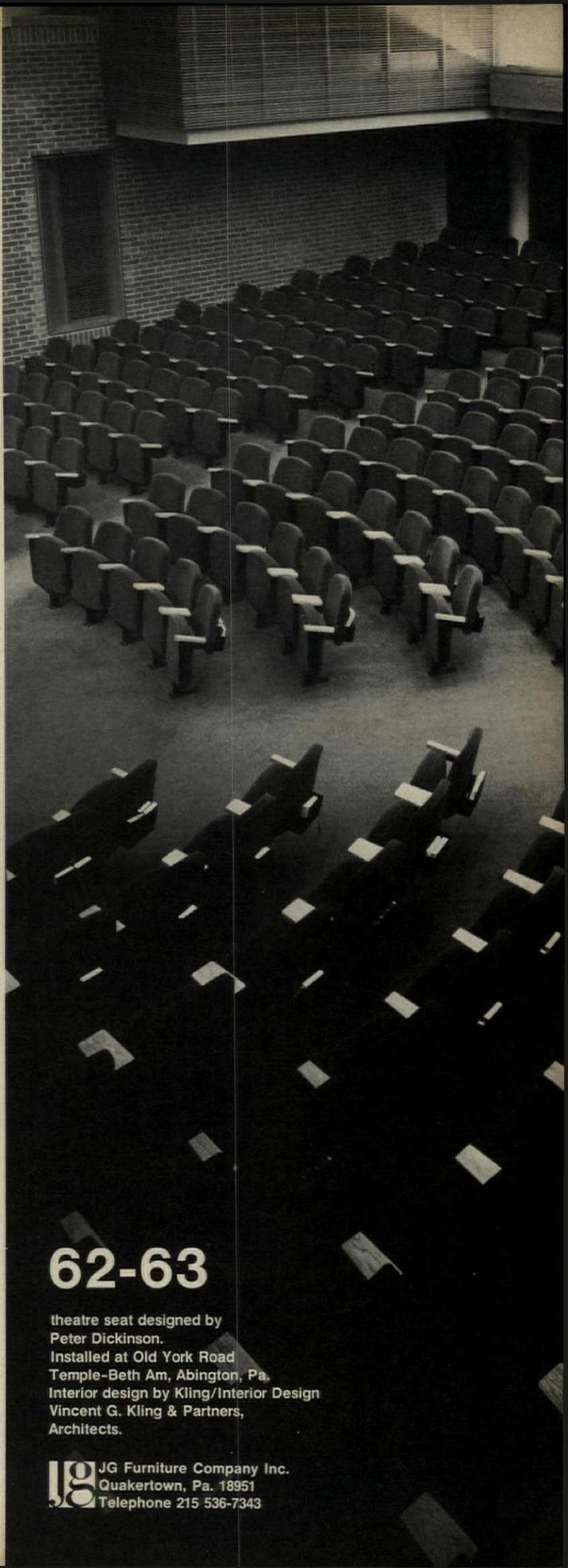
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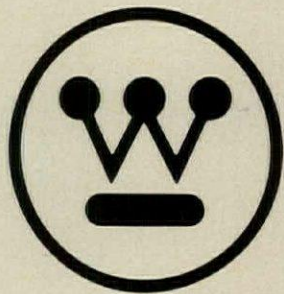
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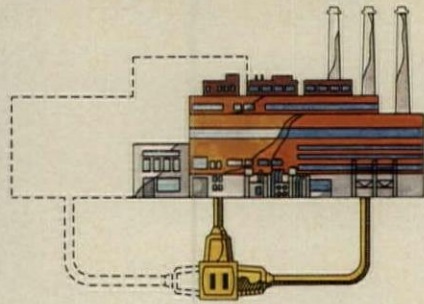
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Planned communities require new professional skills

For the following discussions of both the emerging professional demands in the field of community planning and the management of the process itself, John de Monchaux and L. Bradford Perkins, principals in the planning firm, Llewelyn-Davies Associates, draw on the international experience of the New York-based office of this firm, and its London, Canadian and Australian counterpart organizations in the planning of some eighteen planned communities.¹

Few changes in the planning and design professions are more likely to force a restructuring of traditional practice than the trend toward large-scale land development projects. The recent and rapid growth of the planned community concept, in particular, is having a profound impact on the entire project development and design process.

The domain of the planner (i.e., the professional firm responsible for the land use plan) is being recast to allow social, environmental, economic and many other considerations to be examined at the same time—and often to prevail at key decision points. The realm of the architect in his more conventional role designing the buildings of a planned community is also changing. Community-wide design controls, encouraged by new incentives of developer-clients toward higher levels of quality, offer new boundaries and opportunities to the good designer.

Why large-scale development is a strong trend today

The new trend toward larger-scale land development is strong for a number of reasons: 1) Some of the problems of environmental approval, timely construction of utilities, financing and marketing are made easier (per dwelling) with larger-scale development. 2) Large scale makes optimum use of specialized design and management resources. 3) By its scale, community development creates an opportunity to remove some of the social and economic constraints that have traditionally kept lower income families out of new suburbs—thus, attracting public support for opening avenues to broader public, political and financial resources. 4) Broadening the scope

and variety of building types developed to include multi-family, commercial, industrial, etc., allows the land developer himself to reap the gains in property value that might otherwise flow from his own activities into the pockets of adjoining owners.

The HUD Title VII program (described on page 86 in this issue) has helped stimulate the explosion in the number of new town plans. Because its submission requirements demand extensive planning of every major aspect of a new community, it has helped identify how much we, as a planning firm, do and do not know about the successful development of large-scale projects.

How community planning differs from conventional design processes

Because there is likely to be quite a lot more larger-scale development, the architect and land use planner must examine carefully the ways in which the planning of such developments differs from the design of an individual building.

We have now been involved in the new town planning process over 15 times (6 times for HUD Title VII applicants), and each time we find new questions in the planning and development process which need answers. Although it is impossible to even begin in these pages a comprehensive review of all factors in the planned community, we have identified three important themes which have the most profound impact on the planning and design process:

- 1) The design process for a planned community is fundamentally different from the design process used for a simple building.
- 2) The large scale and long building periods characteristic of planned communities call for a new range of criteria in the selection of a preferred design.
- 3) To meet the traditional, rather utopian, expectations about life in planned communities sometimes takes rather more in the way of social and development controls and resources than most people are willing to concede. However, with ingenuity and thoughtful trade-offs among the desirable but sometimes conflicting goals of special pleaders, one can achieve the majority of one's original objectives.

The design process for communities starts with broad strategies

In the planning of a new community, the design efforts are focused on recommending a general strategy rather than a firm, clear end

product. The single-minded planning and design solutions of such famous new cities as Brazilia or Chandigarh would never take place in the operating climate of American practice. Developers, buyers, environmentalists, politicians, and many other groups essential to the success of a new community are demanding consideration of their concerns.

For example, the development plan for the new community of North Pickering near Toronto will only establish the general principles of layout for the transport network and the location of activities. It will leave open to other and later designers the decisions about the detailed location of roads or transit stops. Another, and related, difference is that the end result of a planner's effort in the development of new communities is a report that necessarily contains statements of intention and hope that will encourage and inform others rather than containing explicit sets of instructions and procedures that will be characteristic of architects' later efforts.

A third difference is the way in which the "client" for the plan of a new community is frequently responsible for very little of the investment in the total community and is not likely ever to live there himself. In Shenandoah, for example, our developer-client will be responsible for less than 15 per cent of the total investment in the town's infrastructure (its utilities, roads, and community services). Yet it is he who must pull and keep together the investments of dozens of other bodies through the medium of the plan.

The effects of large scale and long time call for early investment in image

The length of the building period of a planned community and its giant scale both suggest new criteria for use in making design decisions. Not only must the plan meet functional expectations—e.g., offer easy movement, housing choice, environmentally sensitive construction techniques—but it must also offer these equitably over time. Landscaping investments that offer early amenity, for example, must be provided so that residents are not left waiting 20 years for the environment shown in the glossy brochure. Some of the toughest trade-offs to be made in the design process will be between an investment that achieves high early quality at great expense for relatively few residents such as a major lake; versus a slower investment rate that reduces a risk and retains resources for later investment.

Stark simplicity—which can be made into

¹Llewelyn-Davies Associates new towns include: New Century Town, Illinois; Harbison, South Carolina; Newfields, Ohio; Shenandoah, Georgia; Audubon, New York; Rancho San Diego, California; Flower Mound, Texas; North Pickering, Ontario, Canada; Albury/Wodonga, Australia; Milton Keynes, Buckinghamshire, England; and Ciudad Losada, Venezuela.

a virtue in an individual building—is unacceptable in a new community. On balance, the wisest course would seem to be to create an early image or hallmark for the planned community by creating in one place a concentrated but representative environment that, while limited in area, such as the first phase of development of Audubon, foreshadows all the qualities that will characterize later stages but in a modest way.

Flexibility is another key criterion in the planning of new communities. The scale, the multiple sources of funds and the certainty that a plan will be affected by unforeseen events and unimagined changes in trends all require testing plans for their "robustness." For example, how well will the first phase work if the second phase is never built or is located quite differently? In our current planning of a large new development in the vicinity of Sugarland near Houston we are testing the alternative plans explicitly against their workability under a wide variety of possible circumstances. But new techniques are needed even beyond these tests to assess the ability of the plan to cope with changes we cannot even imagine.

Meeting expectations of life through disciplined interaction—the trade-off

In one respect, the design of planned communities is just like the design of a building, a law or a ship: the designer or planner will be looking to devise particular—and perhaps original—ways in which competing demands are reconciled. This is the skill of getting the most out of every dollar spent; it is the art of seeing new approaches where others have looked in vain; it is the ability to know what is enough or too much in a trade-off situation. The search for the best use of every capital expenditure dollar is often seriously complicated by the basic element of the new community's transportation plan—roads and highways. The logical transportation and physical plan is often very different from the one which will receive maximum Federal, state, county and local funding. Since no developer can afford an extensive road network without substantial public subsidy, the art of transportation planning lies in finding the balance between the conventions of local funding and the planning logic of the required transportation network.

Some of the major trade-offs involve political acumen in addition to planning logic. Educational planning, in particular, can be a complex balancing between political reality and educational objectives. For example, existing school districts impacted by the proposed project often express political concern if new capital outlays are required or if the new facilities will be better than or different from local standards. Developers have met the former concern by building the required school facilities and leasing them to the school district. One solution we used to meet the latter concern was to build the schools around the perimeter of the project to encourage full integration of the new and neighboring communities.

Both of the preceding trade-offs bring up one of the central issues in the trend toward

new community development. Is it politically acceptable to ask an entire region to pay for the superior environmental or social quality of a new community? The answer, at least in political terms, is not easy. Therefore, it is imperative for a planning team to find politically and financially responsive answers. One such answer used at Rancho San Diego is the concept of the county service area. This approach, which is permitted by California law, establishes a bonding authority with boundaries coterminous with those of a specific development. This permits a new community to develop to its own standards without imposing a financial burden on its neighbors.

Fresh thinking is needed for effective housing mix

There are any number of other hard situations in a new community where seemingly irreconcilable demands need fresh thinking. One area in which new answers are needed is the provision of effective housing opportunities for a wide income range in a new community. HUD seeks that Title VII new communities provide opportunities for low- and moderate-income housing in about the proportion of the surrounding area's socio-economic profile. In most cases this means that about 20 per cent of those moving to the new community must be low- or moderate-income families.

HUD understandably, does not want these income levels to be assigned to ghettos, but all developers are seriously concerned about the marketing impact of mixed income neighborhoods. People want their homes to reflect their current or future socio-economic aspirations, but this is contradicted by the physical result of even the best low- and moderate-income housing design. With the possible exception of highly specialized new communities such as Roosevelt (Welfare) Island in New York, no one has fully solved this issue.

One of the cleverest partial solutions to date has been the dual-developer concept proposed for Newfields near Dayton, Ohio. There a public developer, with bonding and taxing authority, is responsible for the front-end investment in public facilities. The private elements are retained by private developers. The great advantage of this approach is that it transfers the front-end investment in public facilities away from the private developer, thus permitting him to lower his per unit land price to a level that will, without subsidy, reach many more families.

Housing density and land use for industry are thorny problems

Housing density is still another subject where a much more careful study of the consequences of conventional thinking is needed. Architects and others have often argued, on visual grounds, for high densities only to be very disappointed when the market seeks the lowest density it can afford. A lower density form of development lends itself to self-building and financing of housing which in turn conserves resources and fosters choice.

Fresh thinking is also needed about some

of the traditionally accepted relationships between land uses in a planned community. For example, most new communities are crossed by one or more freeways, and most offer industrial sites lining the freeway. This conflicts with the marketing objective giving the passing motorist (an important element in any marketing plan) an immediate impression of the new community's desirability as a living or working environment. If the industrial development is among the new range of activities in the community, it can be planned so as to offer excellent support to the marketing of the development and would be unlikely to impede land sales for industry. There are often many industrial land users willing to occupy convenient but not necessarily exposed sites.

Similar trade-offs exist in the planning of other aspects of the infrastructure of the project. The proper solutions to cost, environment, and other problems associated with sewers, power lines, etc., require a complex balancing effort by the architects, planners, construction manager, urban designer, engineer, and other team members.

For every one of the above areas where proven solutions have begun to emerge, two new questions have arisen. Regional planning considerations, for example, have become important politically and include plan-approval issues such as: how to compensate surrounding areas which lose tax base or population to the new community; how to integrate it into a coordinated regional growth policy; or how does it compete with other forms of urban growth. On a smaller scale, new town planners are having to face such issues as how to attract the desired employment generators (industry, commerce, etc.) that match the proposed population profile; how to encourage institutional growth in the new community; and how to remove the barriers to employee mobility.

What kind of firm will thrive in this arena?

The type of firm or team of firms that can consistently find answers to these questions is likely to be the leader in the large-scale projects of the future. One thing is certain: the firm or team that does answer them is, and will increasingly be, very different from the classic design team of architect and engineering consultants required for a single building.

The difference is in both form and mode of operation. Priorities, decisions, consequences, tools, staffing, and many other elements are changing. Consultants such as social planners, market analysts, economists and others are key members of the team. The computer as an analytical tool is being used more widely and effectively. There is a new type of client that combines both public agency and private entrepreneur; and the projects' objectives are far more comprehensive. How the planning and design professions meet this change will determine the future structure of the professionals' roles in the biggest share of the real estate development process.

Some management problems that will affect these roles are discussed on page 59.



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Planned communities: six management cautions

Brad Perkins, prior to joining Llewelyn-Davies Associates, was for many years associated with McKee-Berger-Mansueto in construction management and professional firm management activities which, with John de Monchaux' long L-DA experience, provided substantial background for the following sequel to the article beginning page 55.

Unfortunately, in spite of its critical importance in the success of large-scale developments such as new towns, management itself is the area of least professional concern to the typical project planning team. As a result, many serious errors are repeated from one project to the next by owners who have to rely too heavily on their own experience rather than a pool of common knowledge. This article summarizes six ways of overcoming the most common mistakes we have witnessed on large-scale real estate development projects.

1. Implement the project management concept as a centrally structured operation

Large-scale real estate development is the ideal problem for implementation of a comprehensive project management program. Someone or some single team of individuals must have responsibility for the coordination and management of every aspect of the project. Only the owner can set the project's goals, select the planning and development team, monitor its progress, and act as the final decision-maker on major policy and management issues. In many cases, however, there has been no central management team. All too often, the consultant teams manage themselves or report to different management staff on each major aspect of the project. In one case, there were seven different consultants who were working in seven different cities, and who met only twice before the submittal of the initial plan.

2. Manage the project as an interactive and interrelated process

The project management concept is particularly important because of the direct impact a decision in one project parameter (physical, economic, marketing, etc.) has on every other parameter. Management decision-making must reflect this relationship. To be successful, however, the owner must be able to get timely answers to the many "what-if" questions that occur throughout the project development process. Few projects, however, have invested the time and resources necessary to develop the interactive tools or consultant support re-

quired to provide a truly-interactive control of this highly interrelated process. This is particularly important in the financial planning area, for every marketing, physical planning or other major decision has an impact on the cash flow, return on investment and budget. With relatively little expense it is now possible to use integrated planning teams with computer modeling capability to provide the quick response necessary for such questions.

3. Use experienced management and technical teams

An essential ingredient in both the projects management and technical development is prior experience. Large-scale real estate development is too complicated for a project manager or consultant to learn as he goes. He must have been through the process at least once. It is a complex and serious industry with its own practices and pitfalls. Trial and error can be extremely expensive on a project where the debt service alone can often be \$10,000 per day.

4. Be realistic about schedules and money required

Overoptimism is an occupational hazard among real estate developers. In planned communities, the typical errors have been unrealistic schedules, a misguided belief in the power of political influence, and inadequate financial backing. The most common lack of scheduling realism is in the typical Title VII applicant's estimate of the approval schedule. Most will say that they are sure to be approved within six months, but experience suggests that two years or more should be allowed to go from a "serious inquiry" to project agreement.

Among the major schedule obstacles are completion of essential land acquisition, zoning approval, environmental impact approval, and time required from HUD's limited staff to review the many other applicants. Typically unrealistic comments are "we have Senator X or County Commissioner Y to help us push this through." First of all, every other project has similar help, and, second, these men usually do not have the power to overcome any but the most minor obstacles.

In addition, a problem that is often seriously aggravated by overoptimistic scheduling is serious underestimation of the project's financial requirements. The planning process must be done well, and to be done well, it requires a considerable front money commitment. The typical developer's approach of trying to get a project underway on

a shoestring (and often someone else's shoestring) does not work. A typical planning effort for a 4,000-acre project can cost \$500,000 and the early land assembly and other costs are often four or five times that amount.

5. Pay strict attention to good management practice

High personnel turnover, excessive span of control, constant changes, and a lack of clear lines of communication or definitions of responsibility are among the most common violations of good management practice on large scale real estate development projects. The impact of these problems can be reduced if the consulting team can supply comprehensive procedures and good management advice. At times this has meant that the consultant team must recruit key client personnel. In others the consultants and clients must write detailed procedure manuals for such areas as design control, construction management, and financial control, and, in most, the consultants must act as management consultants as well as planning professionals. To do so, however, both consultant and developer should devote the same concern and research effort to this area as they do to other project parameters.

6. A plan for management is preamble to any plan for a large community

Probably the most common error—and usually the most serious—is the failure to plan the management elements of the project as thoroughly as the many other key parameters. It is in this area that any team of professionals must act quickly to help its client if the client is not doing it himself. Management planning includes assurance of realistic budgets, schedules, identification of required consultants, staffing plans, procedures manuals and other elements of a comprehensive management plan. It is increasingly important for architects, engineers, planners and construction managers to assume a guiding role in this area to ensure the project's, their client's and their own success.

All of the above points are just part of the over-all challenge represented by the trend toward ever larger and more complex projects. In many respects, however, the management parameter of the large-project challenge is the most important to the future of the profession of architecture. The new breed of firms, who can respond to the client's management needs, can lay claim to the architect's traditional role of "prime professional."

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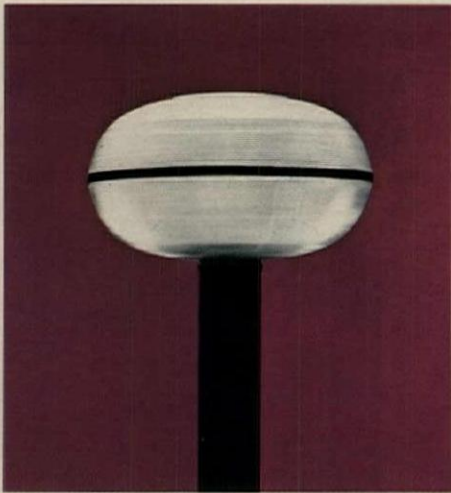
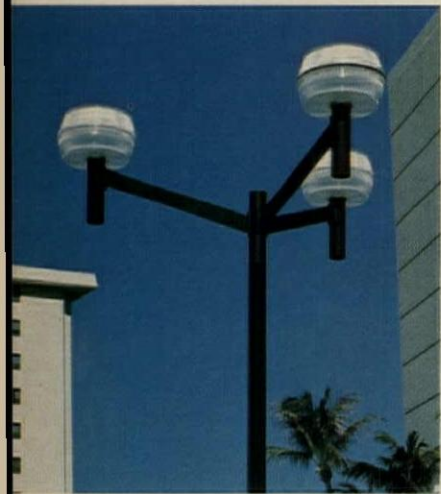
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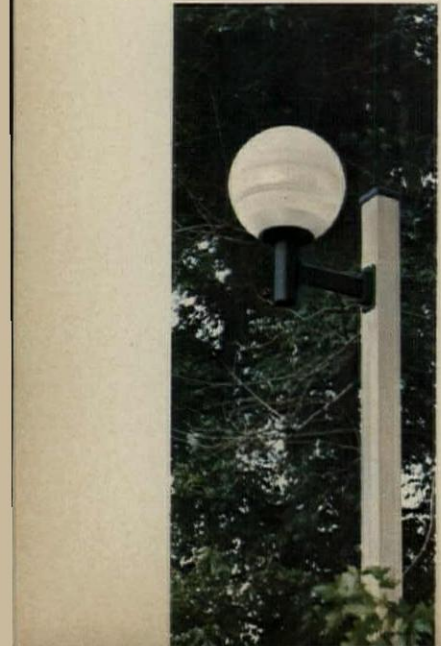
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New computer estimating service is offered with 1974 Dodge Manual

A new computerized building cost estimating service has been introduced by McGraw-Hill Information Systems Company and is offered to purchasers of the 1974 Dodge Manual for Building Construction Pricing and Scheduling, issued November 15, 1973.

Wood & Tower, Inc., Princeton, N.J. cost consultants who prepare cost data for the manual, will use their construction computer service division to provide the new service. Manual users will be able to request project estimates by using forms issued with this year's edition, ninth in the manual's history. Each of about 8,000 unit costs in the manual will have an identification number. The user simply lists the pertinent numbers for his project and the quantities for each item to be included.

The estimating service also permits the user to substitute his own building cost data for labor and material costs in the manual. Also, conversions to or from metric measure and to or from foreign currency units can be made.

Estimates are prepared by Wood & Tower in the format recommended by the Uniform Construction Index and are usually delivered within two days of receiving input data. The charge for each estimate will be \$45 plus \$2 per page of cost data.

Itemized cost units in the manual also follow the UCI 16-division format, and price of the manual remains at \$14.95.

—John H. Farley, senior editor
Dodge Building Cost Services

INDEXES: December 1973 1941=100.00 (except as noted)

Metropolitan area	Cost differential	Current Indexes				% change last 12 months
		non-res.	residential	masonry	steel	
U.S. Average	8.1	438.2	411.5	428.8	418.6	+12.02
Atlanta	7.5	551.9	520.3	540.0	528.2	+ 9.60
Baltimore	8.1	484.0	455.1	471.9	458.6	+13.27
Birmingham	7.3	407.7	388.2	393.4	389.0	+12.41
Boston	8.8	443.9	419.5	437.7	426.9	+11.17
Buffalo	8.7	477.0	448.0	469.1	455.6	+10.72
Chicago	8.4	516.2	490.8	497.7	491.5	+14.63
Cincinnati	8.5	468.9	441.2	455.8	444.8	+12.75
Cleveland	8.7	469.1	441.4	458.2	447.8	+ 7.81
Columbus, Ohio	7.9	452.2	424.6	439.9	430.9	+ 9.81
Dallas	7.5	440.8	426.8	430.2	421.9	+13.06
Denver	7.9	466.5	438.9	458.5	443.9	+11.14
Detroit	9.5	506.5	483.0	509.9	490.3	+15.84
Houston	7.0	396.4	372.3	385.8	379.4	+ 7.31
Indianapolis	7.5	396.9	372.7	387.7	379.5	+ 9.16
Kansas City	7.9	411.5	388.8	402.1	391.8	+10.75
Los Angeles	8.4	515.8	471.5	500.7	489.8	+18.94
Louisville	7.4	436.1	409.6	425.6	416.5	+11.87
Memphis	7.7	432.7	406.7	415.9	410.2	+17.13
Miami	7.7	453.0	431.6	439.2	430.3	+10.20
Milwaukee	7.9	478.4	449.2	468.4	454.7	+ 8.74
Minneapolis	8.5	461.6	434.3	453.4	443.2	+10.62
Newark	8.4	419.3	393.7	411.7	403.8	+10.10
New Orleans	7.3	426.4	402.5	420.1	410.4	+13.93
New York	10.0	496.9	462.1	484.8	472.3	+14.86
Philadelphia	9.0	490.9	467.7	486.3	473.1	+15.80
Phoenix (1947 = 100)	7.7	250.7	235.4	242.6	238.5	+12.48
Pittsburgh	8.5	429.5	404.1	424.4	411.4	+11.77
St. Louis	8.4	450.4	425.1	443.0	432.9	+10.53
San Antonio (1960 = 100)	6.9	160.3	150.5	155.0	151.9	+ 6.47
San Diego (1960 = 100)	8.0	180.5	169.5	176.5	172.9	+17.90
San Francisco	9.2	646.8	591.3	640.4	621.1	+12.83
Seattle	8.4	435.8	390.1	430.9	414.9	+14.42
Washington, D.C.	7.5	406.1	381.3	393.9	385.4	+ 8.78

Cost differentials compare current local costs, not indexes.

Tables compiled by Dodge Building Cost Services, McGraw-Hill Information Systems Company

HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL NON-RESIDENTIAL BUILDING TYPES, 21 CITIES 1941 average for each city = 100.00

Metropolitan area	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972 (Quarterly)				1973 (Quarterly)			
										1st	2nd	3rd	4th	1st	2nd	3rd	4th
Atlanta	306.7	313.7	321.5	329.8	335.7	353.1	384.0	422.4	459.2	472.5	473.7	496.1	497.7	516.4	518.0	543.8	544.8
Baltimore	275.5	280.6	285.7	280.9	295.8	308.7	322.8	348.8	381.7	388.1	389.3	418.8	420.4	441.8	443.6	474.5	475.5
Birmingham	256.3	260.9	265.9	270.7	274.7	284.3	303.4	309.3	331.6	340.4	341.6	356.7	358.3	371.7	373.2	401.1	402.1
Boston	244.1	252.1	257.8	262.0	265.7	277.1	295.0	328.6	362.0	377.3	378.5	392.8	394.4	414.0	415.6	436.8	437.8
Chicago	301.0	306.6	311.7	320.4	328.4	339.5	356.1	386.1	418.8	422.8	424.0	442.7	444.3	465.3	466.9	507.6	508.6
Cincinnati	263.9	269.5	274.0	278.3	288.2	302.6	325.8	348.5	386.1	399.9	401.1	400.1	410.7	430.4	432.0	461.4	462.4
Cleveland	275.8	283.0	292.3	300.7	303.7	331.5	358.3	380.1	415.6	415.2	416.4	427.7	429.3	436.7	438.3	461.2	462.2
Dallas	253.0	256.4	260.8	266.9	270.4	281.7	308.6	327.1	357.9	364.9	366.1	385.0	386.6	407.3	408.9	435.4	436.4
Denver	282.5	287.3	294.0	297.5	305.1	312.5	339.0	368.1	392.9	398.3	399.5	413.8	415.4	429.5	431.1	460.0	461.0
Detroit	272.2	277.7	284.7	296.9	301.2	316.4	352.9	377.4	409.7	416.9	418.1	431.5	433.1	463.4	465.0	500.0	501.0
Kansas City	247.8	250.5	256.4	261.0	264.3	278.0	295.5	315.3	344.7	348.7	349.9	365.4	367.0	387.7	389.3	404.8	405.8
Los Angeles	282.5	288.2	297.1	302.7	310.1	320.1	344.1	361.9	400.9	407.8	409.0	422.9	424.5	453.3	454.9	503.2	504.2
Miami	269.3	274.4	277.5	284.0	286.1	305.3	392.3	353.2	384.7	391.5	392.7	404.8	406.4	419.0	420.6	446.2	447.2
Minneapolis	275.3	282.4	285.0	289.4	300.2	309.4	331.2	361.1	417.1	401.7	402.9	411.3	412.9	430.6	432.2	455.1	456.1
New Orleans	284.3	240.9	256.3	259.8	267.6	274.2	297.5	318.9	341.8	350.9	352.1	368.1	369.7	382.1	383.7	419.5	420.5
New York	282.3	289.4	297.1	304.0	313.6	321.4	344.5	366.0	395.6	406.5	407.7	421.5	423.1	453.5	455.1	484.3	485.3
Philadelphia	271.2	275.2	280.8	286.6	293.7	301.7	321.0	346.5	374.9	394.2	395.4	417.9	419.5	459.3	460.9	484.1	485.1
Pittsburgh	258.2	263.8	267.0	271.1	275.0	293.8	311.0	327.2	362.1	364.5	365.7	378.7	380.3	406.3	407.9	423.4	424.4
St. Louis	263.4	272.1	280.9	288.3	293.2	304.4	324.7	344.4	375.5	385.5	386.7	400.9	402.5	427.8	429.4	443.2	444.2
San Francisco	352.4	365.4	368.6	386.0	390.8	402.9	441.1	465.1	512.3	535.3	536.5	559.4	561.0	606.4	608.0	631.3	632.3
Seattle	260.6	266.6	268.9	275.0	283.5	292.2	317.8	341.8	358.4	363.0	364.5	369.9	371.5	388.4	390.0	423.4	424.4

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

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F. W. Dodge regional construction outlook: 1974

Nonresidential building looks pretty stable everywhere for next year, although there are some doubtful signs in the West and Midwest regions. Housing is down everywhere. The following is a regional breakdown of the national outlook published last month.

For the time being, the booming economic conditions of 1973 have halted the relentless shift of the nation's construction activity toward the South. This year the Midwest edged ahead in market share, while the South and Northeast were holding fast. The West, with a housing market that began declining earlier than in the other regions, appears headed to lose a percentage point or two by year-end.

While most of the nation is benefiting directly from 1973's booming economy, the Midwest, with its base of heavy industry, is better structured to gain from a strong business upswing than the other regions. Industrial building in this area has climbed to one-third of the U.S. total this year, and prosperity has rippled through the other sectors of its economy as well, generating better-than-average gains in both institutional and residential building.

As noted in the National Outlook (November, page 65), the general economic and political environment that led to 1973's construction outcome is now in the process of change . . . disadvantageously, for the most part. Here's how these changes are likely to be shaping the regional pattern in 1974:

Northeast

Low vacancy rate figures show that the Northeast still needs housing, and lots of it. Both rental and homeowner vacancies in the region are significantly below the national average, despite the heavy flow of housing reaching the market in recent months. Part of the problem stems from the fact that much of the new housing isn't being put where it's really needed. Not enough is going into the urban centers of the region's major cities where decay and abandonment are still an ever-present fact of life. The private builder needs a positive inducement to build housing in these high-risk areas. But new Federal emphasis on housing allowances as an alternative to publicly-assisted building is not expected to provide that inducement. While the *need* for housing is there, in the sense that a significant proportion of the region's urban population is inadequately housed, the *demand* for housing may not be. Many of the poor are apt to acquiesce

in their existing conditions, using their housing allowances to finance their existing shelter arrangements rather than seek better housing. This tendency will be reinforced if no new "risk" housing is constructed in or near their neighborhoods.

Housing in the Northeast lost ground relative to the other regions this year, dropping below 20 per cent of the total U.S. market share. It is not expected to improve on that performance in 1974.

Office building, which has been a weak spot in the region's construction picture since the peak years of 1968 and 1969, is now showing signs of firming up again. But this does not mean that another boom is in the making. There's still too much rentable space coming on stream from the old boom to allow anything like that. The trend has stopped declining, though, and offices could register a slight gain in 1974.

Midwest

The prime question facing the Midwest as far as 1974's construction outlook goes is this: Can the region, which did so well in the rapid-growth early stages of the current economic boom, continue to prosper in the slower-growth advanced stage of the business cycle that is apt to dominate the economic scene in 1974? With the demand for consumer durables expected to weaken in 1974, it is hard to provide an optimistic answer to this question. Consumer durables are the region's economic mainstay. Not only does it produce them, but it produces the materials to produce them. The most likely event will be that the long-term trend toward industrial diversification will reassert itself in 1974, with the Midwest's construction market giving up some of the gains in market share that it achieved this year. This contention is reinforced by the fact that next year's industrial building is expected to be concentrated more in the petroleum, petrochemical, and related areas. These industries are not heavily concentrated in the region, but more diversified nationally.

Although the Midwest is faced with a housing situation similar to that of the Northeast, vacancy rate figures indicate that conditions, in terms of units available for occupancy, are not quite as stringent. Midwestern housing is expected to decline next year at about the same rate as housing elsewhere in the nation, and for pretty much the same reasons. It bears mentioning again that in both the Northeast and Midwest, a low vacancy rate

provides no automatic guarantee that the need will be met through new units.

South

The remarkable growth of Southern construction over the past several years is nowhere more evident than in its housing. A decade ago, 30 per cent of the nation's housing was constructed in the South. In recent years this figure has averaged consistently over 40 per cent. Yet, despite the record levels of housing that have been built, vacancy rate data indicate that in-migration and the desire to upgrade existing living conditions have been more than equal to the task of clearing the market. As this is so, the anticipated decline next year should be an orderly one for the South, with the region maintaining its current proportion of the national total.

With a significant proportion of industrial building expected to be concentrated in the petroleum and petrochemical area next year, the South's share of industrial building should be proportionately larger. This coupled with growth in office building will revive the trend of the past decade by adding another percentage point to the South's increasing share of the national construction market.

West

The Western housing market reached its peak in the first quarter of 1972, a year ahead of the other regions of the country. The decline in the rate of residential contracting since then has been gradual and orderly, and because the West began its adjustment before the other regions, there is reason to expect that it will ride out the 1974 housing slump in better shape than the rest.

The region's general economic posture continues strong. Gradual but steady improvement of its key aero-space industry has been matched by growth in other areas as well. As a result, nonresidential building has kept pace with the strong national rate of growth in 1973, and should do the same in 1974.

However, this is one region where non-building construction will increase greatly no matter how much the government continues to hold back if contracting for the trans-Alaska pipeline begins as anticipated. This multi-million-dollar project could completely dominate the Western construction scene next year.

*Prepared October 1973 by the Economics Department
McGraw-Hill Information Systems Company
George A. Christie, vice president and chief economist*



◀ Phipp's Plaza Theatre, Atlanta, Ga.
 Owner: Atlanta Enterprises, Inc.
 Architects and Engineers:
 Six Associates, Inc., Asheville, N.C.

Who says acoustical panels have to be rectangles?

This striking ceiling was shaped from textured, micro-perforated Gold Bond Solitude Panels.

Ordinarily, these acoustical panels are installed in exposed suspended grid systems. Their appearance, noncombustibility, NRC's up to 70 and STC's up to 40 contribute greatly to building

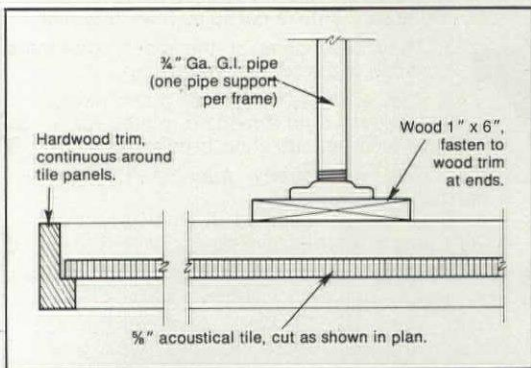
aesthetics and performance.

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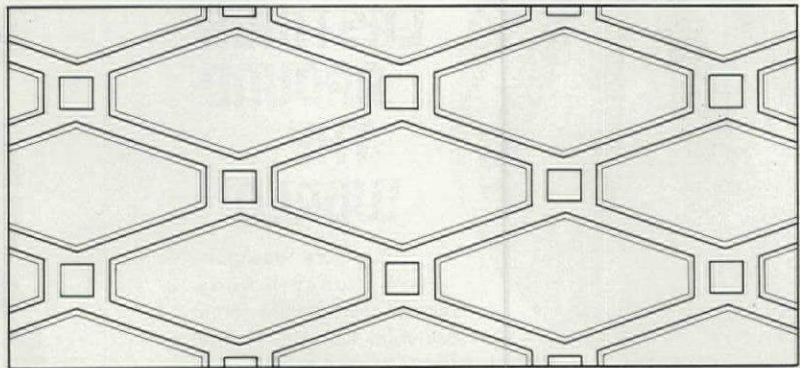
Solitude Panels come in fissured, needle-perforated, textured and nondirectional patterns. You can order ventilating versions and scrubbable plastic coated finishes, too.

Solitude Panels: Another way we're constructive so you can be creative.

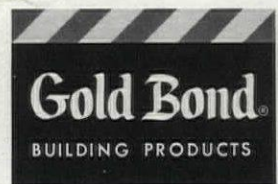
Discuss your ideas with your local Gold Bond man. Or write Gold Bond Building Products, Division of National Gypsum Company, Dept. AR-123CT, Buffalo, N.Y. 14225.



Section of lobby ceiling shows how 3/8" acoustical tiles, cut as shown in plan, were installed in continuous hardwood trim and supported by 1/4" pipe.



Standard Gold Bond 2' x 4' acoustical Solitude Panels were custom cut on the job to create a distinctive mosaic for Phipp's Plaza Theatre in Atlanta.



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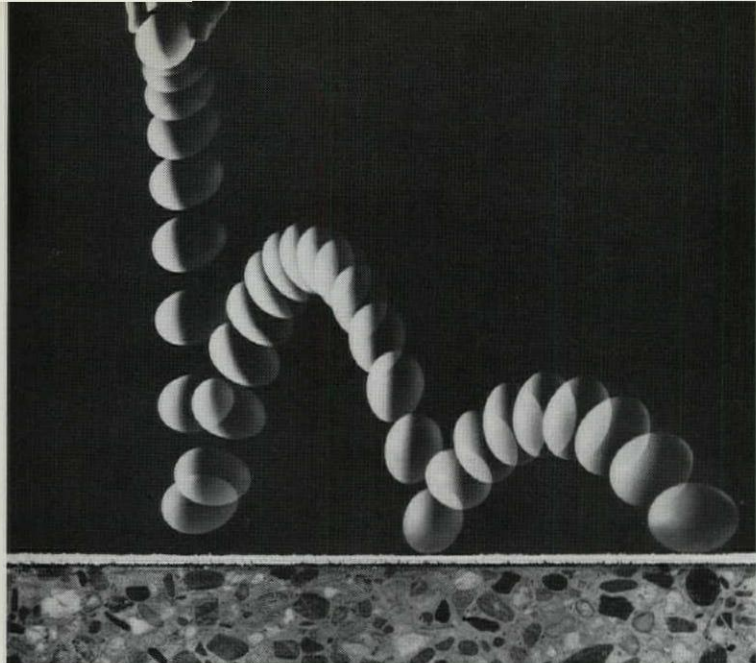
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Even an egg dropped on it bounces. Yet the heaviest traffic doesn't bottom.

This is because pneumacel cushion contains billions of closed cells. Each cell is pneumatic—pressurized with an inert inflatant and air. The result is a springiness that cannot be fully compressed.

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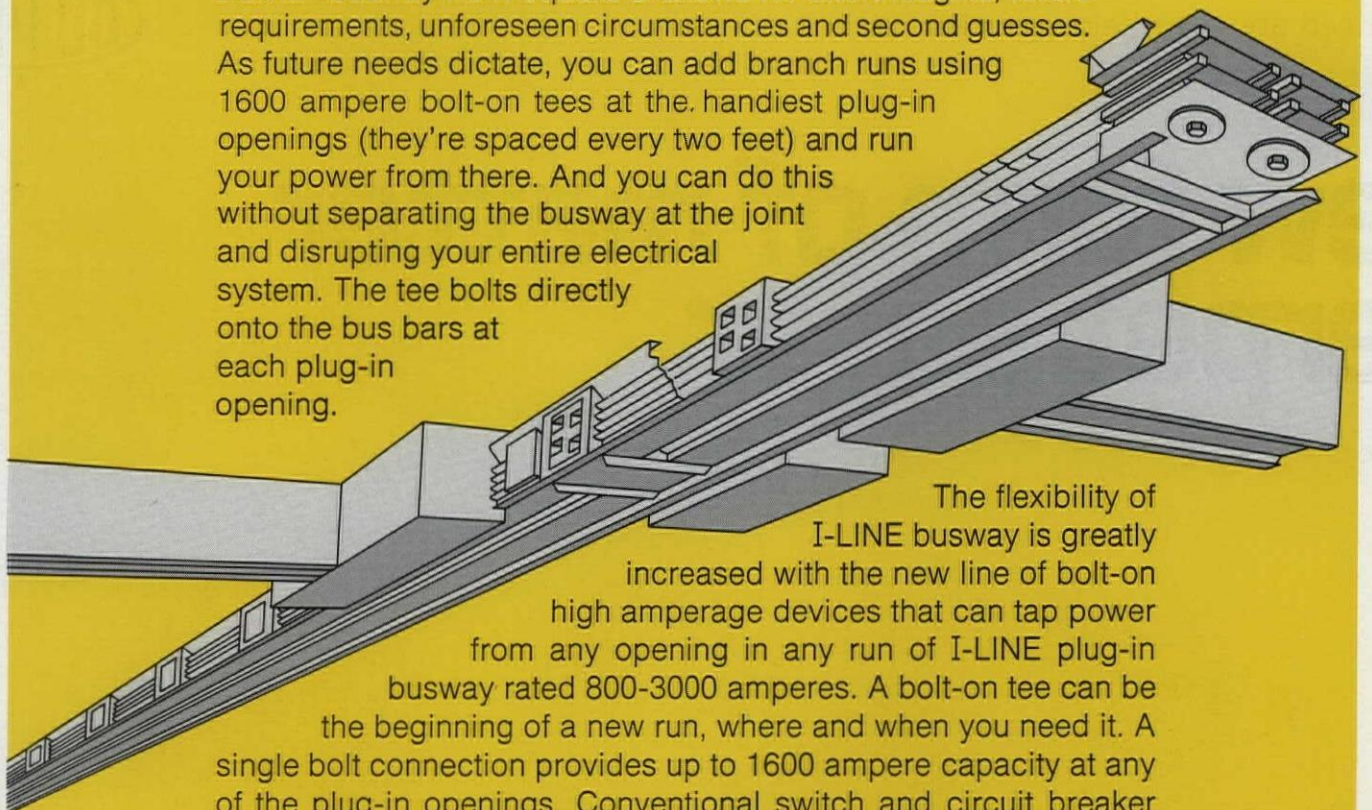
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This busway lets you plug in afterthoughts

I-LINE® busway from Square D allows for afterthoughts, future requirements, unforeseen circumstances and second guesses. As future needs dictate, you can add branch runs using 1600 ampere bolt-on tees at the handiest plug-in openings (they're spaced every two feet) and run your power from there. And you can do this without separating the busway at the joint and disrupting your entire electrical system. The tee bolts directly onto the bus bars at each plug-in opening.



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Flexible grout. Will bend and stretch with building movement.

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Redi-Set goes up over almost any
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Resists stains and
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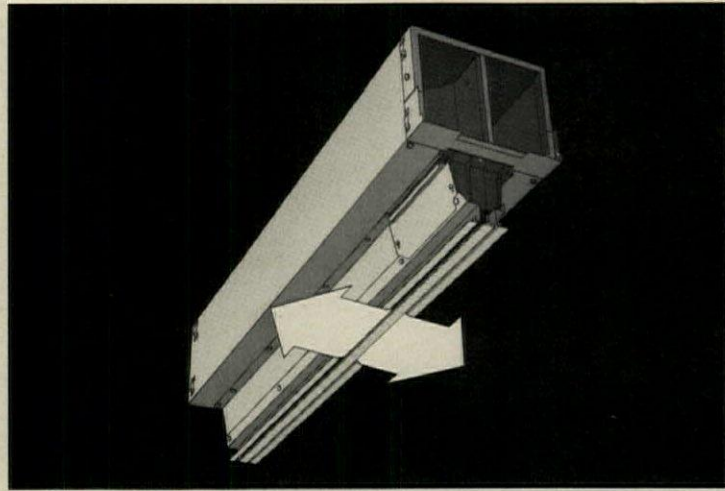
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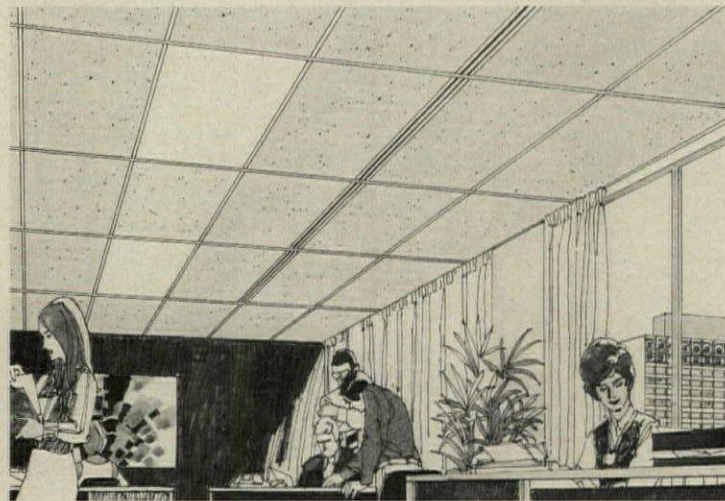
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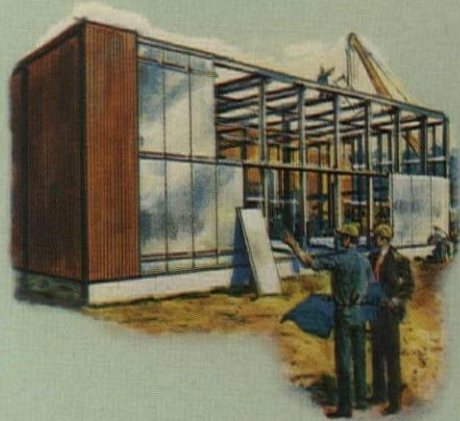
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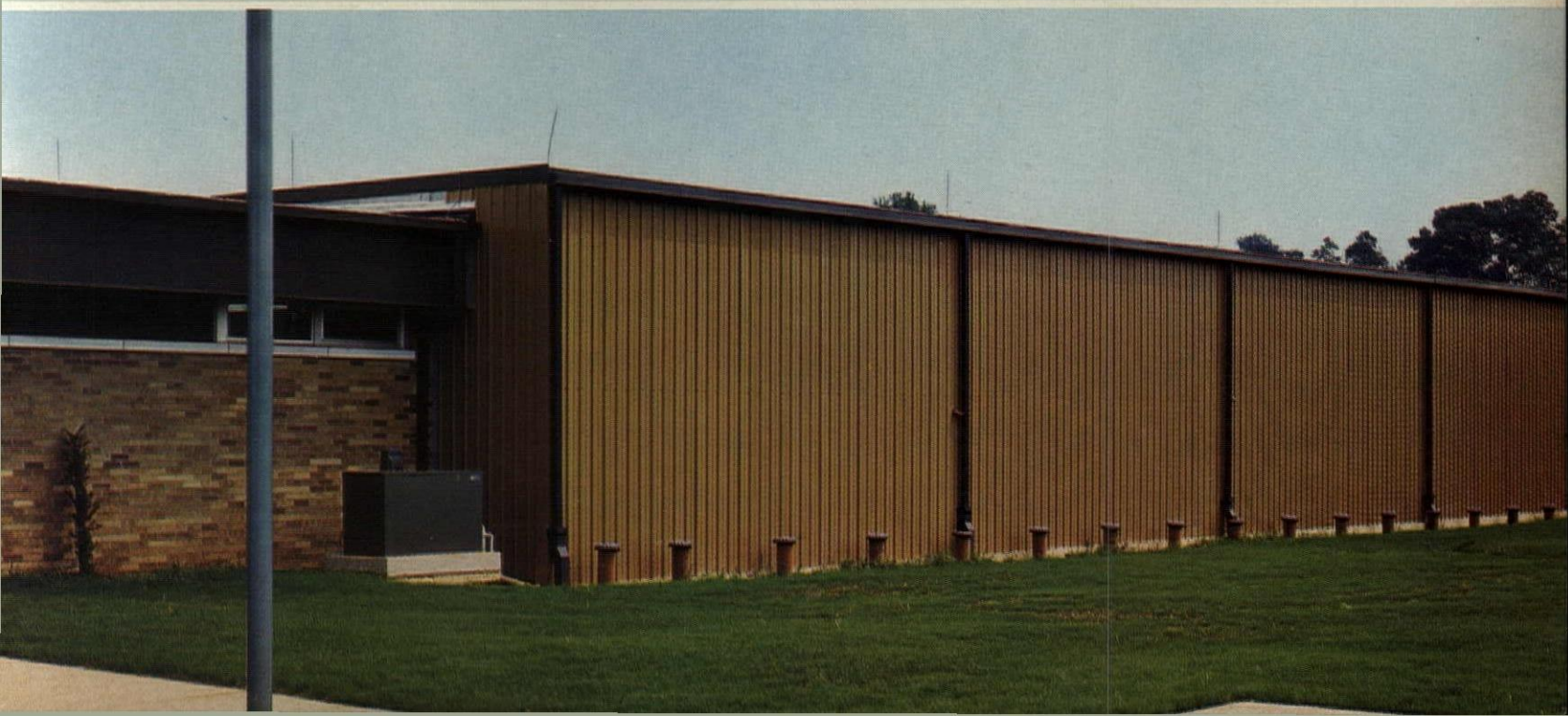
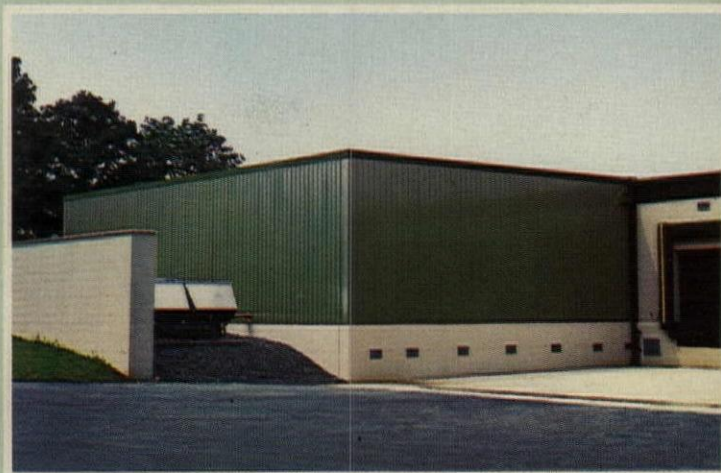


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The idea for a perfect cube
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What came out was
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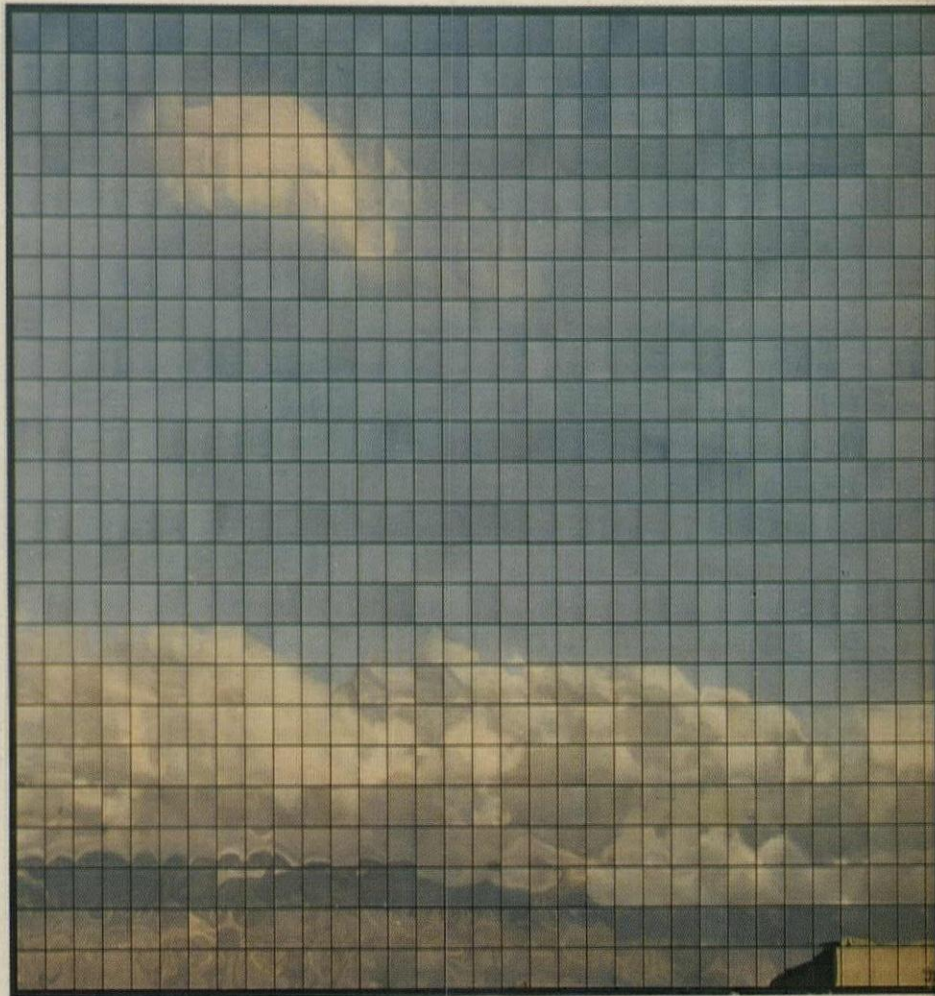
From this analysis, the architects selected the most desirable glass. PPG *Solarban 480 Twindow* insulating glass.

Result: A cube reflecting 168 feet of cloud, sky, and California sunset. While inside, Sears people have everything. Visual comfort, economically controlled temperature, and an open, space-age quality that complements the building's pristine shape.

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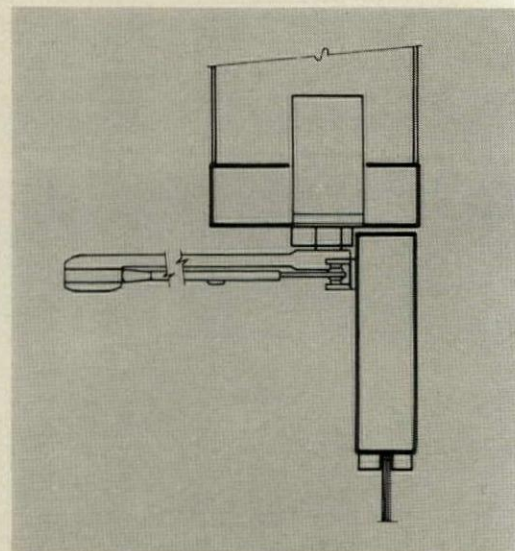
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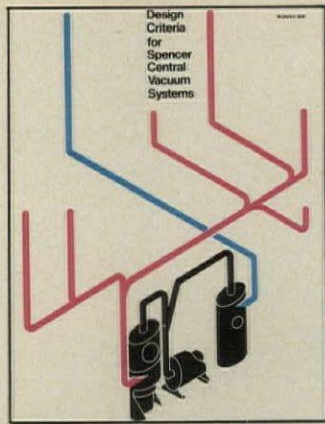
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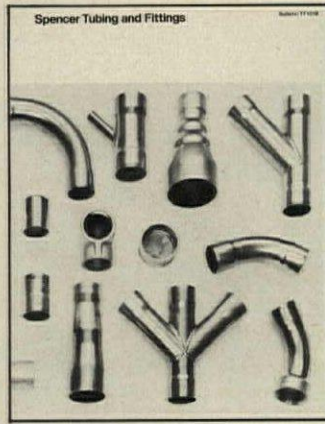
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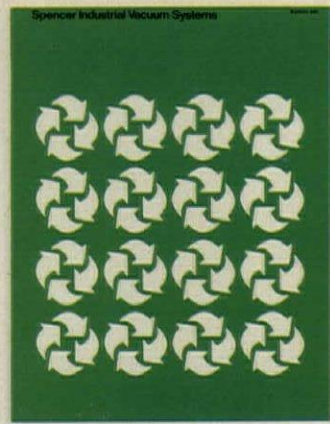
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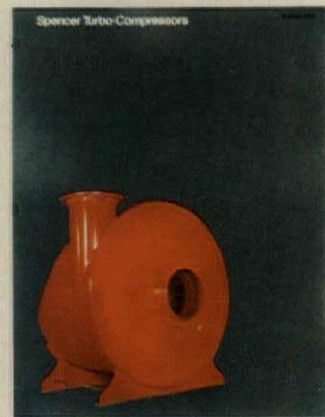
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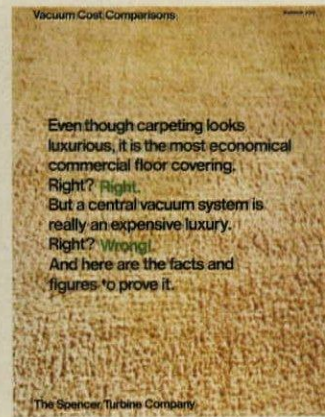
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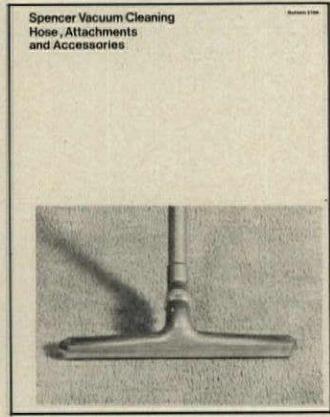
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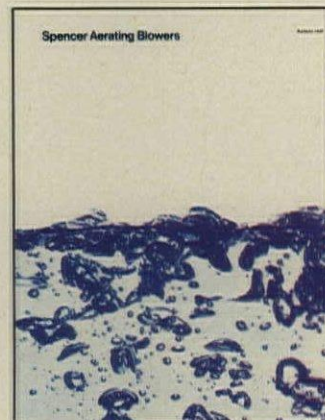
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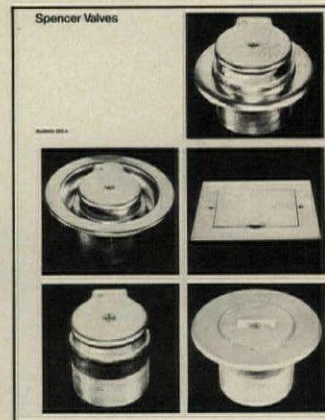
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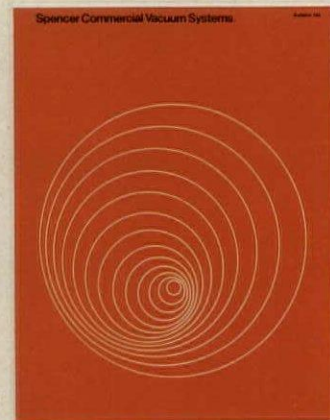
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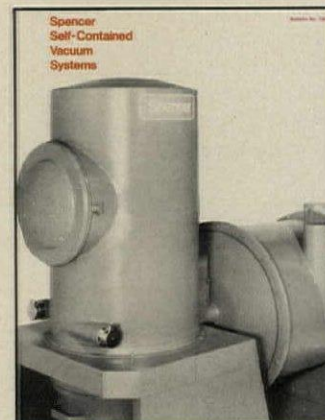
142 Aerating Blowers



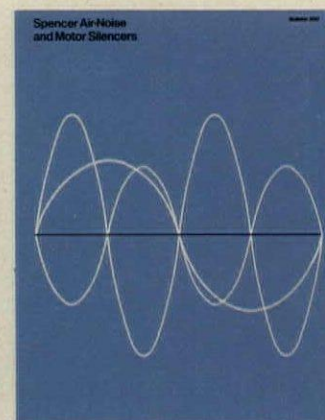
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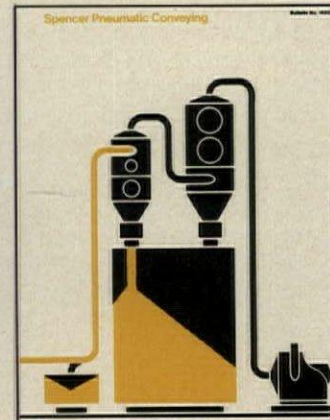
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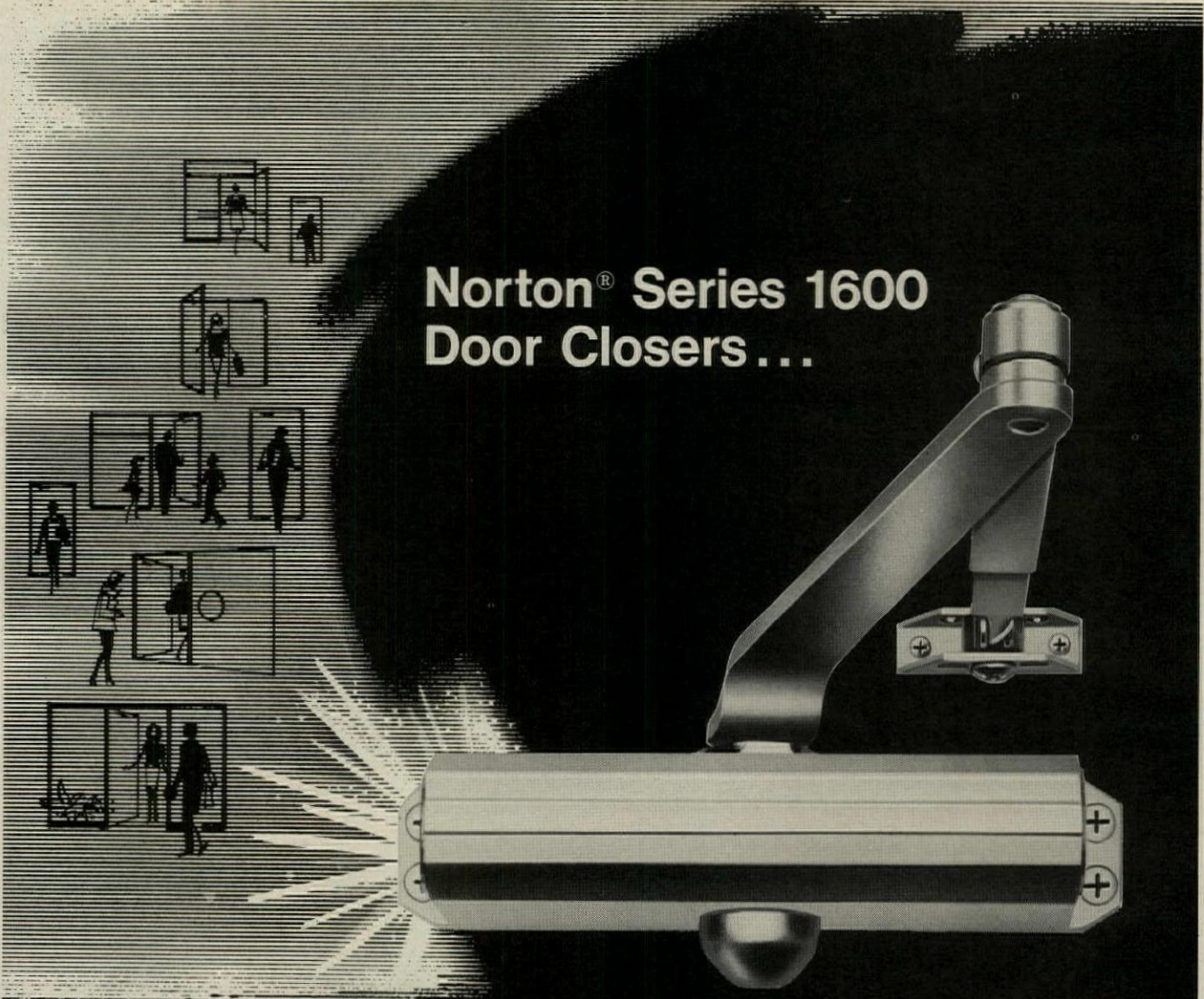


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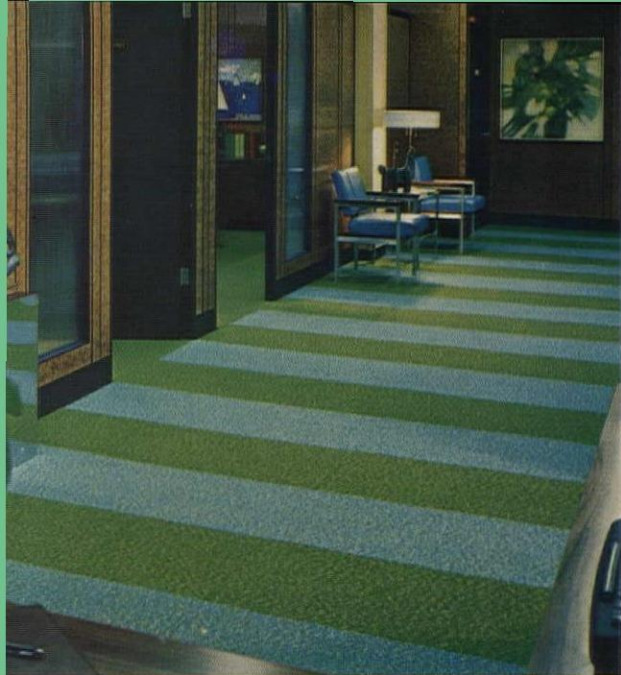
Norton Representative or contact Eaton Corporation, Lock and Hardware Division, Norton Marketing Department, Box 25288, Charlotte, North Carolina 28212.

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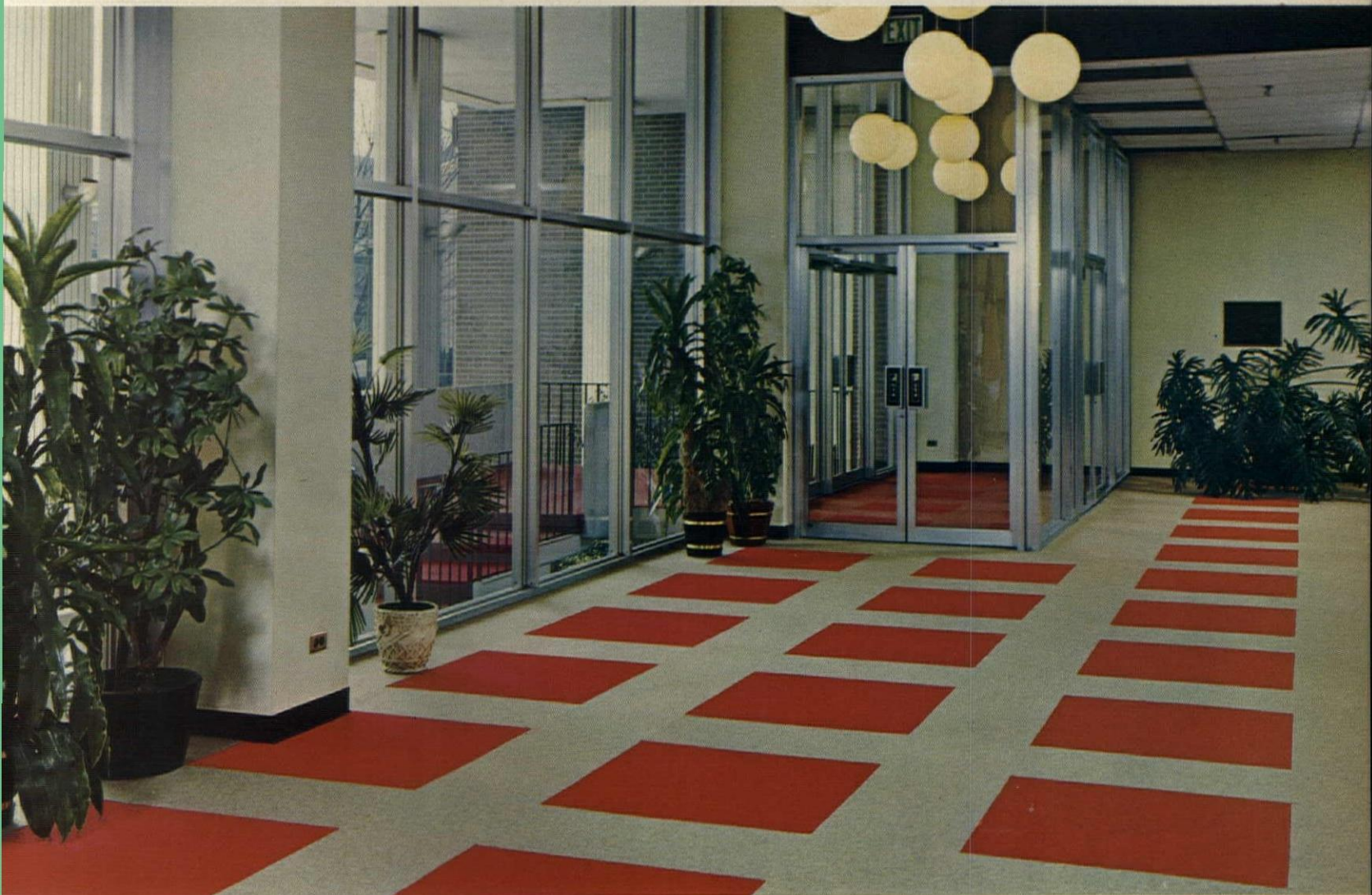
These unique 18" squares are simple to install securely... yet can be arranged and rearranged with ease for maximum good looks, maximum wear. Wherever you want outstanding beauty with minimal care.

Choose from a full range of styles, textures and colors.

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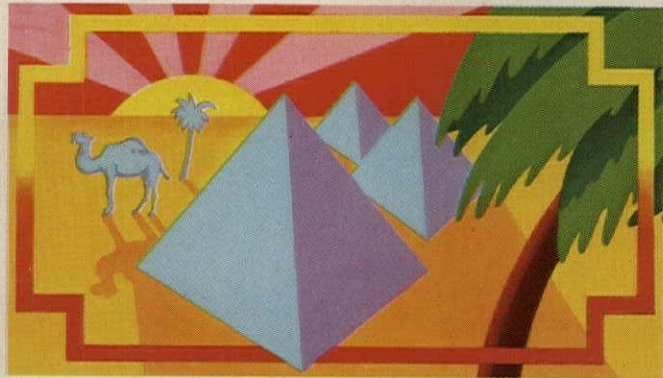
Where 10% of the floor gets 90% of the wear, like this office lobby, moveable Tex-Tiles solve the problem.

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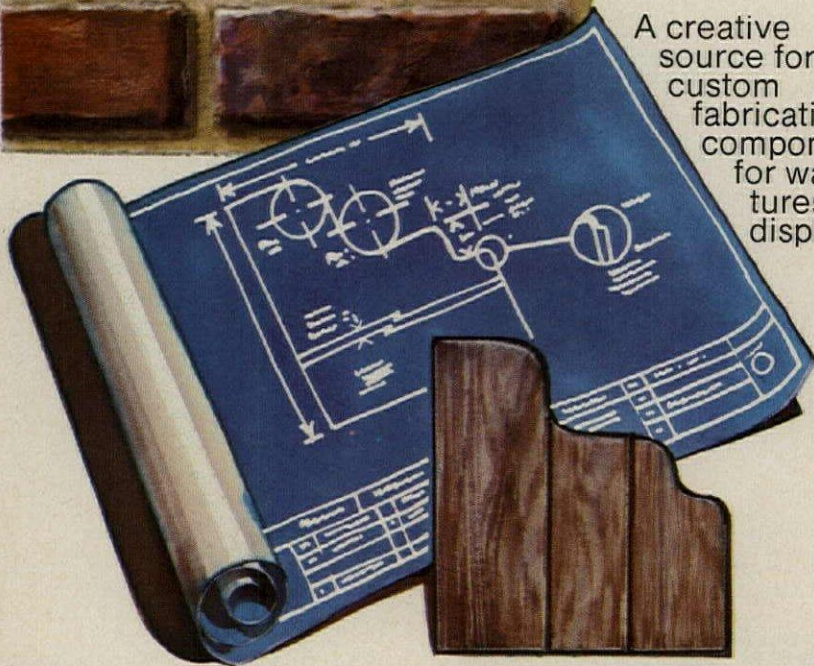


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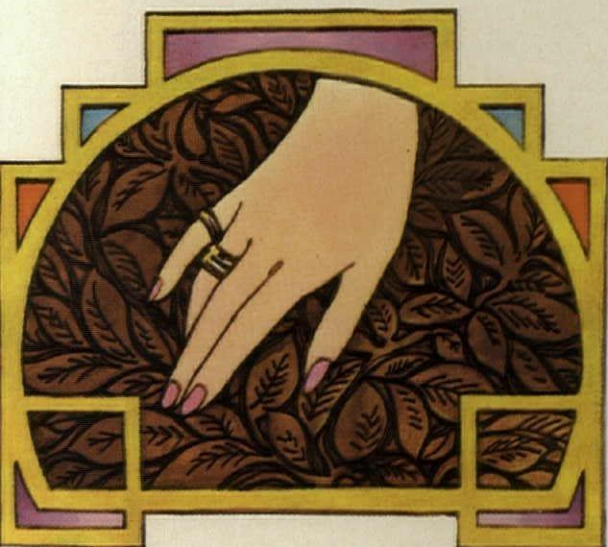
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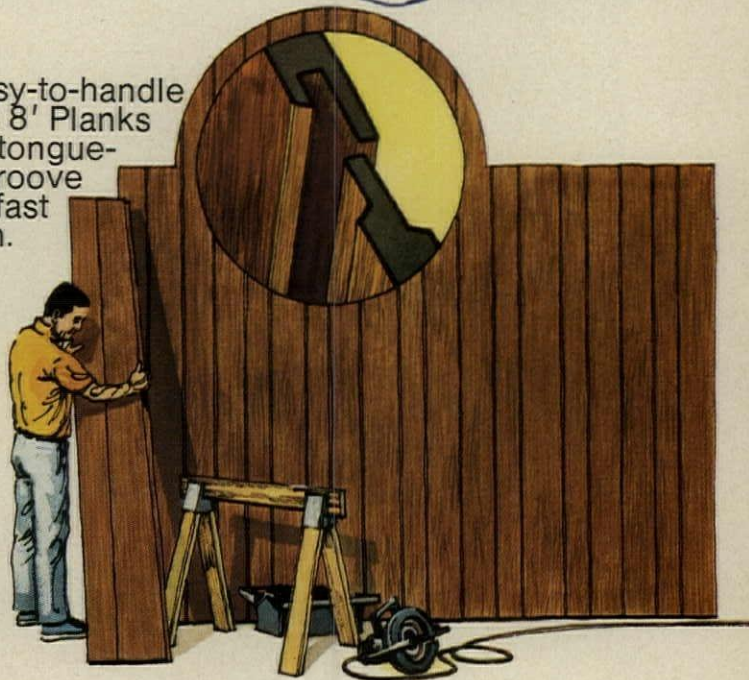


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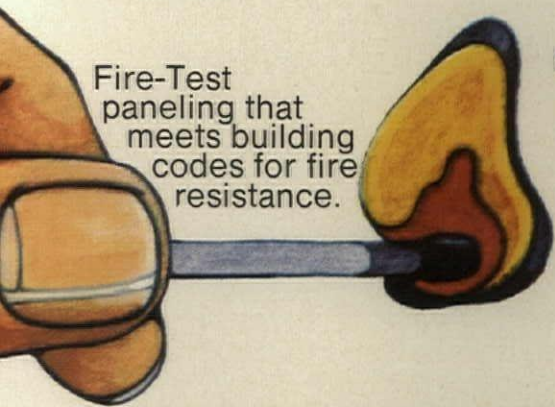
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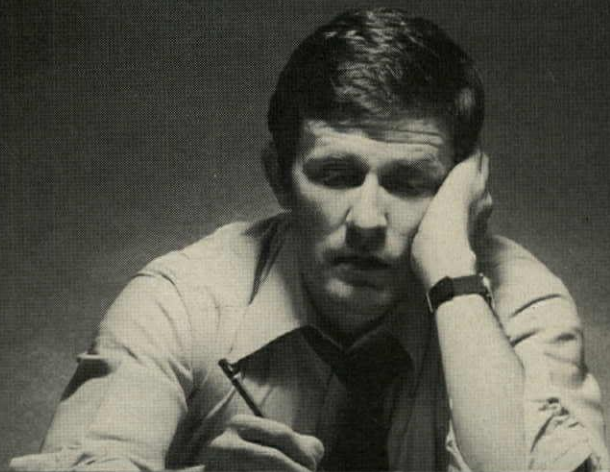
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A plea for planned communities

ARCHITECTURAL RECORD DECEMBER 1973
BUILDING TYPES STUDY® 455

This entire issue is devoted to new towns—not because we think what has been built so far is the ideal, not because we think that prospects for meaningful Federal support are good these days, and not because we think that the social goals implicit in the new town concept will be easily met—but because at a time when more and more options are being closed off, we think planned communities offer a broad and important new option in the way of living for Americans of all ages and degrees.

For architects and other professionals, new towns are a still-fresh opportunity to help create a way of living that is more rational, more rewarding, and maybe even more fun—on a scale that is rarely offered. It will not be easy—indeed the rules of the game are not yet clear. Alan Turner, a British architect and planner who has had extensive new-town experience in both Britain and America, says it well: “The creation of a successful new town is one of the most complex undertakings imaginable; the planners must achieve a sensitive balance between social, economic, and physical elements; and these are difficult to control. One of the explicit goals of most planned new communities is to achieve a mix of social, ethnic, and economic groups, but this must not also mean a mix of environmental quality. New community design must be of an over-all high standard so as not to create pockets of obviously less desirable development to which the poor will be inevitably drawn. The missionary concept that new towns are ‘good for you’—like cold showers—will not work; people should *want* to live in new towns for plain old selfish reasons.”

The pages of this issue argue the case for strong and sustained support for the new town option (overleaf). It shows some of the best Federally supported and private new communities (see below, and pages 88 through 119). It offers experienced advice on the most effective ways for professionals to work in new town planning—both physical and social (page 120). It discusses relevant European experience (page 134). And it offers some criticism of what we’ve done so far—with a look back at a more comfortable age that perhaps suggest the ways we should be looking forward (page 142).

Over-all, the editors hope this issue argues a positive case. For in a world in which there is too little idealism, far too little concern for land planning and land use, and almost no effective social planning, new towns offer new hope. Both for the poor and for the growing body of middle-income families who search for a fresh option in their way of living. —Walter F. Wagner Jr.



New hopes, new options—but no money

Under Title VII of the Housing and Urban Development Act of 1970 (the New Communities Assistance Program) HUD has authorized \$325 million in loan guarantees for 16 new towns in 10 states. Still the program is stalled for lack of Federal funds.

Whatever happened to T

Many architects and planners have long advocated the construction of planned communities or new towns in the United States. Within the last few years they have been joined by such major U.S. corporations as Kaiser Aluminum, Gulf Oil, U.S. Gypsum, Humble Oil, Chrysler, Westinghouse and Sears & Roebuck; and by the Governors' Conference, the League of Cities and their mayors, the AIA and the environmentalists, all of whom hate "sprawl."

Because they should be comprehensively planned in the physical, economic and social sense, new towns present challenging opportunities to architects, planners, engineers and social scientists who see in them the hope of esthetic regeneration and the promise of technological and institutional innovation. The very phrase "new town" traditionally suggests a brighter future for its inhabitants who will have a better way of life—sharing community yet enjoying privacy, sending their children along safe bicycle paths in a network of open space to improved schools, leaving their infants in day care centers on their way to the community arts workshop. In a world which the automobile would continue to serve but not dominate, the new town dweller would walk through meadow and forest en route to the office, plant, church, library, tennis court, swimming pool, movie or shopping center. The dream is for a kind of semi-urban society which man has rarely known, in which people share a common world regardless of their race, age, income or walk of life. A new town is more than a large-scale subdivision, a retirement community or a second home resort development.

The legislative instrument which has set in motion the continuing development of 16 HUD-guaranteed planned communities in the United States is Title VII of the Housing and Urban Development Act of 1970. This program as it stands today authorizes individual maximum project bond guarantees of \$50 million with a \$500 million ceiling specified for the entire 20-year operation. Supplementary grants provided for in the legislation but not yet funded by Congress theoretically make it possible for the developer to meet HUD requirements for low-in-

come housing, public service and innovative planning.

Because of the boldness with which it integrates physical and social planning concepts, Title VII is a landmark in housing and planning legislation and an extremely promising program.

Title VII— its origin and goals

In 1969, the National Committee on Urban Growth Policy urged the construction of new towns as part of their proposals for land use in the context of national growth. Congressional interest was successfully aroused and Title VII of the Housing and Urban Development of 1970 emerged from committee and was passed.

The legislation states eight principles of national growth policy:

- 1) [It should] favor patterns of urbanization and economic development and stabilization which offer a range of alternative locations and encourage the wise and balanced use of physical and human resources in metropolitan and urban regions as well as in smaller urban places which have a potential for accelerated growth;
- 2) foster the continued economic strength of all parts of the United States including central cities, suburbs, smaller communities, local neighborhoods and rural areas;
- 3) help reverse trends of migration and physical growth which reinforce disparities among states, regions and cities;
- 4) treat comprehensively the problems of poverty and employment (including the erosion of tax bases and need for better community services and job opportunities) which go with disorderly urbanization and rural decline;
- 5) develop means to encourage good housing for all Americans without regard to race or creed;
- 6) refine the role of the Federal government in revitalizing existing communities and encouraging planned, large-scale urban and new community development;
- 7) strengthen the capacity of central governmental institutions to contribute to balanced urban growth and stabilization;
- 8) facilitate increased coordination in the administration of Federal programs so as to encourage desirable patterns of urban growth and stabilization, the prudent use of natural resources and the protection of the environment.

Essentially the Act called for better and more coordinated planning in the public and private sectors, and laid the framework for the devel-

opment of four types of new communities: the satellite, the new-town-in-town, the freestanding town and the growth center.

The basic intent of Title VII has been to attract large, heavily capitalized private developers with high credit ratings and tempt them to make greater contributions to the public interest.

The Title VII developer works hard for HUD approval

To obtain these HUD guarantees and loans the developer must go through a highly complex and detailed initial planning process. He must demonstrate to HUD that he has the capacity to handle all the parts of the required process—physical, environmental, social, financial, economic, governmental and management. He must submit a physical plan and program, an environmental study, and a social plan and program for meeting human needs in the areas of health, recreation and culture, manpower development and housing mix. The developers submission to HUD must demonstrate that he has evaluated existing community services and mechanisms for governance.

The new community developer must secure all necessary governmental approvals at the state and local levels. In addition, he must make a commitment to extend special privileges to the elderly, unskilled and others in special need and prepare an "affirmative action program" to attract minorities as residents and workers. Finally, HUD requires of the developer that he establish a system of governance which will enable all the residents of the new community to affect decisions made at all stages of the development process. As social planner Felicia Clark points out in her article (pages 130-133), this is probably the most difficult task of all.

This summary of HUD criteria makes it clear that a very big stick goes with the Title VII carrot. It should be borne in mind, however, that the new national concern for environmental quality coupled with the increasing costs that conventional urban sprawl brings to state and local governments will bring increasing government intervention into all future urban development.

It should also be pointed out that now and in the past—most re-

cently in Columbia and Reston—enlightened private developers have pursued advanced social goals in their new towns without the aid of Federal loans and guarantees.

Columbia, for example, can be compared with a Title VII new community such as Woodlands in terms of its degree of commitment to environmental and social goals.

The Woodlands versus Columbia

To contrast the Title VII Federally-assisted new community Woodlands with the privately developed Columbia, RECORD draws upon the unique experience of J. Leonard Ivins, former manager of Columbia and now president of The Woodlands Development Corporation, a subsidiary of Mitchell Energy and Development Corporation.

Columbia (pages 108-109) is midway between Washington and Baltimore. For the past ten years this region has been one of the fastest growing urban areas in the country with some 60,000 housing starts a year. The Woodlands (pages 94-95) is 28 miles from downtown Houston, a city which also ranks in the top four or five in terms of growth, with annual housing starts in the 45,000 range. It is this kind of rapid growth and concentrated market that makes new towns possible.

Columbia is being developed on 14,000 acres and Woodlands on 18,000 acres. The Woodlands' start-up pace is slightly faster than Columbia's, but the long-term development period is about the same—20 years for Woodlands, 15 years for Columbia.

The initial development of Woodlands is being undertaken with the proceeds of a \$50 million debenture sale, guaranteed by HUD. Columbia started with approximately the same financing total consisting entirely of private investment capital and now has gone beyond this amount. As the Title VII program intends, financing at this scale provides leverage to do the things that favorably affect the market—providing design amenities and social and institutional programming being among the most important—without waiting for proceeds from land sales. Columbia opened with many of these consumer attractions and Woodlands will also.

Where Title VII and a little hindsight makes the difference

Secured long-term financing—"patient money"—made it possible for the developers of Woodlands to conduct a more basic investigation into the land, through a comprehensive ecological inventory. As a result, the master plan expressed the natural state of the land and its sensitivity to urbanization. Columbia's master plan, in contrast, grew out of a hierarchy of social organizations.

To meet the HUD new communities' criteria, but also because Woodlands' developers believe it to be sound business practice, Woodlands will open with more housing units and a broader price range, covering more of the available market than did Columbia. Ivins learned from his Columbia experience that heterogenous neighborhoods, in terms of price range, can and do succeed despite the long-held belief that neighborhoods must be homogeneous in terms of price. Even without Federal housing support programs, Ivins expects to meet 50 per cent of the market, with prices ranging from \$20,000 for townhouses to \$100,000 or more for estates. Like all Title VII New Community developers, however, Ivins is quick to point out that the complete housing mix called for by the HUD criteria will not be attainable unless existing Federal housing subsidy programs are refunded and new approaches developed to help lower-income families to buy or rent.

In response to its Title VII sponsorship, Woodlands will pursue broader social and institutional goals than were aspired to in the planning stages at Columbia.

Will Title VII new towns earn profits for their developers?

At present Woodlands expects to achieve a profit, beyond resale of land, by retaining ownership of key sites within the new town, assuming the role of landlord for such commercial/retail facilities as village centers, service stations and office buildings.

An additional profit source will be ancillary businesses, either wholly owned by the developer or launched as joint ventures. These will include banks, title companies, interior furnishing and landscape services.

These three elements—land

development, ownership of key sites and ancillary businesses—represent a profit potential of some \$500 million over the 20-year development period. Working with an economic model, their financial planners project that by 1982, The Woodlands Development Corporation will have cash resources to repay in full the \$50 million in debentures, although amortization is scheduled to begin in 1984, final payment in 1994.

Not all Title VII developers are optimistic

Other new community developers, however, don't share the optimism of The Woodlands' developers. Unfortunately, they contend, the Office of New Communities Development (ONCD) has been shockingly understaffed by HUD and so poorly administered so far that its implementation has lagged. The program has also been severely compromised by the Federal moratorium on low-income housing and the unwillingness of the Administration to request Congress to fund the public service and special planning assistance grants provided for in the legislation. Further, the impoundment or termination of monies which would have been available in the form of supplementary grants in conjunction with existing Federal programs such as urban mass transportation, public health facilities, libraries, recreation, open space lands and neighborhood facilities limits the developer's ability to meet his Title VII commitments.

Nor are the Title VII developers pleased with the Administration's current housing and revenue-sharing proposals. Mark Freeman, Executive Director of the League of New Community Developers, recently spoke in behalf of his organization during the current hearings on housing and community development legislation of the House Banking and Currency Committee Subcommittee on Housing. He asserted that the Administration has thus far not played a vigorous role in encouraging new community development under Title VII. Not only have funds been impounded, he pointed out, but it now appears there will continue to be a low level of government activity. He believes that "instead of promoting Title VII new communities as

a major approach to the design of human settlement and a tool for national growth and development as the Congress intended, the HUD-ONCD officials have indicated a desire to administer Title VII as a demonstration program only." But if this is so, he adds, there are not now enough funds available to carry out even this tragically limited objective.

Nixon's new housing proposals make the prospects bleak

Title VII developers don't like President Nixon's current Better Communities Act much either, since it does not provide funds for community development activities in new communities. They take heart, however, from the fact that the major sponsors of the Housing and Urban Development Act of 1973 have included a new community "set aside" in this pending legislation. This provision gives discretionary authority to the HUD Secretary to earmark community development and housing block grants for new communities. Freeman believes that this provision must be strengthened.

Without these "set-asides" local communities will be unable to pay for the services required by the low- and moderate-income residents of a new community; new-town-in-town, rural growth centers and freestanding new communities will no longer be feasible; innovative design, construction and operational approaches will no longer be tried.

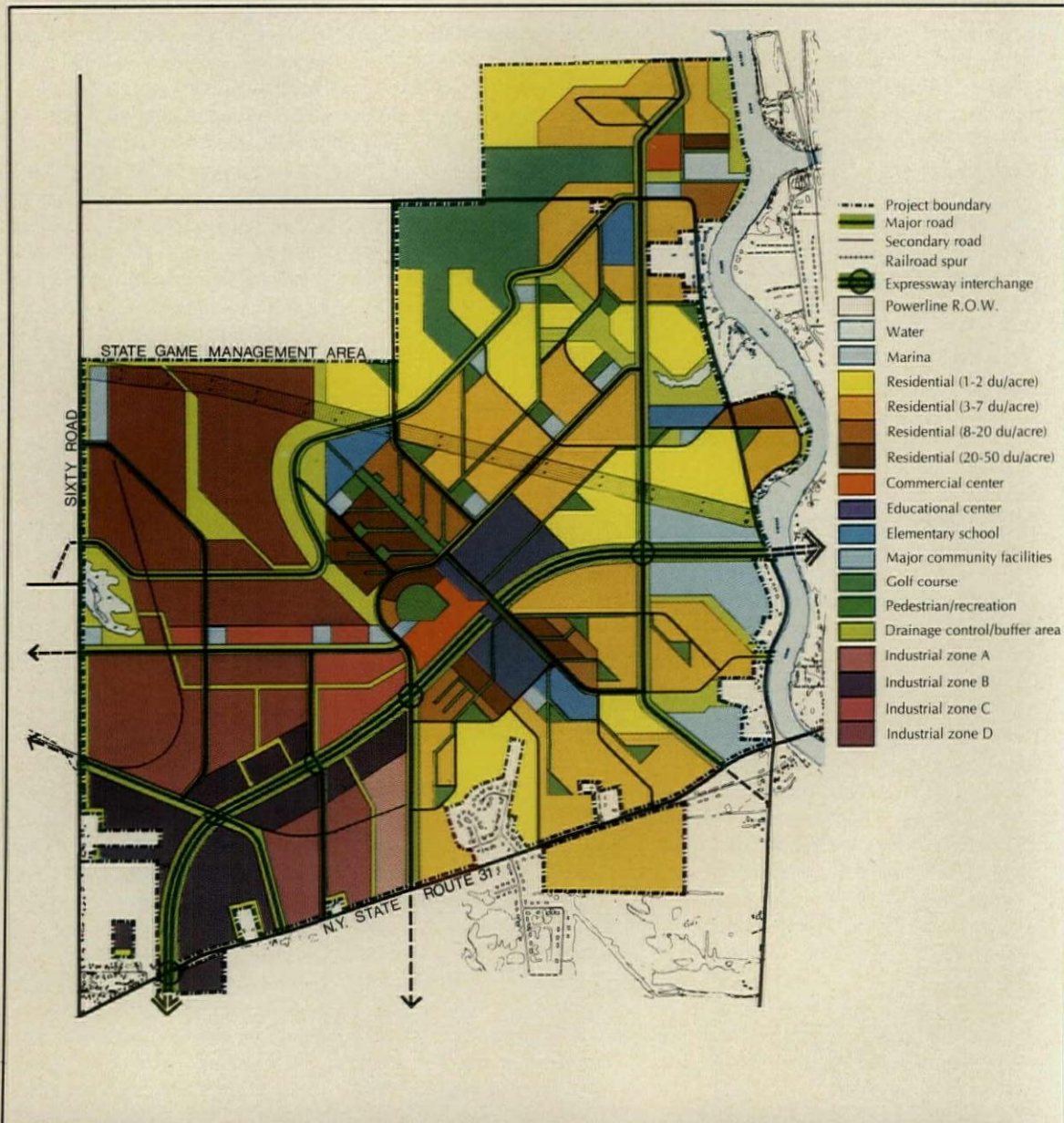
Whatever happened to Title VII?

If the high public purpose embodied in the Federally Assisted New Communities program is destroyed through the indifference and apathy of the present Administration, the new towns now underway will fall far short of their social and environmental goals. At best, most of them will become upper-middle and upper-income enclaves. At worst, some of them will be abandoned. Once again, a new town movement full of promise for the United States will leave only a few traces, somewhat bigger in scale, but just as inconsequential as—Sunnyside Gardens, Radburn, Chatham Village, Baldwin Hills Village and the four Greenbelt communities in Maryland, New Jersey, Ohio and Wisconsin. —Mildred F. Schmertz

Federally assisted new communities

Each of the Title VII new communities is one of four basic types as designated by HUD —satellite, freestanding, new-town-in-town and satellite/growth center. So far HUD has guaranteed 11 satellites, two new-town-in-towns, one freestanding community and two satellite/growth centers. At least 20 additional are seeking HUD approval.

Lysander



Comparative Goals

	HUD guarantee (\$000,000)	Land area (000 acres)	Projected population (000)	Development period (yrs.)	Dwelling units (000)	% subsidized housing (original goal)	Industrial use (% of site)	Civic & cultural use (% of site)	Open space use (% of site)	Projected new jobs (000)	Residential use (% of site)
Satellites											
LYSANDER, N.Y.	—	2.7	18.3	20	5	30	29	—	22	—	34
AUDUBON, N.Y.	—	—	25	20	9	—	—	—	—	—	—
RIVERTON, N.Y.	12	2.5	25	16	8	35	16	—	17	—	41
PARK FOREST SOUTH, ILL.	30	8.3	110	15	35	13	12	—	14	10	56
FLOWER MOUND, TEX.	18	6.1	65	20	18	11	13	1.9	24	—	49
WOODLANDS, TEX.	50	17	150	20	49	35	12	2.4	24	—	36
Free-standing											
SOUL CITY, N.C.	14	5.2	44	30	13.3	—	18	11.3	28	18	33
New towns-in-town											
CEDAR-RIVERSIDE, MINN.	24	.34	35	20	8	85	n.a.	35	17	n.a.	26
ROOSEVELT IS., N.Y.	n.a.	.15	18	10	5	75	n.a.	n.a.	30	2	30
FT. LINCOLN*, WASH., D.C.	28†	.34	15	14	5	60	n.a.	16	24	11	48
Growth center											
JONATHAN, MINN.	26	8	50	20	16	50	24	4	20	45	30
Private new towns											
RESTON, VA.	n.a.	74	75	20	25	15	17	n.a.	25	26	50
COLUMBIA, MD.	n.a.	14	110	20	31	10	20	n.a.	20	65	50
IRVINE, CAL.	—	53	430	50	143	—	15	3	20	300	58
VALENCIA, CAL.	—	43	150	50	50	—	2.3	5.2	50	50	31

* average of variable guidelines † Title I

This satellite of Syracuse—being developed at the confluence of three rivers—offers a big recreation bonus.



Harris & Davis

The major structuring element in the plan is the movement system based on a pattern of two overlapping, rectangular grids. This system provides order and predictability. The system is deliberately violated at the town center to emphasize, by contradiction, its special importance.

Five miles north of downtown Syracuse, Interstate 81 intersects the New York State Thruway. In the northwest quadrant of that intersection, on a 2700-acre site flanked on the east by the Seneca River, New York State's Urban Development Corporation is developing a new community for 18,000 residents to be called Lysander New Community. The site had been a Federal arsenal during World War II and, after being declared surplus, was owned briefly by the Astor Corporation. It was purchased by UDC in 1968-69. UDC is now developing the property through the Metropolitan Development Association of Syracuse and Onondaga County in close cooperation with local government agencies as the new community will be permanently dependent on these groups for most municipal services.

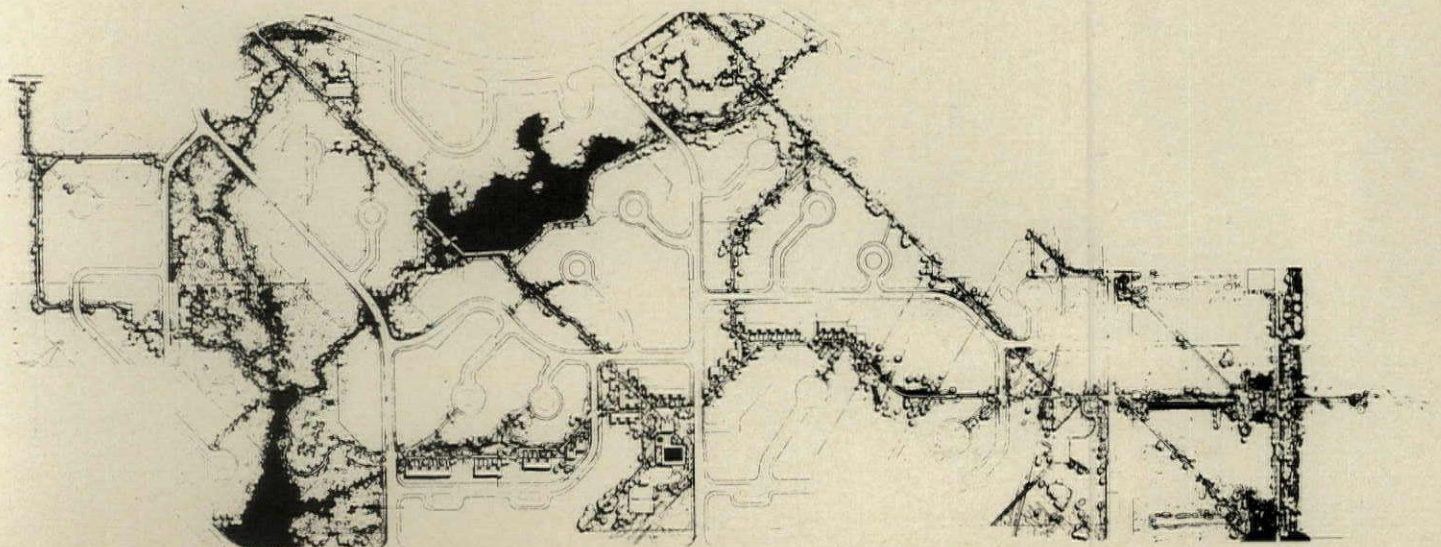
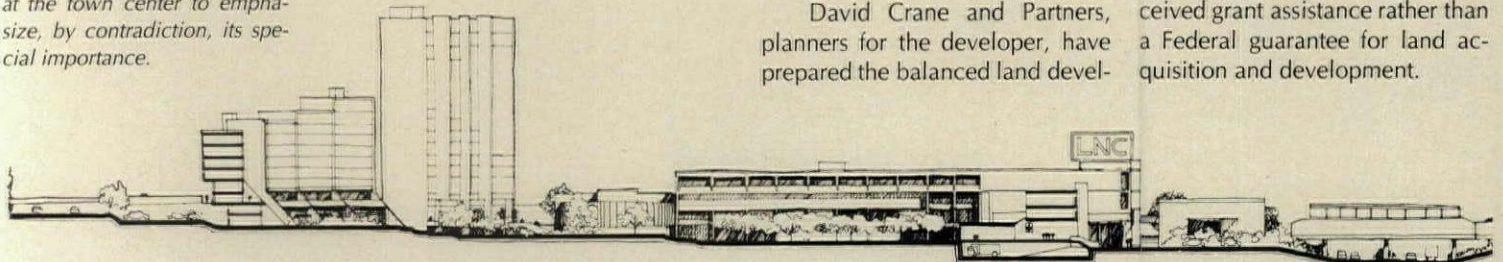
The site itself is cut north-south by a high glacial ridge that rises 80 feet over the surrounding farmland. The confluence of the Seneca, Oneida and Oswego rivers, at the northern edge of the site will also give it a special character as well as recreational access to the Great Lakes region.

David Crane and Partners, planners for the developer, have prepared the balanced land devel-

opment plan at left. The heavier than ordinary commitment of land for industrial use has developed from larger regional needs—the area has been increasingly short of jobs since World War II. The starting point for the plan's organization is the proposed expressway that cuts through the site's southern sector. A heavy industrial zone flanks this route north and south. The central portion of the site is reserved for the community's rather urban cultural center and is surrounded by high density housing along the ridge line. The choicest properties are clustered for residential use to the east along the banks of the Seneca. Open space corridors, built into the plan, ensure continuing access to the riverfront at intervals.

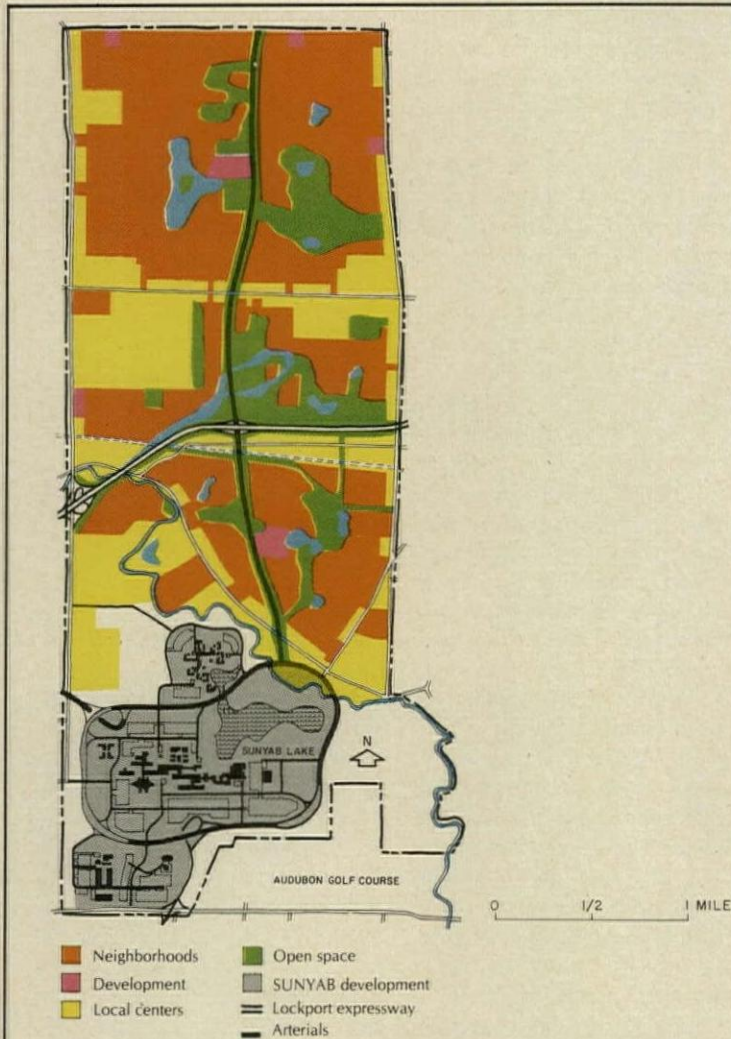
Initial construction is well along in the industrial areas (the Schlitz Brewing Company is committed to building a major brewery) but housing is still approximately a year away.

Lysander is the twelfth new community to receive Federal assistance under Title VII, Housing Act of 1970. But because of UDC's special character as a state land development agency, it received grant assistance rather than a Federal guarantee for land acquisition and development.



Audubon

This new satellite in western New York softens the impact on the community of a large new campus.



The New York State Urban Development Corporation is also acting as developer for Audubon, a balanced community planned for 25,000 residents in Amherst, New York. The site is just to the north of the State University of New York at Buffalo, a new campus that anticipates an enrollment of 26,000 by 1977. It is to support this campus and mitigate its impact on the inventory of existing housing and community services that Audubon is being developed.

Proposed residential development will consist of about 9,000 varied units which will house students and faculty as well as the usual cross section including units of housing for the elderly. Some 65 acres will be set aside for the development of six small commercial centers. Major commitments of space for recreational and cultural use are also being made. Access to downtown Buffalo is by the Millersport Highway.

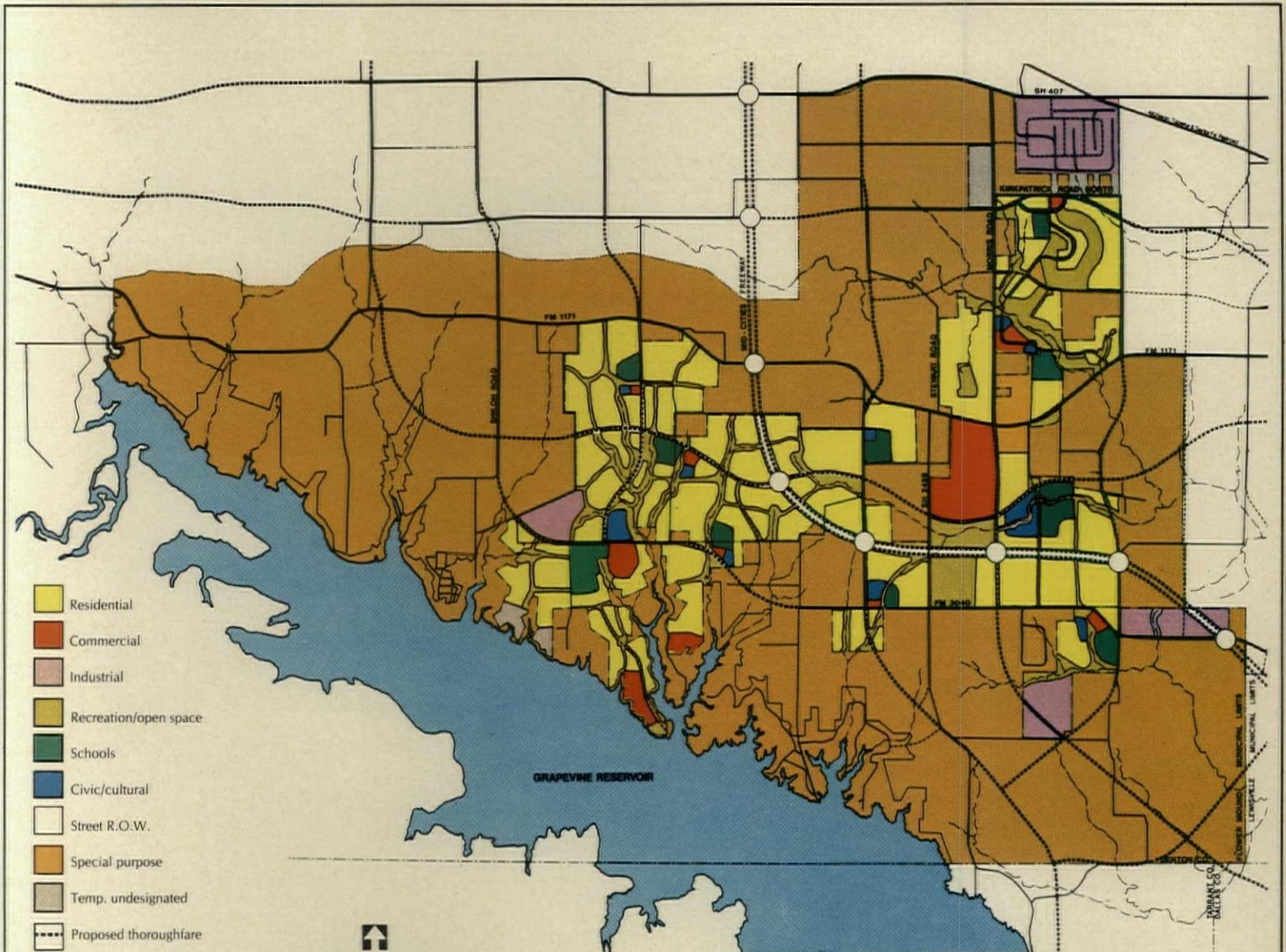
Early in the course of development, UDC established a subsidiary corporation to provide guidelines for implementing the general development plan. A majority of the corporation's directors are residents of the Amherst community—a device that planning is responsive to local needs. When construction is complete, the subsidiary corporation will assume responsibility for managing certain of the community facilities.

UDC is investing its funds for land acquisition and infrastructure development. It will recover its investment costs through the sale of improved land to private developers, and through the sale or lease of completed projects. By 1980, UDC's \$50 million investment will be much more than offset by the private investment of about \$355 million. UDC's contract with HUD is still under negotiation but the state agency is seeking about \$47 million in HUD guarantees.



Flower Mound

With the Dallas-Fort Worth airport as a neighbor, noise contours were a critical design factor here.



The 6,150-acre site for Flower Mound New Town is located just north of the new Dallas-Fort Worth airport and 20 miles from downtown Dallas in a region of rapid anticipated growth. The terrain is gently rolling farmland, covered with a variety of native grasses, modest tree cover, and bounded on the south by Grapevine Lake.

The plan, prepared under the over-all direction of Llewelyn-Davies Associates, organizes 14 neighborhoods into four villages, each with its own schools, shops and parks. One acre out of every two will be allocated for residential use. The proximity of the airport, of course, will add to the growth of the Flower Mound region, but its presence so close caused serious concern to planners. FAA engineers plotted anticipated sound contours for the years 1975 and 1985. These studies revealed that only a small portion of the site, at its southeast corner, would be subject to serious noise

pollution in 1975 and that by 1985, this small area would be further reduced by projected changes in aircraft approach and glide patterns. In the interim, however, a temporary moratorium will be declared on building sound-sensitive facilities in this area.

The planning for Flower Mound has been undertaken with care to provide a quality of life not presently found in America's urban sprawl. And unlike many new communities, Flower Mound is located completely within the jurisdiction of an existing municipality. Certain municipal services will therefore be furnished by the existing community.

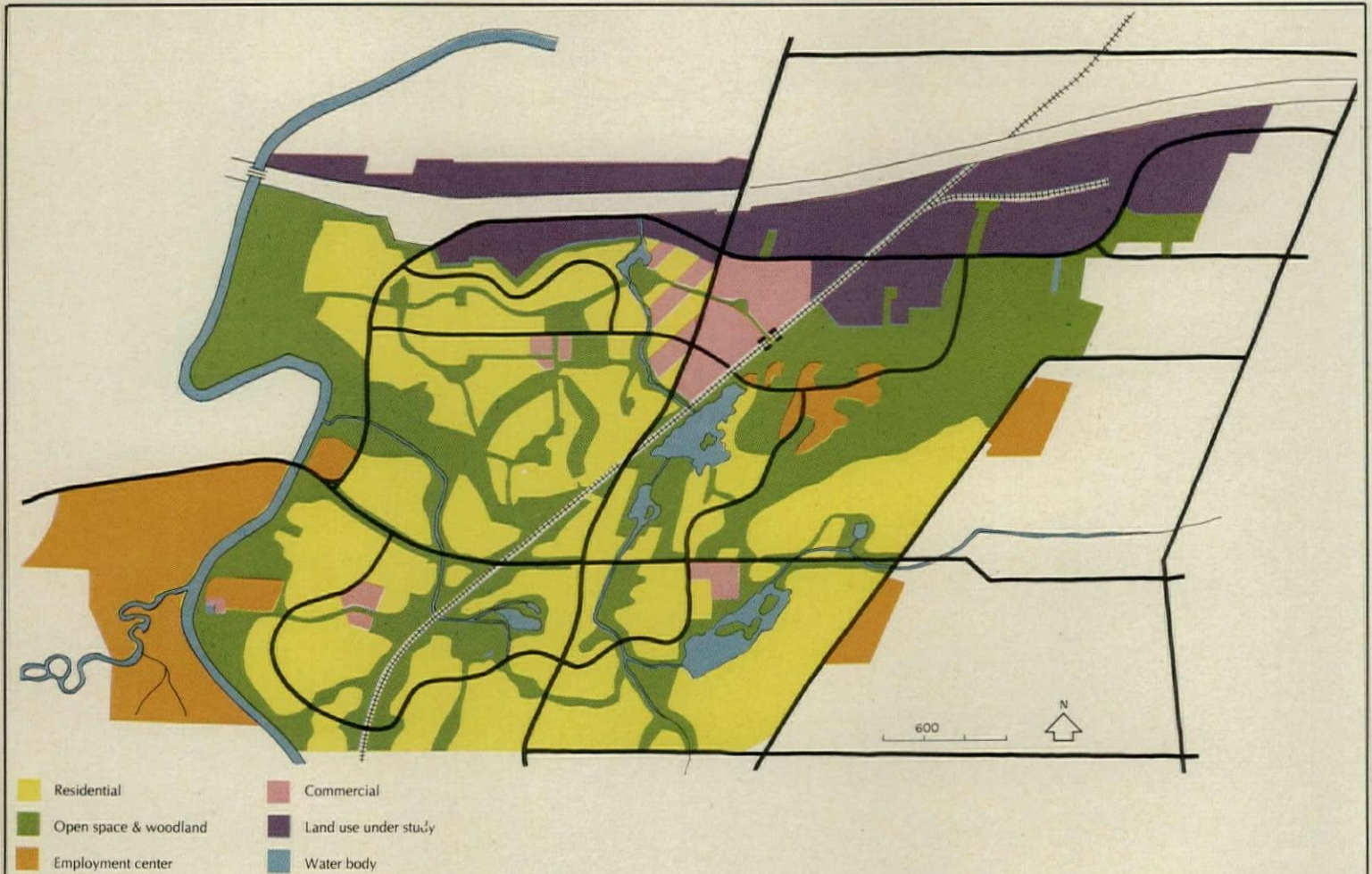
The developer is Flower Mound New Town Limited Partnership—Edward Marcus and Raymond D. Nasher, general partners. Nasher is president of a Dallas land development company and Marcus is chairman of the board of the well-known department store firm. HUD's guarantee is for \$18,000,000.

Construction will get underway in mid-1974 on the first increments of the Community Center which will include a variety of shopping and recreational facilities. Architects for the complex, concept diagram in model form below, are David Crane and Partners in association with the F.M.N.T. Design Group.



Riverton

This satellite of Rochester is one of a chain of developing communities forming a new growth corridor.



For many decades, the landscape south of Rochester, New York has been agricultural—furrowed fields and pastureland, spaced out by fences and tall hedgerows. Now, on a 2,500-acre parcel of this farmland, just east of the Genesee River, and eight miles from downtown Rochester, former Reston developer Robert E. Simon Jr. is developing a new planned community called Riverton which anticipates over a 16-year period a population of 25,000. HUD's guarantee for Riverton is for \$12 million.

The site is cut along its northern boundary by the New York Thruway and in the north-south axis by a rail line of the Erie-Lackawanna. A major highway will connect Riverton with Rochester. Basic land uses will include 170 acres for a neighborhood village center, 85 acres for an educational park, 424 acres for open space, 400 acres for industrial use, 1,046 acres for housing. Between 30 and 40 per cent of the anticipated 8,000 homes and rental apartments for Riverton will be for

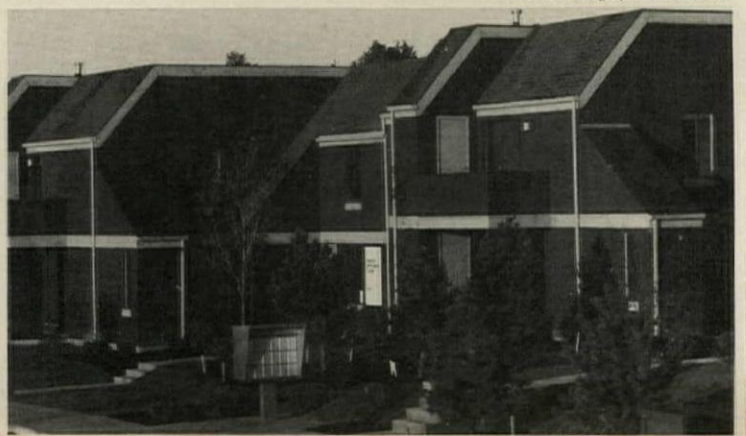
low- and moderate-income families, including the elderly.

Riverton is of interest not only as a Title VII new community but, in the larger context, as a component in a developing growth corridor that bisects the state in a path parallel to the Thruway, threading New York City, Albany, Syracuse, Rochester and Buffalo. All these cities except Albany presently have new communities under development. Rochester, in fact, has two new satellites: Riverton and Gananda. Both are being planned under the auspices of the Genesee-Finger Lakes Regional Planning Board—although, at present, no plans for "pairing" in the Jonathan-Cedar Riverside connotation have been announced.

Among Riverton's planning innovations now under study are: prepaid health care and medical insurance for all residents; a two-way cable communication system for each home; the use of an existing Erie-Lackawanna rail spur for commuters to downtown Rochester and/or the Rochester Institute of Technology.



Wahls Photographic Service Inc.



Park Forest South

This satellite community strengthens a developing spine of jobs and housing between Chicago and its suburbs.

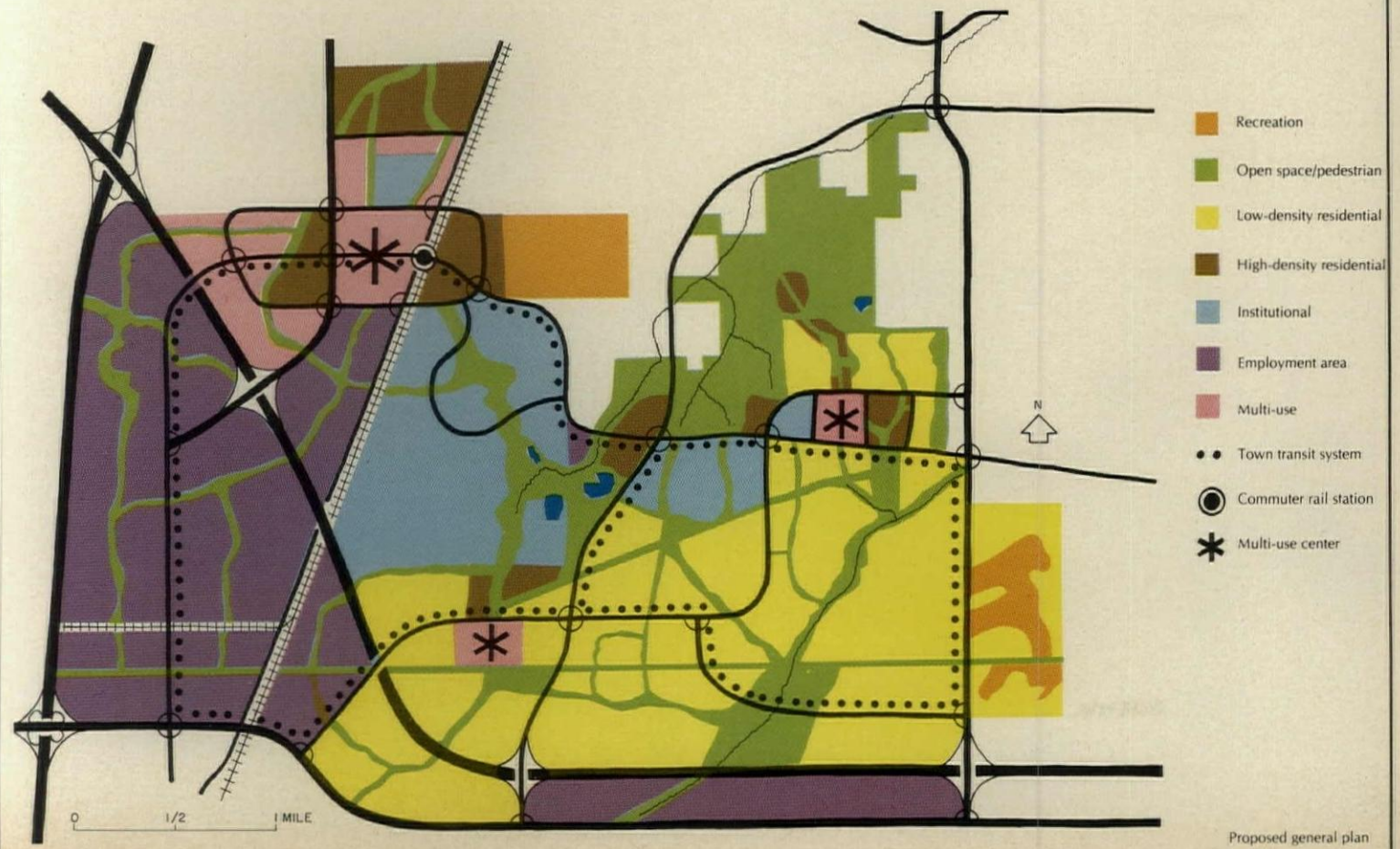
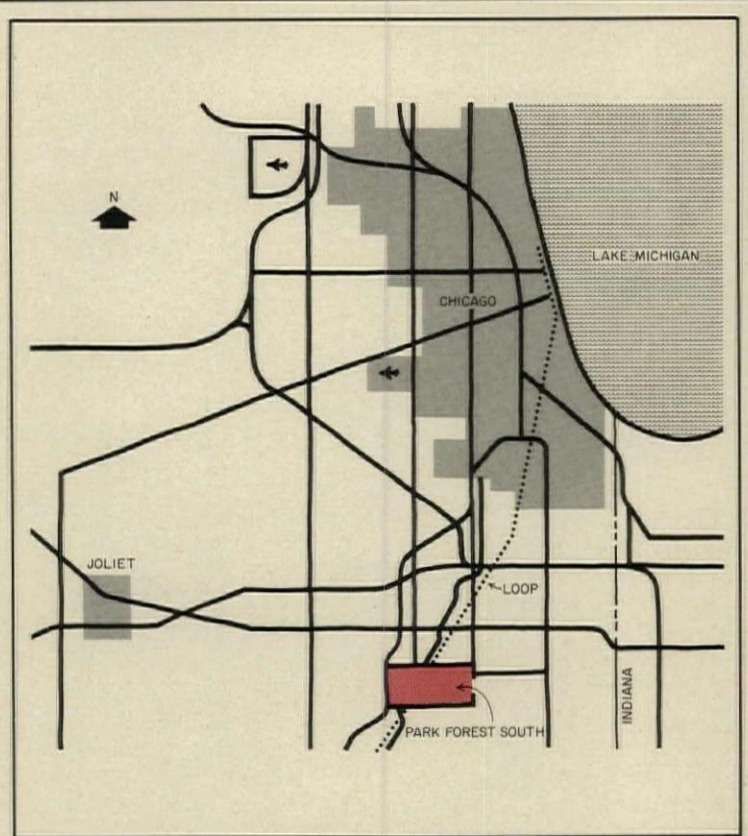
The second largest (after The Woodlands) Federally-assisted satellite community is Park Forest South, a new town for 110,000 residents now being developed 30 miles south of Chicago. Rapid transit rail lines will link the site to Chicago's Loop while expressways connect it to rapidly growing regional centers like Joliet, Illinois and Gary, Indiana.

The 8,300-acre new town site is adjacent to Park Forest, a pioneer "greenbelt" community built during the late '40s and '50s by Nathan Manilow and Associates. Manilow and his group are now developing Park Forest South with subsidiaries of U. S. Gypsum and Illinois Central Industries, Inc. as co-developers.

The new community will have a three-mile-long linear spine that will culminate in a town center that includes commercial, municipal, recreational and cultural facilities linked by an internal transit system. Also along this

spine, the developers are planning a 1,500 student, 750-acre college campus. Another interesting feature of the plan will be a community health clinic offering not only 24-hour emergency service but meeting facilities for health-oriented organizations. The industrial base for the new town will be a 700-acre industrial park which, when fully developed, will offer an additional 10,000 jobs within the community. The full residential commitment includes 11,000 single-family and 24,000 multi-family units, including 4,500 units of Federally-backed housing for low- and moderate-income families.

Park Forest South's developers are engaged in a joint planning process with the existing community of about 5,000 people. Educational and cultural facilities, along with 1,700 housing units are already complete. The first village center will be completed next year.



The Woodlands

Perhaps the most detailed ecological study ever undertaken forms the planning base for this satellite of Houston.

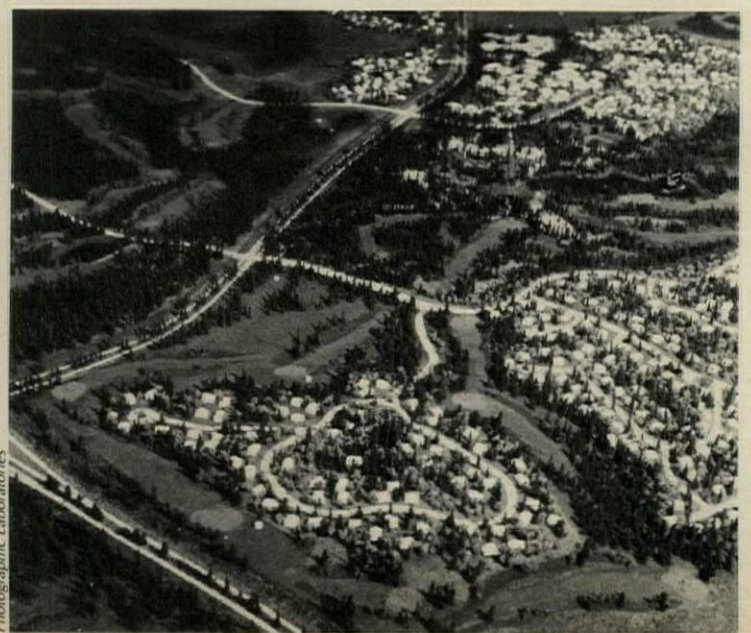
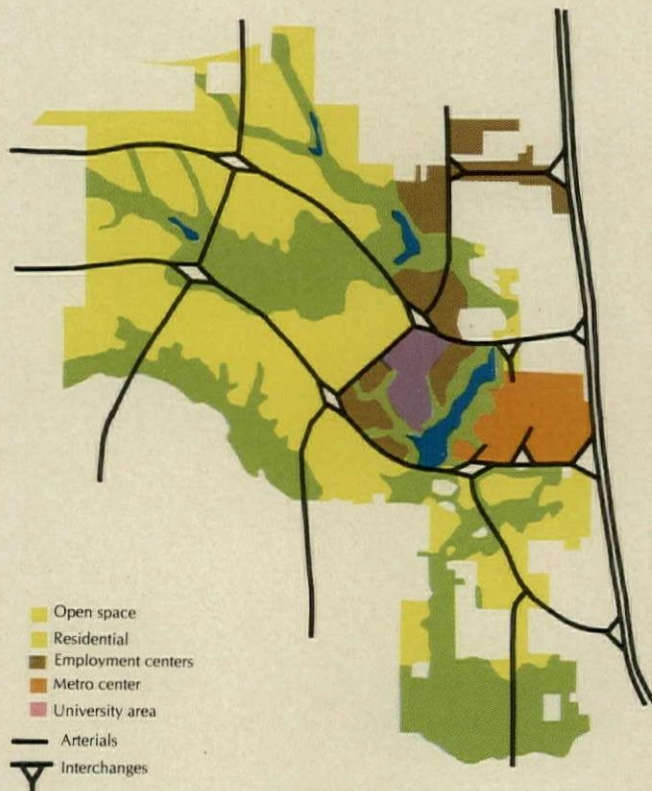
Situated 28 miles north of downtown Houston, and directly in the path of heavy regional growth, The Woodlands is a 17,000-acre property now being developed as a Title VII new community by a subsidiary of the Mitchell Energy & Development Corporation of Houston—George P. Mitchell, chief executive officer. The Woodlands received the largest allowable HUD guarantee—\$50 million against the sale of debentures—and it is the largest of these case-study new towns, with a projected population of 150,000 by 1992. But it is even more interesting because of the thorough and systematic planning and pre-planning that have gone into its early development. Mitchell's organization includes a heavy concentration of former Rouse staff who brought to the planning of The Woodlands many a lesson learned at Columbia. This group has been supported by an extraordinary list of professional consultants. Among them: William Pereira Associates (urban planning); Wallace, McHarg, Roberts & Todd (ecological planning); Gladstone Associates (economic analysis); Land Ventures, Inc. (program management). Forty-three other firms fill out the inventory of consultants. The decision to put together such a high-powered, inter-disciplinary team has made The Woodlands something of a planner's showcase and a test of administrative skill.

Physical planning began with an unusually detailed inventory of the site's natural attributes—geology, soils, planting, drainage,

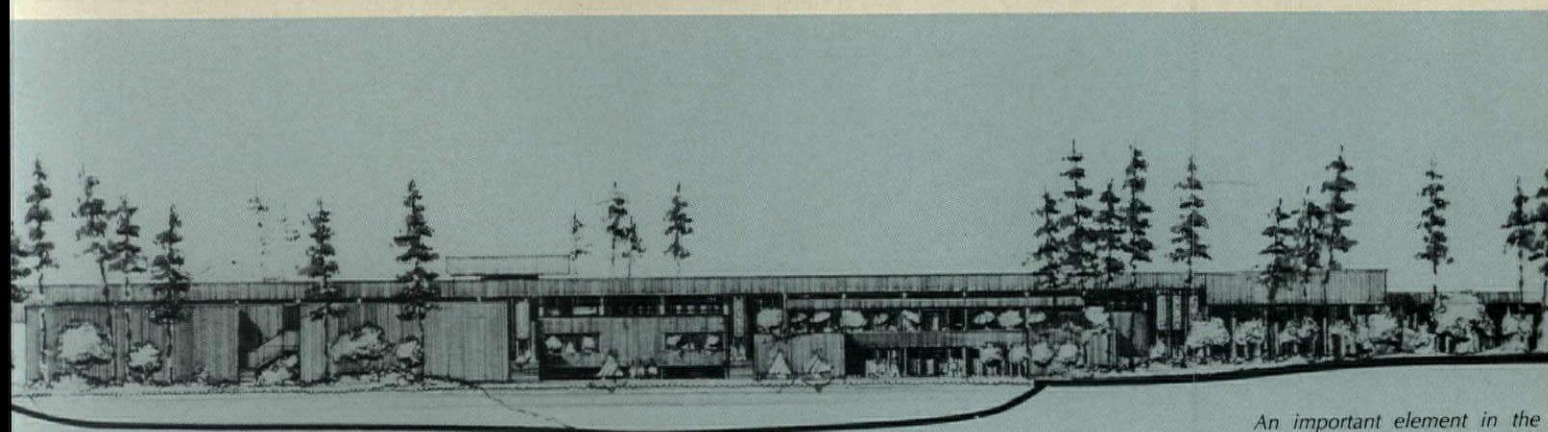
wildlife—and the land use plan was drawn from an analysis of this ecological data. One-half the site will be open space and wildlife corridors reach through the site in every direction. Under Ian McHarg's direction, a system of recharge basins and swales were designed to control water run-off and stabilize the area's uneven water table. And an especially elaborate, pure oxygen waste treatment system will protect that water table from pollution by removing effluents and recycling water for irrigation, fire protection and replenishing streams and lakes.

The Woodlands has other features in its planning that make it unusual even among new towns. As a central element of its plan, it will contain a 400-acre, 15,000-student campus of the University of Houston, on land donated to the university by the developer. Another unusual feature: the city of Houston has included The Woodlands site in its area of extra-territorial jurisdiction, an arrangement expected to be mutually beneficial.

Like the other new towns, The Woodlands will offer a broad spectrum of residential, cultural, commercial and recreational facilities. Initial development is well underway. Occupancy of the first 3,000-person residential neighborhood is anticipated during the first half of 1974 and construction is nearly complete on a commercial, leisure and conference center. Certain recreational and industrial components are also part of Phase One.



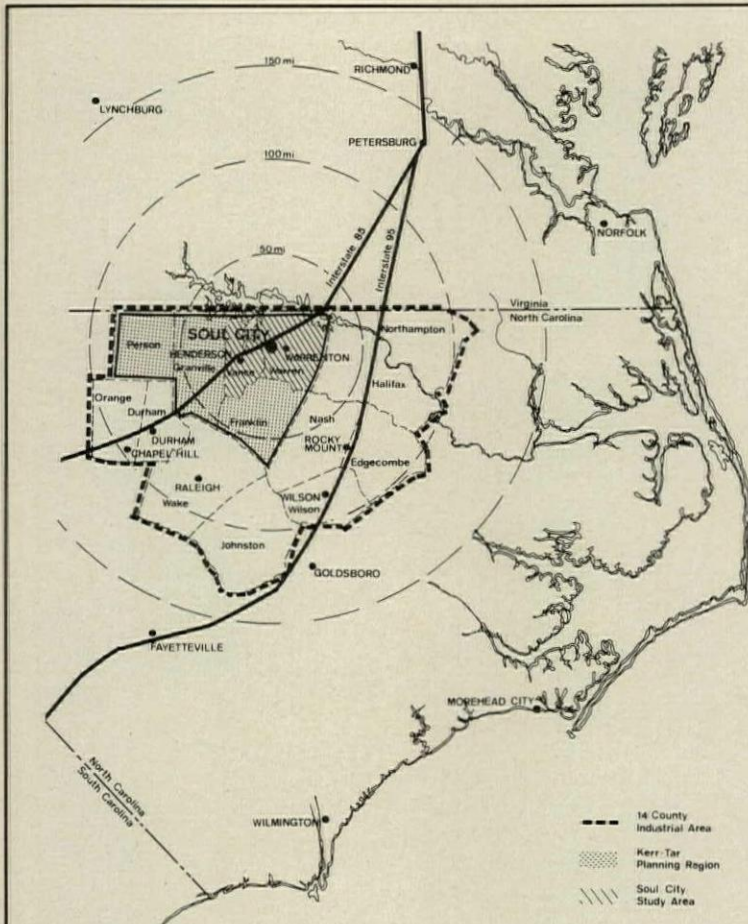
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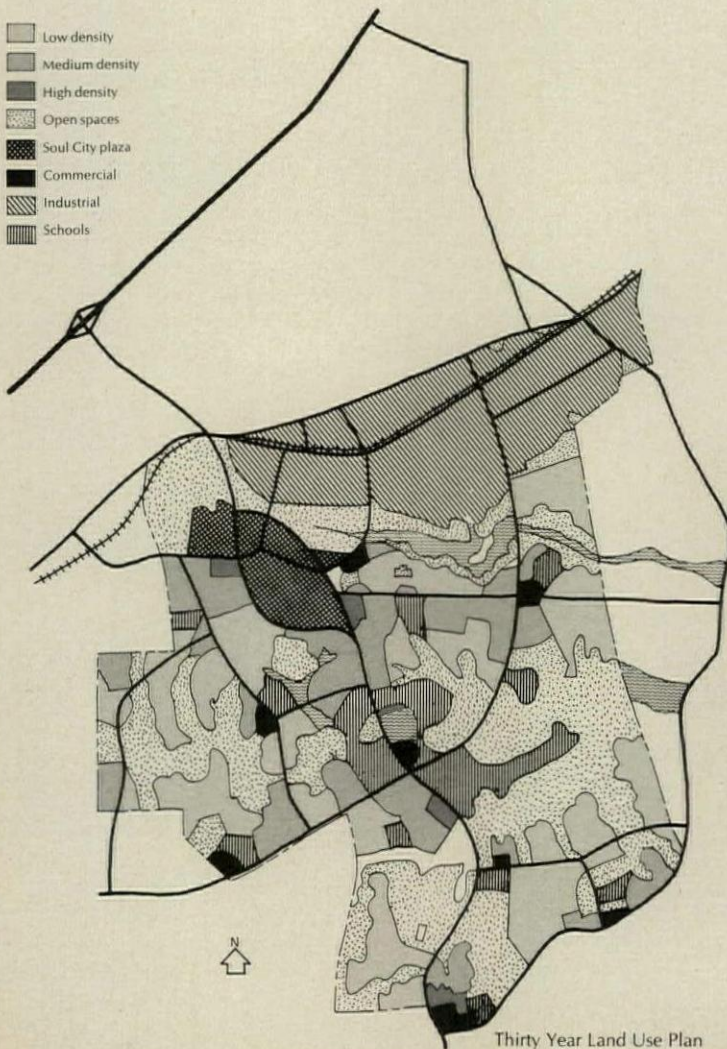
An important element in the first phase of construction is a commercial/leisure/conference center that will include The Wharf—a carefully designed array of shops that span the lake, connecting The Inn with the first of seven village centers.

Soul City

The only freestanding new town, and the only one sponsored by blacks, Soul City promises new jobs, hope.



- Low density
- Medium density
- High density
- Open spaces
- Soul City plaza
- Commercial
- Industrial
- Schools



Soul City is a unique new town: it is "freestanding" in a completely undeveloped area; it is experimental in its aims, and it is the only new town with a HUD-guaranteed loan which is sponsored by a black-owned development company.

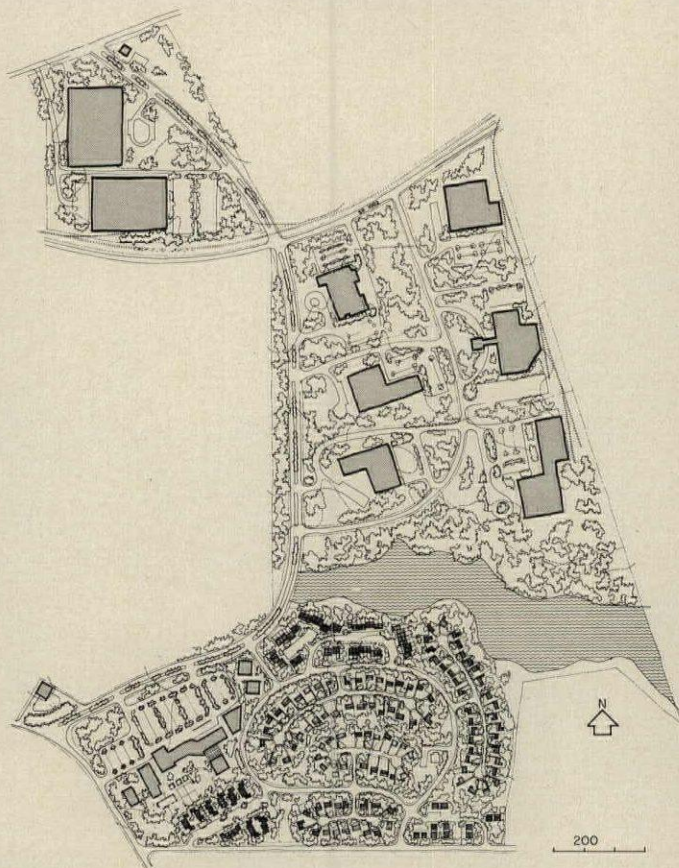
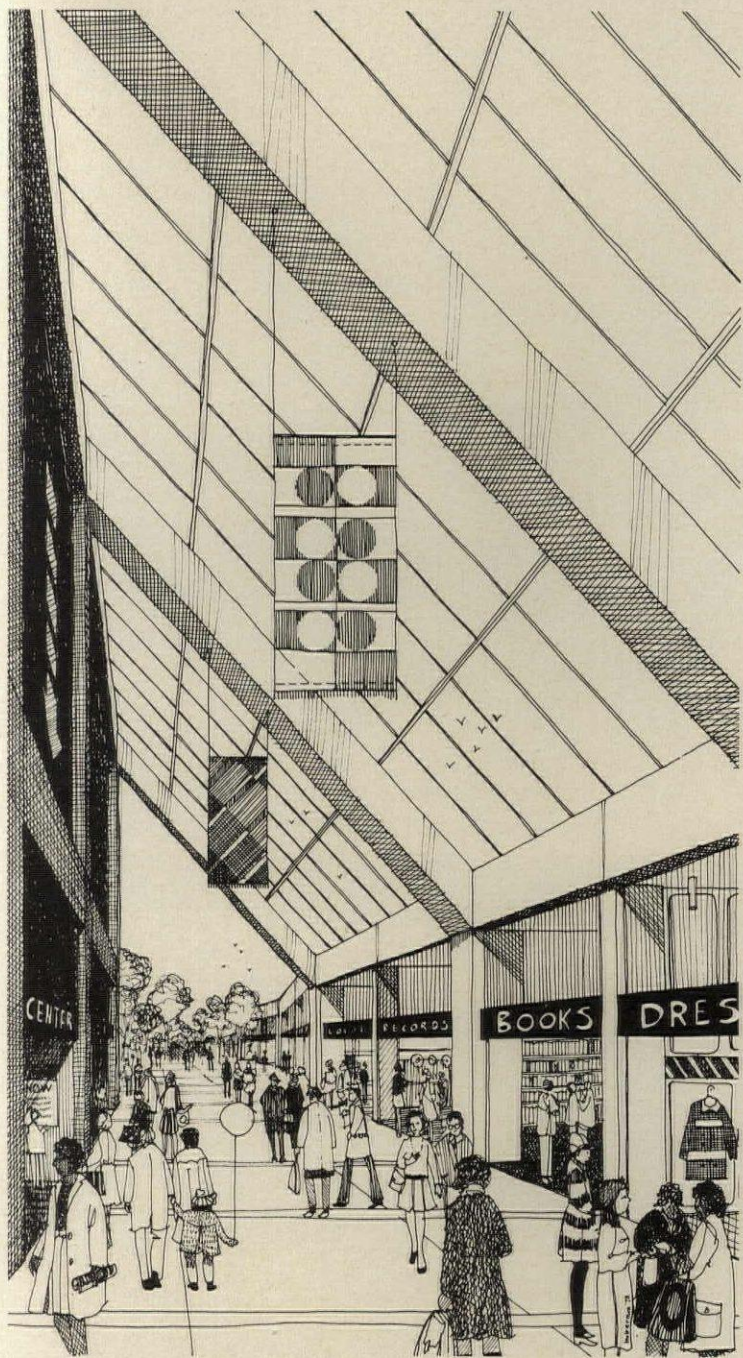
This new town, on which construction starts early in January, is to be located on a 5,180-acre site in Warren County, North Carolina, an agricultural area of economic depression and large-scale emigration. The new town, a project of attorney and one-time civil rights leader Floyd McKissick, is envisioned by him as the means not only of bringing improved living conditions to poor and minority people of all races who come to live there, but as a means of slowing or halting the emigration of young people to northern cities. In fact, these social welfare goals are an important element in the concept of the new town and will make possible direct assessment of the impact of a new town on these goals.

Since it is a freestanding new town, Soul City can expect to draw on no ready-made population for its products and services, but will have to attract people to itself by creating its own economic base. It is fortunate in that its location has excellent access to two interstate freeway routes and to a major railroad line. It is also within an hour's drive of Durham and Raleigh, two of the state's largest cities.

Job opportunities are basic to the success of Soul City, and its sponsors and planners have given industry first priority in development. In the first three-year plan, 185 acres of land will be sold; of these, 120 will be for industrial use; only 45 will be for residential use. As the number of industries grows, the town will expand its residential and commercial areas, eventually (in 30 years) allotting a third of its land for housing, about 18 per cent for industry, five per cent for commercial development, 11 per cent for institutional use, and a sizeable 28 per cent for community parks and recreation and for natural open space.

Soul City's architects and planners, Gantt/Huberman Associates, have phased the implementation of the plan so that industry and job opportunities come first, and the needs they create follow. The plan has two critical points, at three years and at planned completion in 30 years (page 97). Even before it is completed, Soul City is expected to have created its own individual character, with the master plan to guide it. Planning concepts in the residential villages—for example, activity centers designed as outdoor pedestrian malls; low-income housing scattered through neighborhoods and integrated in design and in location—and in the public areas like the town center, are intended to equal in innovation the program for implementing the town's social goals.

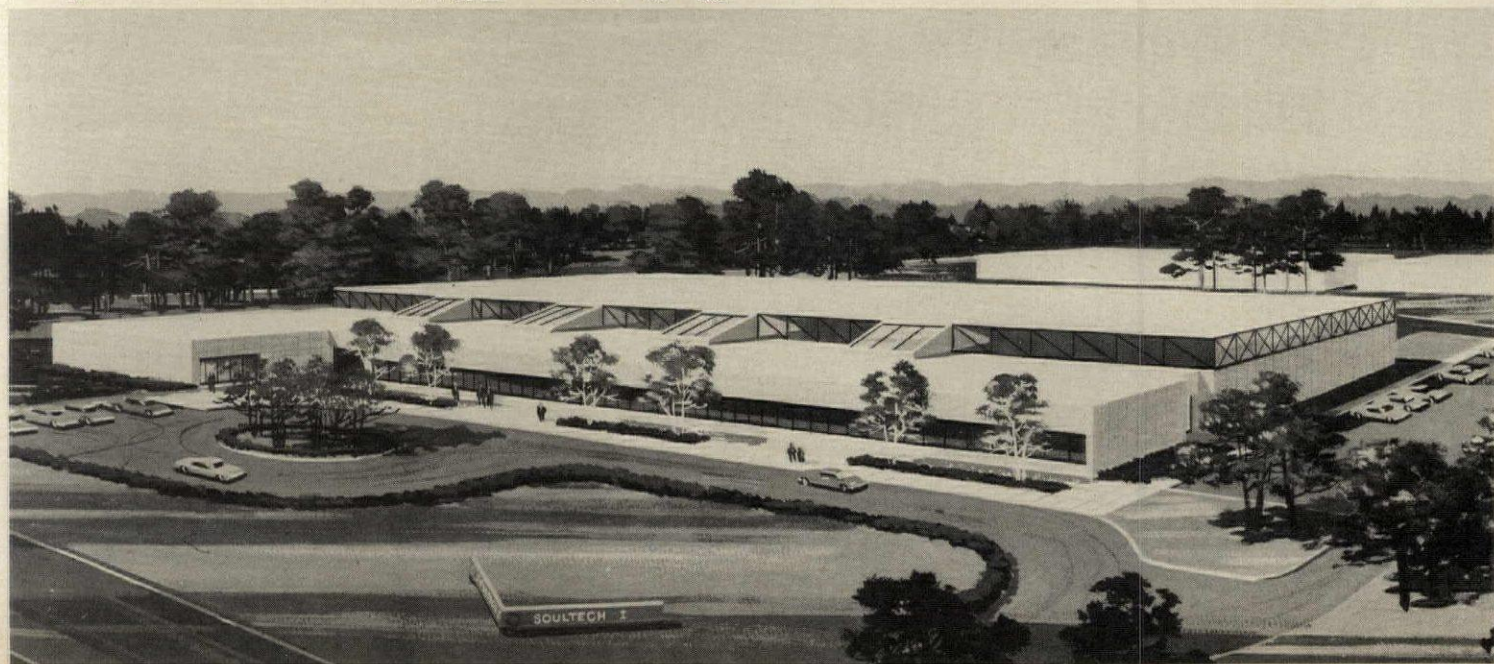




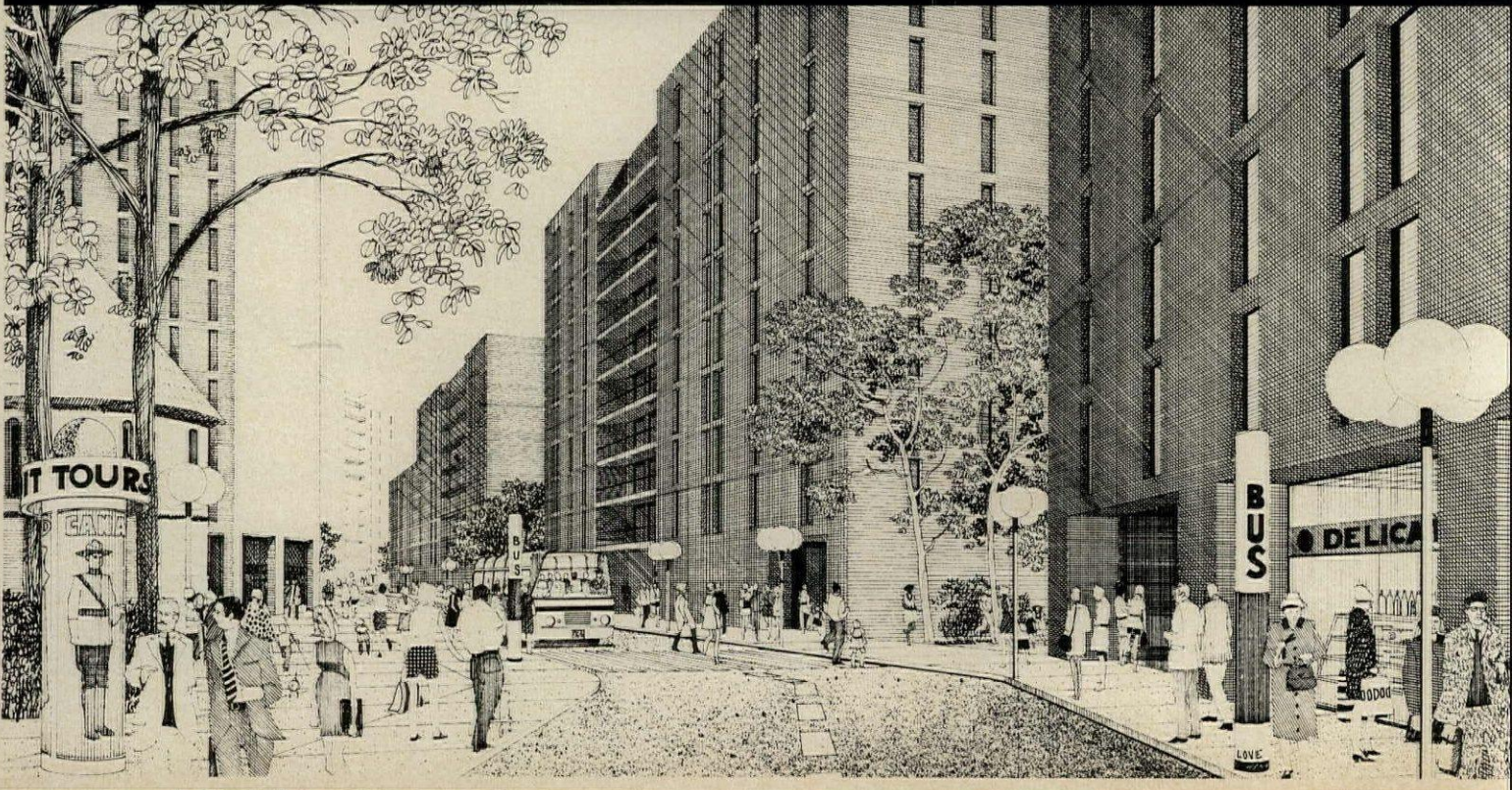
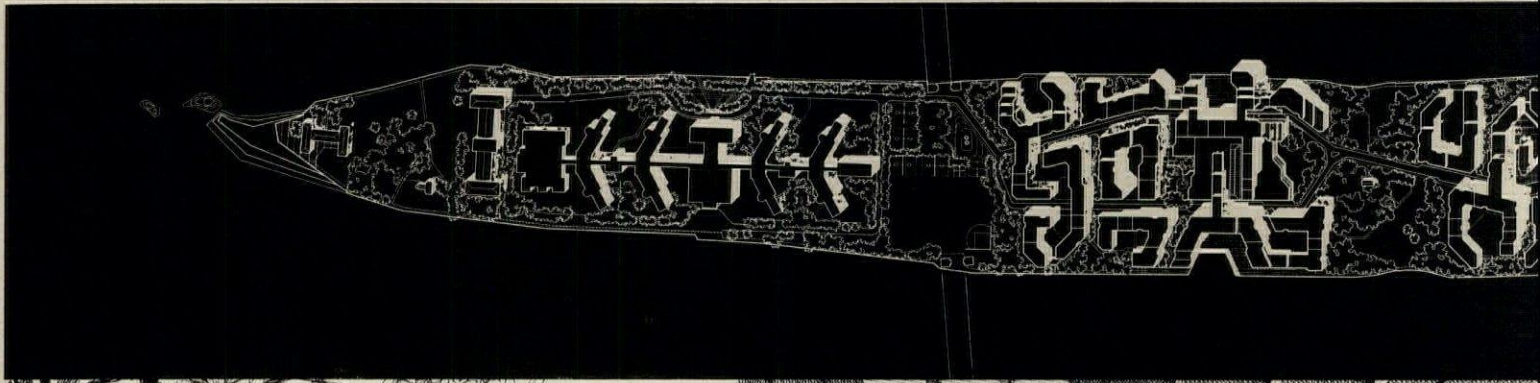
Three Year Development Plan

Soul City's first buildings—Soultech I (bottom), an industrial building to provide various types of facilities for beginning firms—and the first Activity Center (left, and across page, bottom) start construction in January 1974. Gantt/Huberman are architects for both structures. In the spring, a modest number of apartments will be built for staff during initial development. Soul City has a \$14 million HUD-guaran-

teed loan for land acquisition and development. Existing major roads through the property are being improved by the State, a sanitary district has been formed, Soul City Boulevard is to begin construction in March, and an application for funds for a study of public transit needs is in process. The developer is Soul City Company, an all-black firm of which attorney Floyd B. McKissick is president.



Roosevelt Island



New York City's new town opens up long-underused land with a plan that offers a unique life style.

Roosevelt Island—called Welfare Island until a recent name switch for obvious reasons—has a unique and ideal site. The 147-acre-site—a literal stone's throw from the heart of Manhattan though isolated by the ship channel—lay largely vacant until a 1968 study by its owners, New York City. After studying proposals ranging from a nuclear power plant to licensed gambling, the City gave New York State Urban Development Corporation a 99-year lease to develop 5,000 badly needed dwelling units. The UDC was created by the state legislature to cut through the red tape involved in most urban renewal.

A master plan was prepared by Philip Johnson and John Burgee (see full plan directly below), but the architects now question whether UDC is following the plan closely. The site plans (below) for the first 2,100 dwelling units—presently in construction and designed by architects Sert

Jackson and Johansen & Bhavnani—are a case in point. Robert Litke, general manager of the UDC subsidiary responsible, states that adherence to the plan is closer than any other such that he knows, and a comparison of other plans in this issue might enforce that view. In tribute to the capacities of the developer, few large-scale plans have been prepared in such detail and executed at all. The case of Fort Lincoln (next page) is an interesting contrast—there have been three master plans.

The UDC normally, as here, operates on a fast-tracking basis—foundations went in before working drawings were complete. This short development schedule is "on track" at present, and Mr. Litke states that the only drawback is inability to adjust to experience—"There isn't time for mistakes." He is confident that substitutes for the frozen FHA funds will be found and allow the mixed res-

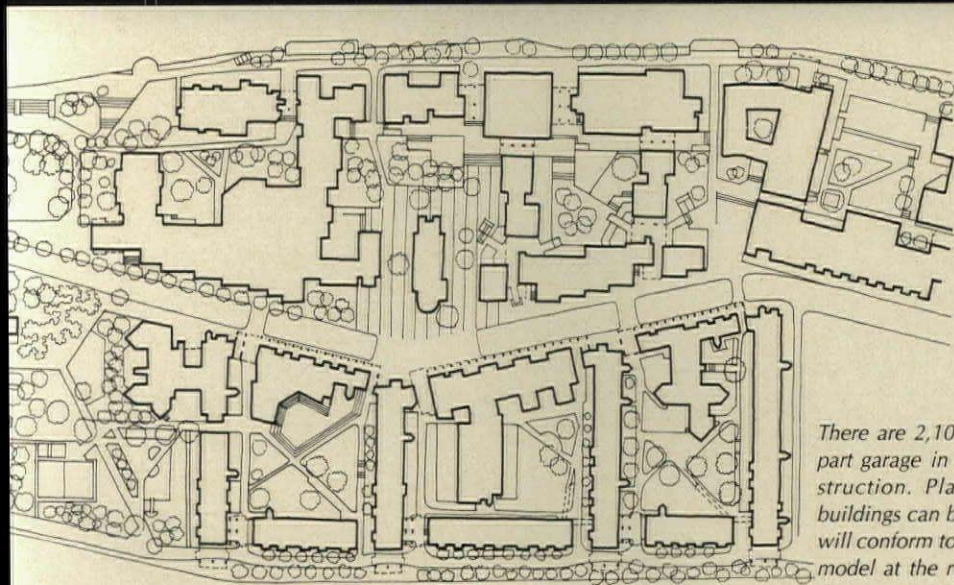
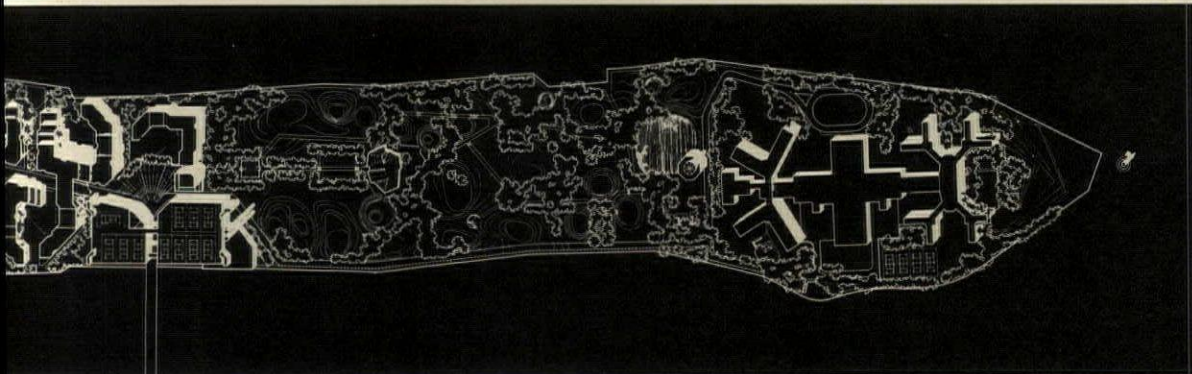
ident income levels as planned. However, it is the physical arrangement of the dichotomy of income levels that may prove to be Roosevelt Island's largest problem (see pages 104-105).

There are strong innovations on Roosevelt Island. There will be no general automobile traffic—cars will be garaged at the entry to the island in the now half-completed garage seen in the photograph, left. Travel within the two-mile-long island will be handled by mini-buses (see page 98). Trash collection will be accomplished by a pneumatic system directed to the entry-garage structure; saving the City an estimated \$200,000 a year in collection costs, and eliminating collection-truck traffic). The school program disburses classroom space throughout the apartment ground floors. Despite initial intent, structural innovation has been limited to a proprietary slip-form concrete system by one contractor.

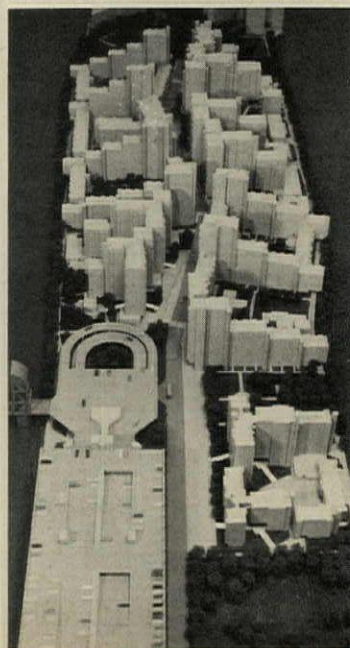
The UDC & Title VII:

The UDC is able to issue tax exempt bonds covering the expenses normally insured by the Federal Government. In this case, the desired Title VII benefit was the ability to receive ancillary Title VII grants as well as what UDC calls "intangible factors." In lieu of loan guarantees, 20 per cent supplemental grants would be added to those grants obtained.

Roosevelt Island was designated as a Title VII site only one month before the present curtailment of Federal grant programs went into effect, and the event was announced as an example of the ability of Title VII to broaden its scope in the effective use of public as well as private sponsors. The UDC has actually received only those monies covering a portion of the costs for one historic building renovation and a small park. All future program participation is presently in limbo—despite gaining Title VII approval.



There are 2,100 dwelling units and a part garage in the first phase of construction. Plan for the residential buildings can be seen, near left, and it will conform to the profiles seen in the model at the right. This first phase is the center section of the island plan. One "main street" will run the length of the island and give access to a wide variety of commercial and civic functions. A program of historic building renovation will include the former asylum, above, and a church (center of plan, left).



Fort Lincoln

This new town-in-Washington is planned as a model of social action—and as a Bicentennial showplace.

The 332-acre Fort Lincoln site derives its name from one of a circle of forts built to protect Washington, D. C. during the Civil War. The completed development is to become a link in the park belt planned to connect all forts in the circle. The first-phase construction—of 700 units of housing, the town center, and park land around the Fort—is meant to be an urban demonstration for the National Bicentennial Celebration.

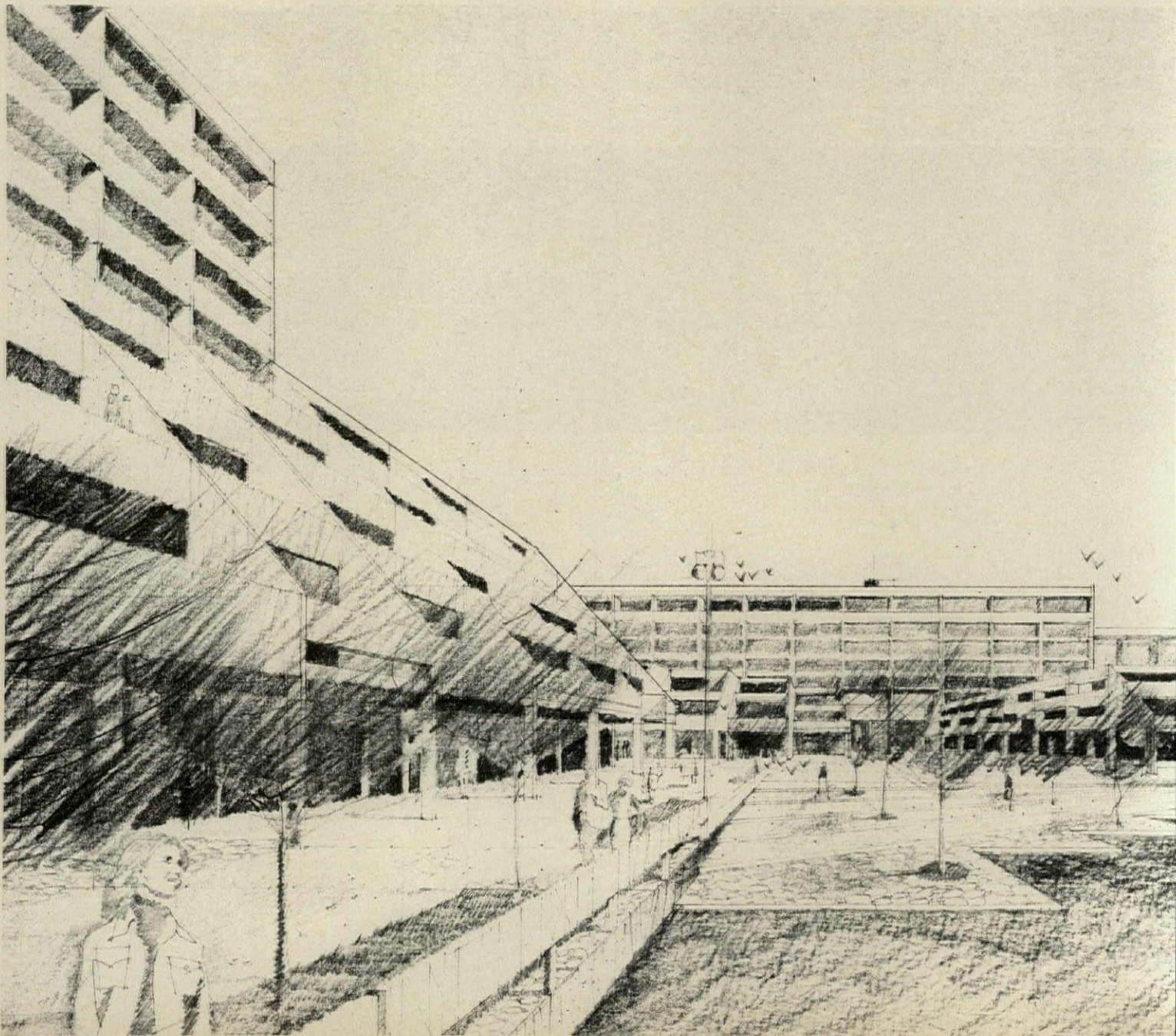
Although Fort Lincoln was the first planned in-city new town (it was initiated in 1967), the construction so far has included only

one 130-unit high-rise for the elderly, a school, and ongoing work on roads, utilities and some other educational facilities being built by the city. The site has been the subject of several imaginative and highly detailed plans by several public developers, but feasibility questions were always raised. The present private developer, Building Systems International, is proceeding on the basis of the land use map (and flexible written requirements of maximums and minimums) approved by The National Capital Planning Commission and District Council last year (similar to the plan on the oppo-

site page). Development rights were awarded (though the contract is not yet signed) on the basis of a comprehensive feasibility report. RTKL, Inc., the architects who prepared the model as part of that report, state that it is only a guide; and that actual detailed planning (when construction is imminent) will be approved by the local Redevelopment Land Agency (RLA) now administering the site as Federally Assisted Title I Urban Renewal. Procedure to detail plans will be stringent, and the architects back the process wholeheartedly. They argue that a typical problem with finite long-

range plans lies in their inability to adapt to needs and conditions at the time they are carried through. Once the buildings are built, however, the interchangeable functions allowed in the multipurpose facilities of e.g. Cedar-Riverside (overleaf) will be limited as the land use plan is incorporated into the Capital Zoning resolution. Apartments can generally not become schools or offices, although some mixed uses are allowed.

The first step in the more detailed approval process can be seen in the larger-scale concept plan on the opposite page and in the rendering below. This plan is

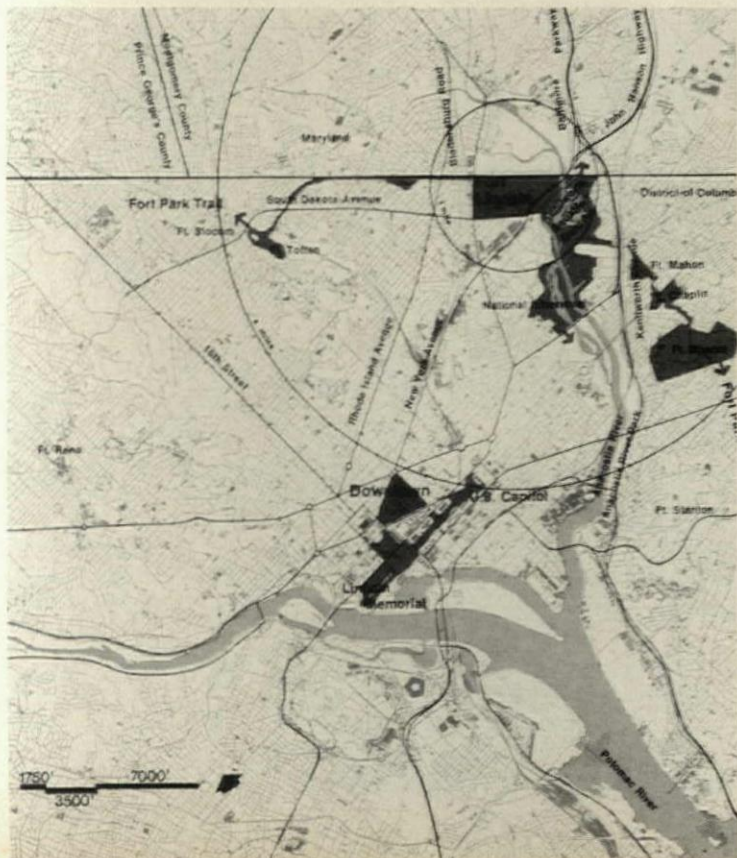
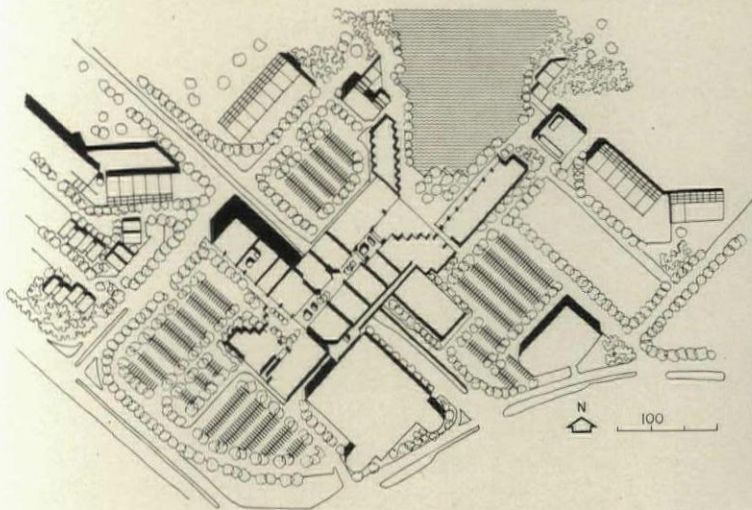


for the town center and will include a large GSA building, other offices, a hotel and ground-level retail facilities, with pedestrian ways.

While the stated aim at Fort Lincoln is to produce a racially integrated community, market conditions created by the location may produce a largely black population. Key factors in this situation may involve pending decisions on the incorporation of a National Oceanographic and Atmospheric Administration Building, and portions of Federal City College. The former is meant to be leased to the GSA and to provide

a large part of the profit to the developer.

Arnold Mays, Director of the Operations for the RLA discusses the financing: The RLA has a \$28,000,000 grant under the Federal Urban renewal program. This grant is meant to cover the costs of clearance, roads, utilities and site work. Schools and other community facilities are being built by the city. Until now, all costs had been borne by the RLA, but last spring a waiver of frozen FHA 235-6 funds was obtained to finance the first subsidized 500 housing units. The total planned investment is \$245,000,000.



The urban renewal plan contains written program requirements and a land use plan similar to that shown above. It is the only document definitely in force. The model above was prepared as part of a feasibility study that led to the urban renewal plan. Detailed planning is going forward on housing and the Town Center (left above and opposite page) by architects RTKL, and is shown in preliminary form.

- 580
- Residential
 - Community mall
 - Federal City College
 - Town Center
 - Common open space
 - Secondary school
 - Elementary school
 - Project boundary
 - Fort park trail

Cedar-Riverside

This new town in Minneapolis brings new housing, new vitality, and new people to a dying neighborhood.

This Minneapolis New-Town-in-Town—which gained its Title VII designation in 1971—is the first such new town to have a substantial population. The first section—Cedar Square West—is nearing completion and is occupied by 3,600 residents. This accomplishment has been difficult for its developers, The Cedar-Riverside Associates. Principals Keith Heller and Gloria Segal began the undertaking with far more imagination than resources. They explain that they started out simply to build an apartment building on one partial block—but that (with encouragement of architect Ralph Rapson)—plans kept growing. In six years (1962-68), they and other investors acquired a large portion of their present 85-acre holdings in this formerly depressed area,

containing 2,500 separate parcels of land in 1960. Cedar-Riverside totals 340 acres, of which all but 100 are now parkland or owned by growing institutions: The University of Minnesota, Augsburg College, St. Mary's Junior College and two hospitals. The portion directly controlled by the Associates lies to the left and bottom of the plan at right. However, under the provisions of their Title VII guarantee, qualification as a new town involves the presence of the job resources (represented by the institutions) and the open space (represented by the parks). Accordingly, the Association is regarded as catalyst for all planning. On-site job resources will not be the only ones, however—the proximity to downtown Minneapolis can be seen in the photo, far right.

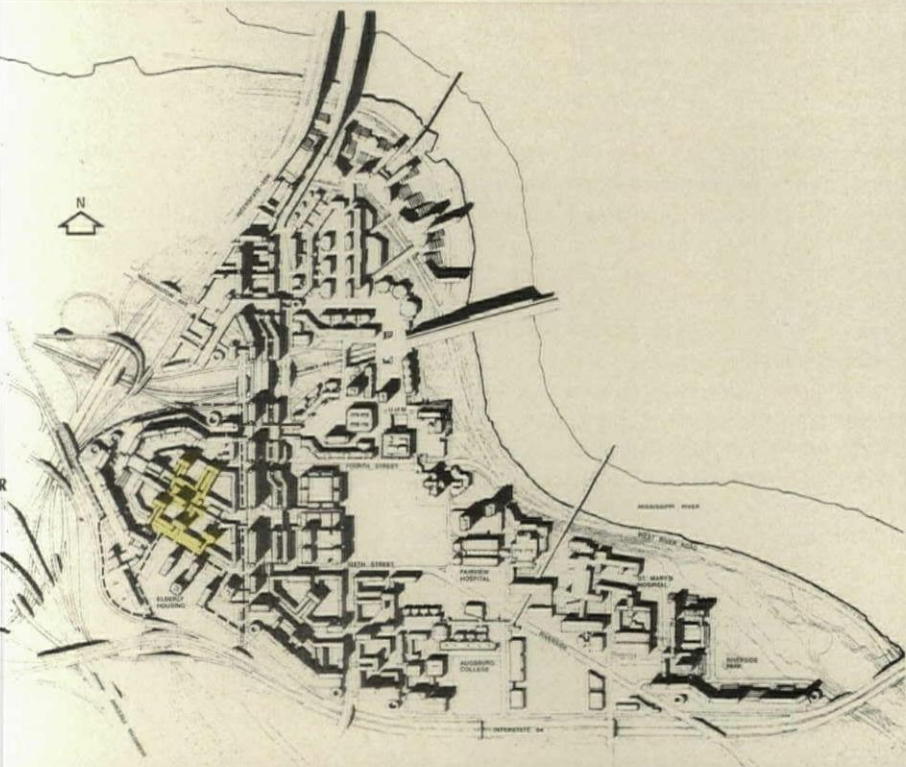
Cedar-Riverside will have an extremely dense population (350 persons per acre in Cedar West) and it will be extremely urban in character. Planning has taken this into account—there will be separated pedestrian and vehicle levels and the completed buildings by Ralph Rapson clearly show the carry-through of this intent. Apartment types range from the conventional double-loaded type in the high-rise buildings (up to 39 stories), to four-story duplex buildings with the circulation occurring on the two intermediate floors. Townhouses are eventually planned—as is a large percentage of private ownership housing. The “commercial centrum,” running north-south will follow the pattern of such development already established. While some existing

buildings are to be maintained, plans also call for new, leased, flexible spaces capable of being adapted to varying uses.

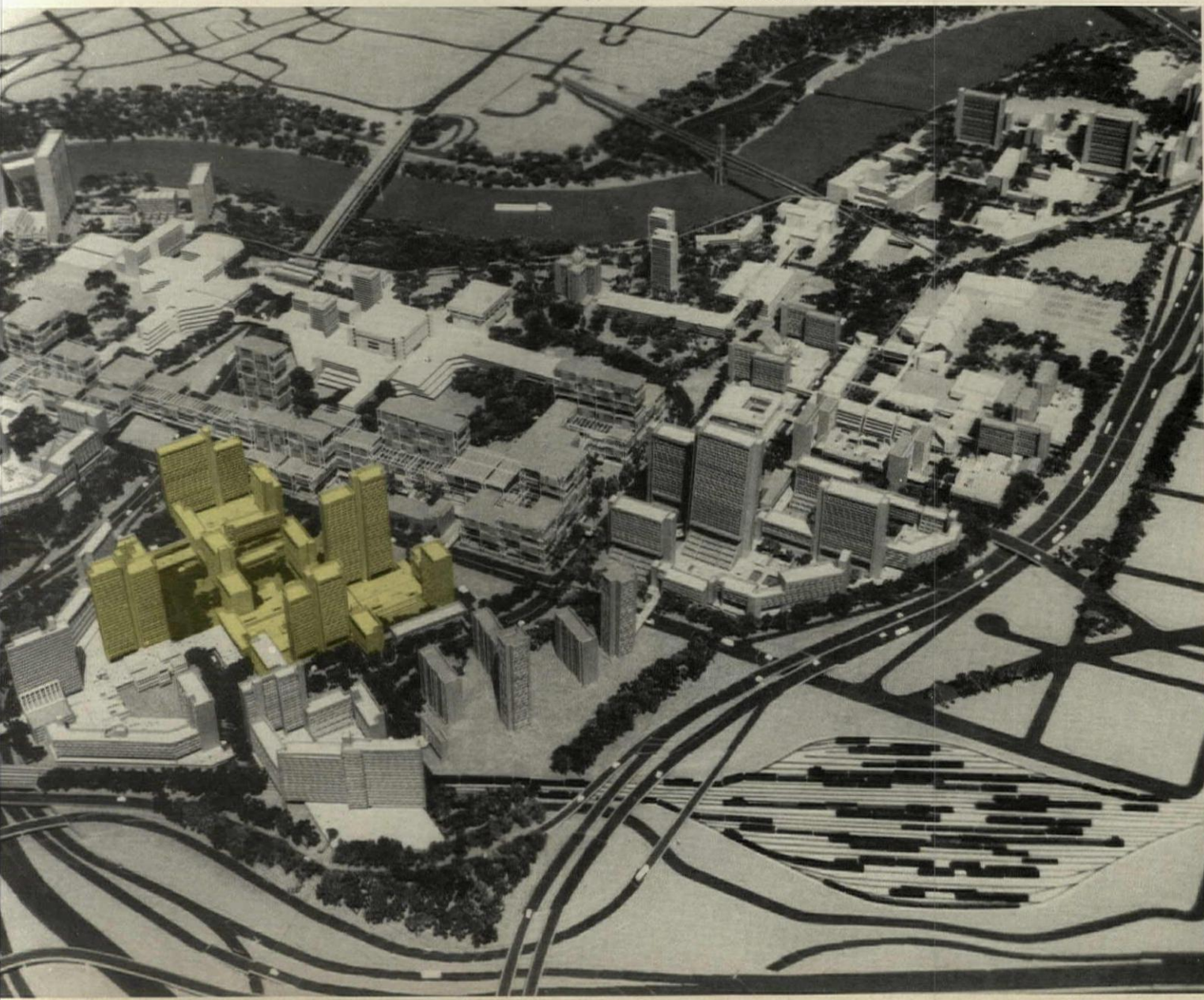
One unique development problem is the presence of 4,000 existing residents. Cedar-Riverside Associates has an active policy of keeping existing residents and desirable commercial tenants. Undemolished buildings are rented to the original owners or new tenants. There is a surprisingly active program of maintenance and rehabilitation in the area.

Of the 125 people relocated for Cedar Square West, 123 are housed in the area. One house was picked up over-night and placed in a new yard when the tenants would not move. Surprisingly, most of the resistance has been among the young.





Land directly controlled by the developer lies to the west and south of the area plan at the left—the developer will have responsibilities in the planning of the entire area. The new buildings of Cedar West are occupied (photo, opposite.) The view of downtown Minneapolis from Cedar West, above, shows the site's proximity to downtown.



New towns-in town: new prototyp

In-city new towns are inherently part of a much bigger whole—an existing city; and while there can be planning for a degree of self-sufficiency, there will be a strong influence on them by the surrounding city from their inception. Like the non-urban new towns, their development requires coordination with numerous (and often powerful) local agencies and civic groups. Location within the city will also play a strong role in the eventual character. But perhaps most important, their large scale will allow the re-examination of many concepts—such as the viable mix of income groups, and comprehensive social planning—in which past urban renewal has failed.

The three examples shown on the past pages—Roosevelt Island, Fort Lincoln, and Cedar-Riverside—have had developers coping with their problems in various ways, suiting their varied natures and the contexts of their sites. But many of the characteristics of both the process and the probable results are unique to cities and hold lessons for other cities.

Developing population mix

No large-scale urban residential

development can ignore the presence of large numbers of the ill-housed poor living within sight of the new construction. Accordingly, the three examples contain large numbers of housing units subsidized under varying programs (see chart, page 88).

The first phase of both Cedar-Riverside and Roosevelt Island will have about 50 per cent of the apartments subsidized under FHA 235-6 programs benefiting low-to-moderate-income residents. The remaining apartments will accommodate middle- to upper-income groups—and hopefully create tax base. Developers of both communities have obviously made similar decisions about the mix of resident income levels that will be viable. But will there be the same degree of social interaction required to make these towns function as communities?

Half of the non-Federally subsidized apartments on Roosevelt Island will be subsidized under the New York State middle-income program. New York City costs have risen to the point where families earning close to \$60,000 are qualified for that program. The remaining residents can be expected to have even greater finan-

cial resources. Thus, there will be a very large range of personal, social and economic standards. To complicate the matter, the developer has chosen to place all of the middle- and upper-income apartments on one side of the island facing Manhattan. The other residents will face an industrial shoreline and be located on the opposite side of a central street running the length of the island. Future planning is intended to correct the situation, but the street may become a symbol of separation that goes beyond physical separation.

Cedar-Riverside's new buildings are planned to mix apartments for tenants of varied incomes within each building. One of the lower towers is an exception, because it is intended to house the larger room sizes required for highest rentals. Low construction costs have allowed the middle-income group to be housed without subsidies. The age of first residents is atypically low—due to the proximity of large educational institutions and the ambience provided by the existing arts-oriented community. The young have been proven tolerant of the mix, and their common interests here bind them together.

Developer Gloria Segal tells prospective tenants—before they see the models—that they are going to have to live with “all kinds of people.” Today, the only rental resistance has been in the high-income building. “We haven’t even tried yet” says Ms. Segal. It is still a little early to tell, but all indications point to a social—and economic—success.

Finding enough of the right land

Single land areas for large-scale development are, of course, scarce in cities, and tend to exist because of “flukes.” The largely vacant Roosevelt Island site is adjacent to the most developed part of Manhattan, but devious access was only available by a bridge from the far bank of the East River. The Blackwell family sold the land in the nineteenth-century because the surrounding river currents were too strong. An aerial tramway has just been approved by the city to provide direct transport to Manhattan and a subway under construction will have an island stop.

Fort Lincoln was part of a 1967 surplus Federal land re-use program. Those sites considered were to be for new community de-



The continued presence of an older community can help the transition to the new environment.

for urban planning?

velopment, but few plans materialized. Fort Lincoln's proximity to the National Capital has assured on-going Federal interest in producing a demonstration of U.S. housing advancement.

Cedar-Riverside, despite its central downtown location, was a backwater in comparison to the construction going on around it. There are freeways and a river (the Mississippi) surrounding most of the site, providing a real divider—and population in the area had shrunk from 20,000 residents in 1912 to 4,000 in 1970.

Establishing the building mass

The desirability of the various building height options has been greatly examined recently. One recent study directly equates the level of crime to the height of the residential structure. There is a paradox in the comparison discussed before of the possible social results in Cedar-Riverside (maximum height: 39 stories) and Roosevelt Island (maximum height: 20 stories). It may become apparent that the resolution of building form is going to depend heavily on social context, and that there can be no simple answers.

Roosevelt Island achieves its

urban form from the organization of buildings along a main street. The number of stories decreases from this central contained space to the water's edge. Thus most of the residents can take maximum advantage of the site's natural resources—especially the river views. Here is a logical plan for its restrictions.

Ralph Rapson describes the Cedar-Riverside buildings as being placed to resemble the variety achieved in less planned environments. High buildings are next to low, and their arrangements are centered around courts at the second floor level. Pedestrian bridges span the traffic below and connect the courts (Roosevelt Island will have little vehicular traffic and requires no such articulate separations). There has been an effort to differentiate the buildings by surface treatments, although most facades reveal the constraints of the exposed concrete structure. The planning is completely different in approach to Roosevelt Island's, but again it is an optimum use of site constraints.

Fort Lincoln will contain many four-story walkup apartments, and conform to the low-rise principles of the study men-

tioned above. The feasibility study indicates that there will be an extremely high percentage of ground coverage in residential areas, and that some units will be very close to highways. Following such principles may not always work.

Adjusting to a new life style

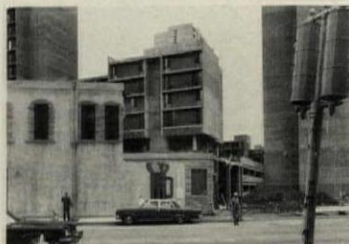
When people first move into the New-Towns-In-Town, they are going to experience the effects of marked contrast to other areas immediately around the new development, and from the environments that many of them have just left. The problem will be to ease the shocks of adjustment before a functioning community can be realized.

Both Roosevelt Island and Fort Lincoln are being built on largely unoccupied land, and presumably will offer the biggest adjustment problem. The former will particularly demonstrate the effects because of the brief period in which so many people will come together for the first time. Every planning effort has been made to assure familiarity for the new residents. There will be the urban symbol of the central street, and the restoration of seven landmark buildings is intended to lend some

sense of continuity. But the presence of nearby parks, the absence of cars, the physical dispersion of school facilities, and the newness of it all—no matter how desirable—will be strange to persons used to urban crowding. Disorientation could be created in spite of the best intentions.

Of the three case studies, only Cedar-Riverside has an existing neighborhood ambience, and the developers are making every effort to hold onto this asset, as discussed before. By a program of encouraging the arts-oriented community, theatrical groups and crafts shops abound. Cedar-Riverside's only Federal grant benefit has been a \$20,000 amount to be administered through the city and used for the hiring of a theatrical arts counselor. The presence of older existing buildings provides a visual tie to a community previously established (below), and, while many will disappear in time, others have been imaginatively renovated and will remain to enforce continuity.

The social results of these in-city developments will deserve careful study by urban pioneers everywhere. There are lessons here for all our cities.



Jonathan

New policies and pressures may quickly change this growth-center community's present rural character.

Jonathan is located on 8,000 acres of rolling farmland 20 miles southwest of Minneapolis. With a present population approaching 2,000 people, there is still a rural character to the place. But things most probably will change.

In the three years of this new community's existence, Minneapolis has spread rapidly in the southwest direction, and Jonathan's developers believe that suburbs will soon sprawl around them. Housing demand in the metropolitan area is presently estimated to exceed 20,000 new units a year.

In fulfilling the role of a Growth Center, a large number of jobs (up to 45,000) are anticipated within the development when it is complete (there are 1,000 jobs in the community now). The stimulating effect can already be seen in Chaska, the town of which Jonathan is legally a part, and which is reorientating its development plans according to Jonathan's model.

There are to be five more-or-less self-contained villages surrounding what eventually will become a high-density multiple-use core near Lake Grace (plan below). The presently occupied Village I is located above Route 1-212 between Route 11 and the

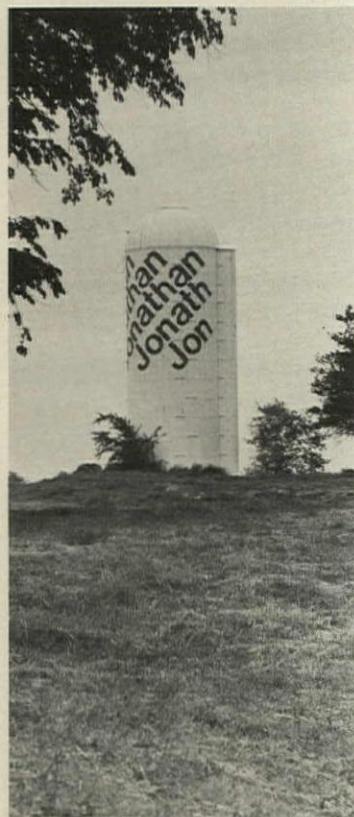
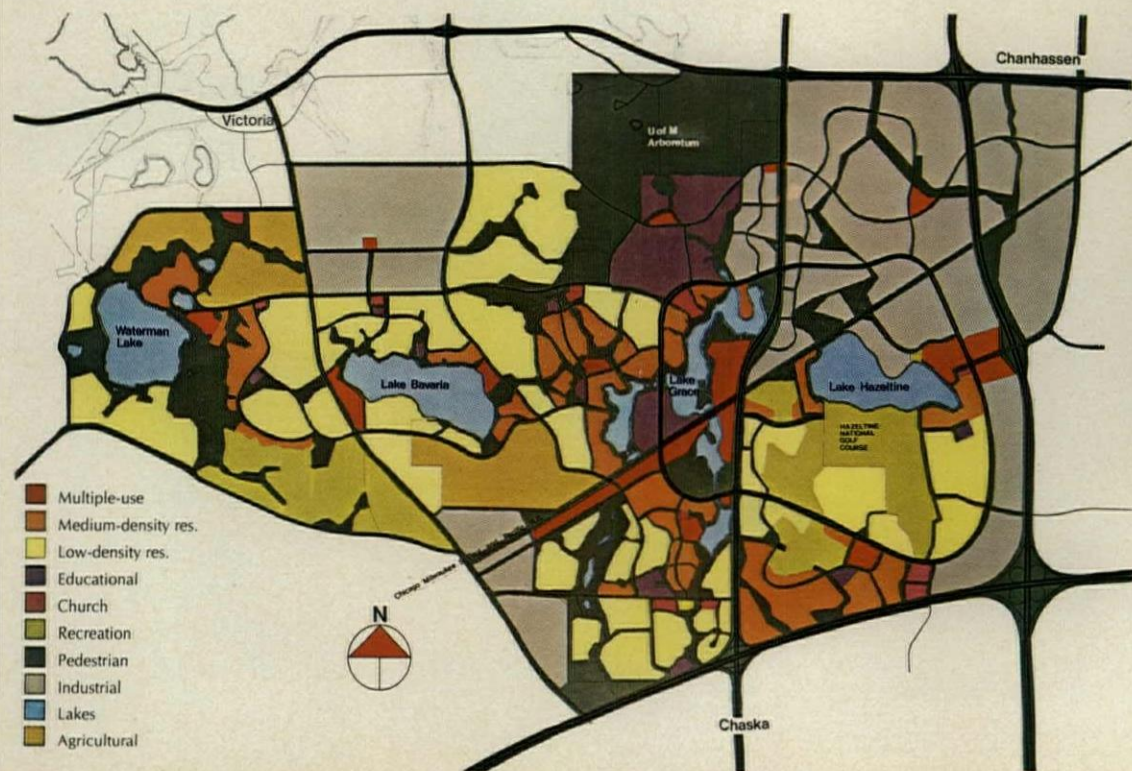
Chaska Road. The village center (below) is a street enclosed against the harsh winters, which offers a well-rounded variety of convenience stores, a medical clinic, visitors' center and the offices of landscape architects Bailey and Associates. The other village centers will have similar facilities.

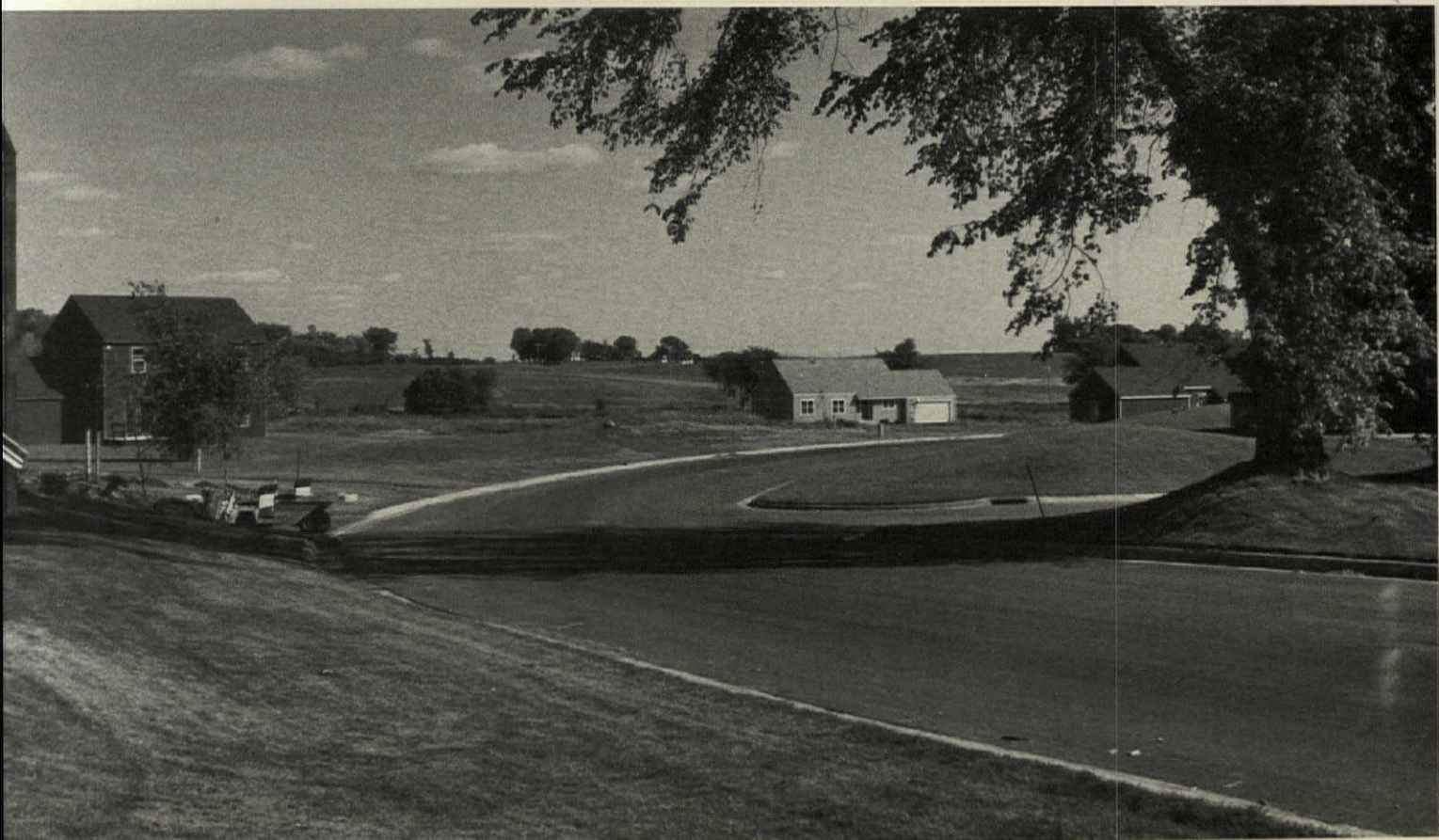
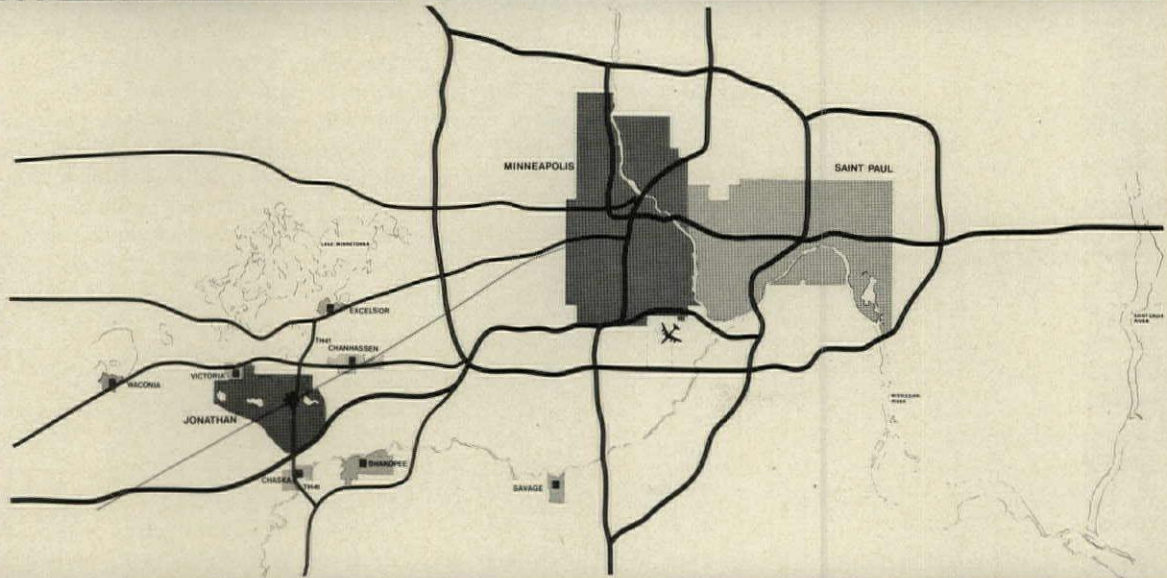
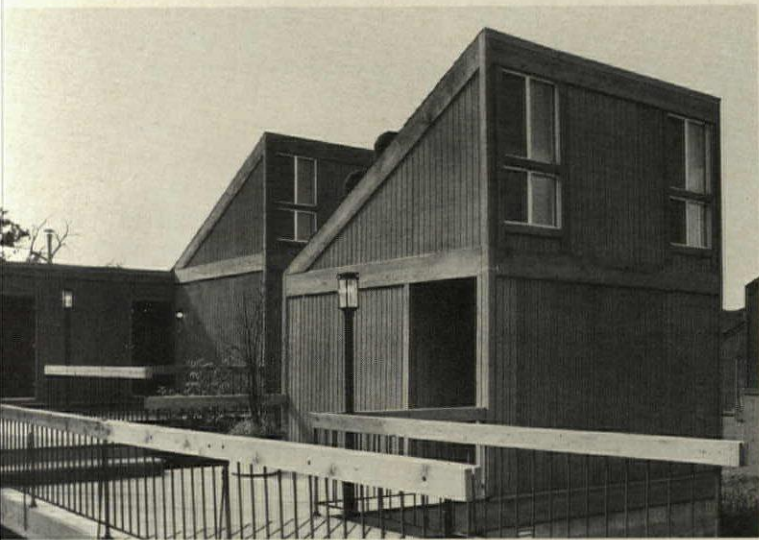
Jonathan was begun in 1965, when the late State Senator Henry T. Knight, who owned much of the land, felt he should "turn rhetoric into reality." A Title IV Federal Loan guarantee of \$21 million was obtained in early 1970. Under the provisions of the Federal grant programs, Chaska has received over \$2 million for Jonathan's utilities and open space programs. The Jonathan Information Systems Corporation has received close to \$200,000 for development of a two-way visual communications and information retrieval system. The founders of the town chose a prudent rate of growth, with strong design orientation. Basic site planning included optimum use of the many ravines on the site and careful control of its watershed. While much of the housing would be built by sub-developers, an architectural review board was to approve all plans (that has changed). Bailey and Associates won a na-

tional award for their greenway system and for their imaginative playground designs. Tree Loft Apartments (opposite, top left) were designed by George Nelson and Gordon Chadwick and were intended as a low-cost, prefabricated prototype. However, this example has been the last of industrialized housing attempts at Jonathan.

The current administration of Jonathan Development Corporation does not think that growth has been fast enough. Thus, all building design controls have been relaxed, although there is a stated intention to stick to the master plan. A feeling that the public would not accept "contemporary" designs has resulted in the building of a set of new prototypes, including such models as the "Williamsburg"—carefully detailed (and priced accordingly). But less expensive single-family houses now show the stamp of tract suburbia.

Not all of the new sales push involves matters of style. Jonathan has embarked on an aggressive program, including a "we-will-buy-your-old-house" clause in new sales agreements. Recent announcements tell of more jobs on the way. It is anticipated Jonathan will show a profit in 1973.





Privately financed new communities

Columbia, Reston, Valencia and Irvine, unlike many privately funded developments which are also called "new towns," are not merely large-scale subdivisions, retirement communities or second home resort developments. They are being planned and developed at a scale and complexity which make them comparable to the Title VII towns.

Columbia

Columbia, Maryland—located in the busy corridor between Washington and Baltimore—has had a fast and balanced growth. The new community's area and initial investment are almost twice the size of nearby Reston's (next pages). Columbia is now slightly less than halfway through its development period, and has about 25 per cent of its projected 110 thousand residents. There is expected to be 65 thousand jobs at Columbia when it is complete, and 30 per cent of them exist now. Average household income is about \$19 thousand.

The initial developer was James Rouse, who joined economic forces with Connecticut General, and later Chase Manhattan and the Teachers' Annuity Association. The investment so far has been close to \$100 million.

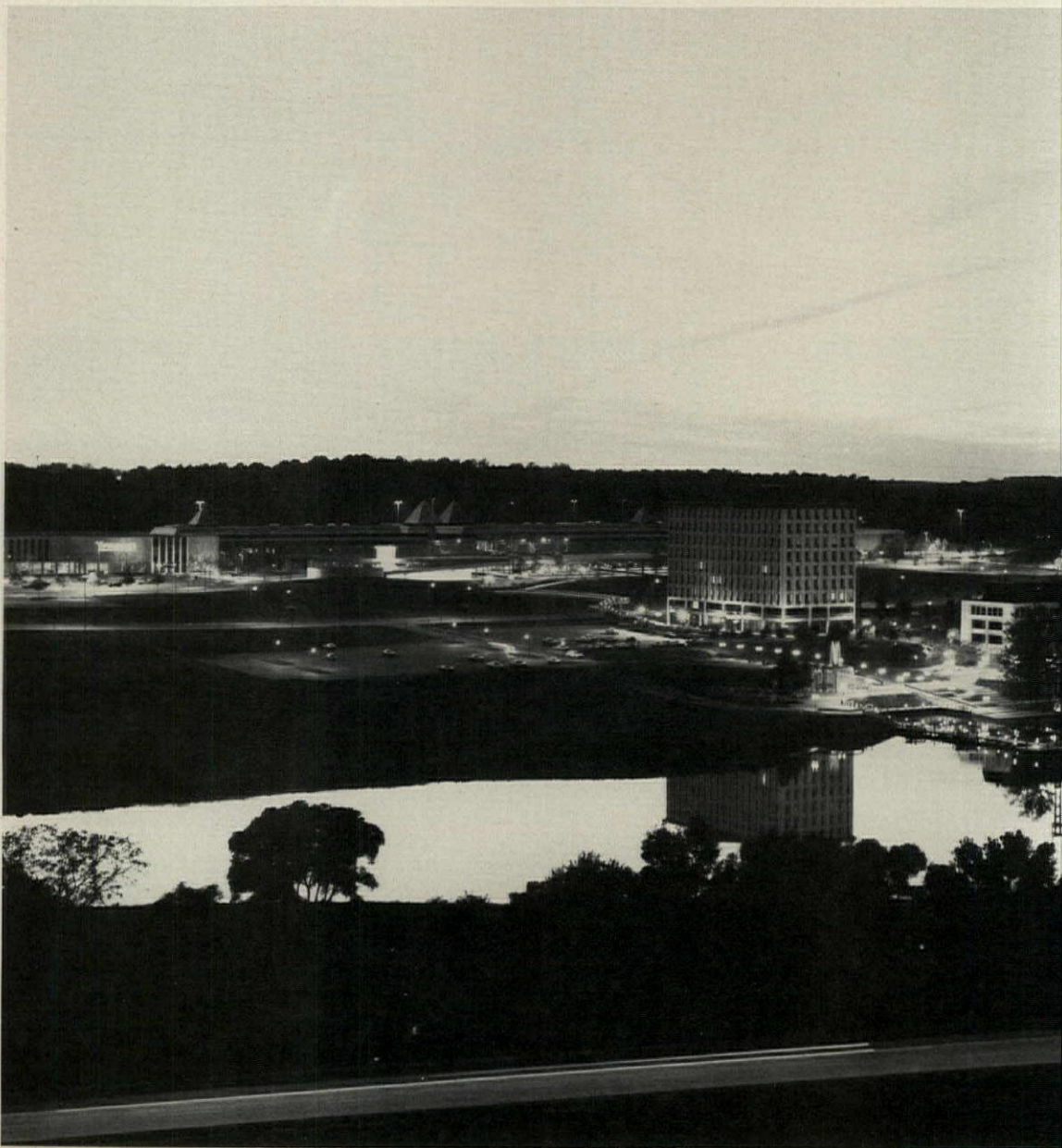
Today, this massive backing

has visible results in the aggressive scale of on-going new construction. The recently completed mall building (RECORD, March 1972) can be seen in the background of the photo below. The 102 retail stores and two department stores appear to be thriving. And other new commercial buildings are constantly going up in the downtown area. As a result, the tax base is growing at almost twice the rate of population (and Howard County costs).

Planning began in 1963, and a population of 100,000 was determined as the minimum self-supportive group. Rouse felt at that first stage that there had been too little dialogue among urban designers, behavioral scientists, architects and developers; so he established from the beginning a work group consisting of representatives of all of these disci-

plines. The plan, seen to the right, shows the division of villages subdivided into neighborhoods. Construction began in 1965.

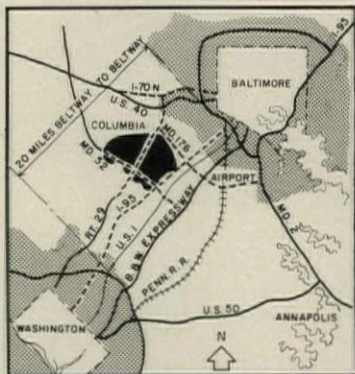
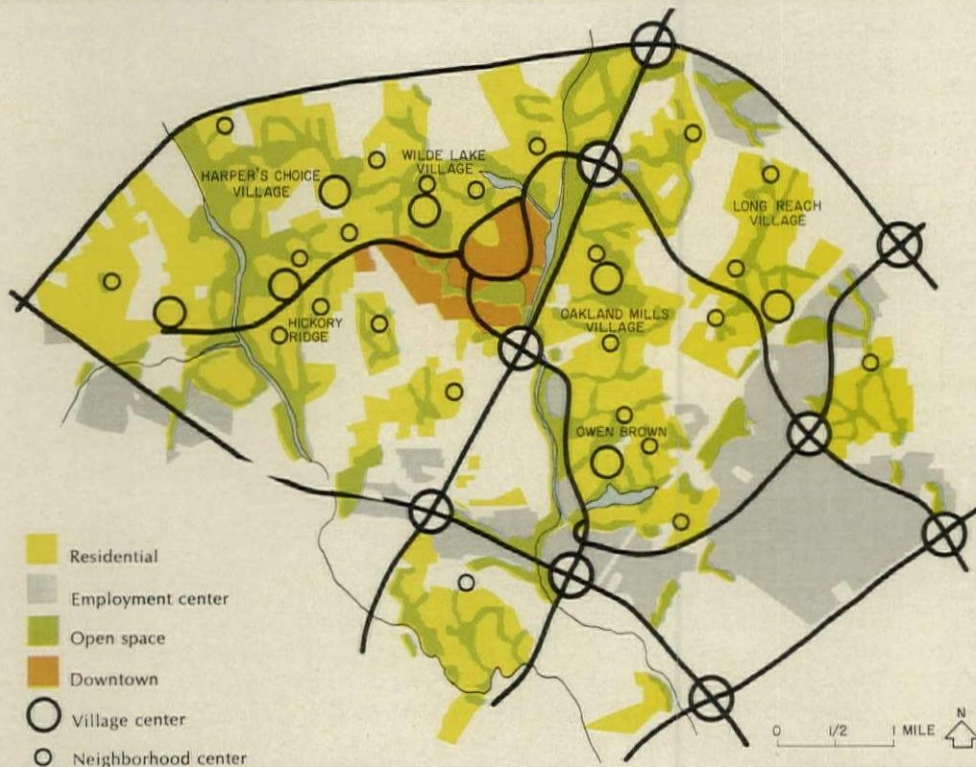
Many of the planned community services and amenities would not be paid for by the government, nor could such costs be loaded onto the price of land. Despite massive backing, there had to be methods of reducing front-end costs. The Columbia Association was formed in 1965 to provide such facilities as parks, meeting rooms, athletic facilities, maintenance and community programs. Its income is based on first lien enforced charges of \$.75 per \$100 of assessed evaluation of residential and industrial property. Additional fees are charged for use of such facilities as swimming pools and golf courses, and it is estimated that about 30 per cent of families use the extra-charge facil-



One of America's top developers is proving that new towns can be happy places to live—and profitable.

ities. The Columbia Association is also meant to provide government and there is a program of increasing community participation and eventual total control by residents. Of the present nine directors, two are residents, and the latter representatives will increase at the rate of one per 4,000 Columbia residents while the developer's representatives are phased out.

Another method used to reduce front-end costs is the sale of land to private sub-developers. To maintain design controls, the Rouse Company maintains an active planning department headed by architect Morton Hoppenfeld. He is wholeheartedly for the design team approach, first started by the 1965 work group, and feels that there has not been enough importance given to the role of the in-house planners. Primary goals are feasibility and livability.



Columbia now has about a quarter of its projected population of 110,000, and demonstrates many of the United States' middle-class aspirations in tangible form. The Mall (RECORD, March 1972) can be seen in the background of the photo, left. Other buildings of varying design distinction occupy this downtown area. The Villages, comprised of neighborhoods, circle the central core, and each contains a wide choice of housing types. Housing is typically built by sub-developers, and despite Columbia's design controls, much of the architecture is far from imaginative. Two models of cluster housing are shown to the right.



Reston

Reston—perhaps the most talked-about new town—began with a strong design direction—but problems persist.

Reston is located on 7,400 acres 23 miles south of Washington. Now at the halfway point in its 20-year development period, it houses 30 per cent of a projected population of 75,000 inhabitants. The current developers, Gulf-Reston Inc., state that they are geared to meet the schedule, with an annual production of 1,800 dwelling units. They have shown a profit in recent years, but there have been real problems along the way—and a new problem may force the abandonment of the original plan altogether. Reston is part of Fairfax County, Virginia—where there is a strong controlled-growth sentiment—and the County Board of Directors has denied sewer permits for the undeveloped areas of Reston. John Guinee, president of Gulf-Reston, says that his company may well go out of business as a result of this decision. Currently there are annual carrying charges of \$5 million on the original \$50 million investment and on committed construction. The cash flow problems will soon be enormous unless income can be realized from new building.

The implications for carrying out the master plan in the future are, of course, ominous.

Robert Dawson, editor of *The Reston Times* feels that the Directors' acts are not aimed directly at Reston, but toward all growth in the county. However, a recent report indicates that for 1972—with an assessed valuation of \$161 million—the community contributed some \$1.5 million more in taxes than the value of the services it received, and by 1982 would contribute each year almost \$17 million. It is hoped this kind of analysis will change the county's mind.

The original plan for Reston (similar to the one shown above right) was prepared by architects Whittlesey and Conklin, who helped obtain the Residential Planned Community zoning in 1962. The plan is essentially in force today, although there has been loosening of the concept of high-density development connecting the community centers (darkly shaded areas).

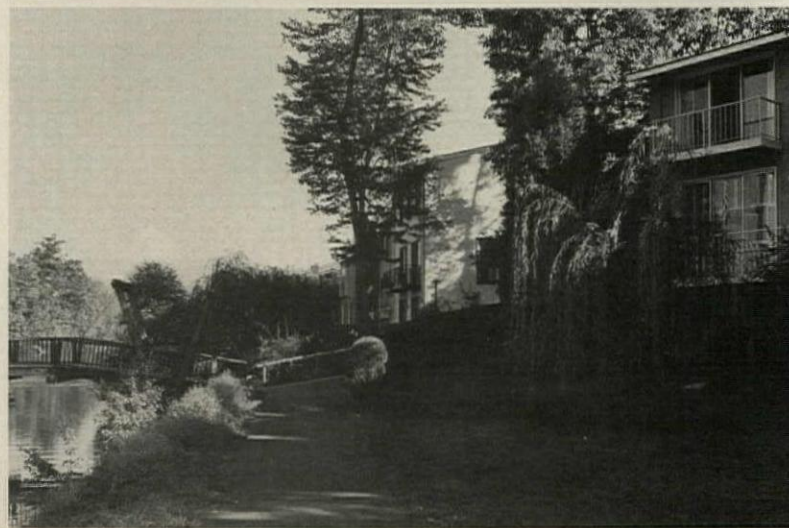
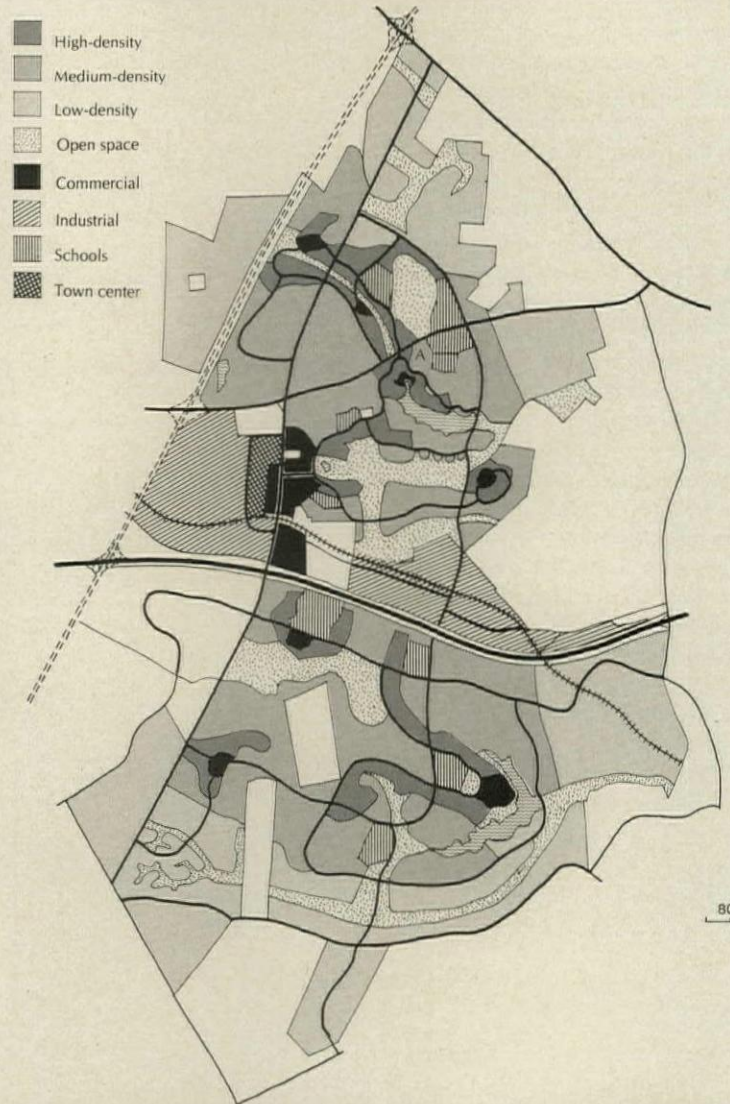
Robert Simon conceived Reston and was its early developer. The first phase of construction—which won a host of design and planning awards—included Lake Ann Village Center (photo oppo-

site, top) designed by architects Conklin and Rossant, and housing designed by Choethiel Woodard Smith (photo lower right) and Charles Goodman. This initial phase of development occurred in the area around the letter "A" in the plan on the right. RECORD, in July 1964, reported: "Architects and planners will be hoping for a clear demonstration that the highest design standards are also good economics." But in 1968, Simon—who had borrowed \$15 million from the Gulf Oil Company—lost control because of the development's cash flow problems (he could not sell quickly enough). The January RECORD of that year contained an editorial which quoted Simon as saying that he would not have taken the emphasis off design—even if he could go through the Reston process again. He would, however, have insisted on a closer relationship between designers and construction teams.

Simon's comments make an interesting parallel to the Rouse Company's approach to Columbia, where such coordination existed from the beginning.

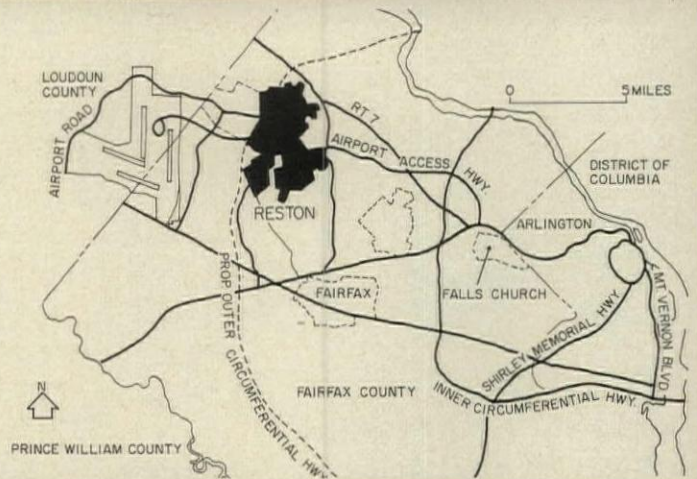
Today, Reston has an in-house design team. Site plans are worked out in detail before they are given to various subdevelopers' architects. It must be said that much of the newer design does not show the same dedication that characterized Lake Ann Village, though the developers do not find the resistance to "contemporary" architectural styles that the developers of Jonathan apparently find.

There is on the whole a happy ambience in the community, where the average income approaches \$25,000. House values are estimated to increase as much as \$10,000 a year, and the cheapest now costs close to \$40,000. Residents do use the facilities and walk along the tree-lined paths, but still the village center parking lots are jammed. Rush-hour traffic snarls in the industrial zone are the object of local political interest. The Reston-Washington bus service is significant, because 85 per cent of Reston's working population earns its living elsewhere. The opening recently of the new National Geological Survey building is expected to almost double previous jobs in the town (now at about 20 per cent of the goal of 26,000).





New mixed-use zoning allowed the building of apartments over commercial and civic facilities in the first village center (photo above), so 24-hour activity was assured. Much of this tight interlocking of functions is not appearing in later development (photo, left). While the newer housing (below) does not have the distinction of the original work, there does not seem to be any market objection to Reston's generally contemporary design. The original master plan is above.



Irvine

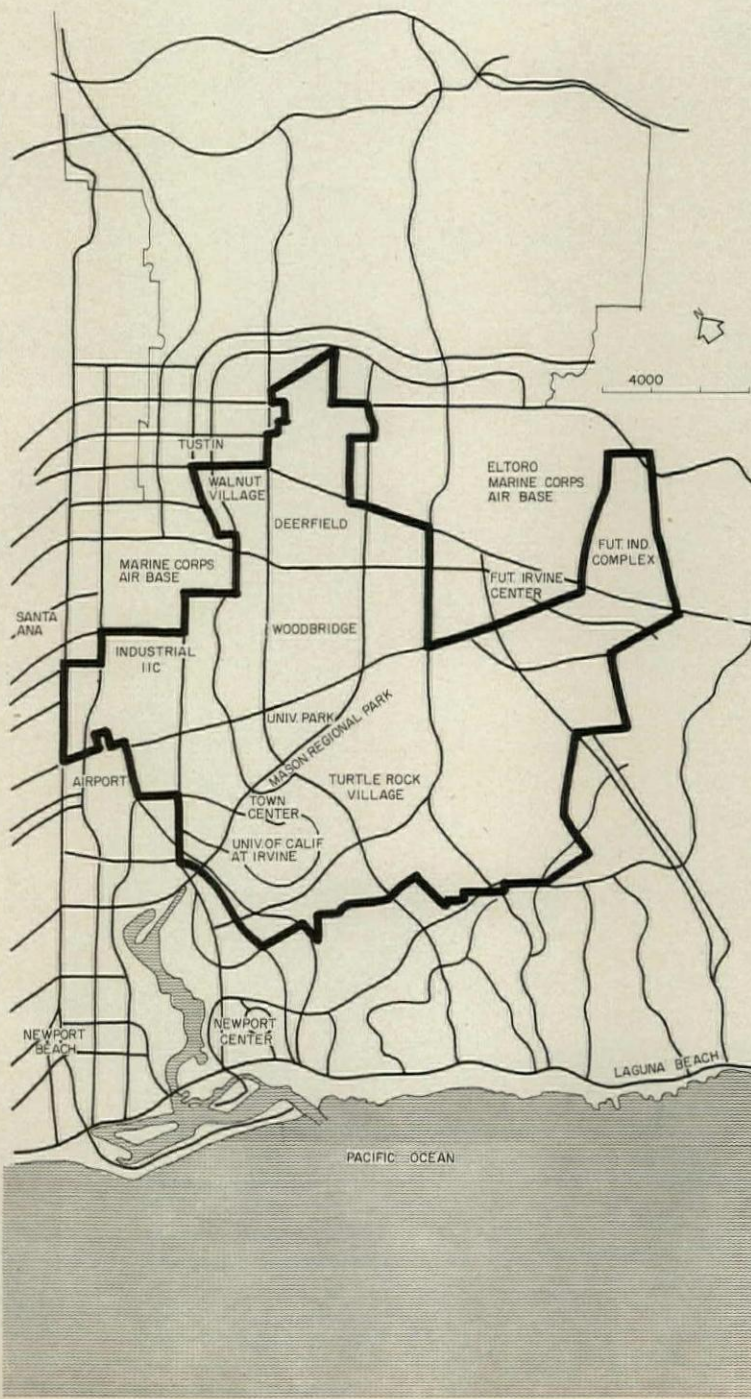
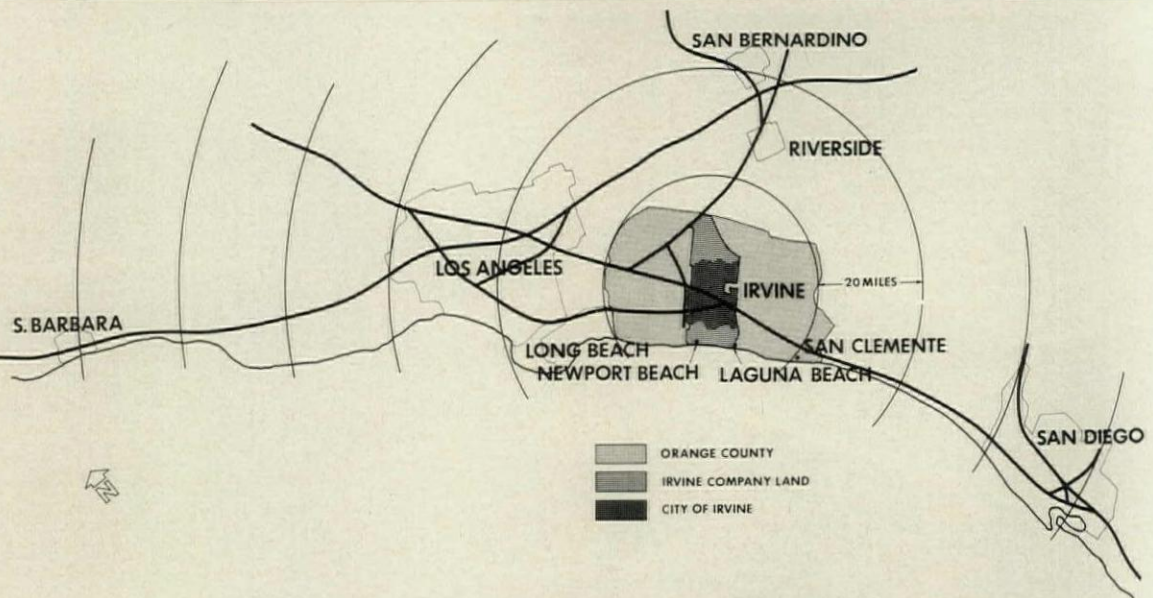
A vast, private California ranch preserves the land as one great tract by turning developer and planner.

Irvine is a new town being privately developed on 53,000 acres on the coast of Southern California. It has been planned for an eventual (year 2020) population of 430,000, living—and working and playing, too, if they choose—within the city's boundaries. Surrounding it are 30,000 acres of mostly undeveloped ranch land belonging to the same Company which is developing the city. Its site is spectacular; the character of its landscape is barren, treeless hills and valleys; its climate highly desirable—mild in winter, sunny and warm in summer.

Irvine is being developed as a privately financed new town but its classification as to type is difficult to make. It combines some features of each of the HUD categories: it is satellite to Los Angeles in that it makes no attempt to duplicate the cultural events, sports or entertainment available there, but it is 40 miles (or 40 minutes, as the Southern Californian reckons it) from that city; it is a "growth center" in that it is a nucleus for new industry and commerce and for population increase, but it is "freestanding" in its location in the center of the huge undeveloped Irvine property—83,000 acres of land, stretching from the ocean to mountains 22 miles inland.






This vast tract of land, the Irvine Ranch, has been held intact and in single ownership for over a hundred years. The first James Irvine bought out his partners and became sole owner in 1867. His son, James Jr., inherited it in 1886 and in 1894 formed The Irvine Company to operate what was a highly productive sheep ranch and farm. Before James Jr. died in 1947, he had formed The Irvine Foundation, a non-profit charitable foundation (which now owns 54 per cent of the stock) "to assure the ultimate destiny of the property."

Whether or not a new town was exactly the "ultimate destiny" that James Jr. had in mind, that is what it has become, though it may never have the look or feel of a fully urbanized place. In the mid-1950's, the pressures for development, increasingly felt by the Company (both from the expanding population in Orange County, and from the principal stockholder, granddaughter of the first James Irvine), and the growing







The Irvine Company's land use plan provides for both short- and long-range development. Over half the total acreage is now in the incorporated city of Irvine (boundaries shown on map at left). But a diversity of development continues on the rest of the property. The city is designed to be self-sufficient, not self-contained, since it depends on Los Angeles, 40 miles away, for many urban amenities. Long time agricultural use in some parts of the property will be continued for some years yet, and mountainous areas will be the last to come under development. Irvine Center, the first commercial development, near the coast and the city of Newport Beach, has developed as a regional commercial center, with tall office buildings and a large shopping center (Fashion Island). Each residential village, however, has convenience shopping as well.



Residential

-  Estate
-  Low Density
-  Medium Density
-  Medium High Density
-  High Density








Commercial

-  Regional
-  General & Community
-  Specialty
-  Recreation, Sport & Amusement

Industrial

-  General
-  Manufacturing & Research





Institutional

-  General & Utilities
-  Civic Center Site Alternatives
-  Elementary School
-  Junior High School
-  High School
-  Junior College
-  Private College

Parks & Open Space

-  Regional Park
-  Community Park
-  Neighborhood Park
-  Golf Course
-  Wildlife Preserve
-  Cemetery

Circulation

-  Freeway
-  Thruway
-  Parkway
-  Collector

Environmental Corridor



burden of land taxation, presented the Company with two alternatives: to end the unique unity of the ranch property, selling it piecemeal to developers and speculators; or to preserve the land as one great tract by turning developer itself and carefully master planning its use.

It chose the latter alternative, and set as its goal to "create an urban environment better than any known before . . . esthetically pleasing, comfortable to live in, economically sound, and as enduring as the science of urban planning can make it."

The first master plan, prepared in 1960 by William L. Pereira and Associates with the Company's planners, recognized the natural topographic zoning of the property: the slightly hilly section near the coast and inland from the city of Newport Beach; the flat valley farther inland; and the rugged mountainous section beyond and to the south. The master plan for the first 35,000 acres covered the coast section and the valley; the mountainous sections were left for later study.

Important influences in developing this plan were the need for industry as a healthy tax base and the decision to locate it in the flat area, near the airport and freeways; the location of the University of California's new campus at Irvine for which the Company donated 1000 acres (and set aside 560 additional acres for housing around the campus); the location of a major commercial center near the cities of Newport Beach and Costa Mesa; and the decision to implement the plan over several decades, which was possible because of the continued and profitable use of the undeveloped land for agriculture.

As the plan has evolved in the dozen or so years since development began, the village has become the basic component of the new town. The first village, built in 1964, was Eastbluff (page 115), for which Richard Leitch and Associates were architects—a planned unit development which made the point that well-designed attached (clustered) single-family housing (not then popular in the area) in a handsomely landscaped setting could be attractive and pleasant. The Company literally created a lushly green, gently rolling environment on what had been barren, windy, flat land, made pedestrian and bicycle paths in the 300-foot-wide green swale, and at the same time pro-



Influences in Irvine's development: The University of California's Irvine campus (left), the growing population of the area around the Irvine ranch (shown at right of photo, bottom of opposite page), and the threat by adjoining cities to annex Irvine's industrial areas—Allergan Pharmaceuticals Company (right; William E. Blurock & Associates, architects) is one of 350 industries in Irvine. Eastbluff, an early village, set standard for residential development, with wide man-made swales and green common areas, landscaped walks and paths, and clustered as well as single-family houses. Seven villages have been developed on Irvine property, four of them within the boundaries of the city of Irvine. At Eastbluff and The Bluffs, village center was located at center of village; at University Park it is on main road; merchants indicate that business has been equally good at both kinds of location.



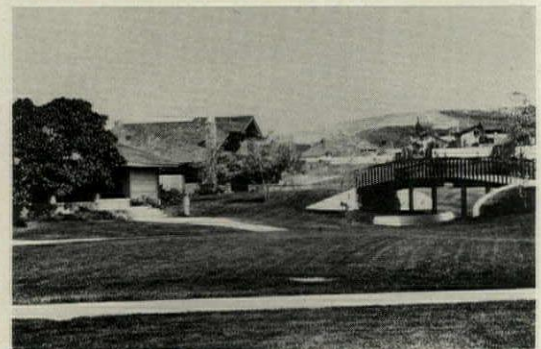
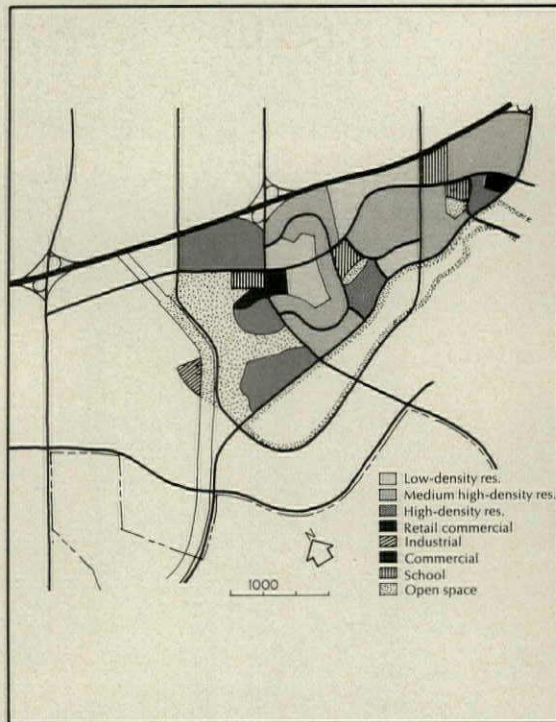
vided a measure of flood control (if floods should occur). The same principles were subsequently applied to cluster housing and apartment projects in other villages, notably in University Park.

Open space, parks, walkways and recreation facilities are important parts of Irvine's plan. Equally important is the need to provide more moderate-cost housing and to accommodate not only a variety of life styles, but all phases of the life cycle. It intends to do this by building more apartments and, in a move toward innovation rare in the development field, it will require that each neighborhood in its soon-to-be-developed new village of Woodbridge (page 117) have a variety of housing types.

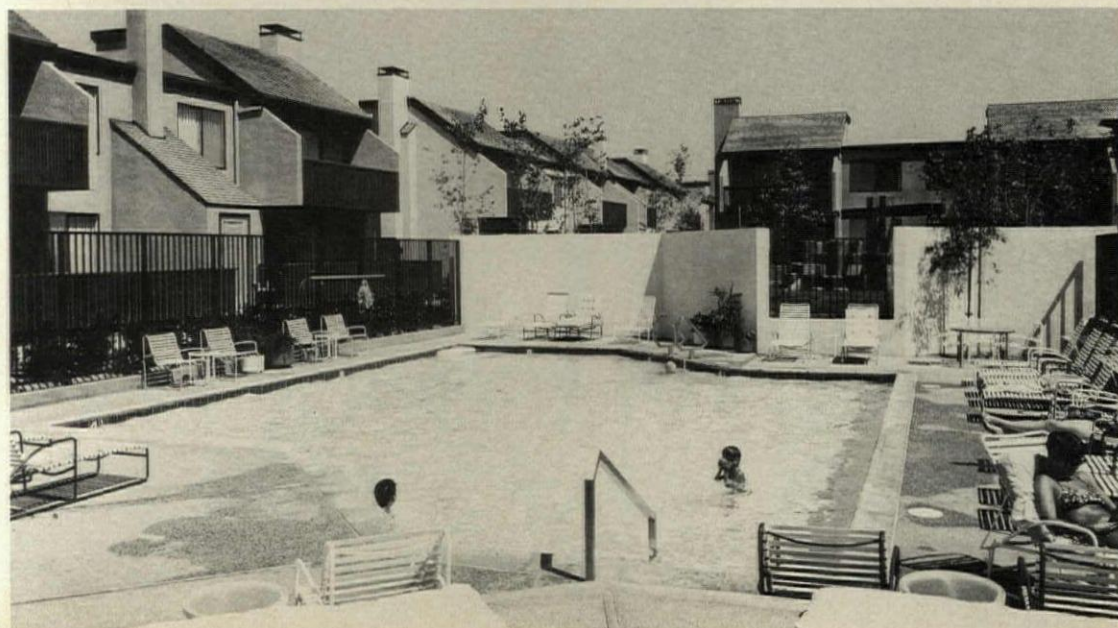
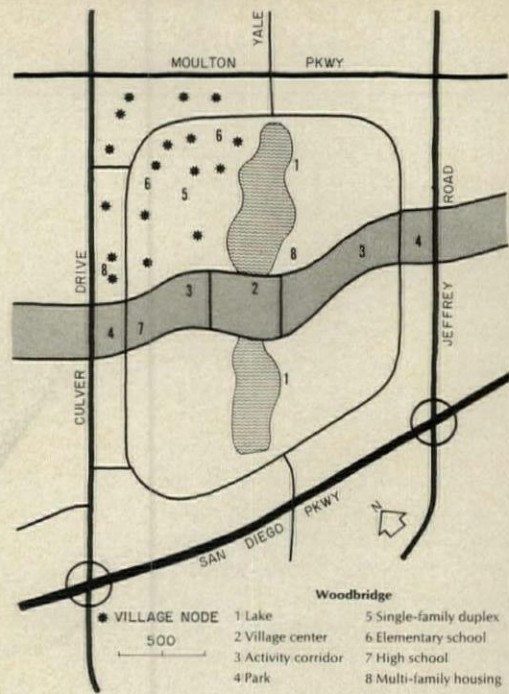
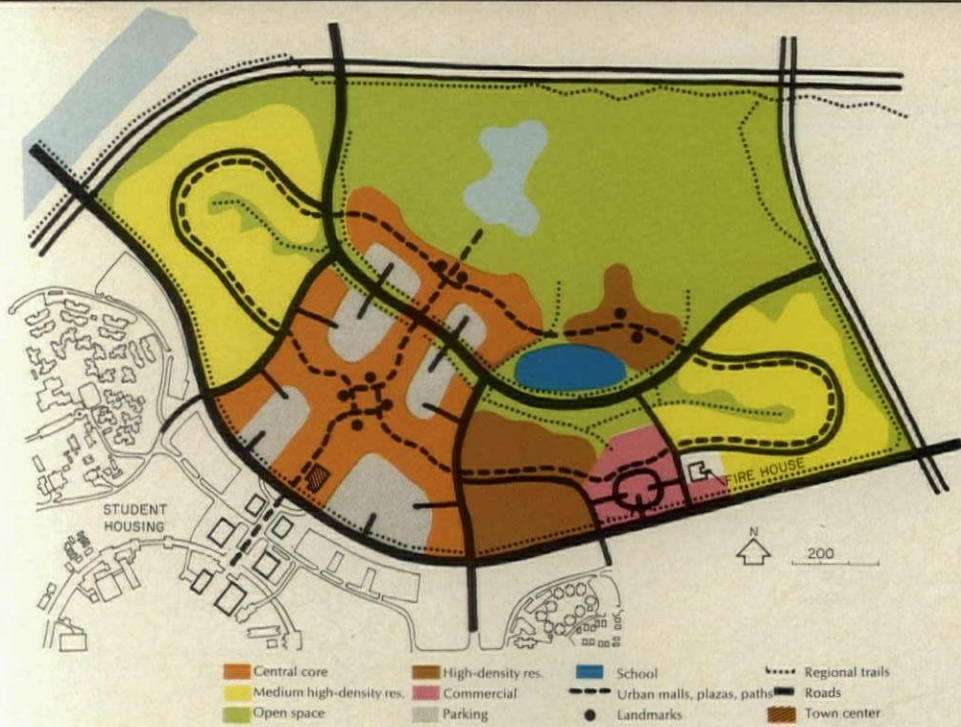
This new village will also have the first environmental (or activity) corridor, a planning innovation of real potential. In the "corridor" will be located the village's principal civic, institutional and commercial facilities linked by pedestrian paths, with parks and other open space to add to its character. There will be three such corridors in the city of Irvine.

The city of Irvine is, since December 1971, distinct from the rest of the Irvine Ranch. On that date the residents of the central section of the ranch voted to incorporate. They had been encouraged to do so by the Company as protection from the annexation, by adjoining cities, of the industrial areas. Irvine thus becomes that rarity among new towns, a fully incorporated city, with the capability and power to determine the directions of its future development. Although the Company must now seek approval from the planning Commission and the Council for every change and every plan it proposes, its president, Raymond L. Watson, FAIA, enthusiastically endorses it as part of "the democratic process."

With so much about it that is excellent, and clearly superior to most developments, it may seem carping to criticize the quality of many of its buildings—public and private. The builder's esthetic, and the emphasis on "marketability"—determined by the selling success or failure of the design used by another builder—seems to dominate the implementation of every master plan for the new cities. Design is a handy whipping boy, but in itself it is rarely the villain. If new towns are to be truly new, a new approach to this old problem is in order.



Thirty thousand people now live in Irvine, in villages like Turtle Rock (above; towers of Newport Center in the distance), Walnut Square (right, top), and University Park (right, bottom, and below). In each a village center has convenience shopping and other community facilities. The average age of Irvine residents is 37; 70 per cent of households have children. Median family income is \$20,800; 62 per cent of household heads are college graduates; 82 per cent own their own houses. Average commute time is 22 minutes for men, 14 minutes for women, but some men live in Irvine, drive 50 miles to Los Angeles offices. While the city of Irvine would like greater diversity of housing for other phases of the life cycle (young and old childless couples and singles as well as families), the idea of apartments has been difficult to accept.



Innovative concepts for future Irvine developments reflect changing social goals and new patterns of land use. The next village, Woodbridge (above, right) will be located in the valley on a flat site which will be given interest by a wide "activity corridor" and two man-made lakes, along whose frontage only occasional clustered houses will be allowed. Responsive to demands for lower-cost housing and to accommodate more variety in age groups and household types, is the plan to provide a mix of housing types in each neighborhood—low-rise garden apartments will adjoin single family detached and attached houses. The innovative concept for Irvine's long-needed Town Center (above, left) will bring a degree of urban quality and density hitherto not known in the city. A mix of housing with various kinds of commercial and governmental uses along pedestrian-oriented paved and landscaped plazas and courts is to provide a lively contrast with other Irvine villages.

Valencia

This new privately developed town is planned as a self-contained unit in the Southern California sprawl.

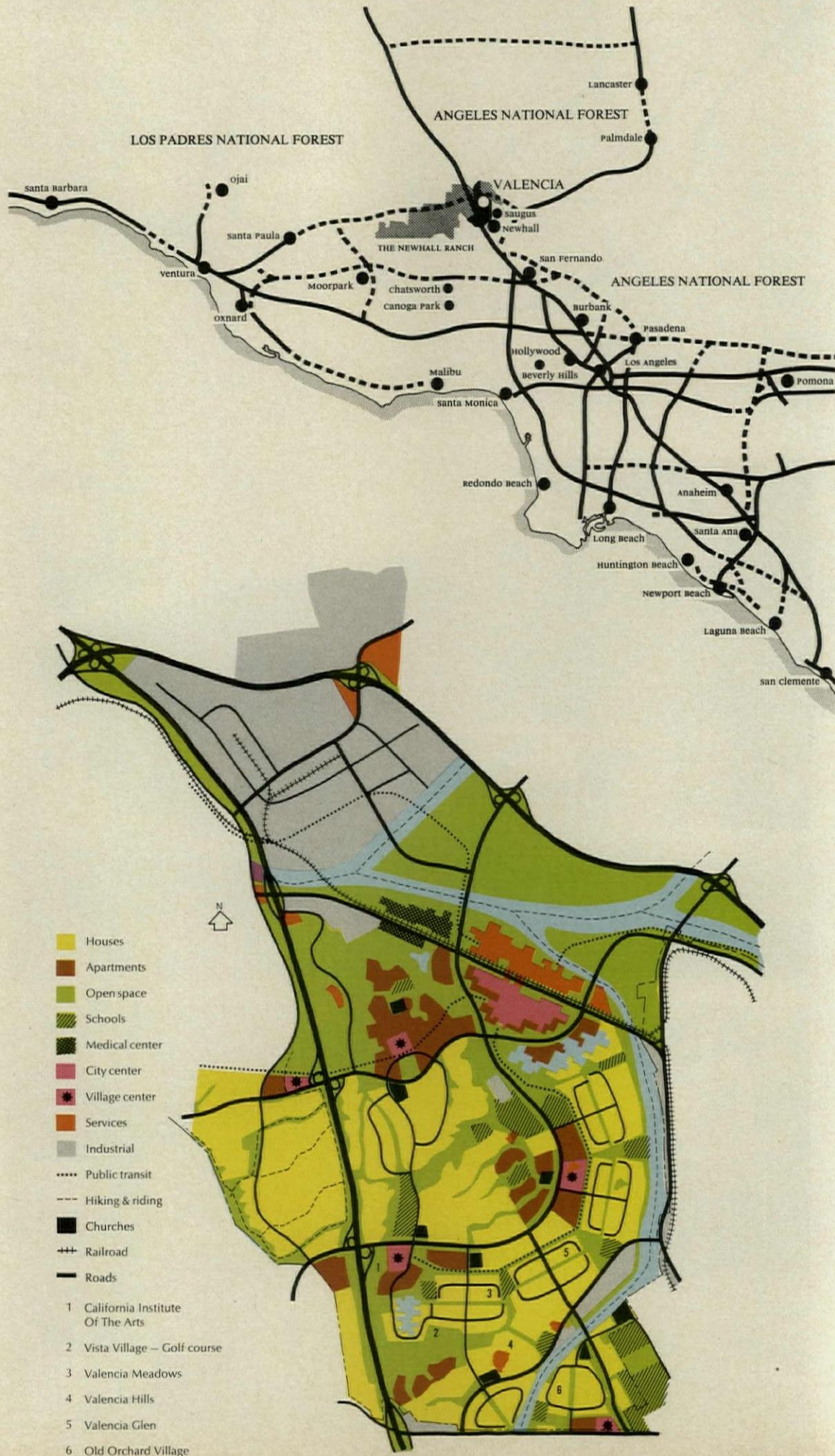
The new town of Valencia, California, is 32 miles from Los Angeles in a valley that is—at least for the moment—another world. The three mountain ranges that surround the valley, and their foothills, are, like many Southern California mountains, bare of trees and only sparsely covered with brush. It is, in fact, a semi-desert area.

Valencia is being built on land owned since 1883 by the Newhall Land and Farming Company. The first phase of development covers 4000 acres, less than one-tenth of the land that will eventually be developed, and is part of a master plan that anticipates a population of 150,000 by 2020. The present population is 8,000, living in 2,600 houses and garden apartments.

The master plan, by Thomas L. Sutton, Jr., Valencia's coordinator of planning, and Victor Gruen Associates, intends a "true city . . . to provide for the full range of human activity . . . not as an isolated or independent city . . . but as a city in the Southern California metropolis . . . dependent on it for the full development of its total resources, human and otherwise". "Self-contained" is the adjective most used by the planners to describe the town.

Like Irvine, Valencia's basic planning unit is the village, a "semi-self-contained urban element." Each village has its own identity, achieved through type of housing or some physical characteristic like a lake, which distinguishes it; and each is separated from adjacent villages by some kind of open space—park, river bed, landscaped slopes or a major public facility. Land use varies with location and topography, with a density of 3.2 units per usable acre, comparable to that in surrounding areas, with which the company feels it must compete.

Pedestrian paths, in scale with the neighborhoods they traverse, and landscaped appropriately for the locality, are among Valencia's pleasantest features. As at Irvine, some of the most architecturally acceptable buildings are the garden apartments. Neighborhood recreation clubs and a few residential buildings also are better-than-average. If Valencia is not yet a city—and right now, it has little resemblance to one—it has time to grow into one.



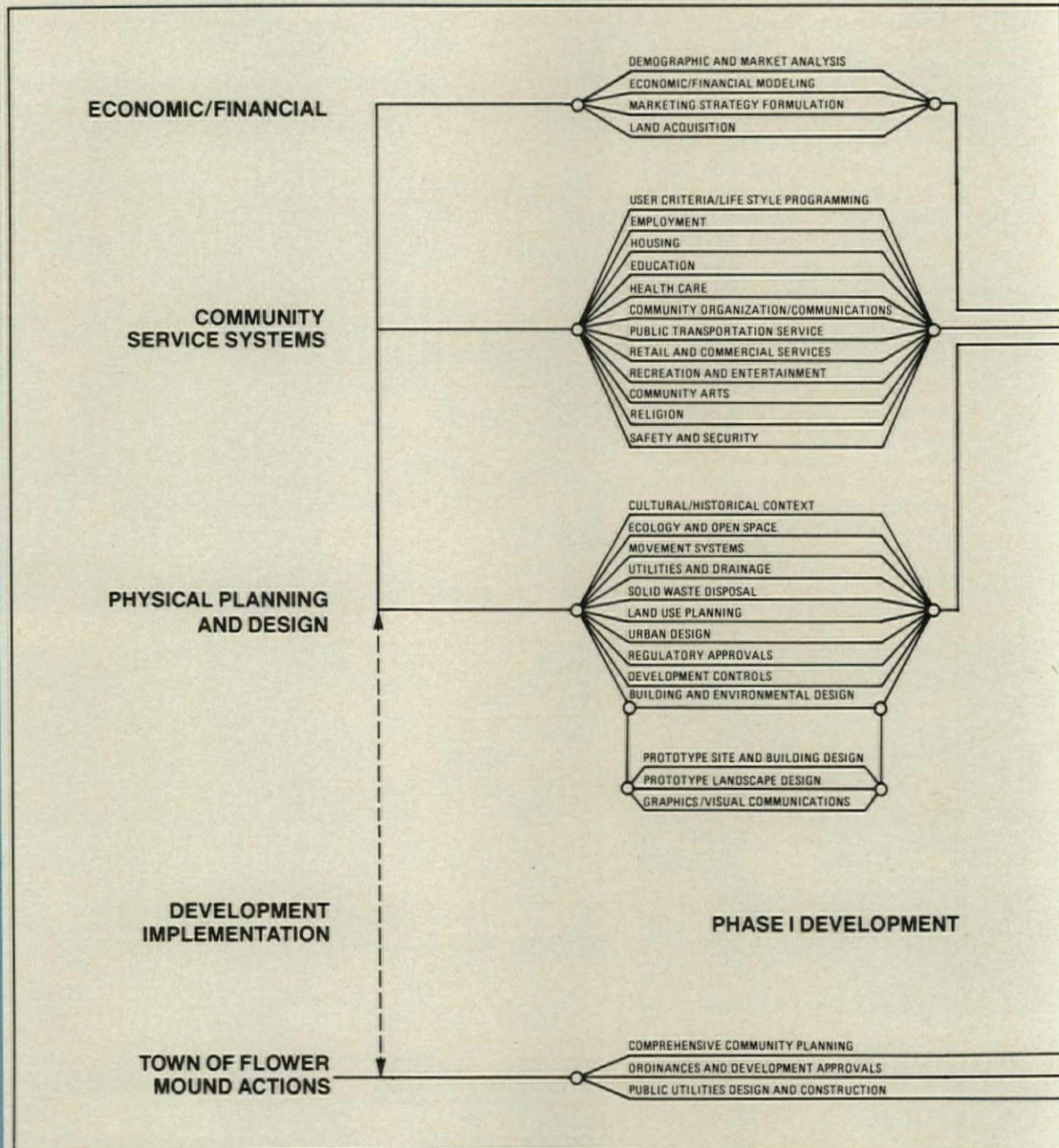
Simultaneous development in the first 4000-acre segment of Valencia's 43,000 acres includes city center, residential recreation facilities, open space/parks and industrial. Lockheed Rye Canyon Research Facility (right), located in foothills, typical of country surrounding the city site, was first industry in Valencia. (William L. Pereira & Associates, Architect.) The California Institute of the Arts, an important asset to the community, has an extensive site in the Vista Valencia Village area (left below, top; Ladd & Kelsey, Architects). Valencia's range of housing, although concentrated in the moderate- to high-income types, includes a number of apartment projects, some developed around man-made lakes (left, below center; Maxwell Starkman & Associates, Architects), others around landscaped courts (below, right; Barry Berkus & Associates, Designers).



How are "planned communities" planned?

The process is complex. Good results will depend on the coordination of many skills.

Designing new commun



by Jonathan Barnett

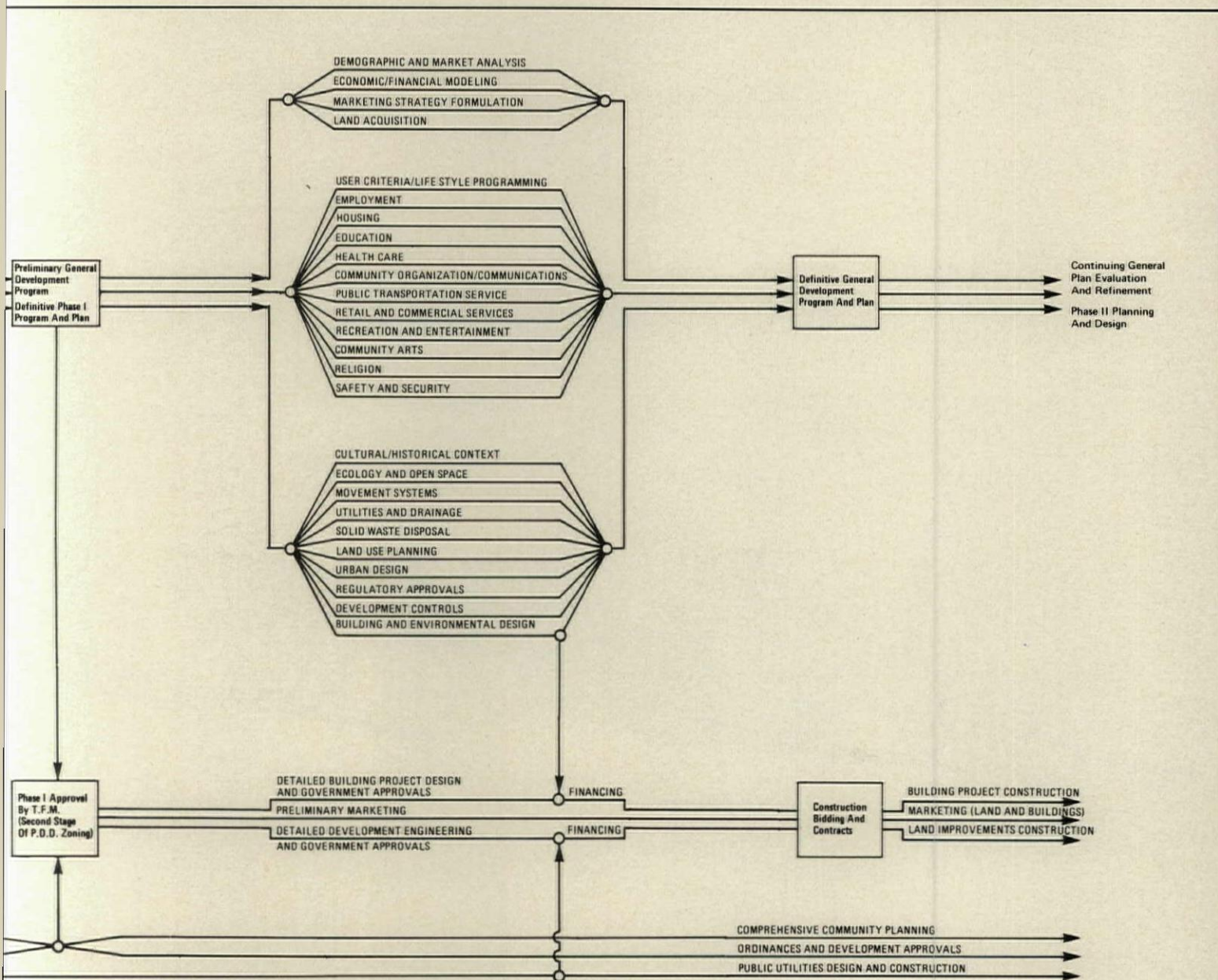
Jonathan Barnett, an editorial consultant for ARCHITECTURAL RECORD, is professor and director of the Graduate Program in Urban Design at the City College of New York. He was formerly director of urban design for the New York City Planning Department, and his book, Urban Design as Public Policy, which describes the work done by Mr. Barnett and his colleagues in the New York City government, will be published by Architectural Record Books early next year.

Many different people are considered to be indispensable in the process of creating a planned community. The real-estate investor is one, the economist is another, the civil engineer is a third. The architect in his role as urban designer often comes fairly far down the list; in the process diagram pictured on this page, urban design is just one of the many professional areas that have to be considered. It is indicative that the Urban Land Institute's book "Federally Assisted New Communities" says almost nothing about the role of the design professional, and does not mention the names of the architects and urban designers whose work is illustrated.

The design professional is capable of playing a leading role

in establishing the physical form of planned communities, but he has to find ways to make sure that other professionals, and the client, use his abilities when the real design decisions are being made. Otherwise he can be relegated to drawing illustrative site plans and perspective sketches that are little more than window dressing, and which no one else seriously expects to follow.

Planned communities applying for Federal assistance under Title VII of the Housing Development Act of 1970, or earlier legislation, must meet certain physical planning standards which provide at least the opportunity for creating a high quality environment. Of course, all such legislative standards are subject to interpretation



and require an evaluation process as the planned community goes forward, to make sure that what was shown on paper is actually being done.

The demand for improved environmental design from citizen's groups like the Sierra Club and an increasingly competitive situation in some housing markets are also good omens, as far as quality design is concerned.

A new task and a new contest for the designer

The design professional has to learn to respond to these opportunities by working in an entirely new context, where the demands for his services are considerably different from those of a conventional architectural practice.

The designer working with the private investor who has not applied for Federal funding has an even more difficult task, because this kind of client has less money to spend and shorter time schedules. He wants specific answers to specific questions, which often relate only in the most general way to the design of buildings.

For example, real estate developers often come to architects, landscape architects or planners and say something like this: I have an option on a piece of property and I plan to build a hotel, a golf course and 500 condominiums on it: will it work?

If this question is asked of an architect, all too often he will go away for a few weeks and come back with a design concept for the

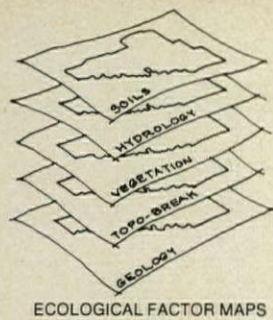
organization of the buildings. He explains how the same diagonal geometry used in the hotel corridors creates the order that informs the condominiums; he perhaps has a little sketch of the view from the entrance of the hotel, framed by the buildings that he has already visualized.

If the developer is impolite, he may say "you sonovabitch, you wasted my money". He is certainly thinking it. In any case, he is very likely to withdraw and seek the advice of someone who can answer his question. The architect sighs profoundly, realizing that he has again failed to find the patron who will appreciate his genius. In order not to waste all his work, the architect puts the unexecuted design in his brochure,

where it can frighten off the more sophisticated of his potential clients almost indefinitely.

The problem is that the developer is not asking the architect to visualize the buildings in detail: he is asking him to assess the potentialities of a piece of property that he is thinking of purchasing. At this stage he wants to know what his problems are, not his opportunities. He already knows it is possible to design a beautiful hotel and condominiums. He doesn't know if it can be done on the piece of land he has in mind, given the physical character of the land, the local political and environmental situation, the potential costs, the market place, and so on.

Some developers are knowledgeable in assessing these prob-

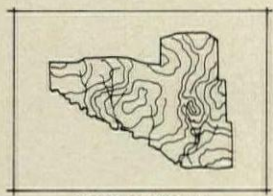


ECOLOGICAL FACTOR MAPS

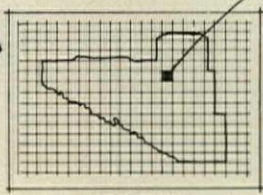


THIS SKETCH SHOWS A 500' by 500' SQUARE CONTAINING EACH FACTOR. THE TOTAL NO OF POINTS ASSIGNED TO THIS UNIT AREA IS 34, PLACING THIS SQUARE OF THE FLOWER MOUND SITE IN SENSITIVITY CLASS V.

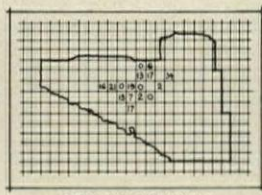
BLOW UP OF SQUARE



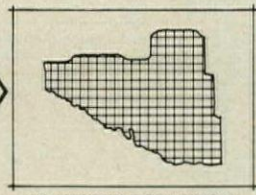
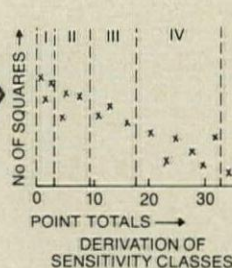
SUMMARY MAP



GRID OVER SUMMARY MAP



ASSIGNMENTS OF POINT TOTALS



COMPOSITE ECOLOGICAL SENSITIVITY MAP



FRESHWATER MARSH

CYPRESS SWAMP

NATURAL LEVEE VEGETATION (ON SILTS AND CLAYS)

UPLAND FOREST TYPES (ON SANDY FILL ABOVE +4')

- KOONWILD (*Rhus glabra*)
- WATER LILY (*Najas*)
- PALE PINE (*Pinus taeda*)
- THREE CORNED GRASS (*Tripsacum daniellii*)
- CATTAIL (*Typha latifolia*)
- BALD CYPRESS (*Taxodium distichum*)
- ROSE MALLOW (*Hibiscus mucronatus*)
- ARROWHEAD (*Sagittaria latifolia*)
- COPPERBESS (*Baccharis*)
- RED WARPLE (*Aspen*)
- BLUE FLAG (*Iris*)
- BUTTON WORM (*Conium maculatum*)
- ONION PALMETTO (*Sida*)
- SWEETGUM (*Liquidambar styraciflua*)
- YALPOK (*Ilex*)
- DEVILS WALKING STICK (*Aster*)
- JACK IN THE PULPIT (*Alisma*)
- STICKLEBURST (*Plantago*)
- SWAMP AZALEA (*Phlox*)
- ROBUST HICKORY (*Carya*)
- CAROLINA FLOWER (*Illicium*)
- SWAMP PRIVET (*Fraxinus*)
- DAKOTA LIME TREE
- MAVARI (*Prunella*)
- ROUGHLEAF DOGWOOD (*Cornus*)
- BLACKGUM (*Nyssa*)
- WITCH HAZEL (*Hicoria*)
- LIVE OAK (*Quercus*)
- FALSE DRAGONHEAD (*Dioscorea*)
- HARTWORN (*Crataegus*)
- SOUMWED (*Sorbus*)
- BLACK WILLOW (*Salix*)
- PECAN (*Carya*)
- POSSUMHAW (*Viburnum*)
- CRANE'S BILE (*Quercus*)
- SOUTH IN MAJONIA (*Magnolia*)
- OAKLEAF HYDRANGEA (*Hydrangea*)
- LOUISIANA PALMETTO (*Sida*)
- SILVERBELLS (*Rhus*)
- SLASH PINE (*Pinus*)
- MOUNTAIN LAUREL (*Kalmia*)
- PHLOX (*Phlox*)
- SHINGO SUMAC (*Rhus*)
- WILD ROSE (*Rosa*)
- TREE SPARKLEBERRY (*Vaccinium*)
- PAMPAS (*Asimina*)
- FINGERTREE (*Chionochloa*)

lems, others need more help than they realize. If the developer is in the office of an architect he has not used before, the chances are that his property has some problem that requires an unconventional approach. The opportunity for good design is there; the designer has to know how to seize it.

What is good design?

Obviously, if the designer is to create a high quality environment, he must know what constitutes the elements of a well-designed community. Edward Logue, the head of the New York State Urban Development Corporation, spoke recently to a meeting of the Design Committee of the AIA about his agency's record in fostering good architecture, which is certainly an

exemplary one. I asked him how he knew what good design was. Logue's reply: "Well, I know what it isn't."

Anyone filing plans for a new community has created a planned community. How do you know what constitutes good design in a planned community? Well, we all know what it isn't: the unplanned formless sprawl that has grown up around our cities in the last 25 years. But what is good community design, and how do you make it happen?

A four-stage design process

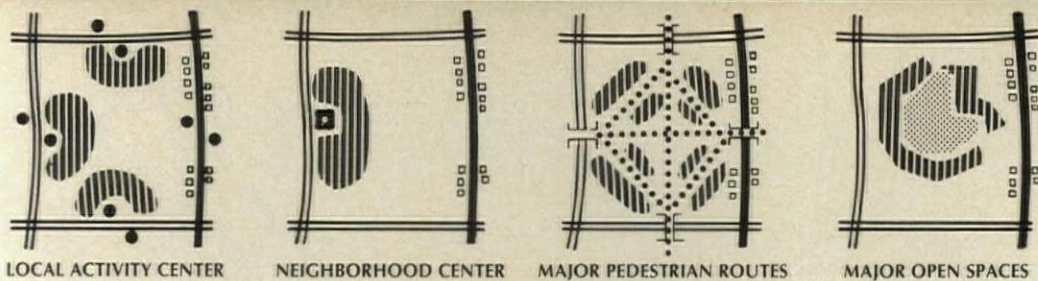
The process of designing a new community is much more extended, and involves a great many more people, than the design of a building; but it goes through a rec-

ognizable series of stages which are analogous to those of building design. As in the design of a building, it is possible to lose the ball game at any point. If the site is badly chosen, or the program is wrong, the task is already hopeless. A good set of schematics is no guarantee that the concept will survive the design development process, and so on.

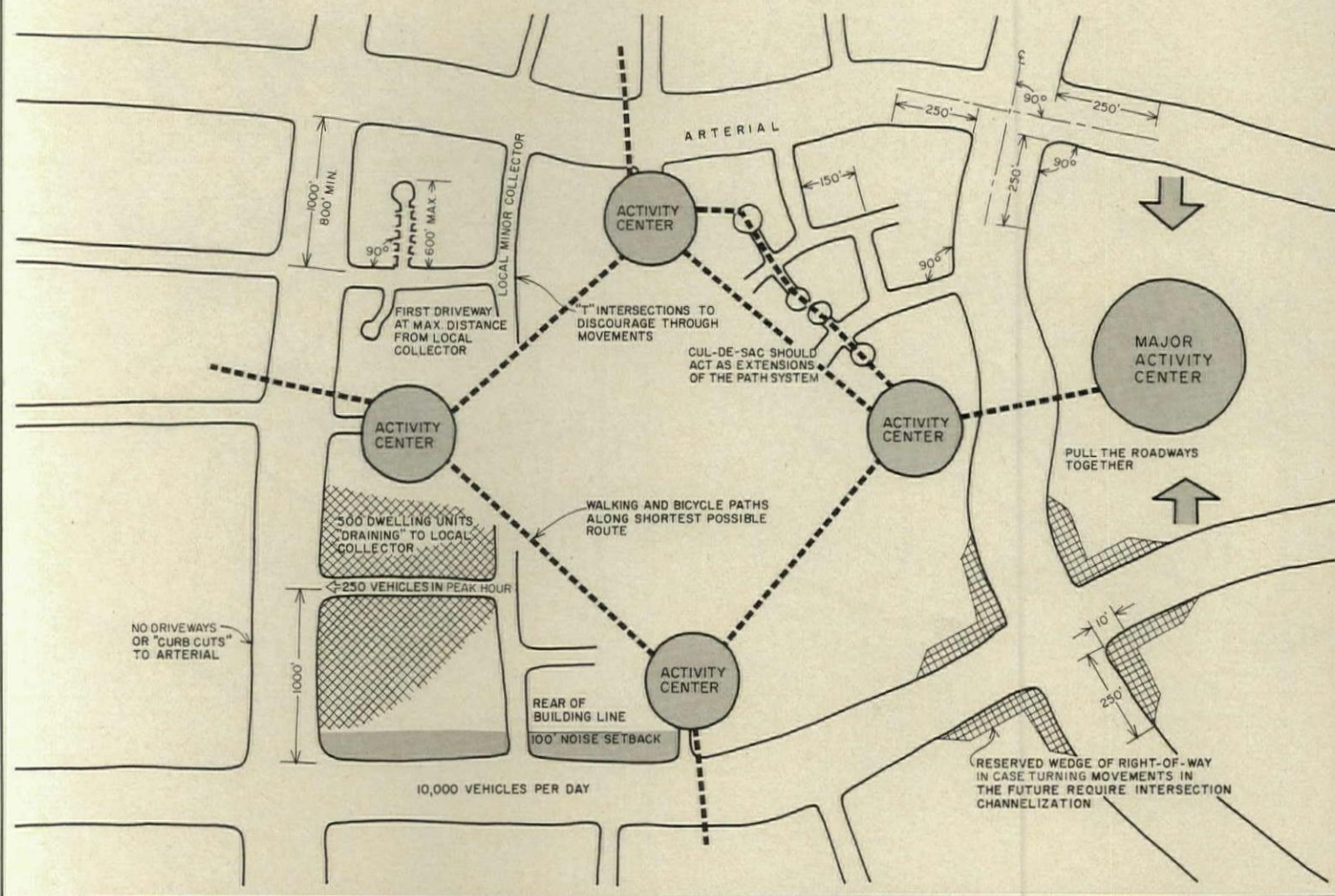
There seem to be four major stages in the design of a planned community. First, the site selection and programming phase, which involves the analysis of the land, and the selection—and testing—of some basic land organization principles. The next step is the land-use plan, which always embodies some kind of physical design concept. Such plans are

sometimes called N state plans, because they show the whole development at some indefinite time in the future. Frequently, however, the design principles upon which the land-use plan are based simply represent standard practice, and have little reference to the particular site and program. The third stage is the study of actual designs for infrastructure, lots and buildings, and the staging of the development process. Finally, step four is the execution of the actual structures, at which point conventional architectural and engineering design contracts will be let.

It is evident that the skill with which these four stages of design are interrelated will have a significant effect on the quality of the ul-



These diagrams illustrate the organizing principle for planned communities developed by Llewellyn-Davies Associates. The ones at left were drawn for Audubon New Town and the drawing below was developed for Flower Mound New Town by R. H. Pratt Associates and Alan M. Voorhees from the basic Llewellyn-Davies concept.



timate result. There is often a big gap between stage two and stage three, while the developer waits to see if the Federal Department of Housing and Urban Development will approve the application for Title VII funding that embodies an "N state" plan.

When it comes time to work out the actual staged development, the over-all plan may turn out to be more of a statement of good intentions than a framework for what really happens.

If there is a conflict between decisions taken in accordance with the over-all plan—roads, for example—and the design of actual neighborhoods or centers, design quality is sure to suffer.

We will come back to this problem of interrelationships after

we have looked in more detail at individual stages of the design process.

Design analysis of the site

The designer can play an important role in analyzing the site and in proposing organizational concepts for the physical "infrastructure," that is the roads, pathways, drainage systems, open space networks, and so on, but he is not always asked. In fact, the designer frequently does not come into the process until the site has been selected and some basic developmental choices already made.

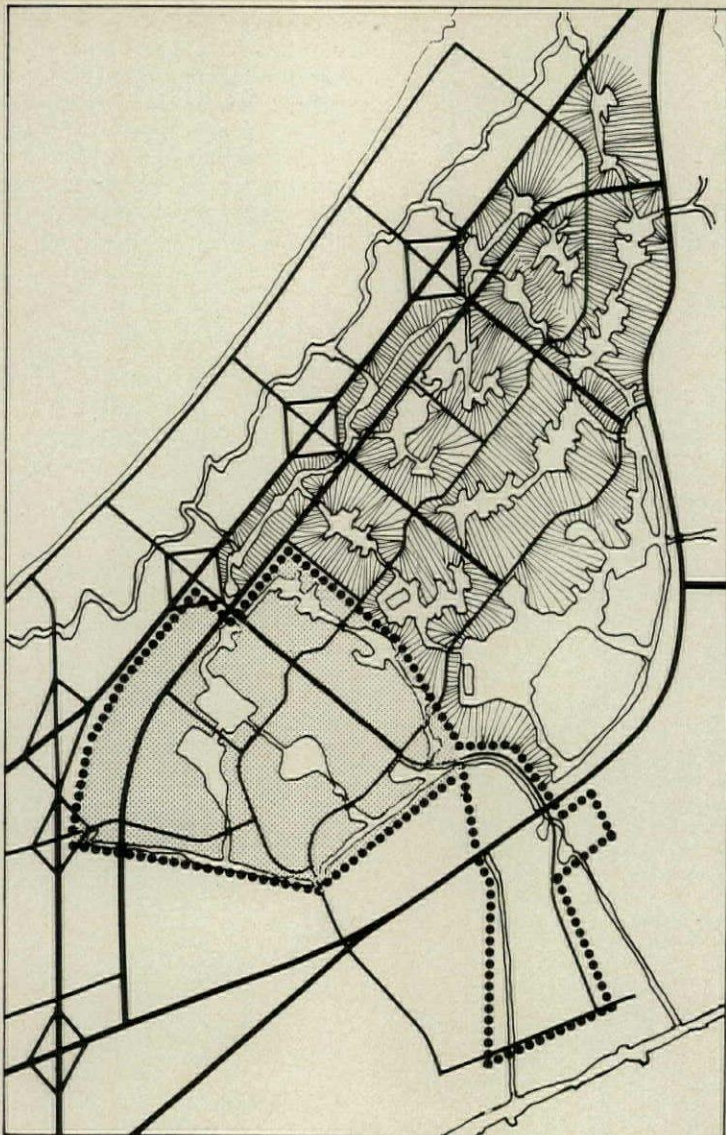
Sophisticated techniques for analyzing the ecology of a particular land development site are often associated with the name of

Ian McHarg, a landscape architect and planner, and a partner in the Philadelphia firm, Wallace McHarg Roberts and Todd. McHarg is the author of a book, *Design With Nature*, which sets out his basic theories, which seem so eminently sensible that it is hard to understand why they have not been accepted practice for many years.

Essentially, McHarg's point is that most site planning techniques are devices for subduing nature. But, because the site in its natural state embodies an equilibrium of complex natural forces, cutting down tree cover, bulldozing hill-sides or putting streams in culverts invite appropriate retribution: eroded topsoil, flooded basements, collapsed roads. In addition,

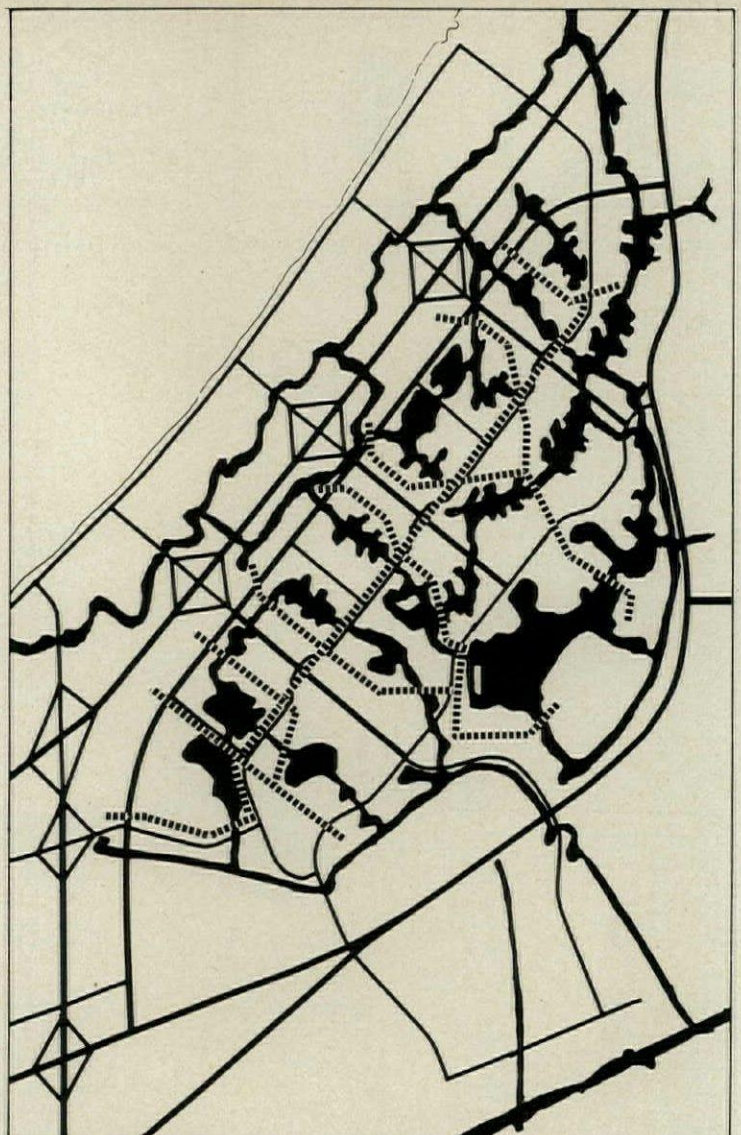
there may be more far-reaching disturbance of the natural ecosystem: disturbance of bird migration patterns, climatological change, new vegetation patterns changes in the water table.

McHarg suggests designing with nature, rather than against her, by analyzing the role played by each part of the site in the natural eco-system and building only on land which can sustain development without far-reaching side effects. The diagram at the top of the opposite page shows a McHargian analysis done for Flower Mound New Town by another team of consultants that has accepted McHarg's premise. The drawing of vegetation on the same page was done by McHarg's firm to illustrate the natural systems





INFRASTRUCTURE CONCEPT
PONTCHARTRAIN

- 
 PREPARED LAND
IN DRAINAGE
DISTRICT 1
- 
 LAND FORM
CREATED
BY FILL
- 
 WATER AND
DRAINAGE
NETWORK
- 
 LINEAR GRID
ROAD NETWORK



CIRCULATION CONCEPTS
PONTCHARTRAIN

- 
 WATER NETWORK
- 
 MAJOR
PEDESTRIAN
CIRCULATION

prevailing on the site of Pontchartrain New Town, in New Orleans.

A preliminary ecological analysis can save a lot of trouble later. The proposed San Antonio Ranch new community in Texas has received a Federal Title VII grant and is well advanced in planning. Now, however, environmental groups and local government agencies are opposing the project in the courts, claiming that the town is situated in such a way that it will inevitably pollute the water supply for the entire city of San Antonio. One of the owners of the site was quoted in a recent issue of *Business Week* as saying: "Had I ever dreamed this project would turn into the nightmare it has become, I would never have thought about building a new

town." Similar, if less drastic, experiences have happened at other planned communities.

Basic organizing concepts for planned communities

Some of the basic organizational concepts for planned communities are so widely accepted that people have ceased to think of them as design solutions and have given them the status of basic assumptions.

One is the curving pattern of local streets that goes back more than a century to Olmsted's design for Riverside, Illinois, and before that to the curving paths and naturalistic landscaping of English garden design.

Another is the cul-de-sac street and interlocking greenway

pattern used by Clarence Stein and Henry Wright at Radburn almost half a century ago.

A third is the concept of neighborhood and the relationship of houses to the elementary school as outlined by Clarence Perry also half a century ago.

The procedure for designing a planned community according to these assumptions has been stated very clearly by George Pillorge in the AIA's new book on planned communities, *New Towns in America*.

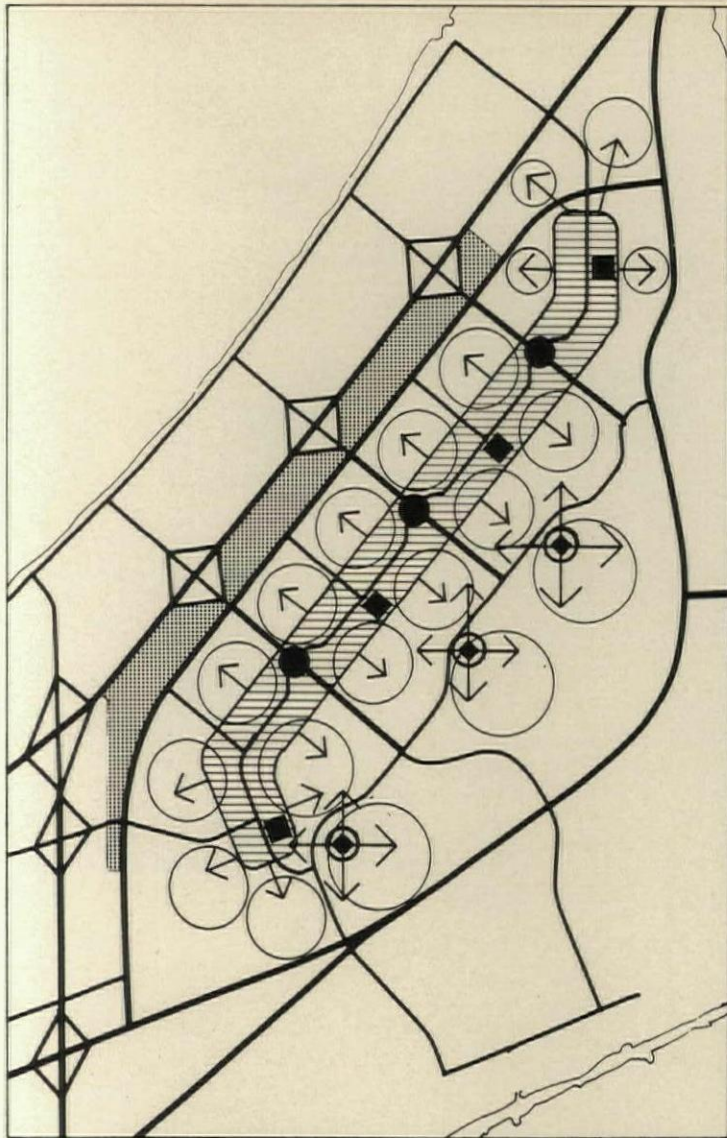
Just because an idea has a long history is no reason to suppose that it is no longer valid, although, in a period of accelerated social change, that suspicion does come to mind.

Pillorge's article should be

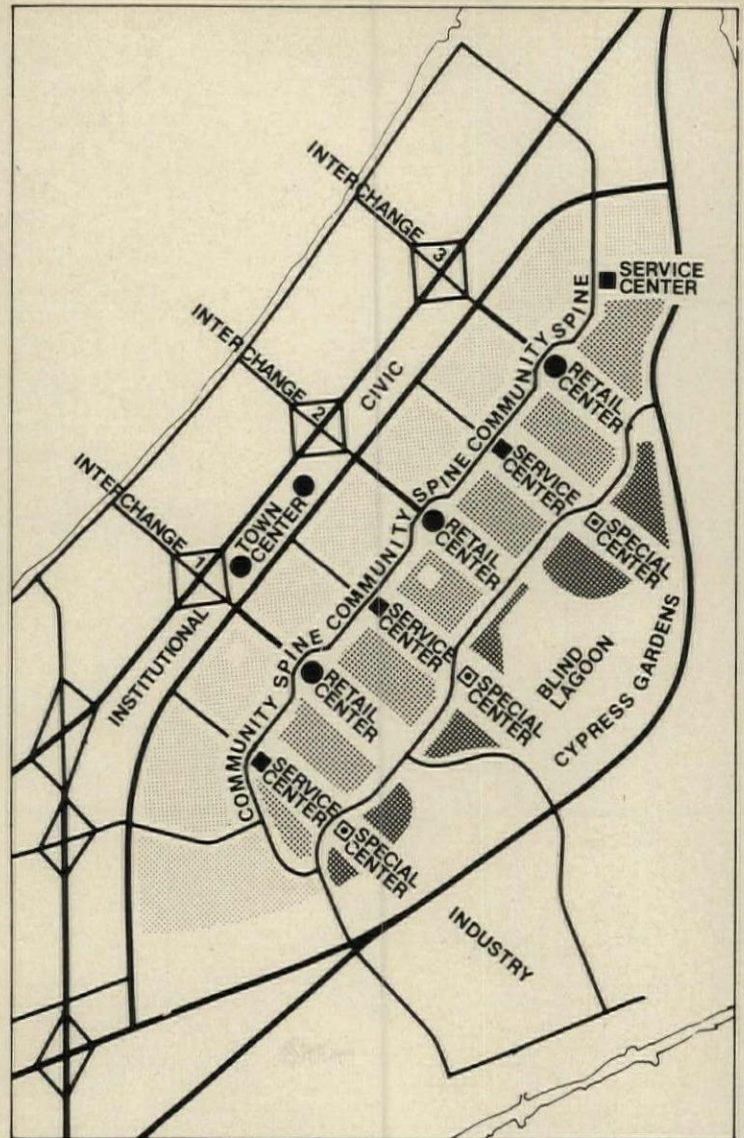
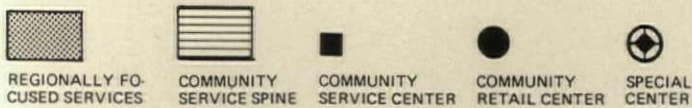
read against statements such as that by Lord Llewelyn-Davies entitled "Changing goals in design," in *New Towns, The British Experience*, essays introduced by Peter Self.

Llewelyn-Davies is particularly suspicious of the idea of a planned community as a self-contained entity with a green belt around it, believing that, in the age of the automobile, such isolation is not practicable. He prefers to think of a planned community as part of a larger network of relationships.

It is interesting that a form of cross-fertilization of rejected ideas is going on between Great Britain and the United States, with the Americans importing the self-contained new community out of dis-



SERVICES DELIVERY CONCEPT
PONTCHARTRAIN



LOCATION MAP
PONTCHARTRAIN



satisfaction with formless urban growth, and the British looking to America for ways to loosen up what is seen as an overly rigid structure in their planned communities.

The pattern of organization suggested by Llewelyn-Davies is very much what you might see out the airplane window flying over any part of the American Midwest: the mile-square grid defining the landscape sector by sector.

The illustrations at the top of page 123 show the Llewelyn-Davies formulation, originally worked out for the new town of Milton Keynes in England, applied to Flower Mound New Town in Texas and Audubon New Town in New York State. (The long-range development plan for Milton

Keynes appears on page 134).

George Pillorge, in his article in the AIA's book, outlines the street organization that is considered good practice for Planned Unit Developments and new communities in the United States: a hierarchy of three kinds of street: local or access, collector, and arterial. The Llewelyn-Davies formulation, by contrast shows only two kinds of street: local and arterial. There is also a calculated ambiguity about the nature of the neighborhood, which might be within the mile-square grid, or on either side of the arterial.

The importance of neighborhoods in planned communities is another concept which is not as widely accepted as it once was. Marshall Kaplan, the social plan-

ner who is the general manager of Flower Mound New Town, is vehement about the lack of relevance of the neighborhood for modern American life. The AIA book, on the other hand, assumes that the provision of neighborhoods is sound practice, as have the designers of many planned communities.

An inspection of the maps for the first phase development at Flower Mound reveals that Kaplan may be making a distinction without a difference. There seems to be a strong similarity between development at Flower Mound, planned without neighborhoods, to that at Reston, where the individual neighborhood was the *sine qua non*.

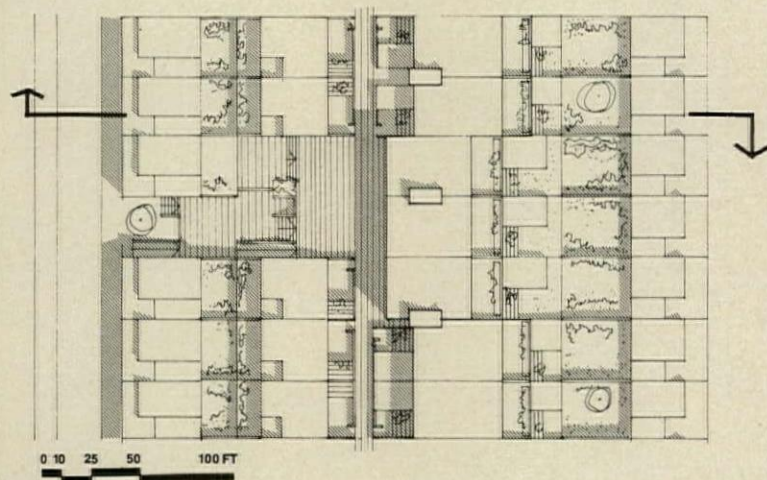
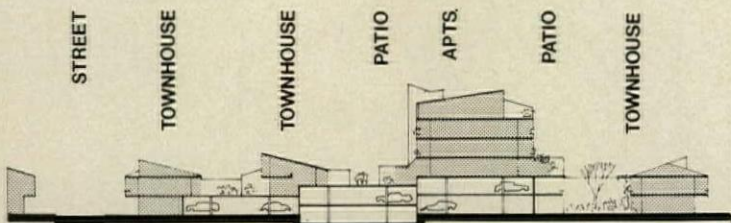
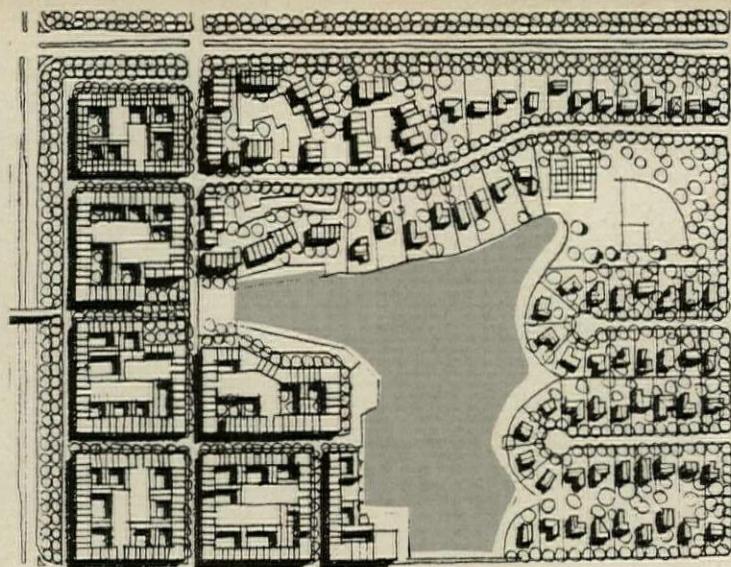
As a diagram, however, the

Flower Mound or Audubon development pattern shows a much more modular distribution of major activities than has been usual in planned communities, with the mile-square pattern permitting greater flexibility of movement than is possible within a strongly-defined street hierarchy.

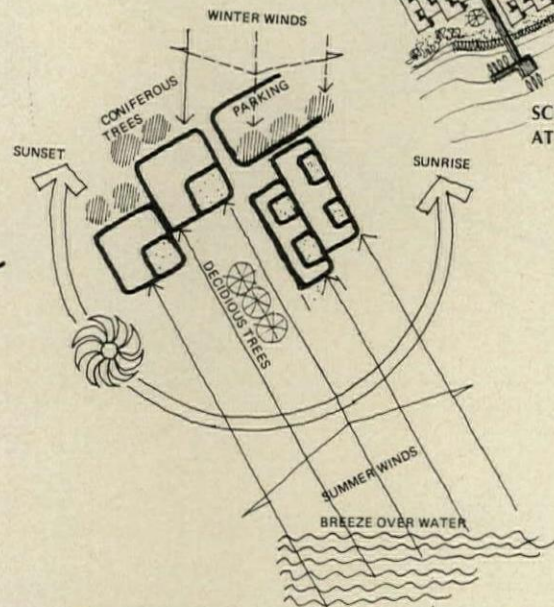
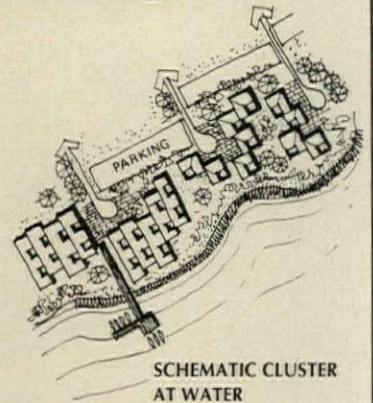
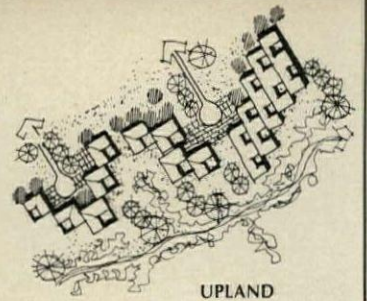
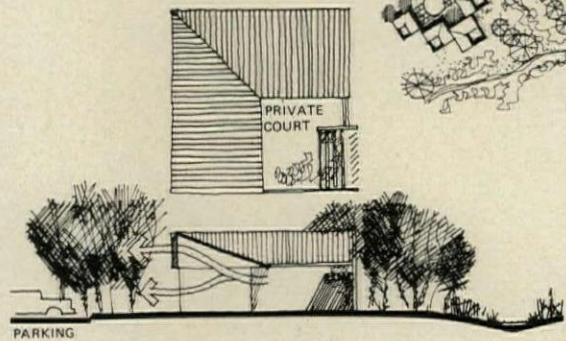
A design based on ecology

The plans for Pontchartrain, a new community on unbuilt land within the city of New Orleans, show the practical consequences of an extensive ecological analysis and a modular system of land-use organization.

The new town will be situated on 8,400 acres of what we used to call swamp, and have now learned to call wetlands, within a



Some of the housing types developed by Wallace McHarg Roberts and Todd for Pontchartrain, to demonstrate the feasibility of the concept, which requires high-density clusters, so that much of the site can be water.



larger, 32,000-acre tract, part of which will be preserved, and part of which will ultimately be developed as well.

Much of New Orleans has been built on land that was originally like this, and it is perfectly possible, through the use of drainage culverts and fill, to convert the wetlands to buildable plots. However, this conventional engineering approach is completely destructive of the natural ecology of the area, and would have a bad effect on the surrounding wetlands.

What the consultants suggested instead was a natural drainage system, based on an interlocking network of canals and lagoons. By putting much of the open space on the site into water-

ways, the remaining land could be built up and contoured to drain naturally. Portions of the site could also be preserved in their natural state, and there will be a smooth transition to them.

The solution to what is commonly considered a routine engineering problem thus provided the basic design concept for the entire planned community.

The consultant also provided the basic conceptual organization for the land uses in Pontchartrain. Starting with three existing highway interchanges the plan has evolved into a modular system along a service "spine," a form of organization usually associated with much denser development, but quite appropriate to this site, where the same conditions repeat

themselves again and again.

The way in which these strong conceptual ideas for drainage and land planning combine to produce the plan for the whole community can be seen in the drawings on pages 124 and 125.

The consultants for Pontchartrain, because they were dealing with high land preparation costs, and the need for unusually high building densities on some parts of the site, found it necessary to develop drawings illustrating the housing types that could be used to carry out the development as planned. In this way, the consultants are trying to insure that the work done in stage two of the design sequence is not invalidated when you get to stage three.

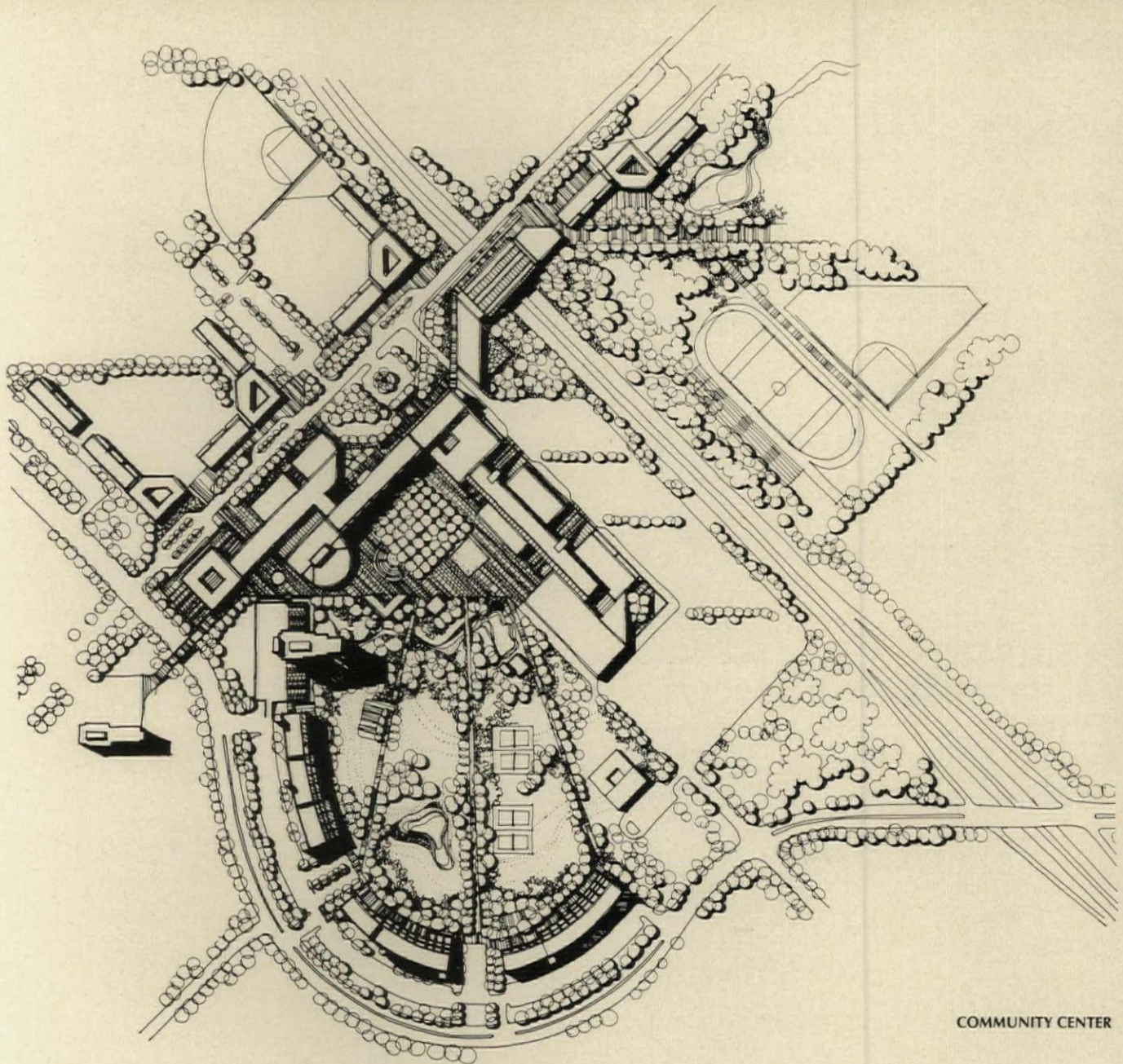
Examples of these housing

type studies are shown at the top of this page. They are based in part on an analysis of traditional New Orleans building practice, and also on a climatological study.

Relating site and building design

The relationship between stage two and three of the process of designing a planned community—that is, between the conceptual organization, and the concepts for the actual physical development, is an extremely tricky one.

It is possible to go wrong, as mentioned earlier, by doing too much architectural design prematurely, it is also possible to go wrong by not doing enough architectural design, and choosing a conceptual organization that does



COMMUNITY CENTER

not work out well in the later stages.

The firm of Sasaki, Dawson and DeMay has given a lot of thought to these problems, and has evolved an interesting methodology. The firm receives a lot of queries of the "I have an option and want to build 500 condominiums" type, and Kenneth DeMay says he has gotten to the point where "I don't even bother to go to the site any more. All that happens is that you get lost in the woods."

Instead he spends his time trying to find the project's vulnerable spot. What is the zoning? Is there a local sewage system that can take care of the new development? What about anti-growth forces in the locality? The only de-

sign the firm does at this early query stage is an analysis of the physical capacity of the site to take the proposed buildings in a manner consistent with quality development. Working from maps and aerial photographs, DeMay says he can go away from the office and "knock out these studies in two or three days, over the dining room table."

This much expenditure of his time, and the client's money, is often enough to uncover serious difficulties; leading, for example, to a recommendation that the developer acquire additional property, or forget the project.

Once a development goes ahead, however, the firm likes to do schematic designs for the buildings at the same time that it

is laying out roads and lot lines, and will develop a series of very explicit design relationships between the site, the infrastructure and the actual architecture.

Naturalism or geometry?

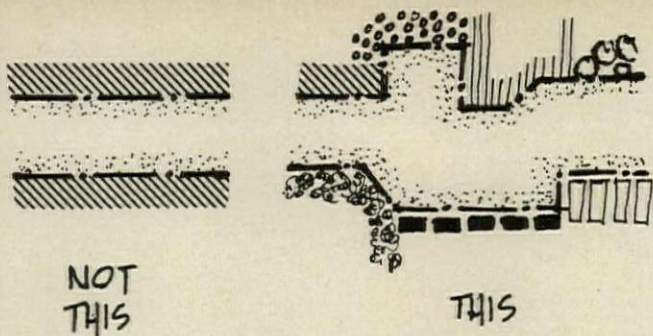
Many land planners, including Sasaki, Dawson and DeMay, develop the road organization for a planned community by going out and "walking the site," adjusting the roads not only to the contours, but to the character of the land.

Other designers prefer a more assertive, man-made scheme of things. David Crane and Partners favor what Crane calls the "8 vector grid," which was used for the town of Lysander, being developed by the New York State Urban Development Corporation

near Syracuse, New York. (See above, cover and pages 88, 89).

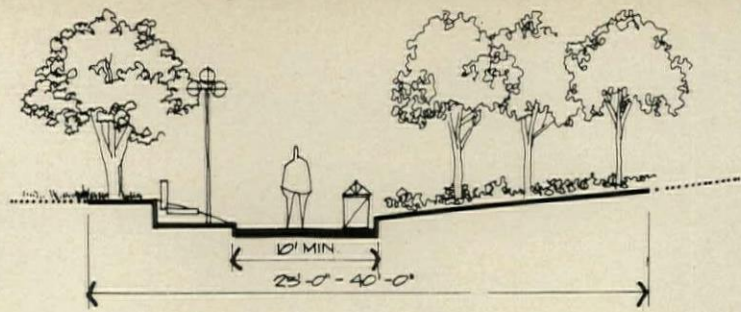
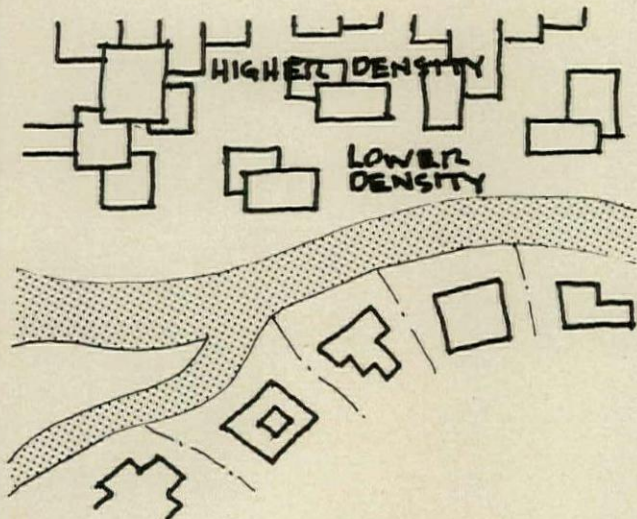
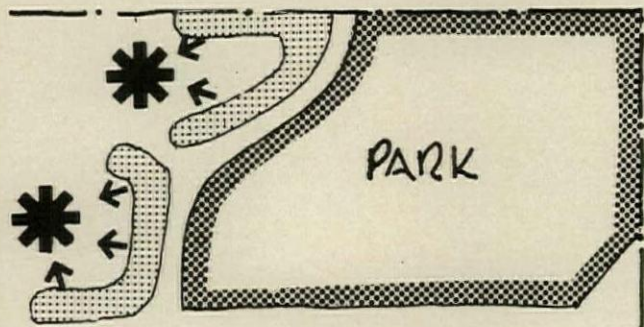
Eight vectors means the four sides of the square and the four sides of the square formed by the diagonals. The site of Lysander is relatively flat, and there are strongly geometric man-made marks in the terrain already present. The Crane design makes them into a systematic geometric pattern that covers the whole area of the town. In addition, the town center is marked by another strongly geometric construction: a shopping complex, designed at right angles to form an "L," intersects with a sweeping quarter-circle curve, which is both a curving group of apartment buildings, and a curve in a major roadway.

The shapes are present purely

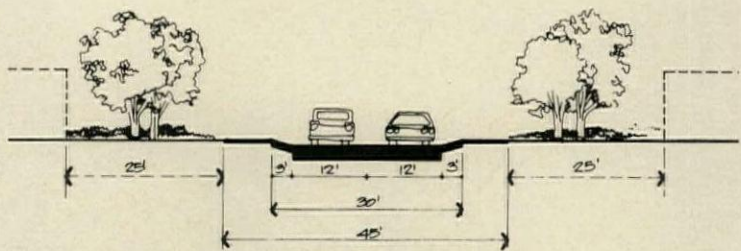


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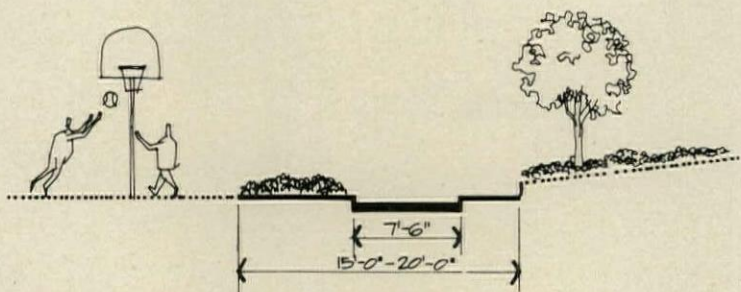
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PRIMARY WALKWAY



MAJOR RESIDENTIAL CONNECTOR



SECONDARY WALKWAY WITH OPEN SPACE

At left, three of the diagrams illustrating conceptual design controls developed by Caudill Rowlett Scott in the master plan for the Thornwood Community at Park Forest South. Above, design controls developed by David Crane and Partners for the new community of Lysander, near Syracuse in upstate New York.

for "design" reasons, to give a definite character to the town.

The Crane firm has been given a contract to do the design development drawings for this town center, and the buildings, while they have evolved considerably, still follow the same basic concept. (See page 129).

Design controls

The designers of a planned community do not always have the opportunity to carry their ideas on to the implementation stage, nor does one firm of designers usually work out all the buildings in a planned community.

In order to create a design continuity, various control methods have been proposed.

One method, which might be

called conceptual design controls, is a speciality of Caudill, Rowlett and Scott. The firm has developed a technique for stating physical design objectives in an abstract form, and getting all the parties involved in a project to consider them, and agree to make these formulations part of the master plan. Some examples of such design admonitions, drawn up for the Thornwood Development at Park Forest South, Illinois, are shown on page 93.

A more explicit, and more usual, form of design control, developed by David Crane and Partners for Lysander is also shown at the top of this page. These typical sections through roads and pathways, are developed with the engineers and land-

scape architects as definitive design standards.

Design controls for subdivision development

Finally, what are usually called subdivision controls represent an opportunity to exercise design control over the work of individual builder-developers, erecting groups of houses for speculative sale.

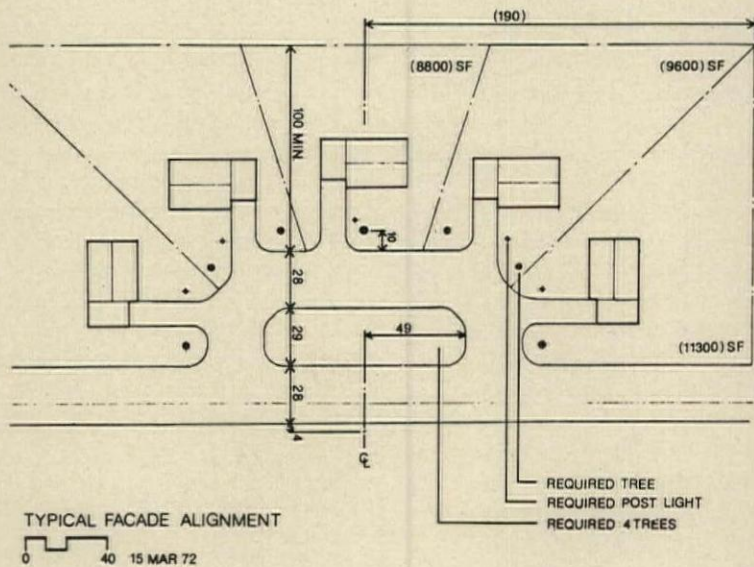
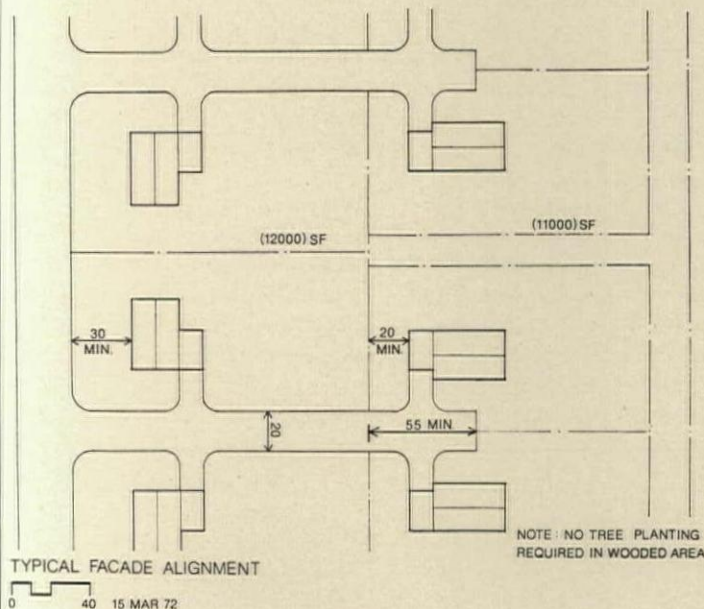
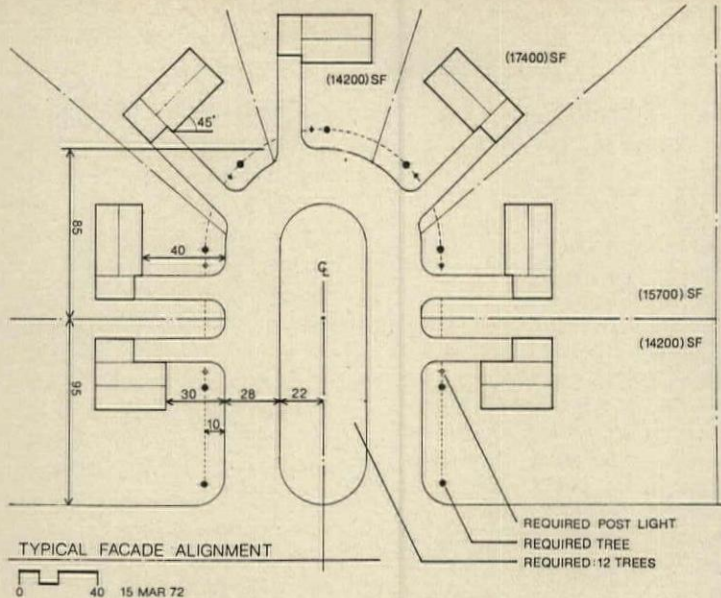
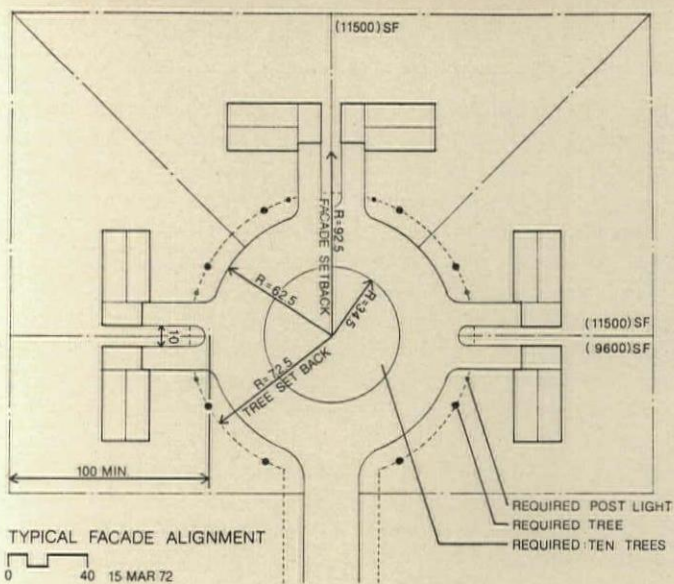
The David Crane organization developed the controls shown opposite, for Flower Mound New Town. The designer has created "build-to" lines, specified some elements of building location, and created landscaping standards. Nothing is said, however, about whether the house has shutters or diamond-paned win-

dows. In the case of Flower Mound, a strong in-house design staff at the new town corporation seems determined to enforce even more stringent controls over the builder's taste.

However, the pressure to get some income flowing to off-set the extraordinary "front end" costs of planned communities will in turn create pressures to stop "back-seat-driving" builders. The kind of controls developed by David Crane have the advantage of being explicit, relatively objective, and easily understood and agreed to in advance.

Requirements for good design

We have seen enough to be able to discern some kind of operational definition of what consti-



Drawings by David Crane and Partners set up design standards for subdivision developers at Flower Mound New Town, near Dallas, Texas.

tutes good design in a planned community.

A pre-condition for good design is that people with strong design ability must be involved in the real design decisions about planned communities: such as site selection, land-use allocation, road layout and subdivision.

A perspective sketch showing a row of houses fronting on a tree-lined path does not really say much about the design of a new community; neither does an illustrative site plan with a lot of neatly rendered roof tops, but no explicit system of organization and no method of design control.

Good design also requires continuity between the various stages of the design. An elegant conceptual plan, submitted to

HUD as part of an application for funding under Title VII, may not survive the process of being divided into realistic stages, or being parcelled out to various developers.

Good design is also rooted in an understanding of the development process. The design professional must know what to design, when to do it, and how much architectural explicitness is appropriate.

Planned communities present important new opportunities to the designer: he must learn how to make good use of them.

FLOWER MOUND NEW TOWN, Texas. Developer: Flower Mound New Town Limited Partnership—Edward Marcus and Raymond D. Nasher, general partners. Urban planning: Llew-

lyn-Davies Associates. Urban design and landscape architecture: Lawrence Halprin and Associates. Civil Engineering: Shimek, Roming, Jacobs & Finklea. Traffic and transportation: The Pratt-Voorhees Joint Venture. Economic program modeling: Economic Research Associates. Ecology: The Office of Richard Reynolds. Golf Course Architect: Joseph Finger and Associates.

PONTCHARTRAIN NEW TOWN IN TOWN, New Orleans, Louisiana. Owner: Pontchartrain Land Corporation. Wallace McHarg Roberts and Todd (physical, ecological and social planning). Tippetts, Abbott, McCarthy, Stratton (engineering, and transportation planning). Gladstone Associates (economic and social planning).

LYSANDER NEW COMMUNITY, Syracuse, New York. Developer: New York State Urban Development Corpora-

tion. Architects: David Crane and Partners. Project administration: Metropolitan Development Association of Syracuse and Onondaga County. Consultants: O'Brien and Gere (engineering); Alan M. Voorhees and Associates, Inc. (transportation); Gladstone Associates, Inc. (economic).

AUDUBON NEW TOWN, Amherst, New York. Owner: New York State Urban Development Corporation. Consultants: Llewelyn-Davies Associates (planning); Real Estate Research Corporation, (economic); Barton-Aschman Associates (transportation); Dubin-Mindell-Bloome Associates (engineering).

THORNWOOD AT PARK FOREST SOUTH, Park Forest, Illinois. Owner: Park Forest South Developers. Planning consultants: Caudill, Rowlett, Scott.

A broad concept of "community"

by Felicia Clark
with Todd Lee, AIA

Felicia Clark is associated with the League of New Community Developers as project director and co-author of "Community and Social Facilities for New Towns" (in progress), sponsored by the Ford Foundation. She has been co-ordinator of educational development for the New York State Urban Development Corporation (UDC) and has participated in the planning of Roosevelt Island New Community (Welfare Island), Audubon New Community (Amherst), Lysander New Community and the Buffalo Waterfront Education and Town Center Complex. Todd Lee is an architect contributing to the LNCD study. He is a Loeb Fellow at the Harvard Graduate School of Design and is on assignment with McKee Berger Mansueto.

"Large-scale development embracing ambitious social, environmental, and economic objectives is finally part of the American scene, and in my opinion is here to stay" stated HUD Secretary James Lynn during the hearings on the Title VII program in May, 1973. The ambitious social objectives described by Secretary Lynn reflect a clear difference in concept between the tract development and a "new town" and in large part this difference lies in the ability to create an environment for people, or a "community."

Title VII of the Housing and Urban Development Act of 1970 (new communities) clearly states as its purpose the provision of a "more just economic and social environment", and "the encouragement of desirable innovations in meeting domestic problems whether physical, economic or social." All other disciplines including economic modeling, market analysis and design appear to be technical support for the social plan—the lift it takes to get a new community off the ground, with its social goals as the guiding system toward the right direction.

America has never been a planned society. Belated recognition of the need for both planning and enforcement, however, is extending to the preservation of our environment, not only in ecological but in human terms. If the new towns are our starting place for the 70's, how are we going about it and how are we doing? The *tabula rasa* that a new community presents to planners has tempted

utopian thinkers since Plato, and with good reason. Nowhere else can one take a long hard look at an over-all design for living, the delivery of human services, and the expansion of opportunities for all. Ingrown bureaucracies, lack of funds and staff for planning, established ways of doing business and antipathy to change have always stood in the way of achieving major innovations in the social environment. The intent and language of Title VII spell out clearly the hopes that new towns become a vehicle for social change, and reflect a general recognition that new communities may be the only place that major changes in the quality of life and delivery of services can be accomplished.

While not all new towns are in Title VII, the objectives of the program reflect aspirations of other and smaller settlements, and are increasingly being applied to the planning of major renewal developments such as the New York State Urban Development Corporation's Buffalo WaterFront (figure 1) by Paul Rudolph and PUD's across the country. A sense of community, of humane envi-

ronment, is often amorphous and philosophical. The state of the planning art guided by social concepts is now advanced enough to put forward some basic concepts of what the words "community" and "humane environment" mean for facilities and their design.

Serious problems face the developer who wishes to plan and build a truly new community. The design of social structures for a changing society, the financing of community and social amenities in an era of tight money and government antipathy, absence of on-site residents when their political support is most needed, ingrown social bureaucracies and local antagonism to change—all these place a heavy burden on the new town developer, public or private.

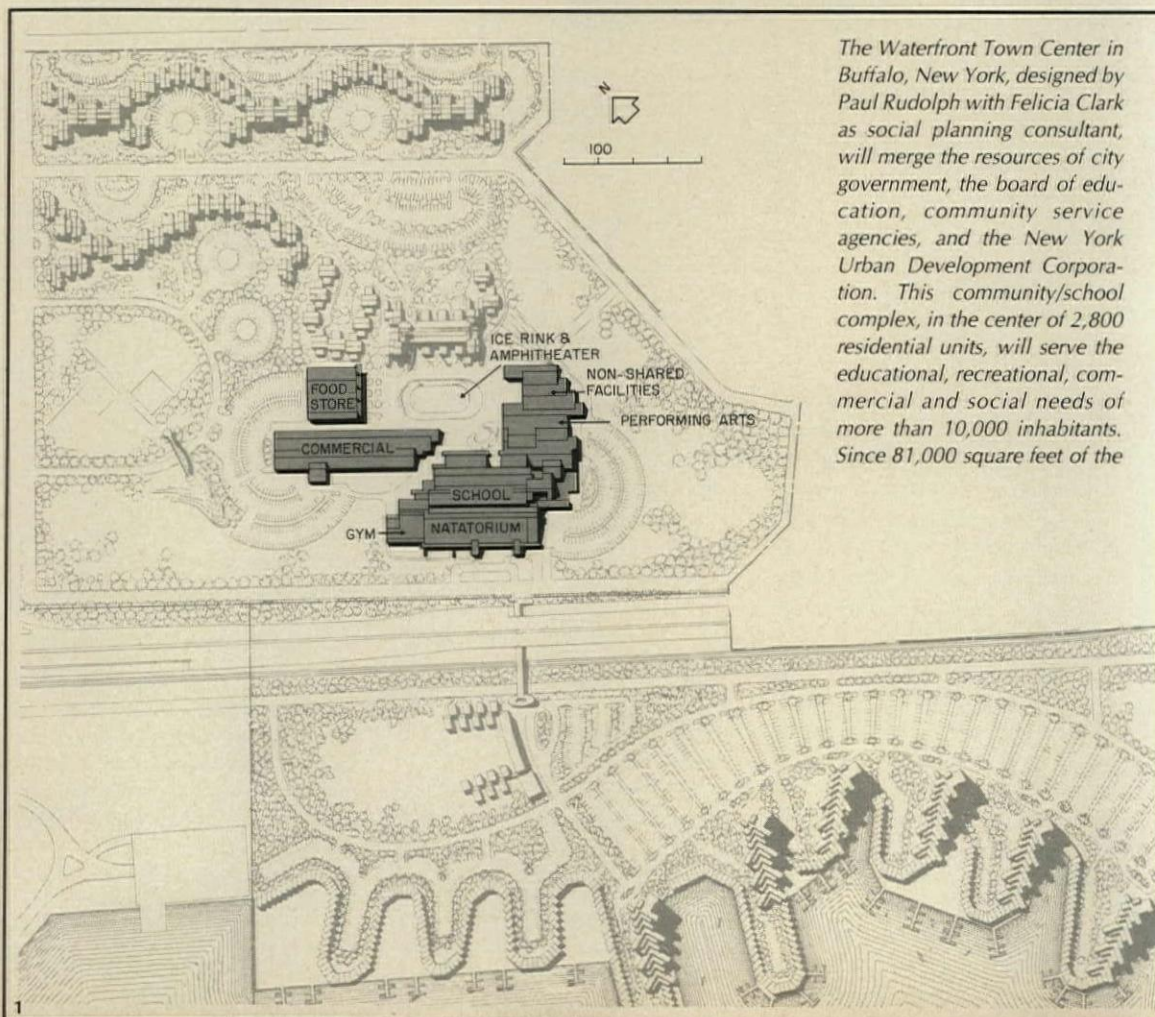
How do you build for a moving target?

American society is changing rapidly. New concepts in education and social services abound. We seem to be seeing fewer monuments: the school built to last at least 75 years, the post office and art museum with their classic facades are disappearing as services

and government move closer to people and their neighborhoods. The design of changeable or alterable space has become the architect's newest challenge; what is a supermarket today can become a school tomorrow. This type of construction is perfectly suited to the new town, with its problems of phasing as its population increases. Unassigned or "spec" space is emerging as another program essential. Because no one can predict all the requirements of an unidentified population, however, undesigned space presents the developer with a financial gamble; who can afford spaces unrented and unoccupied? But social programmers believe there is no alternative. Unfortunately methods of financing and design of these spaces are still in their infancy.

Who is going to pay for public spaces?

Particularly those which don't look like the traditional public buildings of the past century? Over 80 per cent of school bond referendums were defeated in 1972, and these were for single-purpose



The Waterfront Town Center in Buffalo, New York, designed by Paul Rudolph with Felicia Clark as social planning consultant, will merge the resources of city government, the board of education, community service agencies, and the New York Urban Development Corporation. This community/school complex, in the center of 2,800 residential units, will serve the educational, recreational, commercial and social needs of more than 10,000 inhabitants. Since 81,000 square feet of the

what's new about new towns

school buildings only. The continuing Nixon vetoes of Congressional appropriations for social programs clearly describe an attitude in Washington of antipathy rather than support for the human services. On the local level, funds often need voter approval and residential pressure, yet the developer of a new town feels that he is fighting the battle alone and is.

In the areas where a new town is coming, the attitudes of existing residents have often been antagonistic and apprehensive. They suspect (and in many cases rightly so) that the new town will change their way of life and threaten the values with which they have grown up. Planning itself is a threatening word. And planning by somebody else, for someone else, describes a nightmare of change. Furthermore, the security of local agencies is often based on business as usual.

These and many other difficulties have initiated some productive innovations which come through clearly in four areas: user needs analysis (planning and programming); integration of services (financing); the

community complex (43 per cent) will be shared space, the UDC will establish a subsidiary corporation, comprised of representatives from all the users which will own and manage those spaces which otherwise might be under-utilized or disputed by the several agencies. The Buffalo Waterfront Town Center will open in September 1975—the first community school to involve private service agencies and fully private commercial tenants in an adjacent and related complex.

multi-purpose town center complex (design); and community control of institutions (governance).

Methods of user needs analysis

New town developers, public or private, plan the social side of their new communities in a variety of ways, but the essential process begins with user needs analysis. What people need can be the subject of a great deal of argument. In time past the swimming pool, the golf course, the school building and a shopping center were considered adequate. Now there is rising demand for day care and early childhood education, activity space for teenagers, adult and vocational training, services for the elderly, extended health and mental health programs, varieties of recreation—both public and commercial, arts, and opportunities for ad hoc activities which the new community residents themselves will generate to suit their own emerging needs. Some developers have strong commitments to certain types of activity and insist upon them, some use complex computer assisted analysis of what is available in the area and build for that, some turn their backs on the whole issue. Unfortunately, public hearings have been used as a substitute for local consultancy and sharing of the planning process. This after-the-fact ratification won't fool many people any more.

Probably the most exciting innovation in user needs analysis has been the user consultant and surrogate process developed by Urban Design Associates for the new town of Gananda, New York and by Ashley-Myer-Smith for the G Street Project in Washington, D.C. In both of these cases extensive consultation is carried out with local residents and local officials acting as surrogates for future residents. Participants are divided into affinity groups—young, old, rich, poor, black, white, etc. With sophisticated planning techniques developed by these two firms, the groups discuss their needs and aspirations and these are built into the plan. This can be a lengthy process and requires very open minds on the part of the planners and architects. Decision-making is moved from the plan-

ning office into the field. Preconceptions give way to actualities. Not many professional planners have yet relinquished the role of playing God. The user needs analysis process, however, seems to be working and in terms of expense certainly justifies itself in the potential elimination of costly mistakes later on and the generation of local support for the plans the developers will put forward.

The Ashley-Myer-Smith user consultancy process cost the developers less than 1/10 of 1 per cent of the total anticipated cost of the project. Obviously it is dangerous to raise local expectations for amenities that cannot be provided. Planners must take extreme care that this does not occur. Many things users and planners want cannot be built, usually for lack of capital or operating funds. For example: Despite UDC's strong commitment to day care for all income groups, New York State has little available money, and that is limited to the very poor. Cedar-Riverside is short on recreation facilities without schools to share space and cost.

The social planner should participate from the start

Frequently in the past the social planner has been called in after the fact, either to appease the locals with glowing descriptions of what could happen in a design already finished, or in an effort to insert into that design certain socially acceptable facilities which were not considered as part of the over-all plan. To meet the evolving programs generated by changing user needs, a decision-making team of disciplines, broad enough to deal with such complexity, must be either permanent (a developer's in-house staff) or be able to be reconstituted easily (a problem to which consultant groups are only now responding).

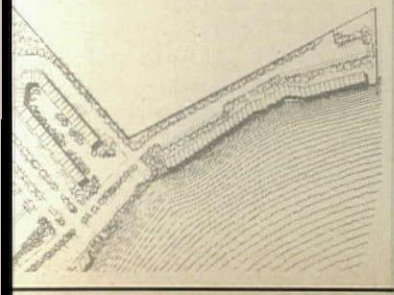
Programming the community facility is a technical translation of user needs into quantities and rules for putting those quantities together. Two kinds of change require that the program not be a rigid document. The user's own perception of what is needed will be modified by seeing the spaces and physical relationships which are generated, while the program team will begin to understand what is possible. More important, the users and their needs are never

constant. The program must not only be malleable enough to reflect these changes, but be developed to the point that it can predict them and respond to feedback. The essence of the program for a community facility will be identifying those program elements which are fairly static and those which will need to change repeatedly over the life of the project. To be an effective guide to design decisions, the program must be recycleable—able to reflect changes in user needs.

Columbia, Cedar-Riverside, Flower Mound, Gananda, Riverton and Roosevelt (Welfare) Island have pioneered in the use of social planners as a basic part of the design team. The social planners are essentially leading the team in directing the over-all planning for Flower Mound and Riverton. Cedar-Riverside's social planners participated from its inception in all aspects of the development program including selection of construction sites, financing and cash flow analysis, land use and environmental impact. Roosevelt Island was always conceived as a social experiment and a challenge to inner city living. The program developed by its educational and social planning team, which included city professionals as well as in-house staff, has made Roosevelt Island a testing ground for innovations in education and the coordination of health and social services. Unfortunately, because of the curtailment of Federal grants, this program is in limbo. So far, only a part of the costs of a small park and the renovation of one building have been funded.

Emerging alternative: the multi-purpose complex

Gaining acceptance is the concept of the lively multi-purpose complex which blends education, recreation, services, shopping and the arts together into an exciting focus for a community day or night. Although not yet widely understood by the average school superintendent, architect or commercial developer, the multi-purpose complex, with spaces leased to many users through time- and cost-sharing, is one clear way to save on capital cost. In addition, combinations of programs which this kind of structure allows, can eliminate operating overlaps as well.



Planning with residents and their local governments

Developers frequently encounter the greatest problems in local negotiations with residents and pre-existent governmental organisms. New town developers are rarely welcome. They are considered a threat to a way of life, mysterious autocrats who are not listening, purveyors of crafty plans in which the locals have no voice. This aura of antagonism can create serious problems for developer and planner. Locally initiated lawsuits are common. The developer finds that in the social services the locals usually hold all the cards. The school district, not the developer, will pay for and run the school system; the county welfare department will decide whether to allocate its thin resources for day care and other social service programs to the new town. The developer and planner who find themselves at war with the people in their district are going to see a great many of their cherished ideas go down the drain while losing costly time in the process.

A resolution of this problem is to make the people and the government officials part of the planning team. This is not often easy. Most of these people are untrained in planning concepts and have had little opportunity to explore alternatives to their present situation. User consultancy goes a long way in the right direction. In addition, developers have granted money to local entities to enable them to do the kind of planning for themselves that will make them able to respond and participate as the new town gets underway. Other techniques will evolve in the coming years if the basic premise is accepted by planners and developers—that social planning is an essential part of the process of the new community.

Democratic self government within the new town

When the first residents begin moving into the new town, they and the developers and planners face some new and critical issues. How does the developer transfer authority to the embryonic government authority, board or community association? Can he help develop a governmental organism which is truly democratic, broadening and strengthening participation from all sectors of society? Can he preserve the integrity of his over-all concept while admitting maximum citizen involvement in planning? How can services be

equitably distributed, and can taxes, assessment or user charges support those services needed by low- and moderate-income residents? How can resident-users contribute to the financial support of these services in terms other than money? What is the relationship of the new town governance mechanism to already extant government entities?

New towns are seen as laboratories for testing new forms and processes of local self-government. New towns provide a unique opportunity for experimentation and reform. Some of the answers lie in the consultancy planning process, others in changes in the structuring of state and local law. The various forms now in existence or under discussion are too numerous and complex to be discussed here. These are historic legal political questions of governance and remain a major challenge to the planner and developer.

Two case studies: Lysander and Roosevelt Island

Of the many projects with which UDC has been involved, Lysander and Welfare Island (now officially Roosevelt Island) lend themselves best to a description of the social planning process. Lysander, a large and virtually empty tract of wooded hills 12 miles northwest of Syracuse is part of the town and school district of Baldwinsville. Essentially rural in nature, although on the frontline of the Syracuse growth pattern, Baldwinsville was the quintessential American small town. Virtually all white with a minimum of social services (no day care, no public library, few health facilities), it had little of the sophistication which would enable its town fathers to work with the UDC. At the same time the UDC, an agency in its infancy and just assembling its forces, had hardly begun to organize its own processes. Few of us knew an accurate method for user needs analysis; moreover, the needs of the existing residents seemed to be in another world from those low- and moderate-income people whom we were planning to bring to the new town. As is often the case in a brand new agency conceived to get things done in a hurry, team organization was almost totally lacking. It was every man for himself and the loudest voice usually won the day. Planning was further complicated by the fact that the specialists commuted from New York

where we were deluged with other problems all along the way. The issues we faced in Lysander were basic to almost any new town outside of the major urban centers: local apprehension and confusion, the necessity for political approval of bond issues to build social facilities, determination by present residents that the new town would not get all the good things that the UDC might be planning and that the locals should have their share. There were almost no local resources for community facilities, even though in many cases these were agreed upon as essential for everyone.

A basic plan for the Lysander town center, combining educational facilities, recreation, other community facilities and a commercial shopping center was evolved in New York City. Without the team process and effective partners from the local community, the plan was eroded by local negotiation, altered by commercial and marketing experts and finally the school bond on which a major portion of the public spaces depended went to referendum and was defeated.

Unlike many developers, the UDC is not willing to, or believes it cannot, build without firm commitments well in advance that it will get its money back. A number of us believe, however, that in cases like this "spec" space for the Lysander town center, a gamble on the part of the developers is the only answer to the provision of public services which the local people, prior to the arrival of the new residents, will not support. In the case of Lysander, we are proposing that the UDC build commercial space in the town center, which can be used with the cooperation of the local school district as a temporary school. The school board, when faced with the actuality of pupils it must educate, can lease that space and operate it until enough residents of Lysander arrive to put the bond issue through. This type of phasing and alterable space is a new idea for the purveyors of social service in general, most of all school people, but it can be done with little additional cost and an enormous saving in time.

Roosevelt Island was at the opposite end of the planning pole. Conceived as an innovation and basic improvement on urban life, it came at a time when the managers of New York City services were desperate for opportunities

to experiment with new ways of doing things. There was plenty of information on user needs; the problems of New York City dwellers, whether rich or poor, are too well-known. There were plenty of planning partners from the city. A joint planning committee which included some of the most powerful thinkers and managers in the city (including Albert Shanker of the United Federation of Teachers, Jule Sugarman of the Housing and Redevelopment Authority, Harvey Scribner, Chancellor of the New York City School System, and others) gave the project the full benefit of their imagination and their frustrations. A strong concept evolved with social planning at the core. Roosevelt Island's school plan (figure 2) is generally considered the most radical and innovative in the country at this time. On Roosevelt Island there are no school buildings; each small and intimate school space, with a maximum of 250 students, is within the apartment buildings and the community complex which will make up the town center. All non-academic spaces will be shared with other users and are considered community resources for all. The town center program combines school spaces which can be shared with the community (theater, library, cafeteria, film, shops and a multiplicity of arts facilities) with the commercial center offices and a proposed hotel. The town's main street takes the place of school corridors. Children and adults will learn, play and work together in an effort to end the traditional isolation of the schools from the mainstream of community life. With powerful political allies the social and community facilities plan went through almost unopposed and the decision-making implementation process for the schools and social services moved smoothly forward. If certain questions remain unanswered as to how to make such a system work, at least Roosevelt Island has gone a long way in setting the physical stage for innovations which may change public service delivery for New York and other cities across the nation.

I am now directing a nationwide survey, sponsored by the Ford Foundation and the League of New Community Developers, on the financing, design and planning of community facilities for new towns. While the study is not complete and there are many issues which we have not yet re-

solved, certain innovations have emerged which we believe are answers to a good many questions.

The first is the multi-purpose town complex, as illustrated in the designs for the Buffalo Waterfront (figure 1) and Roosevelt Island (figure 2). These complexes, usually housed in one extensive building with interior streets, a plaza and a major access, contain both public and commercial spaces under the same management and governance system.

They are in essence the focus of neighborhood activity: a housewife can drop her children at school, take her baby to day care, do her shopping, take an adult education or vocational training class, re-join her husband and her children for eating and entertainment. Most of the areas of the center are shared by a multiplicity of users on a shared time lease basis, producing major savings in capital cost. The school principal will not have to worry about keeping his school recreation areas open for the community at night and justifying that cost to his school board. These areas will now be community spaces which he uses only when he needs them. Museums can put on intermittent shows, the Y's can set up recreation programs without building themselves a building, the church can use the school cooking facilities on Sundays, and the community organizations can use them in the evenings during the week. Time and expense allocation will be determined by a governing board representing institutional representatives and community people who can decide what they want to do with the spaces and how they can pay for it. All this adds up to a place where a feeling of community and belonging can grow, where young and old, black and white; rich and poor, can participate together in learning, in recreation, and in the essential businesses of daily life, a place which is alive day and night, open

to all people and an exciting, good place to be.

These complexes require an ability on the part of social service agencies to lease (sometimes difficult under state and local ordinances), pay for shared time, and relinquish some traditional authority over place and turf. But they go a long way towards easing the financial crunch these agencies are finding themselves in for both capital and operating expenses, and they open facilities to changing uses determined by the community.

Implications for architects, government and developers

As part of a team the architect-planner becomes an interpreter of peoples' concerns, a planner for spaces which may rapidly change, a designer of patterns of movement and socialization which can produce the sense of community.

It is clear that the Federal government, and HUD in particular, could do a great deal more than they are doing now. It is easy to say: "build for the community." The lack of money facing school districts and social service agencies inhibits the very process without governmental support.

Title VII was intended to be a major step in governmental support of real estate developments that went far beyond shelter. To quote the bill once more, its goal is "providing a more just economic and social environment" and "(encouraging) desirable innovation in meeting domestic problems whether physical, economic or social." This section goes on to include within its purpose the integration of social planning and innovation with new community development, and improvement of the organizational capacity of the Federal government to carry out these programs of assistance. Section 712 states that the new communities "will provide an alternative to disorderly urban growth . . . and will

contribute to good living conditions in the community . . . characterized by well-balanced and diversified land use patterns and will include or be served by adequate public, community and commercial facilities (including facilities needed for education, health and social services, recreation and transportation)."

Despite the elegant aspirations of the Secretary and the drafters of Title VII, HUD has not begun to carry out its commitments. Supplemental and planning grants have been few and far between, many of the community development programs have not been funded, or when funded their monies have been impounded by the Administration.

Developers frequently believe that they do not have the time, energy or resources to involve themselves in the hassles of local government—school districts, referendums, county welfare departments, etc. In doing so, they are abrogating their basic responsibility to plan and build for the community. Unquestionably, the low- and moderate-income and integration requirements of the Title VII program place a burden on developers which the average business man out to make a fast buck in the real estate business has not had to face.

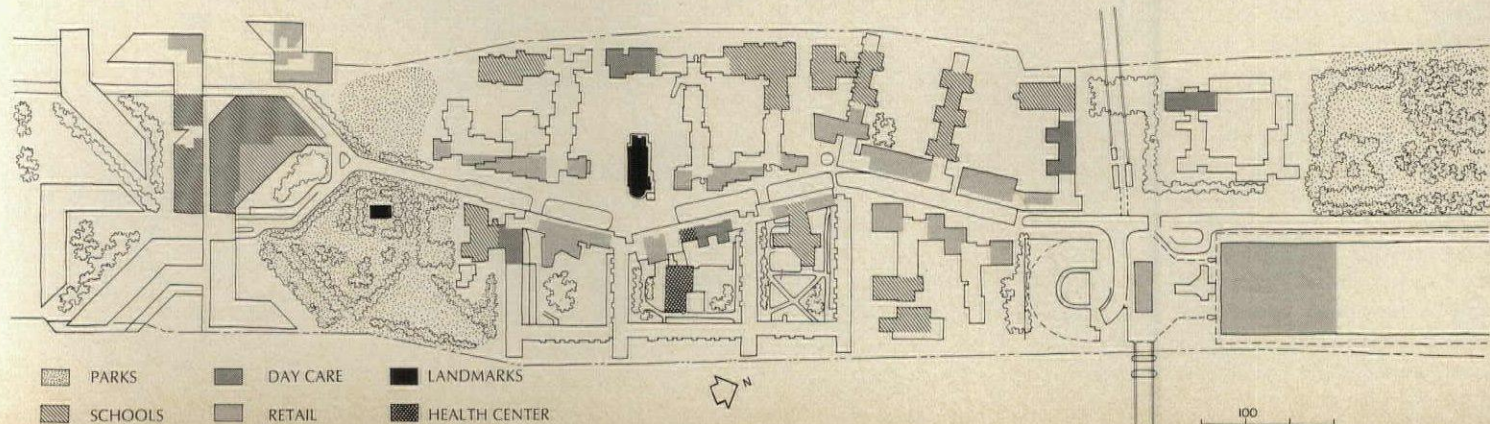
The developer too must see himself in the role of providing for a community of people, not necessarily just housing them. Inspired developers have accepted this role gladly despite the occasional time-consuming hassles it involves with local residents and municipalities. And, of course, a well-planned community for people is essentially a marketing tool. People will buy into such a place because it's the place that they want to be—not just as a roof over their heads, but a place where they can bring up their children, grow old, learn new skills and participate in the planning of their own future. Not

many developments in this country offer this at the present time. New communities seem to be taking the major role in providing for Americans this kind of life.

Planners don't yet have all the answers

There are a great many complexities and unknowns in planning for an ethnically and economically integrated community. What are the integrative factors in a mixed community that will bring together people of widely differing backgrounds and economic resources? What activities and programs tend to split a community into segregated groups? Do people really want to segregate themselves, ethnically or economically? How does the developer balance his commitment to the new town, as well as to his investors, against the natural desire of existing residents and municipalities to make sure that they get part of the goodies he is proposing? At what point does the developer relinquish control to his new residents in terms of decision-making and project governance? How are felt needs analysed, and people enabled to make choices when they have never had these opportunities presented to them before? If the new towns are seen as this country's basic step towards housing its people and controlling urban growth, then these issues must be squarely faced and soon.

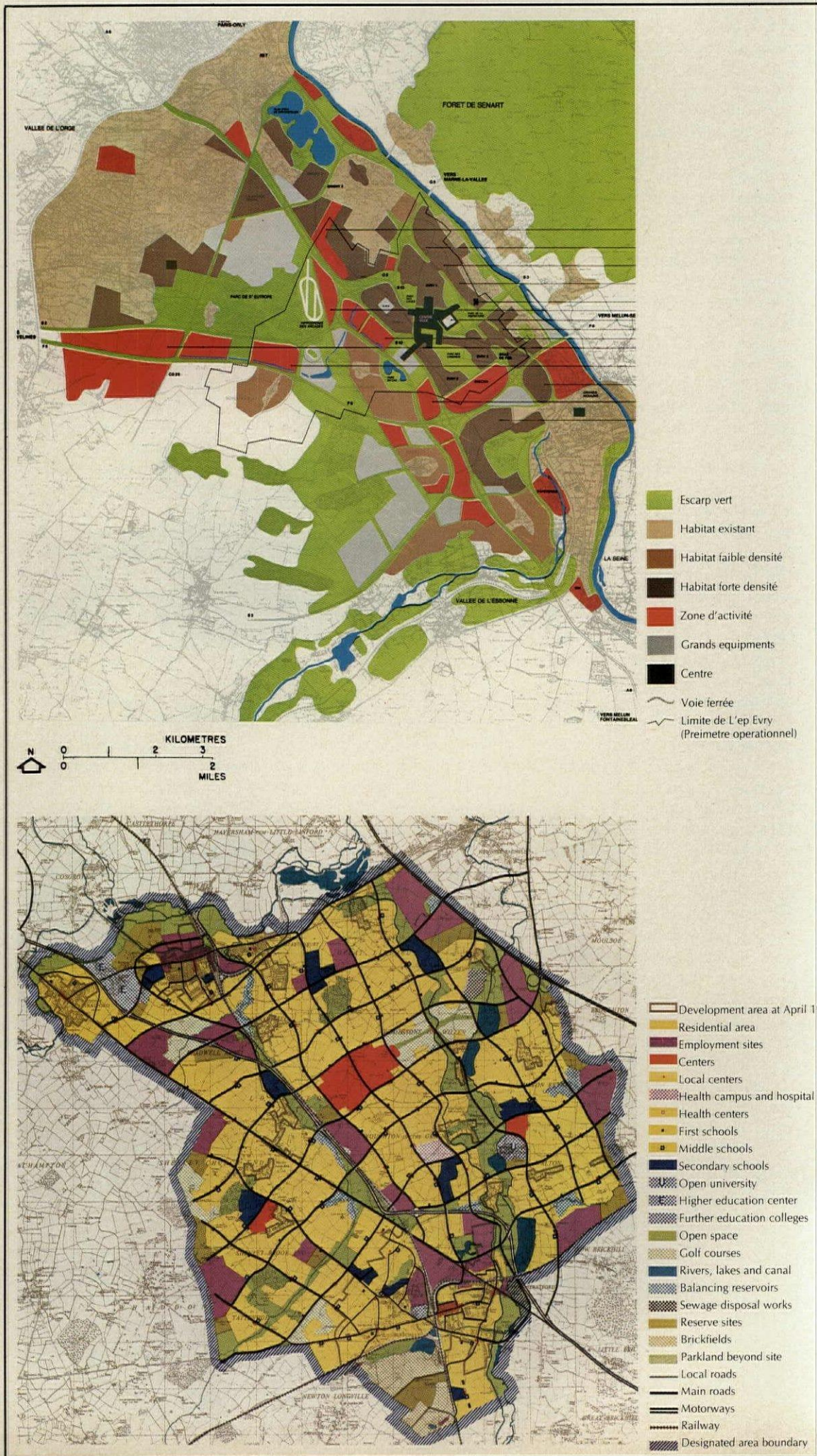
Social planning is the only assurance of the ultimate success of a new town project. It is the only way to come close to achieving the goal of community and fulfilling the directives of the Title VII program. When you plan without the needs of people before you, you run the risk of building what may be costly and irrelevant at best, possibly even destructive to the fabric of human lives. The social fabric of a new town is not someone else's problem: it is the developer's and the architect's.



Learning from foreign experience

The British have a long tradition of new town planning and construction. The French have only just begun. Until recently British new towns have depended almost entirely on government financing. The French government, on the other hand, is developing bold legislative, administrative and economic incentives to attract large private investment in their towns. British town planning is only now being conceived within a larger regional framework, as the French has been all along.

New towns in Britain and



by William Fain Jr.

Architect William Fain has devoted a large part of his time since 1970 to the study of British and French new towns. He was aided by a National Endowment for the Humanities Fellowship which funded his studies between December 1971 and September 1972. He has worked for New York City's Office of Midtown Planning on the Fifth Ave Special Zoning District and the Madison Avenue Mall. He is presently enrolled in the urban design program at Harvard.

British town planning before and during the war years

Even before Britain entered the Second World War, new towns as a national policy had gathered considerable public interest and professional support. The new town movement and the regional planning studies of the day were allied with national objectives of alleviating the congestion of urban centers, providing housing and services for those in need and giving rational order to the consumption of land. Envisioned was some idea of balance between town and country.

The Greater London Plan by Patrick Abercrombie in 1944 set forth development strategy which was followed until the late 1950's.

Abercrombie proposed that London be surrounded by a greenbelt to stop further ribbon development and the consumption of land. Also, Abercrombie recognized the need to replace much of London's housing and to reduce housing density. New towns and expanded towns were proposed to receive "overspill" populations from central London to solve the problems of housing.

The British post war era: a time of implementation and evaluation

Two assumptions in Abercrombie's Greater London Plan—no increases in industry and none in population within London—had proven to be false. The greenbelt could not control suburban sprawl. Planners were now looking for new strategies. First, the London Government Act of 1963 enabled the City of London and 32 boroughs to be administered under a single authority, the Greater London Council. In this way, policy could be planned by one administrative unit. Second, the South East Study was published in 1964 re-examining the need to view the South East and London as an urban region. Unlike the Abercrombie Plan, it assumed that the London metro-

politan region would continue to grow. Among the proposals made by the South East Study were three "new city" schemes located far enough away from London to create what has been termed a "counter-magnet" to the capital city. Third, the Strategy for the South East of 1967 broke with tradition by proposing major growth "corridors" through the greenbelt to secondary and major town expansions in the region. Fourth, the Strategic Plan for the South East was published in 1970. The Plan retains the metropolitan greenbelt. It is now accepted policy proposing major growth areas within and outside the London metropolitan area.

New towns are a new concept for the French

Unlike Great Britain, France has little deep-rooted tradition in new town planning. The combination of rent-control policy, economic crisis and the Second World War resulted in a serious gap in building. Furthermore, the increased birth rate and migration of the population away from the countryside created a housing crisis which is still being felt today. Since 1945, the provision of housing has been a major aim.

Without a government commitment for new town planning, the aim of French authorities was to build the largest number of houses as quickly as possible, without much regard for choice of location, quality standards or financing of needed amenities. This is exemplified by the appearance during the mid-'50's and '60's of housing estates commonly called *grands ensembles* built throughout France. These projects ranged in size from several hundred living units to 10 thousand units on one site, and were the result of both private and semi-public development initiative. The weakness of the *grands ensembles* was that they were the result of chance and circumstances rather than a result of official government policy or directives—*grands ensembles* typically lack community facilities such as schools, commercial and cultural centers, shopping centers and sewage processing plants, and like many suburbs in America, *grands ensembles* have no programs for including employment. Further, rail and road connections to many sites were inadequate for proper integration within the existing urban region. Lastly, the building of the *grands ensembles* was done according to



William Fain photos

Both Evry New Town (left above) near Paris and the Milton Keynes New Town (left below) near London are recent members of the family of large new towns of populations of more than 250,000 inhabitants. Milton Keynes is located roughly 50 miles from central London, whereas Evry is located 18 miles from the center of Paris. Evry is being designed to accommodate the needs of three adjacent urbanized areas. Milton Keynes, an independent new city, offers "counter" growth possibilities to central London. Residential concentrations are different between British and French new towns. Where housing blocks in Saint Quentin New Town (right) near Paris are 18 persons per acre over-all density, Milton Keynes density is 10 persons per acre.

uniform standards which resulted in a disequilibrium in the population's age structure. Consequently, *grands ensembles* never developed into new towns.

The French government makes a beginning

For many years, no special laws dealt with new development. It was not until 1958 that a government policy was adopted, designating priority development areas commonly called ZUP's. The function of the ZUP's was to encourage local government initiative to designate areas best-suited for housing and to equip the designated areas with infrastructure. ZUP's were usually sited on the edge of major urban areas—some being as large as 10,000 dwellings on a 750-acre site.

By the late 1950's the need for a master plan for Paris was evident. A plan, called the PADOG or Paris Regional Plan and similar in some respects to Abercrombie's plan, was approved in 1960. It accepted the idea that the physical growth of Paris could be contained by creating fixed boundaries beyond which urban development was prohibited. The assumption, similar to London's Abercrombie Plan, was that migration to the city could be limited. Expansion would take place in expanded towns, called nodes, within the region. The British idea

of new towns was rejected. According to the PADOG, moderate town expansions were planned close to Paris whereas larger expansions were to take place 37 miles from the city.

By 1965, it had become obvious that the basic assumption made by PADOG, that growth could be limited, had proven impossible. In five years, 25,000 building permits were granted for homes to be located outside the limits fixed in the PADOG Plan. Also, the population of Paris had swollen to over 9 million, a figure the plan estimated would not be reached until 1970.

Although new towns were rejected under the PADOG, they became an integral part of the 1965 Master Plan for the Paris Region. The 1965 Plan superseded the PADOG and was the first long-term plan for the Paris Region, projected to the year 2000.

The strategy of the new plan was to create a series of new urban centers, some new towns, others expanded towns, corresponding to two parallel axes—one on each bank of the Seine north of Paris, dividing the city into one branch continuing south along the Seine and the other branch following the Marne Valley.

These urban centers would attempt to redirect the concentric growth of the city.

Site selection:

British versus French

British planning objectives have been to reduce distances between home and work and to develop the town as a comprehensive project. The British, although seeing the new town as a part of regional strategies, view it as an alternative to and greatly independent from the central city. A major difference in French and British objectives is in the degree of autonomy or independence of the new town—for the French see the new town as a unifying element within the regional structure keenly related and dependent on Paris or other major urban centers.

Site selection and the profit motive

The creation of opportunities for money-making on the part of the private sector has not been of primary importance to British new town planners. Although many new towns have been located near beautiful countryside and leisure areas, first consideration has been given to available land, and to employment and housing functions. French development relies heavily on private participation and therefore requires that sites selected consist of desirable and salable land. British development is happily endowed by central government funds. Roughly speaking 85 per cent of the British

new town finance comes from central government, 9 per cent from local authorities and 6 per cent from private enterprise. Recent British new town policies are to include 50 per cent private enterprise and 50 per cent private home ownership. Necessary efforts to now make British new towns attractive from a marketing standpoint can currently be seen in the promotion of Milton Keynes New Town. Here recreational facilities and open space are provided.

Objectives determining site selection for French new towns

First, they are intended to be integrated with existing urban regions throughout France. They are viewed not as autonomous self-contained settlements but as an integral part of a larger ensemble. Second, distances between home and work and home and leisure and to other community activities are to be minimized. Third, the towns are to be treated as comprehensive projects.

Although at the present time there are no completed examples of French new towns, there are a number under construction. Four are located in the Paris region—Cergy-Pontoise, Evry, Saint-Quentin-en-Yvelines, and Marne-la-Vallée—with another, Melun-Sénart, in the formative stages. The functions of these new towns is to



The Paris Regional Plan includes locations for 5 new towns and 7 secondary growth centers. Creteil (this page) located 3 miles south of Paris, is a secondary center. Much of its new housing will accommodate people with jobs elsewhere in the region.



provide new housing, employment and services to the suburbs and areas beyond. Also, they are to channel new development from the traditional monocentric pattern to new growth areas on the new axes. The overriding objective is to create a unified urban region. To achieve this end it is essential that the Paris new towns be located on available sites near or contiguous to the existing built-up areas. The rate of growth of the new town and its variety of urban life depend on it. Evry is sited on virgin land at the junction of three urbanized areas, and its objective is to restructure the urbanized areas. Marne-la-Vallée is located 9 miles from the northeast boundary of the city, whereas Cergy-Pontoise is 19 miles. It is anticipated that Marne-la-Vallée will have a rapid rate of growth whereas Cergy-Pontoise will be developed slowly, awaiting the arrival of the new regional railway transport to Paris.

Site selection of the Paris new towns depends to a great degree on present and future transport facilities. All towns are connected with main line railways and eventually will be connected to Paris by a regional train system (R.E.R.)—a system originally planned as a part of the PADOG. Marne-la-Vallée is its first sector development, Noisy-le-Grand, with the arrival of R.E.R. in 1976,

will be the second. Paris's new airport at Roissy-en-France, due for completion in 1974, just north of Marne-la-Vallée, is expected to stimulate employment there.

Transportation by automobile is an important feature of the new Paris region plan. Access within the region, within and between new towns and existing villages, will greatly depend on the auto. Motorways are planned in the region and will interconnect with motorways already under construction in Paris—systems which were initiated under the previous PADOG. Three motorways are planned for access to Cergy-Pontoise. Evry is already connected to Paris by two motorways.

Like developers in America sensitive to the profit advantages of sites well-situated to views, open space and attractive settings, French new town planners have sited their projects adjacent to some of the most desirable areas. All the new towns around Paris are situated near water. The town center at Saint-Quentin is adjacent to Etang de St. Quentin, a large lake which provides water for the fountains at Versailles. By far the most challenging scheme is at Cergy-Pontoise. The town is situated on the brow of a forested plateau overlooking a section of the l'Oise River. This section is to be converted into a large lake for sailing and leisure activities.

British new towns upgrade depressed areas

Although most British new towns have been situated to relieve the congestion of urban centers, a few have been located in poorer regions to provide needed employment and housing. New towns located in these regions have had some real success. Telford and Peterlee are located in depressed mining areas. Although the unemployment rate in both these towns is still above the national average, it would be higher had the new towns not attracted new industry.

For the private developer, the poor regions are bad investments. Speculative development is virtually nil. The British new town development corporation, because it is government financed, can provide needed housing and industrial sites. Attracting potential new town industries is difficult, but with help from the Board of Trade—the overseer of industrial location in Great Britain—and active promotion from the development corporation, industries can be found to locate in these areas. One of the most important selling points to industry is the corporation's ability to assure proper housing and services.

Some of the best social facilities in British new towns are to be found in Telford New Town. Brooke Taylor, the social development officer of Telford, has organ-

ized a multi-use 24-hour-a-day social center called Court Center, combining a school, town library, public swimming pool, a pub and a discotheque. The project was financed by a non-profit trust and by categorical grants from various government sources. U.S. new towns will have similar facilities.

French new towns may not succeed in less prosperous areas

Since housing and industrial estates in the Paris new towns are built by semi-public and private developers, it will be interesting to see whether French new towns can be successful in the less prosperous provinces. Lille-Est is presently being built in a depressed mining area near the Belgian border. Another depressed area—St. Nazaire, to the west of Paris—is in need of attracting new employment. Since it is not a major growth pole, no new towns are designated. Instead, two town expansion schemes are planned.

How large and dense should a new town be?

The idea of a new town being a small nucleated settlement originated with the early garden city experiments by Ebenezer Howard in Britain. Limiting the size of the town was important in establishing the proper balance between town and country. With a small settlement, the size of a neighbor-



Each of the Paris new towns is set in lovely countryside adjacent to built-up areas. Saint Quentin New Town is located on the Plateau of Trappes (left) west of Paris. One objective of the new towns is to give civic and commercial focus to the surrounding area. Both Evry (above) and Cergy-Pontoise (right) are headquarters for the local department. Development at Cergy-Pontoise suffers from poor transportation connections to Paris.



hood could be controlled and the over-all settlement could maintain a high degree of self containment and a proper balance of working population to jobs available. Howard's ideal settlement was for 32,000 inhabitants on 6,000 acres, most of which was to be open space. The neighborhood unit was calculated to be about 5,000 people.

Later, the Reith Commission on New Towns, greatly influenced by Howard, introduced guidelines for national new town policy. According to their recommendations, new towns were to be no less than 20,000 inhabitants, enough to assure basic services, and no greater than 60,000 inhabitants. Large populations would be sited on plots of 13,500 acres, 40 per cent of which would remain greenbelt surrounding the town. The gross residential density, was proposed to be about 12 people per acre. Furthermore, the Reith Commission accepted Howard's notion of locality and recommended a neighborhood unit of 5,000 to 12,000 people.

By the mid-50's, the original target population for several London new towns had been reached. It was decided at that time to enlarge Stevenage, Hatfield and Bracknell. The primary reason: Abercrombie's plan for London had underestimated the "overspill" needs of the central

city and a larger population base for the new towns was seen necessary to justify needed amenities and services. This was the first attempt to remedy what has been termed, the "new town blues"—a lack of amenities and services.

Cumbernauld New Town (1955) Scotland (overleaf) is a major departure from the standard British new town theme. It was a town originally designated for 50,000 inhabitants and later enlarged to 70,000. Cumbernauld was one of the first new towns to accommodate the automobile—and accordingly the accepted idea of local neighborhoods was abandoned. Provisions for parking at and road access to the town center were major features of the site plan. In addition, most facilities were located at the town center and cluster housing was increased to create an over-all density of 17 people per acre. Unhappily, the planners overlooked the fact that most people settling in the new town could not afford cars and would have benefited from a traditional scheme.

Since Cumbernauld, there had been a return to the neighborhood—though the problem of how to resolve the interface between the scale of the pedestrian and the automobile remains. The automobile provides the luxury of access outside the new town, whereas, pedestrian movement

helps to foster local community identity. The Milton Keynes New Town (1967) has combined the advantages of both. The roads are arranged in a 6/10-mile grid pattern allowing for ease of vehicular movement. Within each grid there is an array of community facilities and housing. Some grids will have special facilities—such as a town library—to encourage movement from one grid to another.

From a new town population of 70,000 to a population of a quarter million was a major step for British new town planning. A young conservative group called the Bow Group produced a pamphlet titled *the Need for New Cities*. Shortly thereafter, the idea for larger scale was reinforced by the South East Study of 1964. It had influenced new town development by the mid-60's, with the designation of Milton Keynes, Northampton and Peterborough. The current Strategic Plan for the South East calls for five major growth areas from 800,000 to 1.4 million inhabitants.

Toward larger growth areas for both Britain and France

Larger areas can better influence the growth of an urban region. Small towns under the Abercrombie Plan could only in part solve the overspill needs of London. Greater diversity in employment can be attracted—for bigger firms

prefer larger, well-established areas. Larger areas will include many old towns and historic villages and incorporate a wider range of age groups and social classes.

In the past, most new towns in Britain and *grands ensembles* in France have attracted young married couples. Thus, age and social structure tended to be one level.

The new towns do not represent a broad cross section of socio-economic backgrounds. In Great Britain, new town inhabitants represent the middle three-fifths of Britain's social structure. The poor at the bottom fifth, generally unskilled, lack the qualifications to apply for a job with the kinds of industry presently to be found in new towns. The white collar executive, at the top fifth, seldom will find the necessary variety of employment opportunities in British new towns. It is of major importance to include in new towns the kinds of employment which will attract the top and bottom fifth of the social structure. What will be required is a broad range of office and service jobs. Noisy-le-Grand, located 9 miles from Paris, is the first sector to be developed in Marne-la-Vallée. Since it is close to Paris, it expects to offer 30,000 to 35,000 jobs in offices. Milton Keynes New Town located 45 miles from central London is also promoting the new



town for office location and is having reasonable success.

More recently in France, Jacques Riboud, an advocate of the British garden city model, built two towns similar in concept to Howard's Letchworth and Welwyn Garden City. His latest, La Verrière Maurepas, is located within the designated area of Saint Quentin New Town. Mr. Riboud takes issue with those planners who justify the high-rise schemes of French tradition. According to him, the French are no different than the British, and prefer individual homes with private gardens.

Neighborhood scale within the large new towns

Many of the French new towns have adopted a neighborhood concept. Both Marne-la-Vallée and Evry are divided into sectors. Within each sector there are districts—with 5,000 to 33,000 inhabitants—comparable to the neighborhood unit in the British new town. Each district has commercial shops and some have schools and other community facilities. At Marne-la-Vallée, the district is divided even further into housing estates of from 500 to 15,000 units. Marne-la-Vallée is the largest of the Paris new towns and expects to receive a population of upwards to 1,000,000 by the year 2000. It is interesting to note that

it covers 37,500 acres, whereas the 20 districts of Paris cover only 26,250 acres.

The British and French ideas about the number of dwellings per neighborhood, differ as do their ideas of residential density. The gross residential density of Evry is 18 persons per acre. This is considerably higher than the newer towns in Great Britain such as Milton Keynes, where the gross residential density is 12 persons per acre. The French living unit is usually situated in a high-rise block. The British have retained the semi-detached and single-family dwelling.

Administration and finance for British new towns

The 1946 New Town Act enabled British planners to organize the new town development corporations responsible for planning, designing and building the new town. The corporation is unique for its relative independence of local and national government agencies. It is funded annually by the government for the administration and finance of its various projects. Money for the budget is made available through Treasury loans, repayable at low interest rates over a 60-year period. To ease the financial burden at the outset a system of deferrable payments is used. The financial burden of the development is pri-

marily on the development corporation. However, about 9 per cent of the total cost is paid by local authorities (mainly county councils) responsible for providing schools and health facilities, some housing, main roads, green spaces, large-scale sports and cultural facilities. The council raises its money from local taxes, but in practice receives supplementary grants from the development corporation. In past experience the London new towns have included about 6 per cent private development. As has already been pointed out since 1967, government policy has been to encourage 50 per cent private development in new towns. This seems to be particularly feasible in the larger new towns where the demand for housing is beyond the development corporation's capacity. Crawley New Town has in many cases prepared the land, leaving the building to private developers.

Once the new town is designated, a corporation board of five to nine members is appointed. Some members are national figures, others are local community leaders. The board begins work to organize the project. Usually a consultant is hired to prepare the master plan and on rare occasions the local county planning staff is asked to perform this task. The assembling of land is begun either by negotiating or by compulsory

purchase. Land prices within the designated area are fixed at present value which discourages private land speculation. In most cases the land is bought at agricultural prices. Closer to urbanized areas, of course, the price becomes higher.

Once a plan has been formulated, the development corporation hires a staff to begin the building of the new town. Normally, there is a staff of 300—predominantly architects and administrators. However, at Milton Keynes, the first of the large new towns, the staff is close to 800.

Like any large property holding company, the development corporation receives revenue from its various projects. Although the option is there, the development corporation seldom sells the land outright to developers. Revenues generally come from residential and commercial rents and recently from the sale of homes to families working in new town industries. The rule of thumb is that it takes 15 years for the corporation to be in a profit-making position.

Finally, once the new town reaches its target population, management of the properties is turned over to the Commission for the New Towns. Crawley, Hatfield, Hemel Hempstead and Welwyn Garden City have become a part of the Commission.



Milton Keynes is designed for the use of the automobile while still retaining the tradition of local neighborhood. A 6/10-mile grid accommodates vehicular movement with local "activity centers" within. Recreation is an important feature to the plan. A linear park, 4 and one quarter miles long is a major focus for the new town. It follows the Grand Union Canal (above) used in the early days for transport between the Midlands and London. It is now principally used for weekend boating. Located near the small church (left) Woughton Village is to be surrounded by a small greenbelt to preserve its character. New housing is being built adjacent to older dwellings (right).



Administration and finance for French new towns

Unlike the British new town development corporation, the French development company shares the cost of the actual development of the new town with representatives of several government ministries and representatives of local authorities. New towns are designated at the national government level from recommendations from local, regional governments and metropolitan planning authorities. Once a new town is designated, the Research and Planning Commission, comprised of a director and several architects, urban designers, and planners, is organized to make appropriate studies, assemble a program with cost estimates, and begin land transactions and initial development work. The Commission is legally administered through the regional government but is financed directly from the national budget.

Once the Commission reaches the point where major development work can be started, it is necessary to form a single administrative body with legal capacities, and the authority to carry out land development, research and development policy. The French legal system offers a choice between two alternatives: the public development company, and the mixed-economy company. The mixed economy com-

pany is owned 51 per cent by local government and 49 per cent by private interests. Although well adapted to cope with the problems of established communities with substantial tax bases, the mixed economy company faces several difficulties. First, projects must be instigated by local authorities, which is difficult when a large number is involved. Second, local authority must insure loans and take financial risks, a responsibility they often cannot accept. Third, since central government expenditures are exceptionally high in new town investment, it is undesirable to leave decision-making up to local and private enterprise. Fourth, since there is no central government representation in the mixed-economy company, essential communication links between state, regional and local governments are hard to maintain.

As a result of these drawbacks of the mixed-economy company, the public development company has been adopted as the mechanism for developing new towns. The company is set up by central government initiative after consultation with local communes. The head of the board is an elected local official. The board is composed of seven members from local authorities (communes, departments, and regional governments) and seven officials from the various ministries. The

company usually employs 60 architects and administrators.

The public development company acquires land and develops it with needed infrastructure. To build up land reserves (so-called Z.A.D.'s, deferred development zones), the company has at its disposal a price control policy and a right to preemption over any transaction in its territory. The company can also sign an agreement for a so-called Z.A.C. (concerted development zones) to be built with public or private developers.

The financial policy for land acquisition and development in French new towns is not as clearly defined as for British new towns. Budget funds are used to buy land located in the core of the new town which becomes the property of the government. A second source of financing comes from six-year loans given by the *Caisse de Dépôts*. Redemption is postponed for three years and interest reduced to 2.75 per cent owing to a rebate granted by the National Land Development and Town Planning (FNAFU). These loans are more particularly used to acquire land earmarked for housing. Sites in the industrial zones are almost never financed from official funds. The company must resort to non-bonified loans from *Caisse de Dépôts* at a rate averaging 5.5 per cent. This is a major cause of con-

cern for future operations.

The financing for the development of the acquired land is also complex. The primary roads normally provided by local authorities are considered as government projects. They are covered up to 55 per cent by the Ministry of Equipment and Housing. The District Board agrees to impute the 45 per cent share of the local authorities to its own budget. The primary sewage system has, in the new towns, been financed jointly by the Ministry of the Interior and Ministry of Finance.

Establishing the framework for democratic process

There are adjustment problems facing the inhabitants in new towns that must be dealt with by both the French and British development companies. In French new towns, where the political unit called a "commune" is utilized for representation, 18 new officials are elected from the inhabitants of the designated area. When a group of communes, known as a "community syndicate" is used for representation, the boundaries of existing communes remain the same from an electoral standpoint. Because older inhabitants are disrupted by new administrative patterns and new inhabitants are inadequately represented because of communal fragmentation, and since proper



representation is further delayed by the six-year period between local elections, community groups and resident associations spring up naturally to compensate for the inadequacy of representation.

Similar problems of representation have affected British new town development. Developments at Stevenage were held up for years by local resistance. A similar situation occurred at Hemel Hempstead. Since the reorganization of local boundaries is deemed unnecessary, the development corporation is always in a delicate negotiating position with local county and district councils. All plans for development must be reviewed with them before implementation. Yet, in recent years it has become apparent that reviewing plans and negotiating with local officials still leaves unresolved many of the problems of old and new inhabitants in the new towns.

To attempt to solve these problems, some British new town development corporations have gone beyond a representational solution. They are attempting to do something unusual for a development company—attempting to encourage citizen participation in the formative stages of the development policy.

The success of this strategy has yet to be realized. Attempts,

though, have been made at Milton Keynes New Town where data from housing preference surveys may soon influence living unit design through the monitoring and evaluation processes. Milton Keynes, however, has been plagued with production problems which has lessened its mood for social experimentation. Successes have been made at Runcorn New Town located near Liverpool. Future citizens of the new town, moving to Runcorn because of overspill are met by new town social development officers before they leave their living quarters in Liverpool. In this way, the future citizens learn of what to expect and are involved in the community from the outset of their move.

Summing up: Should the British follow the lead of the French?

New towns in Britain and France originated from the need to solve regional problems. The new town as defined in each country must be viewed in light of existing urban growth patterns, the tradition of private enterprise, the tradition of local and central governments and the various life styles of the population. For the British, the result has favored relative self-contained communities, industrial in character, located at sites outside the built-up areas. The distance is usually far from the cen-

tral city to enable the new town to develop a high degree of independence. Also, the low-density scattered development characteristic of urban growth, surrounding major British cities, limits the possibility of closer-in sites.

For the French, new towns are located in close proximity to the central city, and indeed greatly benefit from the proximity. It is particularly clear to French planners that closer locations will greatly facilitate a diversity of employment and population within the new town. The new town will in turn contribute to its surroundings making a more viable socio-economic region. Closer locations are possible particularly in the Paris region where built-up areas tend to be concentrated towards the center city. Available sites can be found not far from the city boundary.

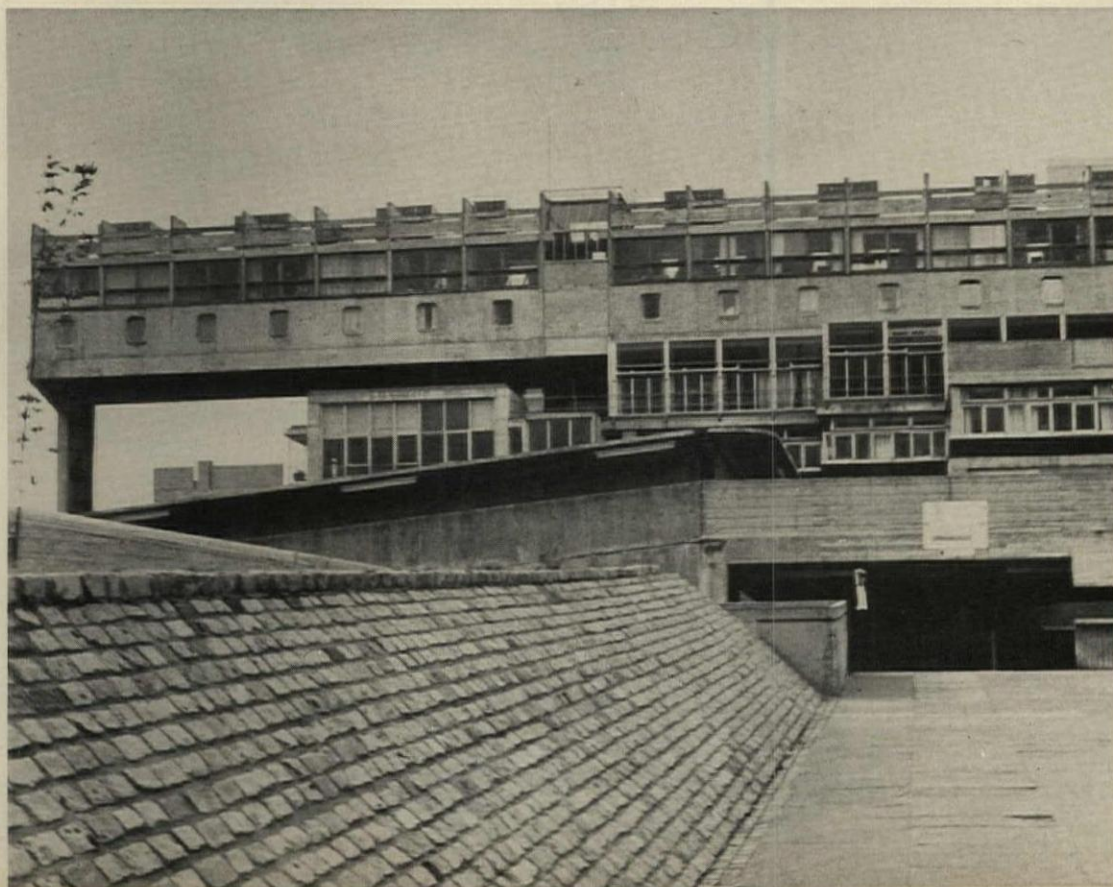
The influence of the new town must be strong in order to have any positive effect. Therefore, large designated areas have been accepted as necessary by both new town systems. The French from the outset were committed to including private enterprise in the development of large new town projects. This was necessary because of their private enterprise tradition. Had projects been constructed solely by public funds, it would have called for a quite sizeable economic commit-

ment. The recreational character of the Paris new towns will tend to attract private developers.

The British, although committed to a policy utilizing private development, still depend significantly on public expenditures for large new towns. Where the use of large public expenditures is necessary for improving poorer regions, it is now being seriously questioned as a means of implementing development in the wealthier regions. Is it in society's best interest to have 800 architects and administrators build housing and industrial projects at Milton Keynes New Town without greater participation from local authority and particularly private enterprise? Can the large Central Lancashire new town with a sizeable number of sub-regional differences, be implemented by the traditional development corporation? These questions are being asked by a special parliamentary committee evaluating the process of new towns and their future. Modifications to the British new town development process are most probably in the making, so it may deal more realistically with the growth areas proposals of Britain's new regional growth strategies. Unlike the British at the moment, implementation of French new towns contribute substantially to visions of what the city-region ought to be.



Cumbernauld New Town designated in 1955 is located in Scotland. It was the first new town to be designed for the automobile. A main highway goes beneath the town center connecting to secondary roads. The center contains most of the shopping facilities for the town and some residential above. Cumbernauld was the first British new town to break with the neighborhood tradition. Instead, the town center was the focal point for all 70,000 inhabitants. Since most citizens did not own automobiles, access to the center caused many problems, particularly in the cold Scottish weather. Over-all housing density is similar to the densities of the French new towns surrounding Paris.



So far we have described the Federal government's commitment (and its disappointing follow-up) to the idea of New Towns, and we have described some of the architectural, sociological and planning processes that help create them. We have also shown New Towns in the United States that either exist or are being planned, and we have looked at some of their counterparts in France and Great Britain.

The editors have done all these things because we want to go on record in the belief that New Towns offer a real option for a better life to people who live in a world where more and more options are being closed off with a bang, like so many slamming doors along a corridor. What is this option, and what does it derive from?

Are New Towns new? Are they towns?

If we consider a town as a place more or less entire unto itself, where most people both live and work, learn and play, entertain and are entertained, then it is clear that the New Towns we have seen are not, in this sense, towns at all—nor probably were they ever intended to be. For one thing, many of the people who live in them do not work there, and vice versa. For another thing, several of the New Towns are actually in large cities, and almost all the rest are near some large metropolitan

area and are dependent on it to satisfy some of the needs and desires of their residents. "Reston is just fine," says Robert Dawson, editor of the *Reston Times*, "but it will never be as good as Baltimore—we need some grime." What they also need are some of the social, cultural and economic benefits a large city can provide.

What they don't need are the endemic problems of large cities—poor schools, crime, lack of open space and all the rest. These problems come up over and over again when you ask the residents of a New Town why they came there.

Your next question is bound to be "How is your 'new' town any different from a suburb?" You might well have thought to ask this anyway, since many New Towns (excluding those that are in cities) *look* like suburbs. Their houses run the familiar gamut of the builder's vernacular (Figures 1 and 2) and often seem arranged in the same old ways (Figure 3) their village centers sometimes look like ordinary shopping centers (Figure 4), and their plans call up shades of Levittown, or more casually planned subdivisions (Figure 5).

This is by no means the whole story, since suburban New Towns are meant to provide a host of amenities that contemporary suburbs never provide. But this is nevertheless a very important part of the story, because, as we shall

see, there is (apart from the as yet unproven aspirations implicit in Title VII New Towns) little that is new in the design goals for people in suburban New Towns, and there is not much more that is new in their concepts of the good life. The whole idea of these "towns" is, in the literal sense, conservative.

To say that the idea is conservative is not to say that it is lacking in imagination. It is to say that the idea is an imaginative attempt to recreate a more perfect condition from the past and to make it workable in the present. A man who lives in Reston described the convenience of being able to walk to shops, to the doctor's office, or to a friend's house and meet other friends on the way; he also talked of the pleasure of washing his car in front of his house and getting to know his neighbors by chance, rather than by formal prearrangement. He concluded, "It's like the small town I grew up in."

Similarly, New-Towns-In-Town (though they are in the minority among the examples we have shown) adhere to this conservative principle of re-creation. Here the attempt is to recreate some lost, better forms of urban living and to adapt them to present practicalities and social ideals. The goal of Cedar-Riverside, for instance, is to provide housing for people of widely different incomes while at the same time bolstering up and restoring

There is little that is new in the aspirations and goals of the people who live in new towns. Residents who praise their new towns have been known to compare them fondly to the old towns they grew up in. Good new towns and nice old towns are not literally comparable, however, because even the best new towns are not yet self-sufficient entities because few people manage to both live and work there. Further, even the best of the new towns have yet to capture the life enhancing qualities of certain fine old American towns. RECORD editor Gerald Allen, who grew up in a small town, takes the last word to remind us of what these qualities were and are.



1



2



3



4

t transformation

the vitality of an existing city neighborhood (Figure 6).

Towns and suburbs that worked

Since suburban New Towns seem in many ways to hark back to some previous ideal, it is worth trying to find out what that ideal was, how it was lost, and how the New Towns today are going about restoring it.

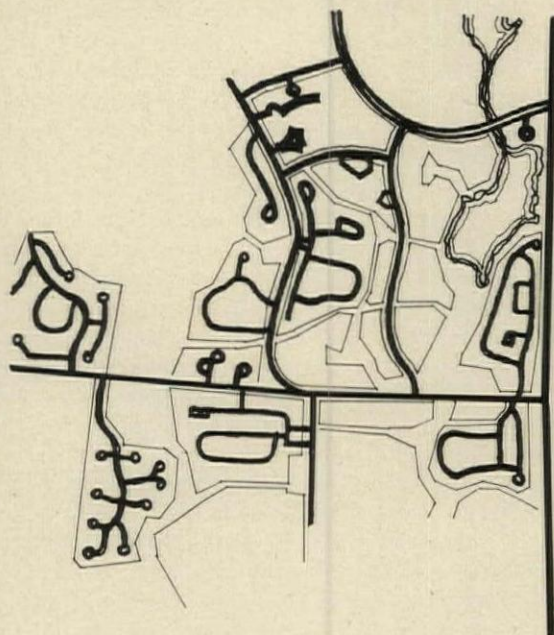
What might the small town that the man in Reston grew up in have looked like? Its residential area was very probably within easy walking distance of downtown, and it probably had tree-lined streets and not much traffic. There were probably sidewalks with paths leading to the front porches of the houses, as in the photograph below (Figure 7). On such a street the gentle gradation from public to private realms is as splendid as it is comfortable. The street and the sidewalk are public; they are shared spaces. The front lawns are private, but barely so; the line is subtly drawn by the inward edge of the sidewalk, and its import is meant to be understood as subtly by both host and guest. The porches are private too, but they give the inhabitants the chance to survey the passing scene.

Such arrangements were codified at an altogether different scale in the large planned suburbs that were built around American cities in the latter part of the nineteenth century. Riverside, Illinois,

provides an example (Figure 8), not so much because it is unique as because its designer, Frederick Law Olmsted, explained quite clearly what he was trying to do.

Olmsted acknowledged the need for people to get from their homes to business and commercial areas with ease. "The question of access," he wrote, "first demands attention." In allegiance to English models, he abandoned the grid system upon which the overwhelming majority of American towns had been built: "We should recommend the general adoption, in the design of your roads, of gracefully-curved lines, generous spaces, and the absence of sharp corners, the idea being to suggest and imply leisure, contemplativeness and happy tranquility.

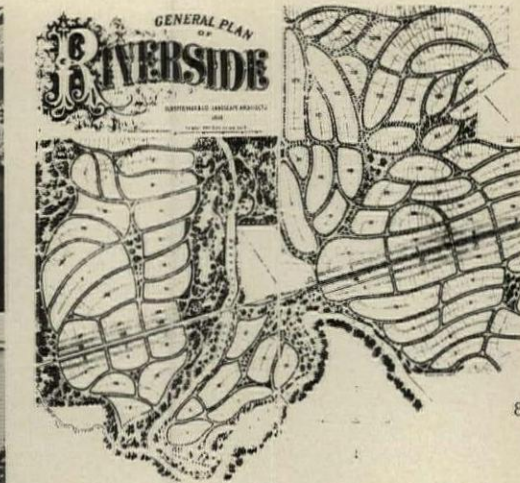
Above all, Olmsted insisted on the gentle balance of community and privacy: "There are two aspects of suburban habitation that need to be considered to ensure success; first, that of the domiciliation of men by families, each family being well provided for in regard to its domestic indoor and outdoor private life; second, that of the harmonious association and co-operation of men in a community, and the intimate relationship and constant intercourse, and inter-dependence between families. Each has its charm, and the charm of both should be aided and acknowledged by all means in the plan of every suburb."



5



6



8

Olmsted saw the suburb as a halfway house between the delights and rewards of the city and the natural pleasures of the country and, although his plan for Riverside shows strong influences from England, his belief in suburban life reflects an attitude that lies deep in the American consciousness. It is that on the one hand America was seen by many of its first European inhabitants as an Eden where man could return to his unsullied primitive state, freed from the bonds of a corrupt society. On the other hand it was also seen as a land to be sullied, as it were—a land where the perfect democratic society could be built. The late historian Richard Hofstadter described this paradox by saying that America was “the only country in the world that began with perfection and aspired to progress.” “Perfection,” as it was understood, meant the unspoiled countryside. “Progress,” as it came to be understood, was the city, with its industry, commerce and society. Olmsted’s plan for Riverside represented a compromise—a little of this and a little of that.

Where the suburbs went wrong and the New Towns go right

If Olmsted’s solution stood for “both-and” (both country and city) many contemporary suburbs stand for “neither-nor.” True, many of them are laid out in a manner not unlike Riverside, with curving streets everywhere and houses set back (by legal requirement) far from the street. But somehow they don’t seem as ha-

bitable as Olmsted’s streets, or the small-town street shown in the photograph on the preceding page. In fact, they scarcely seem inhabited. What happened?

It would be unfair (and inaccurate) to cast blame in a single direction, but doing so here, as an exercise, can lead us to some of the root problems of suburbs as they now often exist. The blameworthy object is the automobile. It is not so much that it makes sidewalks and front lawns unpleasant and streets dangerous (though it sometimes does both); it is that it discourages their use by people. Most suburban houses are designed as though they were meant to be entered from the front, by means of a front walk, sometimes a porch, and a front door. In reality they are most often entered from the garage. People use their cars more than their legs, and in most places they have to, because the places they need to go to work or shop or learn or play are too far away for walking. In most suburbs sidewalks have disappeared, and front lawns—once a vital part of the continuum from public to private realms—are uninhabited, empty and wasted.

Again, the automobile is not the only culprit; perhaps indeed it is only an accomplice, and the real culprits are those who assumed that people could be well-served by a limited number of social and commercial facilities spread far apart, or those who assumed that happiness could be found only in single-family houses on quarter-acre lots.

In any case, the result is that

those two essential and interdependent ingredients which Olmsted described have been lost: “the domiciliation of men by families” and “the harmonious association and co-operation of men in a community.”

If it is really true that there is very little that is new in the design goals of suburban New Towns, then it is true precisely because they aim to restore these two ingredients. If it is really true that they are not in a strict sense “towns,” then perhaps it is true because they are twentieth-century suburbs *par excellence*.

A rather surprising feature of almost all these New Towns is that they rigorously eschew the grid pattern that normally conjures up the image of “town” in our minds; instead they opt for the more curvilinear planning which calls up not just the image of “suburb,” but, as Olmsted put it in one of his schmalz lines, “leisure, contemplativeness, and happy tranquility.” Most suburban New Towns, too, make some effort to subjugate the automobile and to provide ample pathways for pedestrian traffic and bicycles (Figures 9-12). All of them aim to provide commercial and social services within easy reach, and all of them aim to restore the sense of a lively town center.

In the previous pages we have described in detail the techniques and machinations and vexations and hopes and disappointments and successes and failures involved in planning New Towns. It remains here only to wish them well.

—Gerald Allen



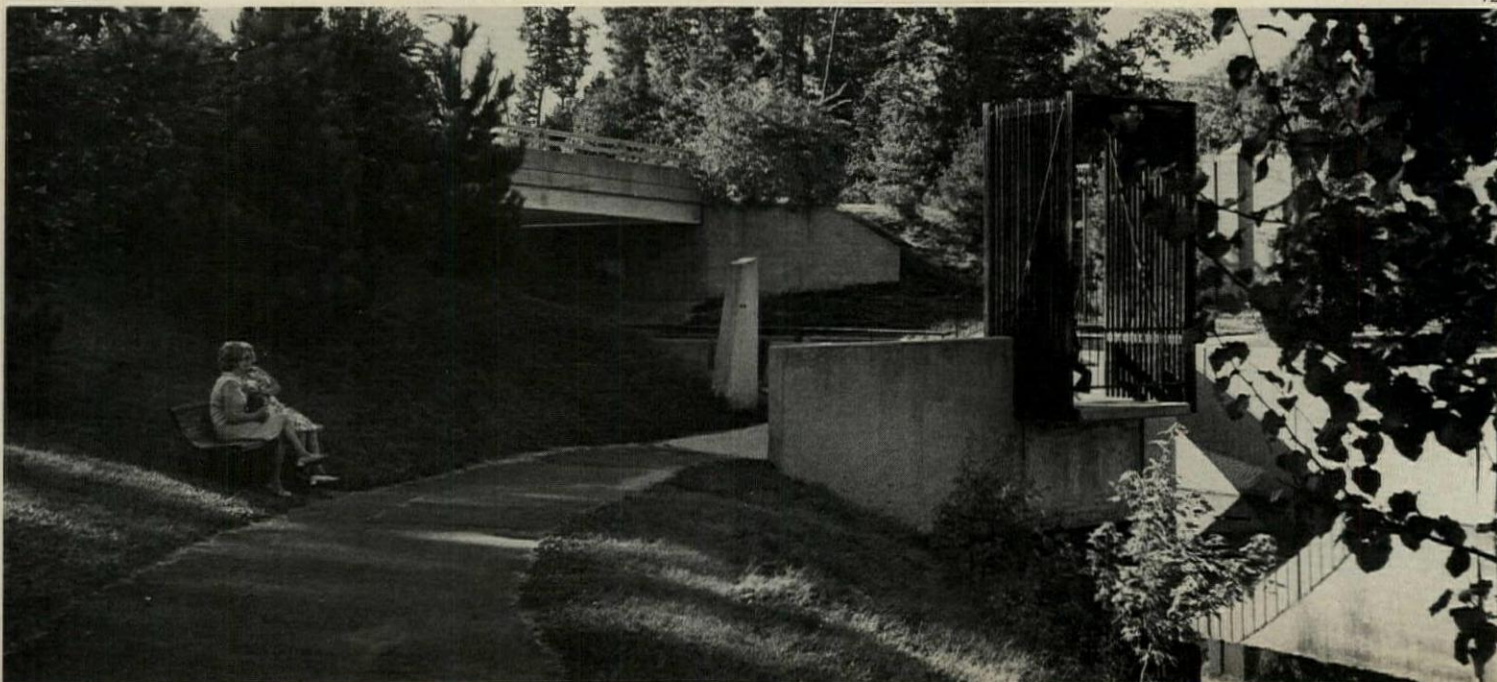
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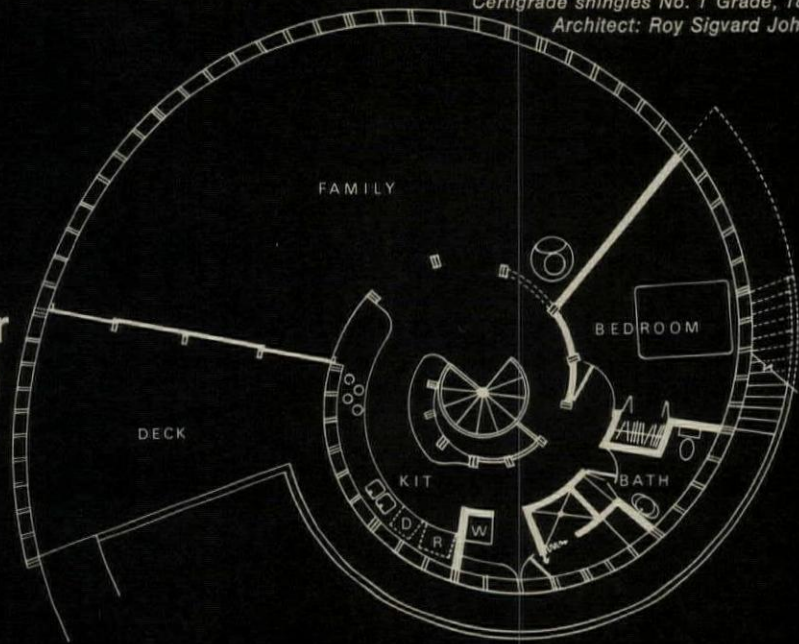
11



12

Beach house, Village of Quogue, New York.
Certigrade shingles No. 1 Grade, 18" Perfections.
Architect: Roy Sigvard Johnson.

Red cedar knows its way around exciting design.



This New York beach home is an eddy of warmth and texture with a practical twist. Its red cedar clad outer shell and shielded front deck acknowledge the harsh marine environment. Inside, the unique circular design permits informality, easy movement between living and leisure areas,

and a sweeping view of the sea.

The red cedar shingles conform effortlessly to the home's swirling design. They blend easily with the seaside setting. They'll weather beautifully, retaining their natural elegance for decades with virtually no upkeep. And they'll withstand

even hurricane winds.

For details and our specification guide on Certigrade shingles and Certi-Split handsplit shakes, write us at 5510 White Building, Seattle, Washington 98101. In Canada, write 1055 West Hastings Street, Vancouver 1, B.C.

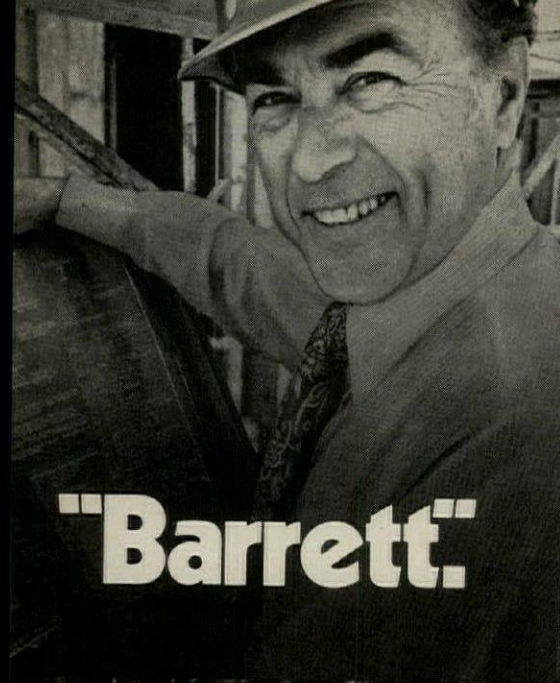


Red Cedar Shingle & Handsplit Shake Bureau

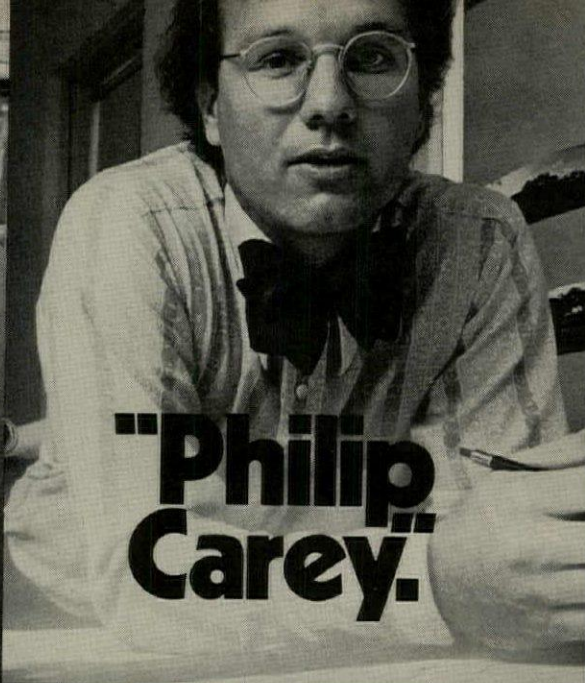
One of a series presented by members of the American Wood Council.

For more data, circle 61 on inquiry card

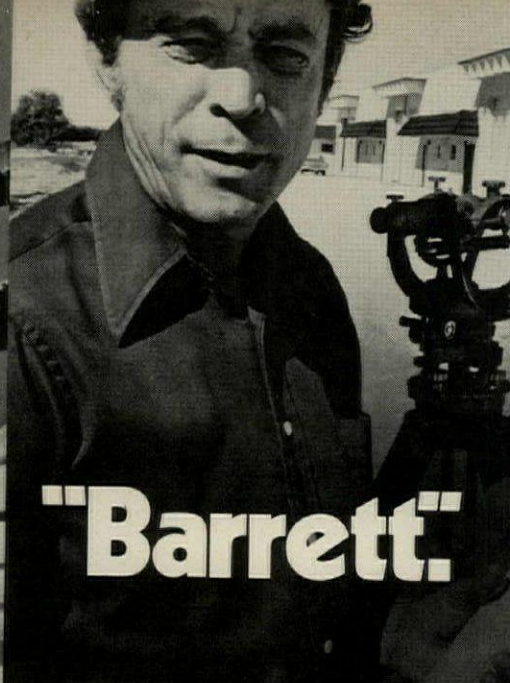




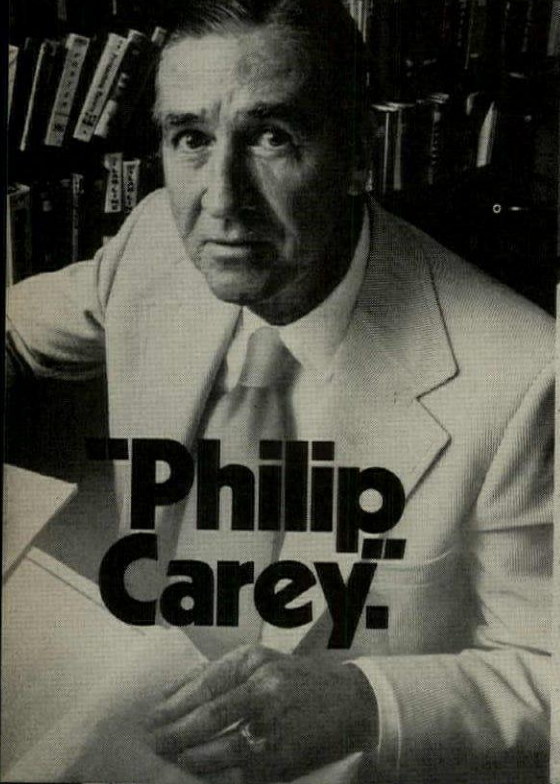
"Barrett."



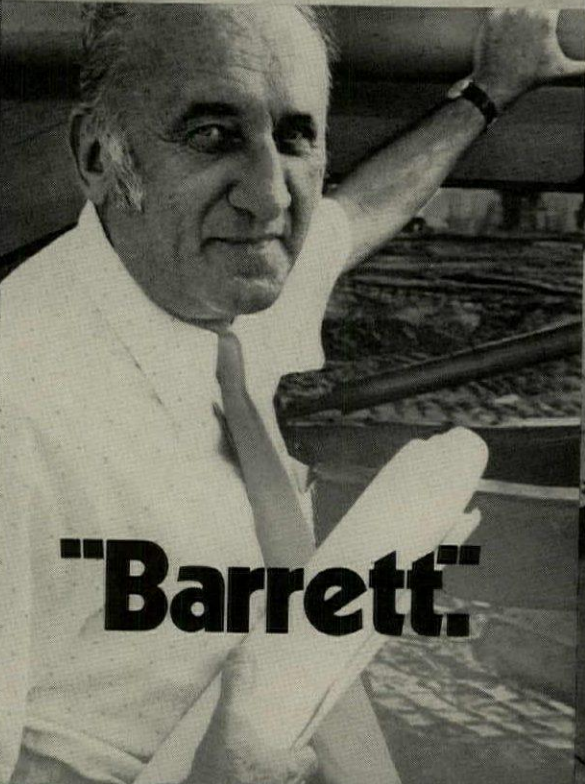
**"Philip
Carey."**



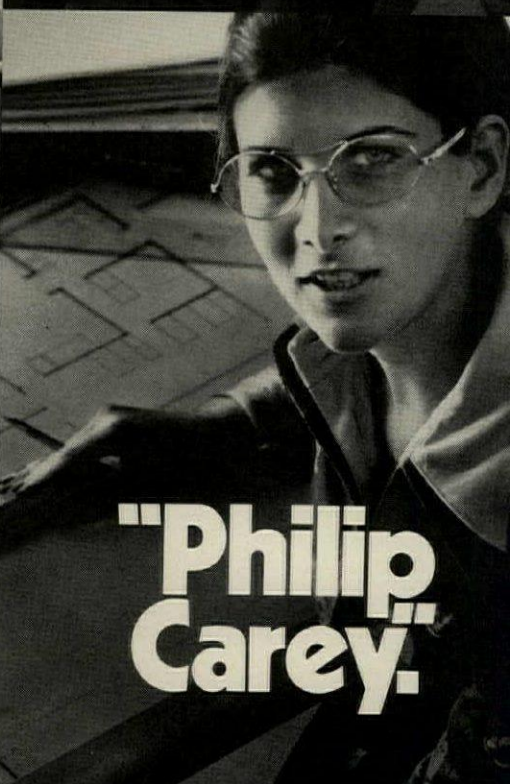
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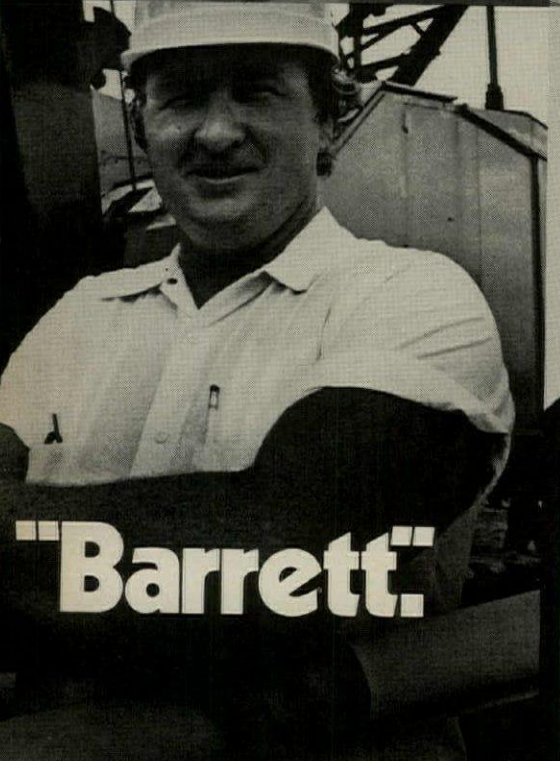
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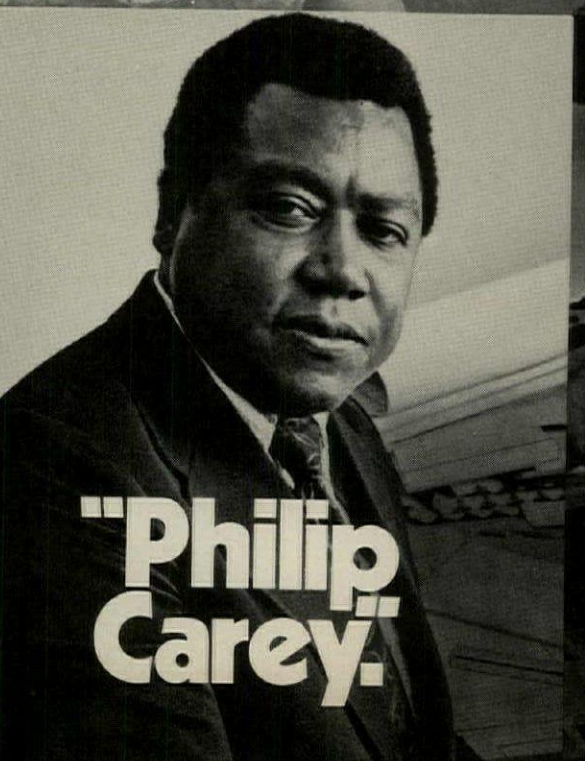
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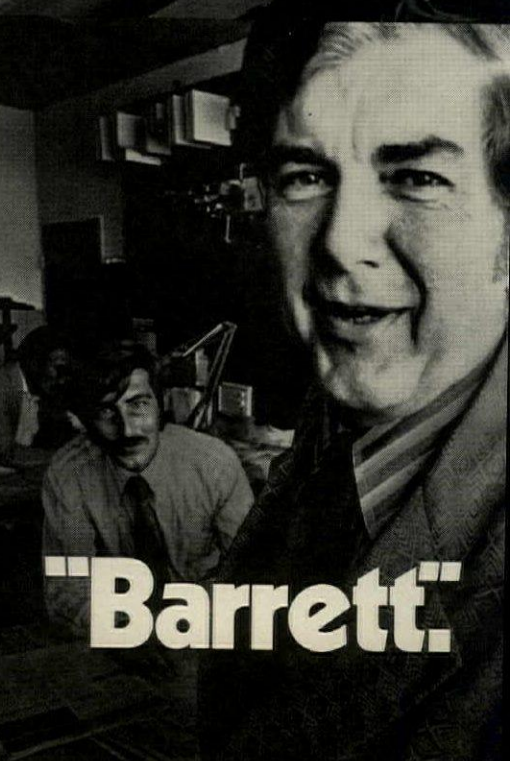
**"Philip
Carey."**



"Barrett."



**"Philip
Carey."**



"Barrett."

People in roofing have been calling us other names.

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For quite some time now, people involved in roofing have been saying, specifying, and installing, what they thought of as either Philip Carey or Barrett brands of roofing products.

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The products were...still are...Philip Carey and Barrett. But now they're all called by one family name. Celotex.

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Celotex can also offer additional services in pre-spec roof design assistance; technical support, and a Celotex Roof Inspection & Service Contract.

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For more data, circle 62 on inquiry card

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**Cut heating and
cooling costs with
Extendaire***

**the one conditioner
that does
the work of two!**

It's the Incremental air conditioner with Extendaire. It lets you have quiet, balanced heating or cooling in two rooms at the same time—all from a single, through-the-wall Incremental unit.

The Extendaire is a flexible unit which can accommodate adjoining rooms—to the left or right. Extendaire achieves substantial savings in apartment and office building construction by eliminating the need for installation and electrical costs of separate conditioners for individual rooms.

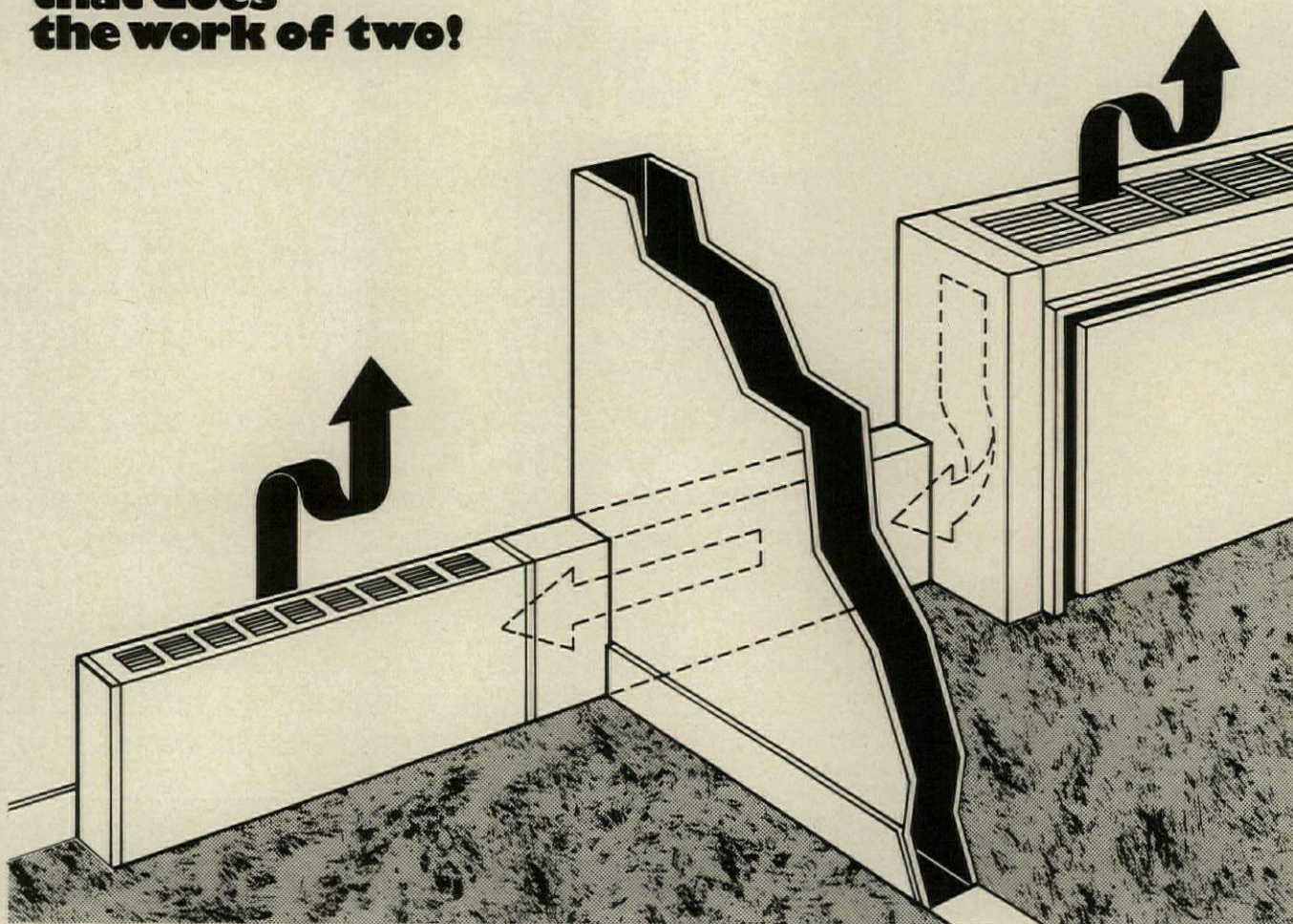
The Extendaire offers complete occupant temperature control. And has demonstrated

extremely low installation and operating costs. It has been widely accepted by architects, engineers, owners, operators and occupants.

So, if you're looking for ways to cut comfort control costs, contact a Singer representative and ask him about Extendaire. The Incremental unit that does the work of two. *Only Incremental air conditioners by Singer have Extendaire.*

Singer Climate Control Division,
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*A trademark of The Singer Company



SINGER

CLIMATE CONTROL PRODUCTS

For more data, circle 63 on inquiry card

For more information, circle item numbers on Readers Service Inquiry Card, pages 221-222.

Floor-wall-ceiling package for the open plan office

A total package of pre-engineered, coordinated components for the open plan office offers acoustical wall panels and screens, resilient flooring and carpeting, and a sound masking system. The company's C-60/30 luminaire integrated ceiling units are said to meet requirements for acoustics, lighting, air distribution, fire control and appearance. Tests, according to the company, show that vaulted systems provide virtually 100 per cent surface absorptive area with very little lens obstruction. The coffer itself plays a significant role in noise reduction by preventing sound from being reflected into adjoining work areas. Conditioned air can be supplied and returned through slots in the grid or light fixture. The wall and space divider panels are made of mineral fiber

acoustical material to which a soft modacrylic fabric is laminated. Wall panels are 30 in. wide, 9 or 10 ft high, and available in 10 colors. The screens are 5 ft wide and either 5 or 6 ft high. They come in straight or curved designs, in eight colors. A bronze or walnut frame surrounds the freestanding screens. The company offers with the package level-loop carpets of nylon, with anti-metallic yarn to reduce static build-up. Resilient flooring is also available in six colors. Background sound-masking is offered by Executone, Incorporated in conjunction with the ceiling system—all as one element. At no more than 40 db, the sound is said to mask normal speech sounds traveling between work stations. ■ Armstrong Cork Co., Lancaster, Pa.

Circle 300 on inquiry card

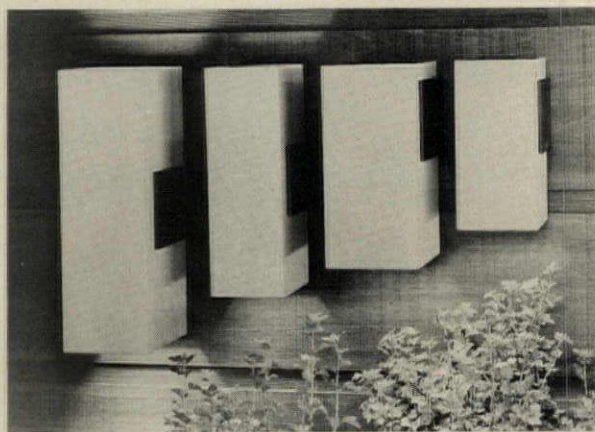


Stacking chair recommended for institutional use

The Elle chair is said to combine strength, appearance, economy, maintenance ease and flexibility, making it suitable for institutional use. Available fully upholstered in wools, vinyls or suede, the chair is offered

with or without arms. It can be stacked ad infinitum, and comes with its own dolly. Elle can be ganged or permanently affixed to the floor. ■ ICF, Inc., New York City.

Circle 301 on inquiry card

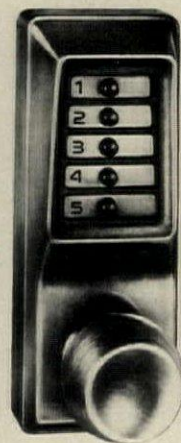


Architectural wall lighting offered in four sizes

A series of architecturally compatible, wall-mounted outdoor lighting units includes four rectangular fixtures with clean styling. The company recommends the units for safety, accent and general lighting in applications ranging from residences to large

office and apartment complexes. Colors are flat black with natural brushed aluminum or brushed bronze finish. Heights range from 10 1/4 to 18 in. ■ Thomas Industries, Inc., Louisville, Ky.

Circle 302 on inquiry card



Pushbutton knob set

The combination can be changed within 30 seconds, and the unit will fit 1 3/8- to 2 1/4-in. thick doors. ■ Unican Security Systems, Ltd., Montreal.

Circle 303 on inquiry card

More products on page 155

Glasweld gives you the durability of masonry, the beauty of glass, the flame-resistance of stone, and the low cost of Glasweld.

Oregon Institute of Technology, Klamath Falls, Oregon.
Skidmore, Owings & Merrill, Architects.

With all that going for it, no wonder the architects chose Glasweld® for this building in Oregon.

And no wonder builders and architects are using Glasweld to achieve interesting effects on low-rise buildings, as well as skyscrapers.

Glasweld is a flat, inorganic fiber-reinforced panel, coated with an all-mineral, colored enamel surface.

It is highly versatile, too. Except for the windows, all

major surfaces in this photograph are Glasweld. Window-wall insert panels, fascias and fabricated coffer soffits. Even interior wall linings.

Another feature is permanence. The kind you find in the very best grades of porcelain enamel and ceramic tile.

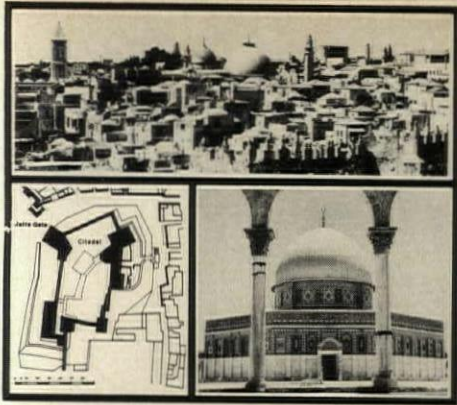
As if that weren't enough: Glasweld is incombustible, waterproof, impervious to stains, simple to cut and drill, and easily applied. So, installation and maintenance

costs are low.

But the real beauty of Glasweld is on the surface. The fine-brushed slate surface, the two textured sand finishes, and the 23 other colors.

Like to know more? Contact your U.S. Plywood Branch Office. We can tell you all about Glasweld *and* the rest of our extensive line of exterior cladding.

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By Arie Sharon

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The volume comes at a time when more and more architects and townplanners are determined to find solutions to urban renewal problems wherever populations are growing too large for existing facilities, especially where landmarks and cultural sites are cherished. The Jerusalem plan is actually a scheme for co-existence between the hallowed places of three great religions and the growing demands of a scribed and illustrated in this complete and modern metropolis. Both beautiful and useful, the book addresses a wide professional audience.



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Readers Service Inquiry Card, pages 221-222.

REDWOOD INTERIORS / The 12-page color idea booklet features redwood paneling in a variety of applications. Patterns, sizes and nailing diagrams are included. ■ California Redwood Assn., San Francisco.

Circle 400 on inquiry card

INSULATION / A bulletin describing physical properties, specifications and application data of *Foamglas* insulation system includes a tapered system for eliminating ponded water on roofs. The 20-page brochure, which contains detailed application photographs and technical data, graphs and tables, covers the use of the insulation in all normal temperature application. The insulation is used in such applications as roofs, plazas, parking decks, walls, floors and ceilings. ■ Pittsburgh Corning Corp., Pittsburgh, Pa.

Circle 401 on inquiry card

THIN-SET TERRAZZO / The bulletin defines the various kinds of terrazzo flooring available on today's market and calls out special considerations for builders, architects and owners. The publication also details each of the major kinds of matrices available, covering epoxy, acrylic and polyester emulsions, and the additives available for mixing with cement. The company has developed an extensive testing program, evaluating these matrices for their resistance to stain, acid, alkali, solvents, and water, as well as such parameters as bond and impact strength, speed of installation and ease of maintenance. All of the results of this research are available in this bulletin. ■ H. B. Fuller Co., Palatine, Ill.

Circle 402 on inquiry card

BUILT-UP ROOFING / The 32-page brochure covers recommended specifications and procedures for the company's roofing system. Application information is presented and illustrated with 38 detailed diagrams; the brochure contains a special section on flashings. ■ Koppers Co., Inc., Pittsburgh, Pa.

Circle 403 on inquiry card

SOLID WASTE TO ENERGY / Although the recovery of heat from the combustion of solid waste material has been practiced for many years, it has not been common to the United States, according to the company which has validated the feasibility of steam generation from solid wastes for electric power production. Regular fossil fuel consumption can be reduced by as much as 20 per cent by firing refuse in conjunction with primary fuels. A brochure has been prepared on the subject. ■ Combustion Engineering Inc., Windsor, Conn.

Circle 404 on inquiry card

FIBERGLASS DRAPERY USE / A comprehensive guide for scientific selection of fiberglass draperies for commercial buildings explains how to control intense solar light, brightness, and radiant heat through windows of high-rise buildings. Technical information, installation recommendations, washing and maintenance data and cost comparisons are included in the balance of the booklet. ■ PPG Industries, Pittsburgh, Pa.

Circle 405 on inquiry card

METAL DOORS / This 16-page color brochure illustrates a line of standard metal doors, door frames and fire-rated doors and frames (UL, FM and Certified). Among the products included is a UL unitized weatherstripped frame for masonry construction. ■ Steelcraft Mfg. Co., Cincinnati, Ohio.

Circle 406 on inquiry card

SEALANTS / A supplier of plastic and chemical building products to the construction industry announces a color card on their entire line of construction sealants. The card covers eight different sealants that are available in nine architectural colors, designed for interior and exterior use on general masonry; curtain, panel and window walls; architectural and structural concrete; building modules and components; pavements and decks. ■ Contech Inc., Minneapolis, Minn.

Circle 407 on inquiry card

CUSTOM CARPET / The company has issued a brochure reproducing in full color 41 custom contract carpet patterns. The selection spans a large variety of decorative effects and moods. Pile fibers are 100 per cent pure wool, 100 per cent *acrilan* acrylic and 70 per cent wool-30 per cent nylon blend. ■ Philadelphia Carpet Co., Cartersville, Ga.

Circle 408 on inquiry card

PLYWOOD WALL DETAILS / New design ideas for plywood walls are available in two publications revised to include more joint details plus illustrated sections on curtain walls, plaster channel trim, cross hatch design, picture framed panels, Z-bar covering and herringbone patterns. Also, a handy poster for horizontal, vertical, window and corner details can be used on bulletin boards or walls for immediate reference. ■ American Plywood Assn., Tacoma, Wash.

Circle 409 on inquiry card

PRESSURE WATER COOLERS / The brochure includes tables of specifications on the various types of electric pressure water coolers (wall-mounted, semi-recessed, floor-mounted, remote and marine). The brochure also gives design features, cabinet options available, accessories, and other information. Factory and manufacturer's representatives handling the line throughout the country are listed on the back of the publication. ■ General Electric Co., Chicago Heights, Ill.

Circle 410 on inquiry card

CONCRETE CONNECTION MANUAL / The manual (100 pages, soft-cover) was developed, according to the producer, to fill the existing void in precast prestressed concrete connection design. Previous connection design references concentrated almost exclusively on "transfer of forces." This manual, in addition to this essential facet of connection design, incorporates substantial information on production, erection, standardization, volume changes, force systems, and general industry practice. Two appendices cover background information references and tabular/chart materials which provide solutions to equations commonly encountered in connection design; \$4.00 per copy. ■ Prestressed Concrete Institute, Chicago, Ill.

Circle 411 on inquiry card

METRICS TABLE / An English-to-metric unit conversion table and standards for wood interior door jams and frames have been added to the *WP/Series Moulding Patterns* catalog, industry standard for high-volume stock wood moldings and jams. The standard covers both natural or clear finish and paint or overlay grades. The metric conversion table was incorporated as the first step in familiarizing users and specifiers with comparable metric sizes for all standard molding thicknesses with widths. Single copies are priced at \$1. ■ Western Wood Moulding and Millwork Producers, Portland, Ore.

Circle 412 on inquiry card

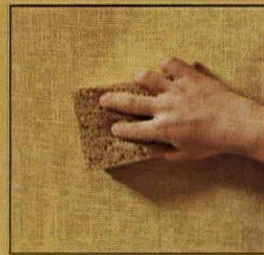
Only one vinyl-surfaced gypsum wallboard gives you all these:



UL Class A flame spread rating of 25 on unsupported vinyl

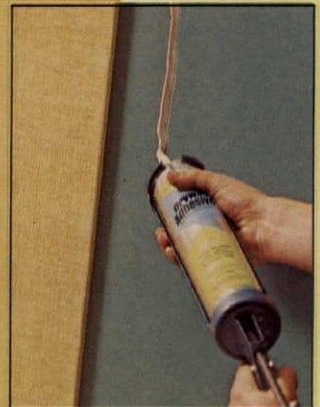
Georgia-Pacific's Eternawall has a vinyl covering that's factory laminated to gypsum wallboard. Means you get a Class A flame spread rating of 25 classified by Underwriters' Laboratories, Inc.

(This flame spread rating is only available with Eternawall's standard colors.)



A tough vinyl surface that's easy to clean

Makes Eternawall perfect for high-use areas. The tough vinyl surface resists scratches, nicks and bumps. And it practically takes care of itself. Eternawall sheds dirt, water. Almost everything. If it does get dirty, a damp cloth cleans it fast.



Easy installation

There's no painting, plastering, papering or field laminating with Eternawall. It goes up in one step. Needs no battens or exposed fasteners. Just put up Eternawall like you'd put up regular gypsum wallboard. And that's it. Your wall's done. Completely decorated.

Eternawall™

An STC of 45

Just laminate Eternawall to Georgia-Pacific incombustible Gypsum Sound Deadening Board and you can get an STC of 45 over either steel or wood studs. Not only is this the simplest vinyl covered sound system you can specify, it's also the least expensive and most durable. (For an STC of 50 simply add 1½" insulation.)



15 new colors for a total of 30

Georgia-Pacific gives you a wide choice of colors. Eternawall comes in 15 standard colors, 10 new textured colors in burlap, 3 new simulated woodgrain patterns, and 2 new weave patterns. Write for our free brochure with color swatches. Or, call your G-P representative today for the vinyl-surfaced gypsum wallboard that gives you everything you want.

Georgia-Pacific

The Growth Company
Portland, Oregon 97204



For more data, circle 66 on inquiry card

DUAL-TEE SYSTEM / For cement and fiber roof decks and interior acoustical wall spans up to 6 ft, the dual-tee sub-purlin is made of roll-formed 18-gauge steel, hot dipped galvanized and prime painted beige. The sub-purlin is 1 in. wide with a height of 1.6 in. The product is said to provide increased spans for cement fiber. ■ Cornell Corp., Cornell, Wis.



Circle 304 on inquiry card

SELF-CONTAINED WHITEPRINTER / The product has its own height-adjustable base and paper storage. Operating at 15 fpm, the Model 121 features fine tuning control in the low-speed ranges to give the accurately monitored speeds needed for making sepia intermediates. The printer throat is wide enough to receive and print 120 centimeter (47.24 in.) wide tracings. The unit is 57½ in. wide by 19 in. deep, and height can be adjusted up to 35½ in. ■ Blu-Ray, Inc., Essex, Conn.



Circle 305 on inquiry card

DOWNLIGHTS / Architectural downlights are rectangular or oval contoured, with deep side reveal. Several standard colors and custom colors are offered. Mounting can be ceiling, wall or pendant, and groupings can be achieved by varying the pendant stem lengths up to 24 in. Incandescent lamps, mercury or reflector types can be used in varying wattages and voltages. ■ Holophane, Montvale, N.J.



Circle 306 on inquiry card

DRAFTING FILM / With pressure-sensitive adhesive backing, Cartofilm plastic drafting overlay permits the film to be placed and repositioned on base drawings. Preprinting master symbols and components onto the specially treated surface eliminates hand-drawing of repetitive parts, according to the company. ■ Stauffer Chemical Co., Aurora, Ill.



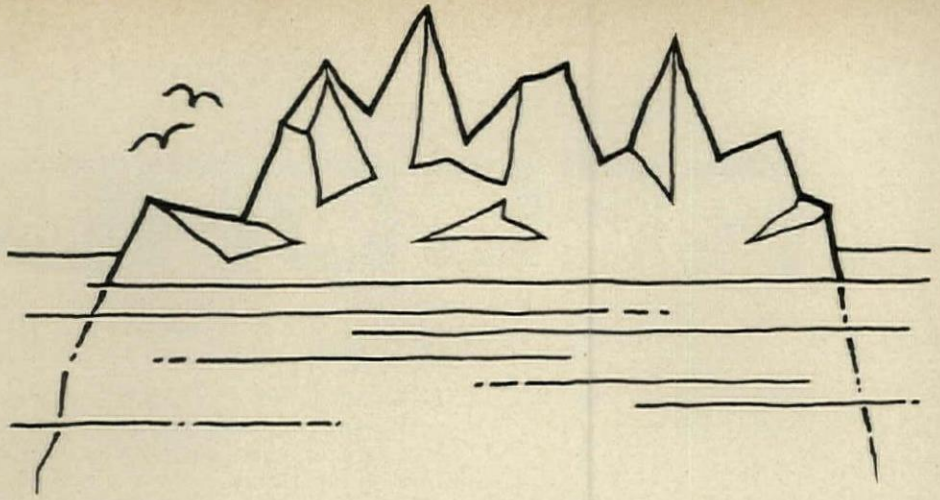
Circle 307 on inquiry card

ANGLE BAY WINDOW / This Perma-Shield casement angle bay window will be marketed by the company in 1974, and is comprised of low-maintenance casement windows which have a rigid vinyl sheath applied around the wood sash and frame. The sheath requires no painting and resists weathering and corrosion. Available in both 30- and 45-degree models, the windows will be offered in 4-, 5- and 6-ft models with up to 6-ft wide center sash. ■ Andersen Corp., Bayport, Minn.



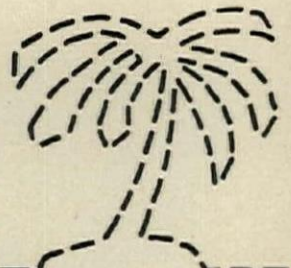
Circle 308 on inquiry card

More products on page 157



Like an iceberg, there's more to an Oasis water cooler than meets the eye. For example, our warranty covers the cooler for a full five years. And, it covers more than just the compressor and a few other select items. It covers the entire cooler. To protect the owner. To protect you. Check our warranty in Sweet's. Or send for a copy. It takes about 60 seconds to read. But it's good for 60 months. Oasis. The warranty for water coolers.

OASIS[®]
The word for water coolers.



Ebco Manufacturing Co.
Dept. AR-6
265 N. Hamilton Rd.
Columbus, Ohio 43213

I'll invest 60 seconds.
Please send a copy of your five-year warranty.
Plus your catalog.

NAME _____ TITLE _____

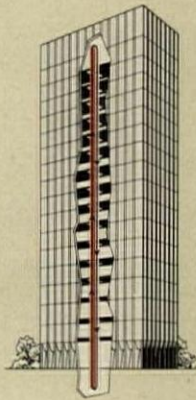
FIRM _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

For more data, circle 67 on inquiry card

RECORDLIFT®



The Recordlift is an automated, selective vertical conveyor. It rapidly moves mail, records, books and supplies in office buildings, libraries, hospitals.

Pre-addressed trays, moving at speeds up to twelve per minute, may be received by or sent from every floor.

Seven tons of material — or more, depending upon the Recordlift model and tray size — may be dispatched from a single station in just one hour.

Each Recordlift station is quietly independent, with its own drive motors and solid-state control pack. There is no mechanical linkage with the main drive chain.

Pads dampen vibration. Tray cars move in and out on small wheels, synchronized by silent proximity switches in the shaftway.

At the bottom, a large maple take-up guides the chain smoothly around the bend.

We tell the whole Recordlift story in our new eight-page brochure. Write Standard Conveyor Co., 815 No. Second St., North St. Paul, MN 55109. Or call (612) 777-8171.

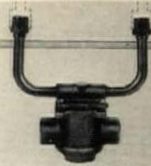


Ties the floors together.



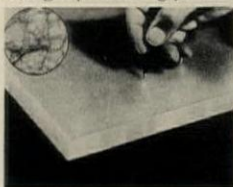
For more data, circle 68 on inquiry card

PRESSURE STABILIZING VALVE / The valve is said to prevent the sudden drop in cold water pressure in showers resulting from flushed toilets, etc. Product can be installed in an existing shower in the hot and cold water supply lines, either outside or below the shower room, eliminating the need to disturb tile work. ■ Powers Regulator Co., Skokie, Ill.



Circle 309 on inquiry card

LIGHT DIFFUSER / An acrylic, light polarizing panel producing symmetrical distribution of vertically plane light can be incorporated into fluorescent commercial, industrial and institutional luminaries. The company claims a savings in energy of 25 per cent minimum, compared with other light shielding materials. ■ Polrized Corp. of America, Northridge, Cal.



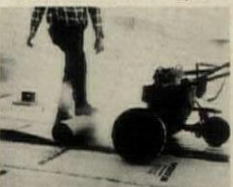
Circle 310 on inquiry card

LIGHTING SHIELDS / The company now has a *Plexiglas DR* acrylic plastic for extrusion and injection molding into high-impact fluorescent lighting lenses and diffusers. Primary potential is seen in outdoor applications, subways, schools, prisons. Clarity and weatherability are claimed. ■ Rohm and Haas Co., Philadelphia, Pa.



Circle 311 on inquiry card

VAPOR BARRIER / For non-rated roof decks *Vapor-stop 298* is comprised of two layers of high strength kraft with asphalt adhesive and reinforcing glass fibers. The company claims the product is a universally applicable roof deck vapor barrier. ■ St. Regis Laminated & Coated Products Div., Attleboro, Mass.



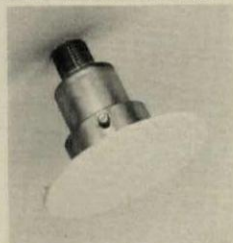
Circle 312 on inquiry card

COMMUNICATION WALL SURFACES / The company claims these wall panels provide for film projection and color writing and virtually eliminate hot spots and glare. ■ Eberhard Faber, Wilkes-Barre, Pa.



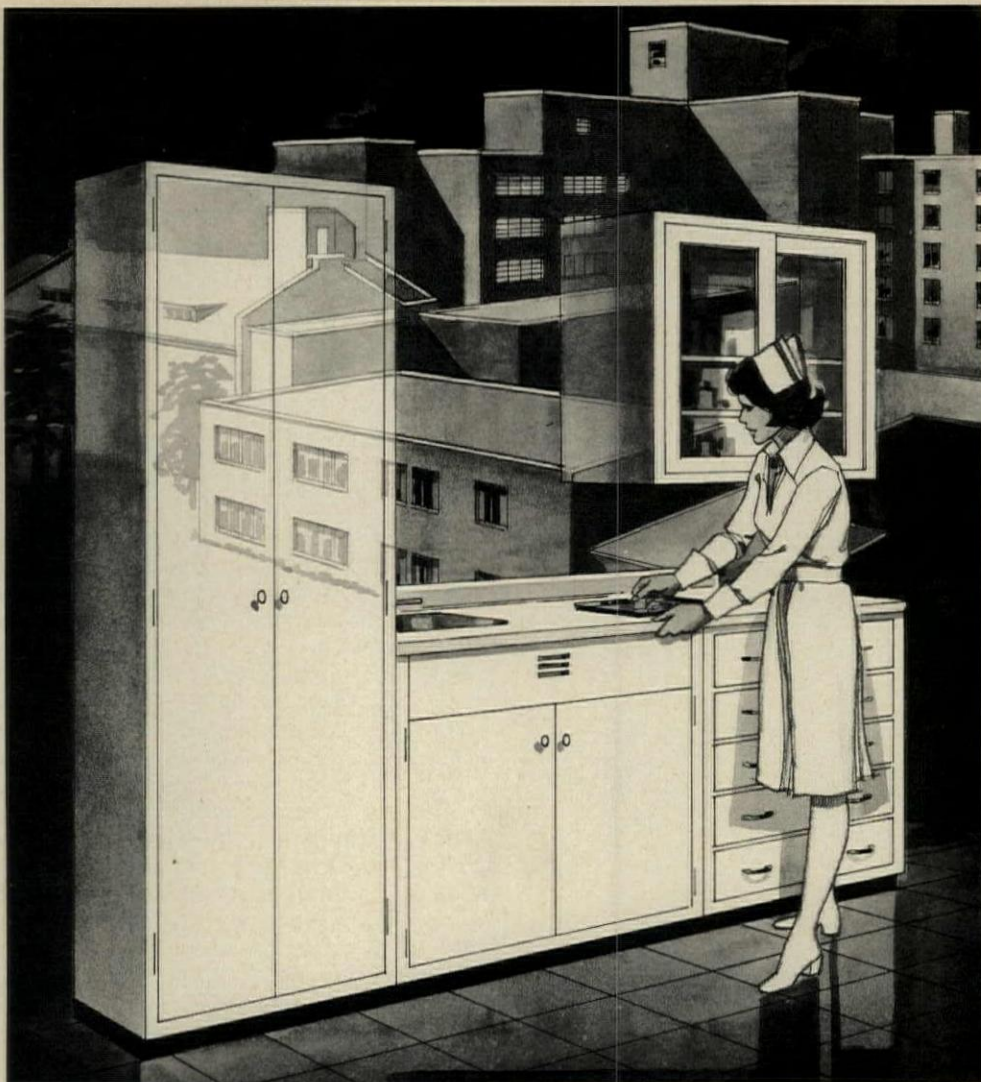
Circle 313 on inquiry card

CONCEALED FIRE SPRINKLER / This automatic flush ceiling sprinkler is now available in 16 metallic finishes, according to the company. The 4-in. cover plates, UL listed, have temperature ratings of 117, 135 and 165 degrees. Ceiling tile or paint samples may also be submitted for an exact match. ■ Star Sprinkler Corp., Philadelphia, Pa.



Circle 314 on inquiry card

More products on page 211



COLUMBIA MEMORIAL HOSPITAL, HUDSON, NEW YORK

THE ARCHITECT* OF COLUMBIA MEMORIAL, WAS GOOD TO THE NURSES

He saved the nurses time, steps, and effort. He saw to it that the materials they needed were easily accessible and neatly dispensed. He made sure that drawers and doors wouldn't stick. He specified Watson Hospital Casework.

Functionally designed, and constructed of highest quality materials, all Watson casework is made to meet the demands in today's hospitals. It is made to provide maintenance-free service. It is made to last.

Whenever you are involved in hospital design, be good to the nurses. Specify Watson.

HOSPITAL DIVISION



WATSON

Manufacturing Company, Inc.
Jamestown, New York 14701

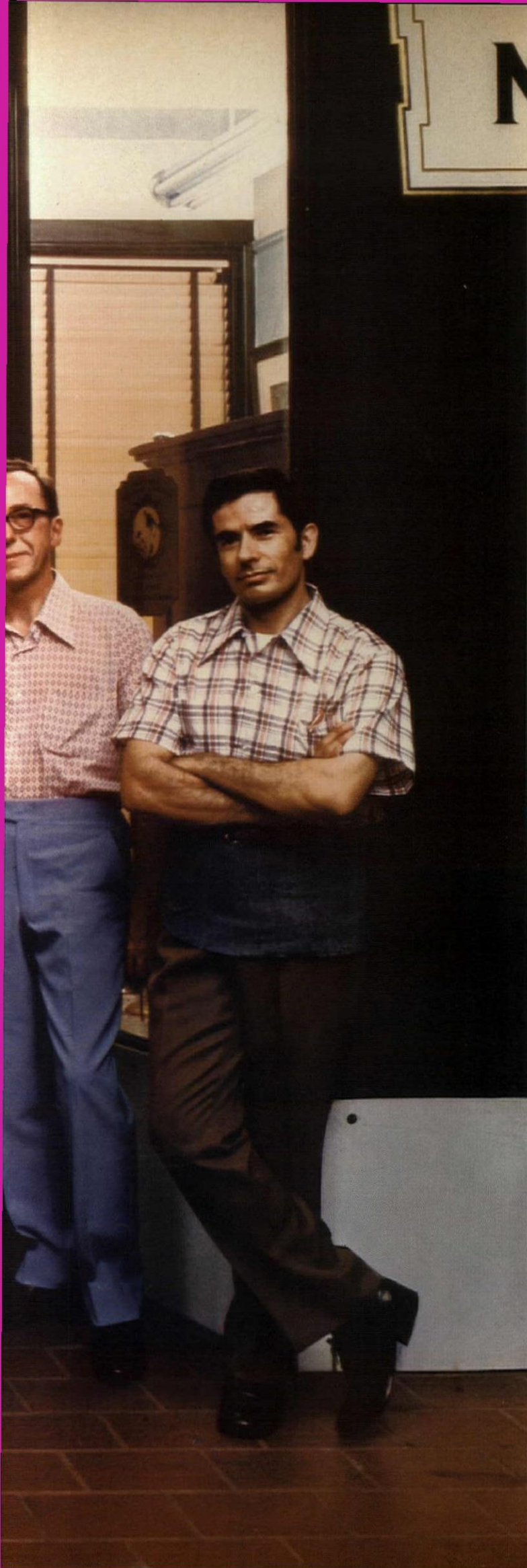
*THE CANNON PARTNERSHIP, NIAGARA FALLS, N.Y.

For more data, circle 69 on inquiry card

NEIDER

2032





The Jenkins Arcade, an historic landmark on Pittsburgh's Liberty Avenue, was designed in 1908 by architect Olaf M. Topp. To meet its rigid quality specifications, the building's 1300-odd doors were all equipped with Sargent hardware. Today, some 1,100 doors still have their original Sargent hardware. No wonder so many of its original tenants, like custom tailor Karl Scheblein, appreciate what so often was taken for granted.

Contemporary versions of Sargent quality hardware are featured below.

**Consider the doors
equipped with
Sargent hardware.**

**Still proud doors.
Still proud hardware.**



 **SARGENT®**

First in quality since 1864.

Sargent & Company, New Haven, Connecticut 06509.
In Canada, Sargent & Company (Canada) Ltd.

For more data, circle 70 on inquiry card

ZONOLITE® Masonry Fill Insulation, poured into cores or cavities of masonry walls, usually reduces heat loss by 50%—and more in some cases.

To the owner, this means his insulation cost is paid back to him in two or three years. Then savings continue year after year. A fact that should be of importance to every specifier or builder.

Heating and cooling savings are impressive in every area. Example:

	Chicago	Atlanta	Mpls.	Phila.	Denver
Combined Heating/Cooling Savings*	\$6400	\$3500	\$8150	\$6450	\$5400
Installed Cost of Insulation	1700	1700	1700	1700	1700
Average Annual Return on Insulation Investment	38%	21%	48%	38%	32%

*10-year savings from insulating walls; 8" lightweight block; 2-story office building, net exterior wall area 10,000 sq. ft.

The new FHA standards for multi-family housing require masonry walls to have a heat loss factor ("U" value) no higher than .17. ZONOLITE Masonry Fill is the most economical way to bring block walls into conformance—as low as 17 cents per square foot installed, for 8" block.

In addition to cost savings, consider these important features:

Improves comfort—Inside wall temperatures are increased up to 13°F. in winter. Body-to-wall radiant heat loss is reduced. Greater comfort results. Summer conditions are improved, too.

Increases fire resistance—Adding ZONOLITE Masonry Fill to a 2-hour fire-rated lightweight block gives more than four hours extra protection—earns 4-hour UL rating.

Cuts sound transmission—Users report that Masonry Fill in exterior or party walls improves the sound resistance.

For full information, contact your ZONOLITE sales office. Or send for booklet MF-164A, to Construction Products Division, W. R. Grace & Co., 62 Whittemore Avenue, Cambridge, Mass. 02140.

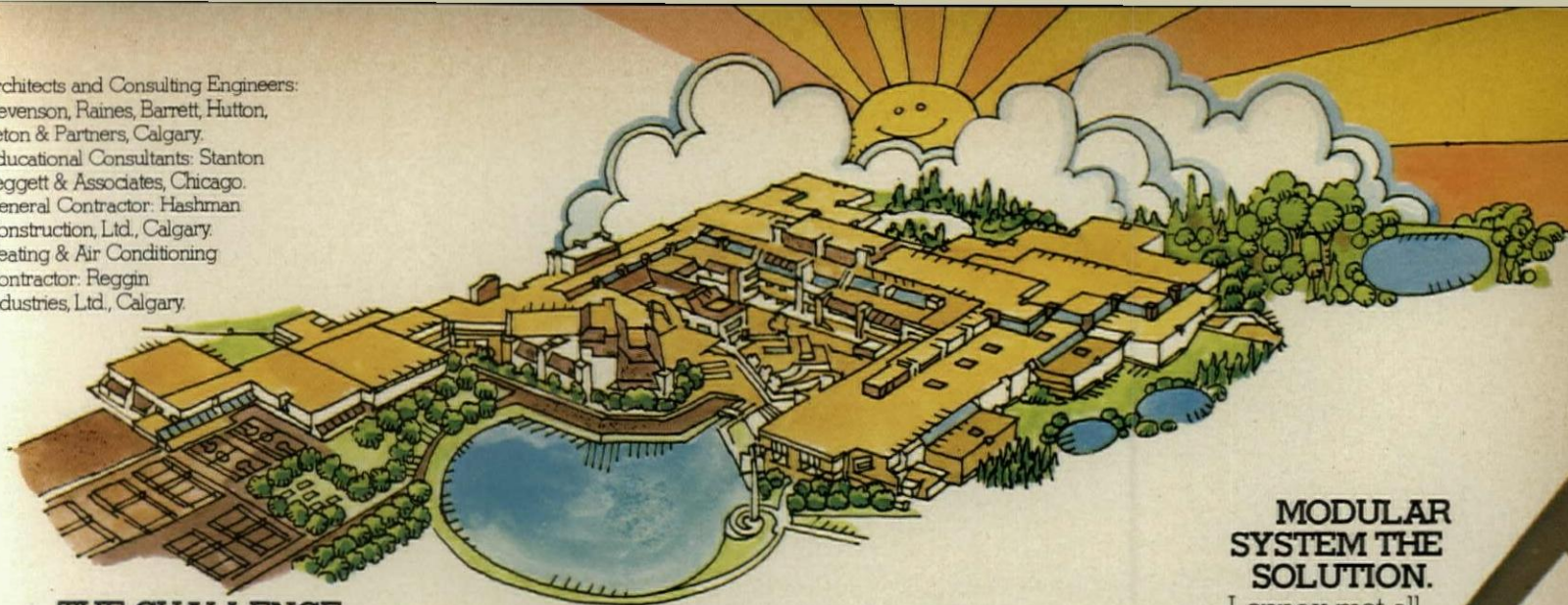


CONSTRUCTION PRODUCTS

For every dollar invested
ZONOLITE Masonry Fill
Insulation returns
up to 48% every year.

For more data, circle 71 on inquiry card

Architects and Consulting Engineers:
Stevenson, Raines, Barrett, Hutton,
Seton & Partners, Calgary.
Educational Consultants: Stanton
Leggett & Associates, Chicago.
General Contractor: Hashman
Construction, Ltd., Calgary.
Heating & Air Conditioning
Contractor: Reggin
Industries, Ltd., Calgary.



THE CHALLENGE:

Design environmental control for the 14.7 acre building which houses the entire campus of Mount Royal College in Calgary, Alberta, Canada. In this multi-level structure are 641,000 square feet, a wide variety of flexible modules, huge open class rooms, and decentralized service areas.

LENNOX SPACE ODYSSEY

**MODULAR
SYSTEM THE
SOLUTION.**

Lennox met all conditioning requirements with a modular HVAC system employing 80 single and multizone units.

FLEXIBLE SYSTEM.

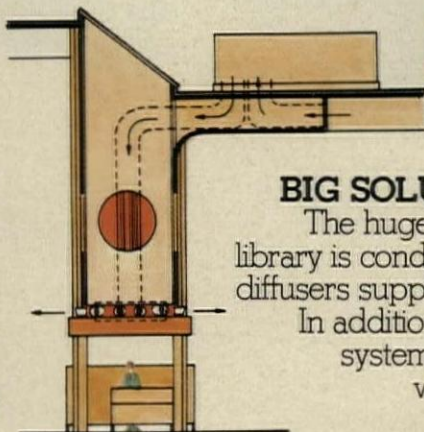
To accommodate future expansion as well as internal re-structuring, much of the duct work was left exposed. This also complemented architectural appearance.

ON-SITE LABOR REDUCED. The Lennox systems are not only an integral part of the exterior architecture, but, because they were factory assembled and wired, on-site labor was considerably reduced. In fact, the Lennox system was installed for 27¢ per foot less than the budgeted amount.

UNEVEN OCCUPANCY PROBLEM SOLVED. Because Mount Royal is a multi-use community college, occupancy of space is uneven. The Lennox modular HVAC system helps reduce fuel and energy consumption in unoccupied areas.

BIG SOLUTION TO BIG PROBLEM.

The huge, sprawling, open learning library is conditioned by 12 cannon-type diffusers supplied by vertical duct work. In addition, a flexible perimeter duct system separately handles exterior wall and window loads.



LENNOX[®]

The Lennox modular HVAC system could be right for your next project. For information, write Lennox Industries Inc., 335 S. 12th Avenue, Marshalltown, Iowa 50158.

For more data, circle 72 on inquiry card





Ceco steelform services helped complete still another superdome

Consider the economy of one-way concrete joist systems using standard size forms. You save time as well as money, because Ceco has the forms on hand, ready to go, anywhere in the country.



In New Orleans as in other cities across the country, Ceco forming services are changing horizons. With Ceco monolithic reinforced concrete systems, you get simplicity, reliability and economy. You can design with true versatility in rib slab, waffle slab or flat slab construction. And with Ceco's forming services, you get a dependable floor system fast. Ceco crews of formwork specialists erect and remove forms of steel, fiberglass or wood, on schedule, on a firm, lump-sum contract. All materials and forming equipment are available locally everywhere. For more facts, see Sweet's or consult your local Ceco district office.



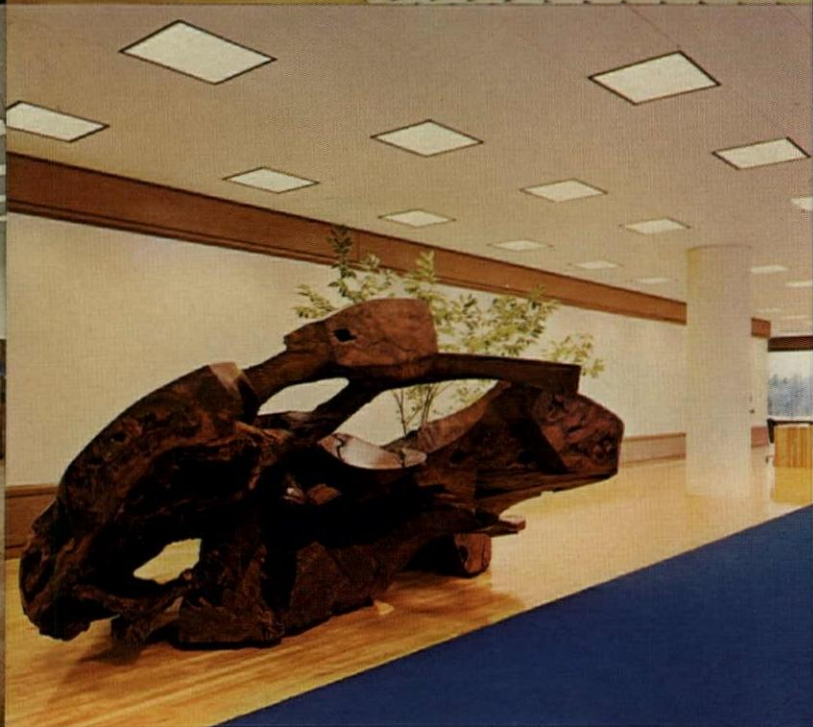
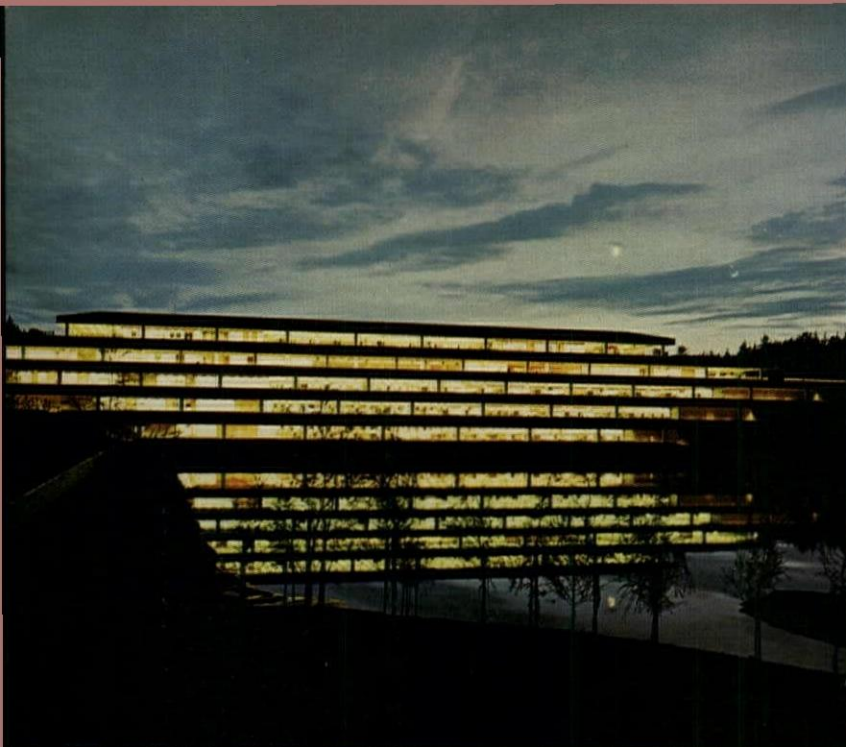
*Louisiana Superdome
Architects/Engineers:
Curtis and Davis, Architects and Planners, Inc.
Edward B. Silverstein and Associates, Architects
Nolan, Norman and Nolan, Architects
Sverdrup and Parcel and Associates, Inc.
Contractor:
Huber, Hunt & Nichols, Inc.
and Blount Bros. Corp., Joint Venture.*



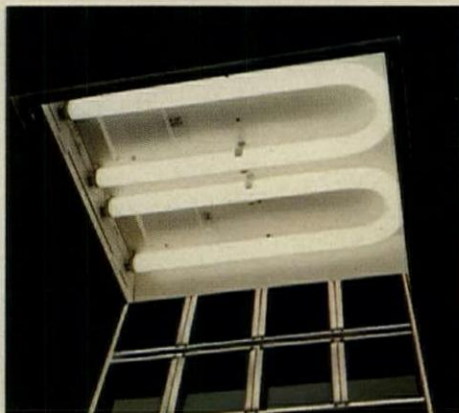
CECO concrete forming services

The Ceco Corporation • General Offices • 5601 West 26th Street • Chicago, Illinois 60650

For more data, circle 73 on inquiry card



How Weyerhaeuser



Acres of interior have to be lighted in Weyerhaeuser's new International Headquarters near Tacoma, Washington.

Sylvania Curvalume lamps—12,000 of them—help do the job.

Two of these U-shaped lamps fit perfectly into a 2x2-foot, low-brightness, air-handling fixture. This made it possible to design attractive, modular ceilings that permit even distribution of both



Architecture, engineering, interior design: Skidmore, Owings & Merrill, San Francisco. Space planning: Sydney Rodgers Associates, Inc. Photographs: Ezra Stoller © ESTO.

lampscaaped its ceilings.

light and air and assure a comfortable level of illumination in all areas.

Curvalume lamps also play a part in the building's climate control system. Heat from the lamps and ballasts is saved and reused. This conserves energy and helps maintain balanced, year-round temperatures inside the building.

The lamps save in other ways. Two 40-watt bent lamps deliver

20% more light per fixture than four straight 20-watt fluorescents. And they need only half the number of ballasts and sockets. This cuts installation costs.

The Curvalumes also last about 60% longer than the straight lamps. They're rated for an average life of 12,000 hours. This means less maintenance.

So if you have acres of ceiling, you can be sure of one thing: you

can combine the beautiful and the practical.

Just lampscape with Curvalumes.

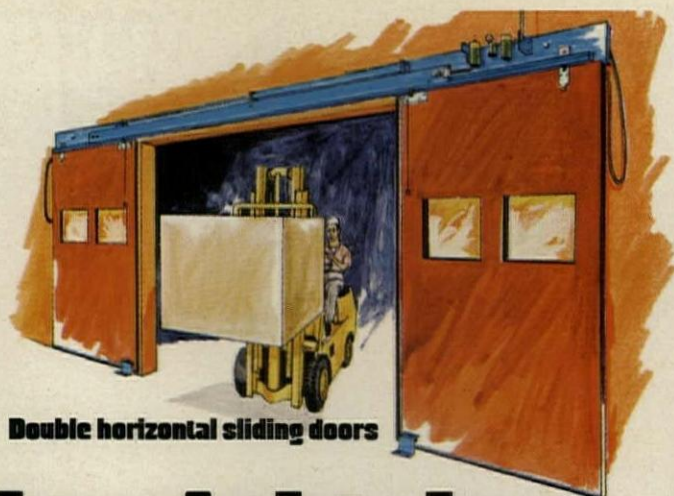
For details, call your GTE Sylvania representative or local independent electrical distributor (in the Yellow Pages under Lighting)—or write to Sylvania Lighting Center, Danvers, Mass. 01923.

GTE SYLVANIA

For more data, circle 74 on inquiry card



Shock absorber doors



Double horizontal sliding doors

Choosing the right door is tougher than you think...



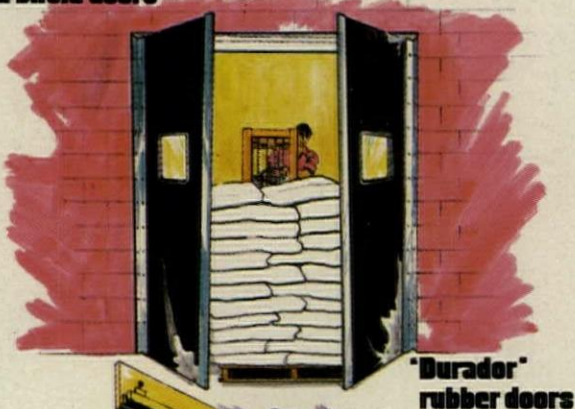
Winged bifold doors

But Clark can put you on the right track.

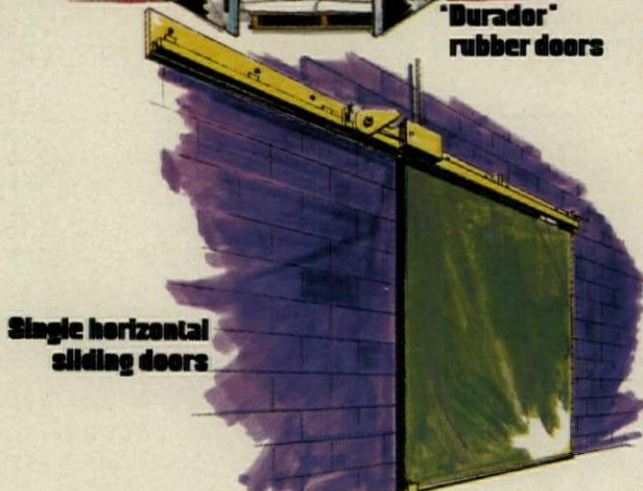
Each door installation encounters a number of different materials handling, temperature and building requirements. That's why we make the widest range of manual and automatic Industrial and Cold Storage Doors in the industry. Not to make your task more difficult, but to make sure that you can select the *one* door type that best suits your needs. Our specialists can help you make that selection. Send for your catalog. Specify whether Cold Storage or Industrial. Today.

**CLARK
DOOR**

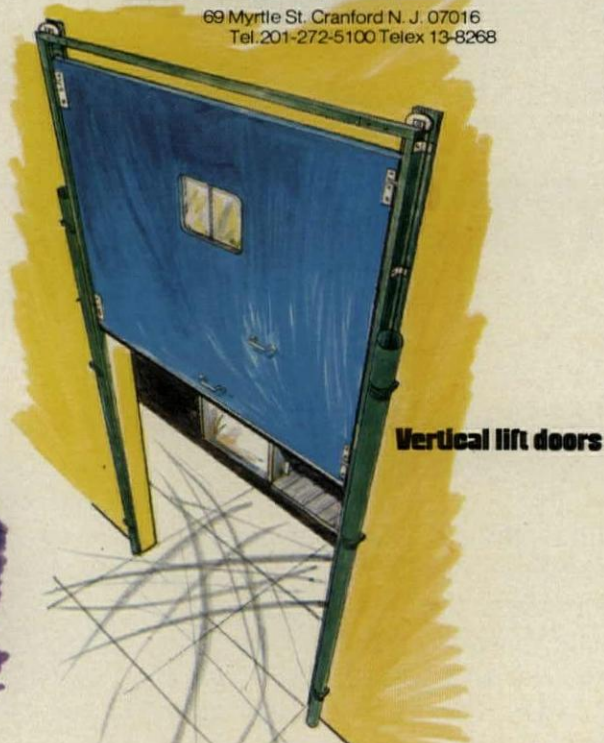
69 Myrtle St. Cranford N. J. 07016
Tel. 201-272-5100 Telex 13-8268



**'Burador'
rubber doors**



**Single horizontal
sliding doors**



Vertical lift doors

For more data, circle 75 on inquiry card

How can electrical contractors help with change orders?



NECA study reveals opinions of design professionals.

To determine how electrical contractors are viewed by construction industry decision makers, the National Electrical Contractors Association (NECA) recently completed an industry-wide survey.

Regarding change orders . . . most participants viewed electrical contractors as valuable project consultants. Before change orders are issued, professional electrical contractors can be counted on for reliable information to aid in decision making. Not only concerning costs and potential schedule delays. But also all the electrical installation factors affected by the impact of change orders.

As members of the building team, professional electrical contractors also have the specialized manpower, equipment, and tools to insure overall on-site proficiency. Their knowledge of change order efficiencies can help save time, money and future operating costs. For more information, mail this coupon today.



National Electrical
Contractors Association, Inc.
Dept. B-12, 7315 Wisconsin Ave.
Washington, D.C. 20014

If electricity makes it possible, electrical contractors make it practical.

Please send a free copy of the NECA Change Order Handbook, with helpful hints on handling change order situations.

Name _____ Title _____
Firm _____
Address _____
City _____ State _____ Zip _____

For more data, circle 76 on inquiry card



i line

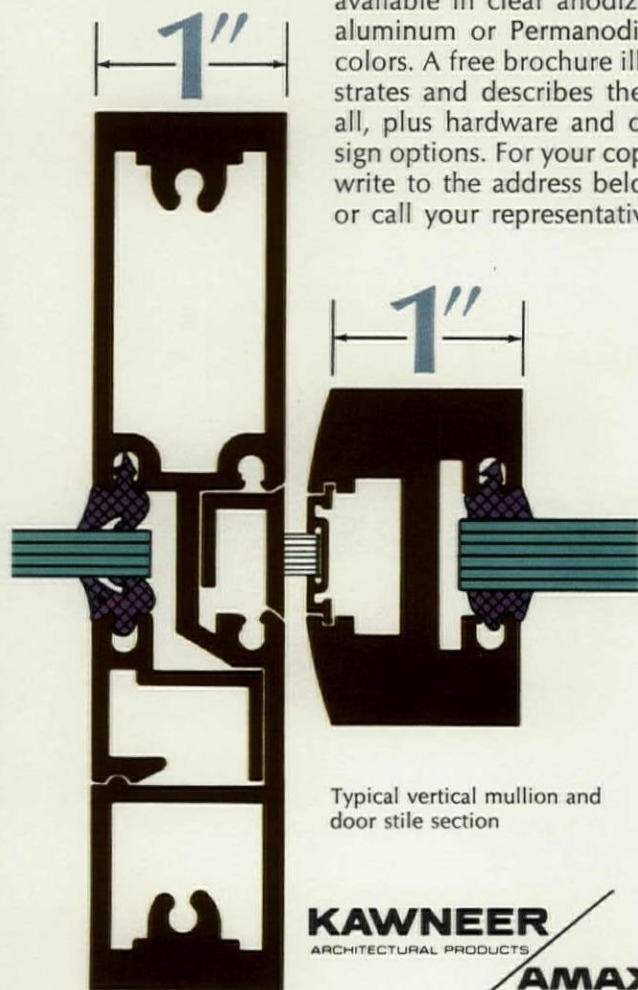
an elegant new dimension
in framing and entrances

Kawneer's I-Line narrow profile aluminum framing and entrances have added an aesthetic new refinement to design.

For the first time, the beauty of clean, ultra-trim vertical lines on the drawing board have been transferred directly into construction. Without sacrificing functional considerations.

I-Line framing's 1" sight line reduces the profile of traditional 1 $\frac{3}{4}$ " framing by nearly one-half. Yet its ingenious design provides the same structural strength and glass bite . . . with easy "in-line" flush glazing to accommodate thicknesses up to $\frac{3}{8}$ ".

Framing and complimentary thin stile doors are available in clear anodized aluminum or Permanodic® colors. A free brochure illustrates and describes them all, plus hardware and design options. For your copy, write to the address below or call your representative.



Typical vertical mullion and door stile section

KAWNEER
ARCHITECTURAL PRODUCTS

AMAX
ALUMINUM

For full information, see your Kawneer representative or contact Kawneer Product Information, 1105 N. Front Street, Dept. C, Niles, Michigan 49120.



simplify pool construction eliminate major repairs



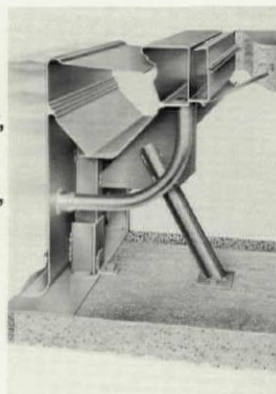
50 Meter Olympic Swimming Facility
University of New Mexico, Albuquerque
Van Dorn Hooker, University Architect
Buckley, Merker, Luna, Joint Venture Project Architects
Dr. Dale Hanson, Chairman Dept. H.P.E. & R.
John Meacham, Swimming Coach

More than a pool . . . a pool system. Overflow, recirculated clean water return, and deck drain system are integral channels of the Chester roll-out ledge extrusion and side-wall construction. With the addition of a Chester Diavac filter the Chester pool becomes its own complete recirculating system. This self-contained design significantly simplifies pool construction and eliminates a potential area of major repairs.

All-aluminum side-walls are completely self-supporting. Structural vertical braces and

A-frame buttresses provide all necessary side-wall rigidity for imposed loads. Aluminum floor construction compensates for contraction, expansion, shear movement, and all other stresses to prevent cracking.

The Chester all-aluminum pool . . . complete, with a 5 year warranty. In ground, elevated, indoor or out . . . Olympic, N.C.A.A., A.A.U. or designed to meet your specifications, consult the pool builders with over 20 years of proven performance. Complete pool system engineering service available.



 **CHESTER PRODUCTS, INC.**
1300 Lafayette Avenue • Middletown, Ohio 45042



For complete information and technical literature, write Dept. AR-12

For more data, circle 77 on inquiry card

◆ For more data, circle 76 on inquiry card

Introducing Honeysuckle, Milissa, Kowloon, Wyandotte, Atwood, Luminera, Mortice, Impasto, Barbary, Sabrina, Windflower and Harbor Weave.

The new Korolite™ line of 15 ounce Koroseal® vinyl wallcoverings, in 54 inch widths.

They come in enough colors and patterns to give you 107 different solutions for suite improvement or renovation, hotel-motel applications, all lightweight commercial uses. Even residential.

They're Type I construction that meets Federal Specification CCC-W-408A.

And they're appearing now in the new Korolite swatch book.

Get a hold of one to see and feel all twelve deeply textured patterns. Consult your Koroseal swatch book or *Sweet's* for your nearest distributor.

B.F. Goodrich
General Products
Company, 500
South Main
Street, Akron,
Ohio 44318.



B.F. Goodrich

Koroseal Vinyl Wallcoverings

For more data, circle 78 on inquiry card



David H. Eskin
D. H. Eskin Co., Inc., Boston, Mass.
Yale Distributors

A Yale solution to a Brandeis University problem.

“College students love challenges. Sometimes a school’s locks and security hardware become that challenge.

“They duplicate keys. Create new ones. And that can be a problem for a school with thousands of doors, like Brandeis University.

“So when Brandeis came to us for a solution for their Art & Theater Buildings, we went to the Yale specialists.

“And, together, we worked out a new and special grand master key system. It consists of Yale® bicentric cylinders with highly restricted key blanks.

“Special service? Of course. But that’s the way we like to do things—big or small.”

That’s just like a Yale distributor.

They help architects with consultations, specifications and hardware schedules.

For contractors they carry a full line of architectural hardware and building materials. They co-ordinate hollow metal doors and frames. And troubleshoot on jobs.

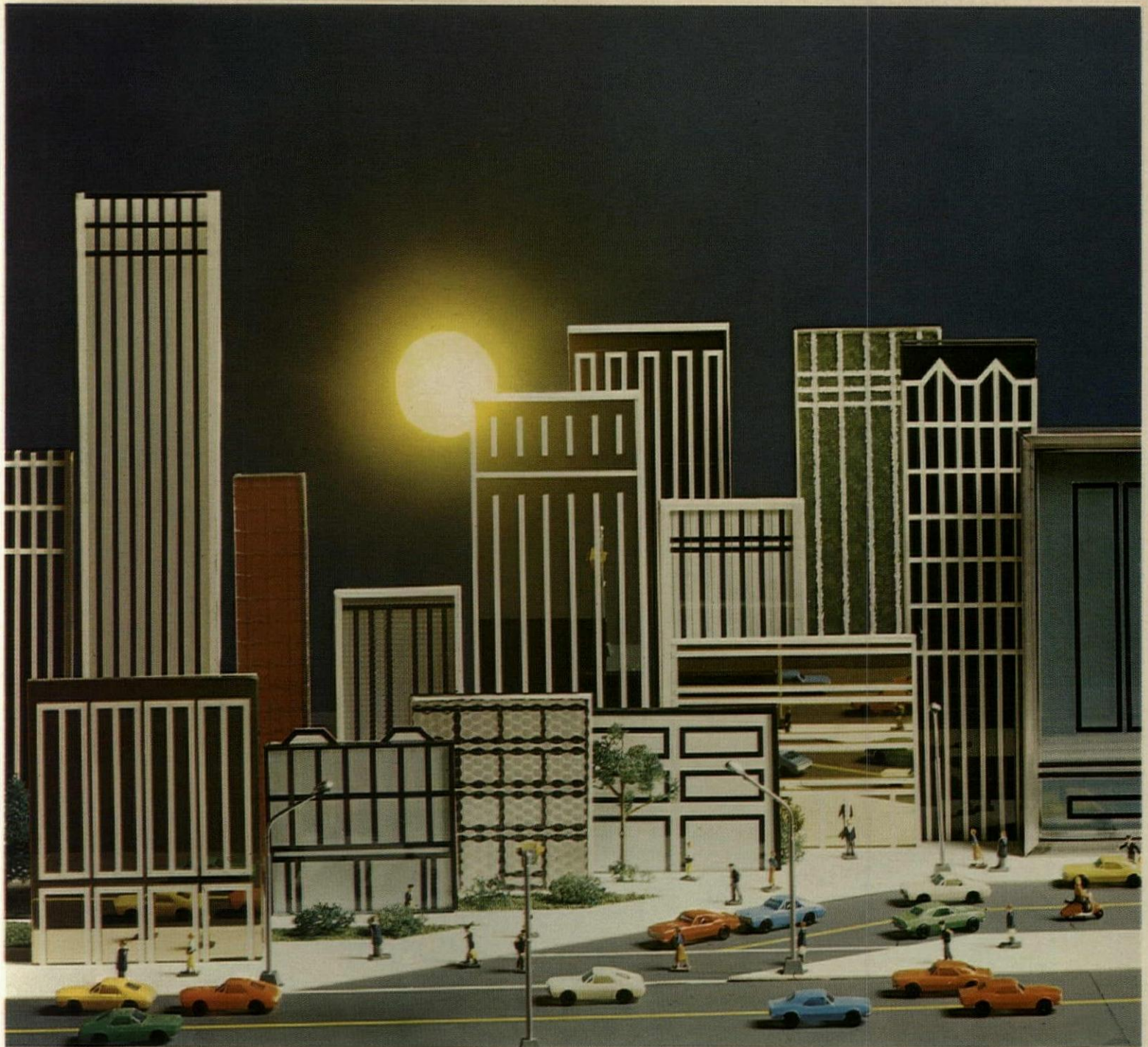
Last but not least, they offer the owner post-construction service, maintenance, and problem solving.

So why not consider all this before your next job?

For further information write: Eaton Corporation, Lock and Hardware Division, Yale Marketing Department, P.O. Box 25288, Charlotte, N.C. 28212.

**EAT•N Security Products
& Systems**

For more data, circle 79 on inquiry card



ASG...
The Glass Company

When it comes to flat glass, the only name you have to remember is ASG. Because from product to packaging to delivery, ASG does it all. It's your one-source glass company. And that includes everything from float glass to plate glass, tinted and clear, to patterned and insulating glass, lighting glass, reflective glass and safety glass. In short, any kind of flat glass you'll ever need.

And, ASG delivers the goods. Where you want it and when you

want it. In some of the most advanced package designs in the industry. Packaging systems that reduce handling to a bare minimum. And make breakage a rare occurrence, indeed.

So, when it comes to glass, come to The Glass Company... ASG.



ASG Industries Inc.

ASG The Glass Company P.O. Box 929, Kingsport, Tennessee 37662

For more data, circle 80 on inquiry card

Photographs, courtesy of Warnel Corporation,
South El Monte, California.



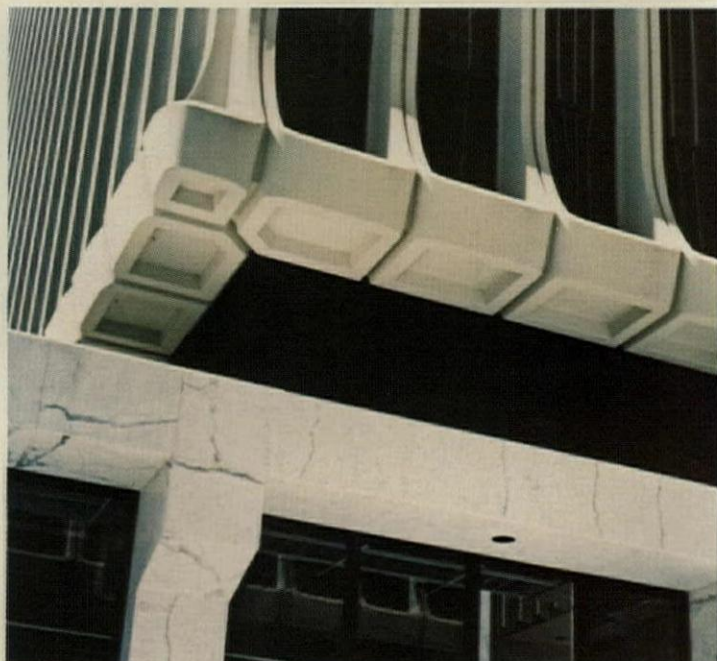
Prepainted sheet steel as an aesthetic medium

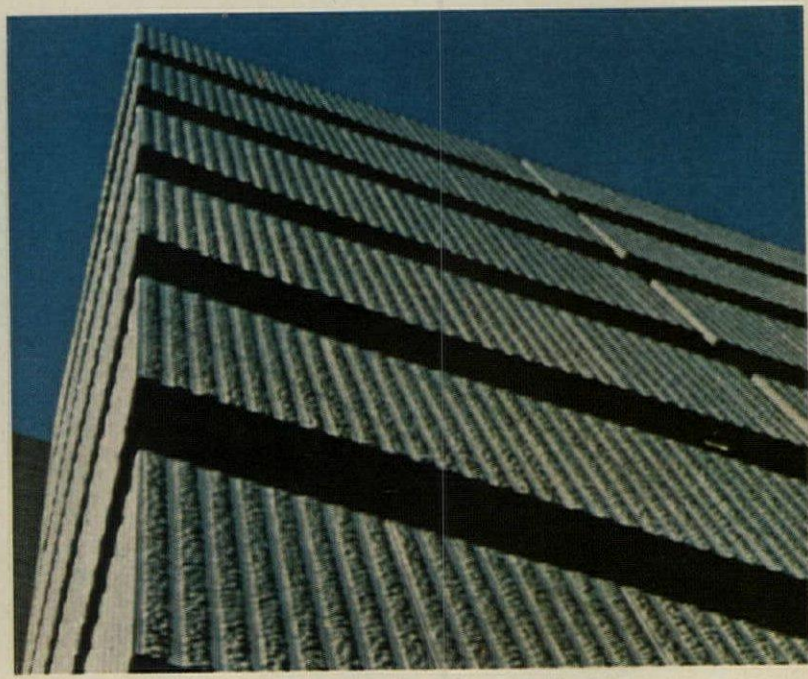
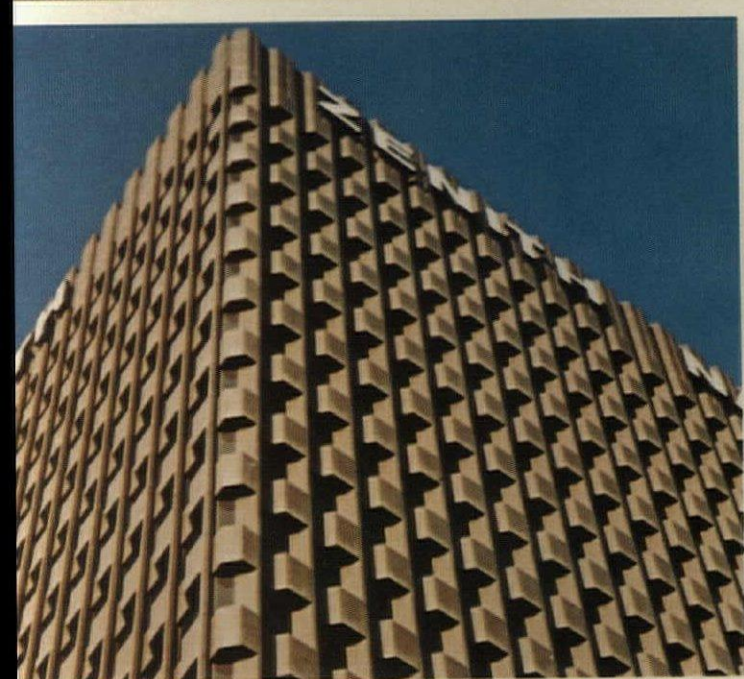
Contoured column covers, mullions, spandrel panels, and other architectural components can be designed in wide variety. Textured finishes are also possible for an added dimension of depth.

An excellent substrate for a prepainted surface is 1.25-oz (Class G-90) galvanized steel sheet. Modern painting methods assure a finish that is tightly adherent, color-fast, and easy to clean. Prepainted sheet steel panels are economical, too.

Bethlehem's coil-coating facilities embody the most modern and efficient painting techniques in the industry. Our prepainted sheet can endure considerable forming and fabricating stress without damage to the coating. A Bethlehem Sales Engineer will be glad to assist you in designing with pre-coated sheet steel.

Bethlehem 





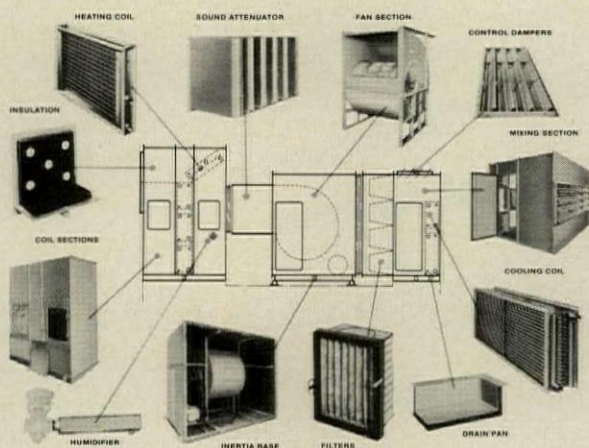
'Buffalo's' new

Model

air handling systems...

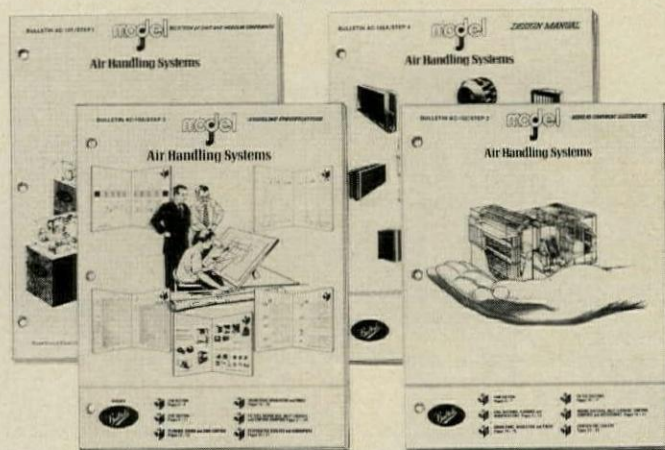
The advantages of a built-up system with the economies of factory fabrication.

If you are in the vanguard of Engineers and Contractors who are aware of the changes now taking place, and those to come in the construction industry, you realize a new approach to air handling system design and manufacture is needed to provide better control over system design costs and energy consumption. Model "J" is the practical answer for today's sophisticated air handling systems at a reasonable price. Model "J" was conceived with your requirement as guidelines. To find out the advantages of a built-up system with the economies of factory-fabrication please call your Buffalo Sales Engineering Representative. He's in the Yellow Pages of major business centers. Or, if you prefer, request Bulletin AC-100. Buffalo Forge Company, Buffalo, New York 14240.



The Hardware

Model "J" makes available the most complete selection of air handling system components ever offered in a factory fabricated unit. They are the same components you would specify for a quality built-up system. For example: the performance proven, AMCA rated, backward-curved, Buffalo BLD fan; variable inlet vanes for variable volume systems; Aero-fin coils; Thermal 90 insulation and adhesive to meet requirements of NFPA 90A. Model "J" also offers these exclusive design and construction features; internal insulation; built-in inertia base; double wall insulated construction; sound attenuators; split pillow block bearings; modern filters in factory assembled frames; access doors, service plenums and much more.



The Software

Model "J" software is a whole new world of control over air handling system design, construction and installation. Every contingency is covered, including sound power data, fan heat of compression, sound and vibration isolation, comprehensive filter selection and more. Four interrelated cross-referenced manuals enable you to maximize your specifying effort. You proceed in a logical, step-by-step sequence through system design, unit selection, component selection, and specification writing. The systems you design will deliver the performance . . . conserve energy . . . be easy to install . . . and provide an extended low-maintenance service life . . . all at reasonable cost. The Buffalo Sales Engineer in your area has a set of Model "J" software for you. Ask him for it.



BuffaloForgeCompany

For more data, circle 81 on inquiry card

Scald-Guard[™] keeps you and your customers from getting burned.

Most shower faucets require careful manipulation of the handles to get a comfortable blend of hot and cold water. Scald-Guard does not.

Most shower faucets have a quick handle turn into the critical hot water zone. Scald-Guard does not.

Most shower faucets require messy, expensive crosspiping and wrong-side, awkward maintenance. Scald-Guard does not.

Scald-Guard is simple to install and even simpler to operate.

It's safe. Constant. Reliable. With the optional pressure balance valve, dishwashers, flushed toilets and clotheswashers don't affect the shower water temperature.

And Scald-Guard rarely drips - because like all Delex faucets it has no washer to wear out.

Don't get burned. Don't let your customer get burned. Specify Scald-Guard.

*For illustrated literature, write
Delta Faucet Company.*

*A Division of Masco Corporation,
Greensburg, Indiana 47240,
and Rexdale, Ontario.*

Delta Faucets.

Washerless. To work as good
as they look.

**BERLIN STEEL
WAS IN BUSINESS
SEVENTY THREE
YEARS BEFORE
THEY SPECIFIED
JOIST GIRDERS
FOR THE FIRST
TIME. ELEVEN DAYS
LATER, THEY DID
IT AGAIN.**

Joist Girders. The advantages they had over I-beams were more than enough for Berlin Steel to specify them for the Sage-Allen Department Store they were building in West Hartford, Connecticut. So much



Joist girders have a simple span design. Which explains why ponding calculations are easier. And why design time is shortened.

more, that eleven days later they specified them again. Only this time for National Plastics and Plating Supply Co. in Plymouth, Connecticut.

Where did Berlin Steel learn about those advantages? From meeting with Vulcraft. The people who knew as



Joist girders need fewer foundations and columns. Which means less work for you and larger bay areas for your clients.

much about joist girders as Berlin did about steel fabricating.

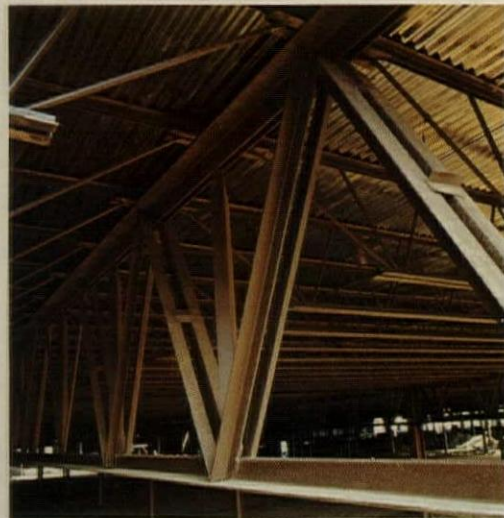
And the first thing the Vulcraft engineers did was show Berlin Steel

why joist girders are easier to specify and erect. By explaining that the simple span design of joist girders make ponding calculations easy. And shorten design time.

By telling them about the larger bay areas possible with joist girders. And by talking about the fewer foundations and columns needed with joist girders than with I-beams.

Then came the subject of the advantages joist girders offer after they're erected.

And to explain that topic Vulcraft talked about the modified Warren truss configuration used in joist girders. And that it gave joist girders a high strength to weight ratio.

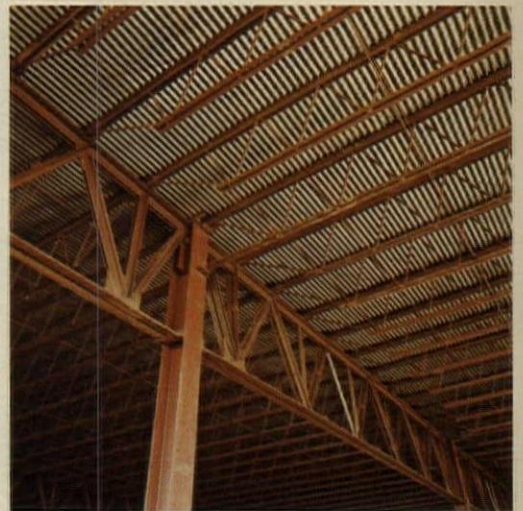


Joist girders have a modified Warren truss configuration using hot rolled double angle sections for top and bottom chords and single and double angle sections for web members. What that means is a high strength to weight ratio.

They mentioned further, that bar joist erection was faster. Because top chord panel points show joist location, eliminating a lot of measuring.

Finally, the matter of ducts, pipes and conduits came up. And Vulcraft explained how these things go right through a joist girder. Something no one can say about an I-beam.

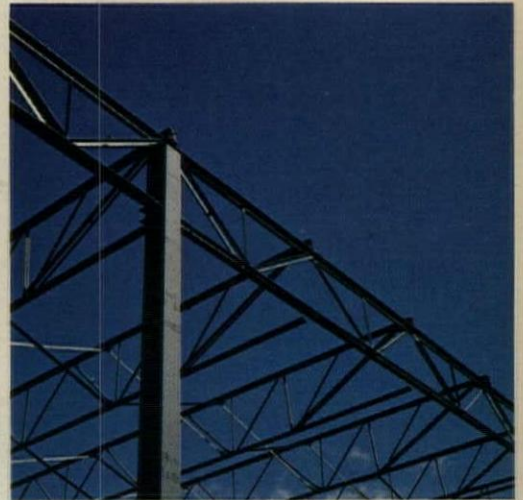
What it all added up to for Berlin Steel was a change. A change from I-beams to another roof-framing system. A roof-framing system that was more economical and easier to erect



Joist girders have top chord panel points that show joist location. Which makes a lot of measuring unnecessary.

for anything over 10,000 square feet.

It wasn't surprising to Vulcraft, though. Because architects and engineers all over the country are discovering the advantages joist girders have over I-beams.



Joist girders already have spaces for pipes, conduits, and ducts to run through. So you don't have to cut them yourself.

If you'd like more information about how joist girders can work for you, send for Vulcraft's Joist Girder Specification Guide. Just contact your local Vulcraft sales office. Or write P.O. Box 17656, Charlotte, N.C. 28211. Or call (704) 366-7000. You'll find a few things even Berlin Steel didn't know. Until they asked.

VULCRAFT

Sage-Allen Department Store, West Hartford, Connecticut; Architect: Associated Architects, Farmington, Connecticut / General Contractor: Bartlett-Brainard & Eacott, Inc., Bloomfield, Connecticut / Consulting Engineer: Hallisey Engineering Associates, Inc., Hartford / Steel Fabricator: Berlin Steel Construction Company, Inc., Berlin, Connecticut. National Plastics and Plating Supply Co., Plymouth, Connecticut; Architect: Andrew C. Rossetti, Bristol, Connecticut / General Contractor: S. Carpenter Construction Co., Bristol / Consulting Engineer: Hallisey Engineering Associates, Inc. / Steel Fabricator: Berlin Steel Construction Co., Inc.

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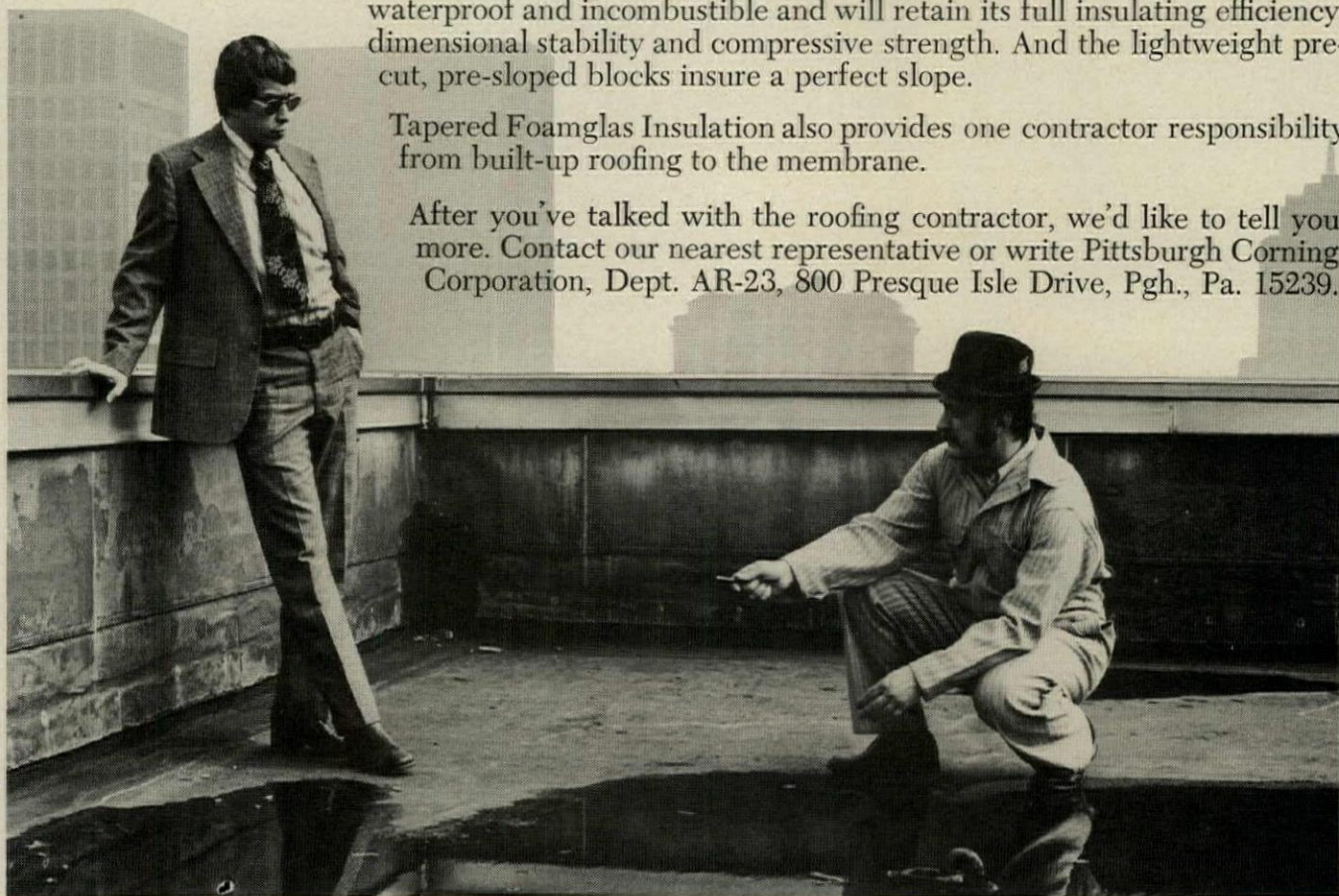
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Sculpture: Henri Matisse, *Le Serf*. San Francisco Museum of Art; bequest of Harriet Lane Levy.

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New York, N.Y.

Structural Engineers: Paul Weidinger, New York, N.Y.
Weiskopf & Pickworth, New York, N.Y.

General Contractor: Turner Construction Co.,
New York, N.Y.

Structural Steel Fabricator/Erector:
American Bridge Division,
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*Exterior Structural Steel
Fabricator/Erector:*
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Soule Steel Corporation,
San Francisco, Calif.



Flame shielding concept proves feasible in exposed steel high-rise building.



To prove that flame-shielding works, tests were conducted on a full-scale mock-up.

There's a new, economical way to fire protect exposed steel. It's called flame-shielding and it eliminates the need to cover exterior surfaces with fireproofing material.

This new concept was utilized in a high-rise office building for the first time in the One Liberty Plaza Building, New York City.

Months of elaborate testing resulted in the "Board of Standards and Appeals of the City of New York" granting special permission to use exposed steel without conventional fire protection. The tests convinced them that flame-shielding really works.

The flame shields, attached to the flanges of the spandrel girders, deflect flame outward—away from the girders—preventing it from curling back onto the exposed steel surfaces.

Spanning 47' 6", these spandrel members consist of 70-inch-deep built-up steel girders with 14 gage steel sheet flange shielding. The girder, as a structural member, supports cladding, frames for fixed and vertically pivoted windows and a portion of the floor construction. Cladding for the column and flame shielding for the spandrel

flange is galvanized sheet steel while the spandrel girder steel is ASTM A36.

Spandrel girders, cladding and sash are weather-protected by a three-coat paint system.

New ideas invited!

A vast research program preceded the design of One Liberty Plaza. The architects were encouraged to delve into any aspect of architecture which excited them. The result is a building which incorporates many new concepts—and a fund of ideas for future use.

One aspect of the research covered internal wind bracing. Four schemes were evaluated to determine the best possible combination of internal and external bracing. The resulting pattern produced an optimum framing system for the 54 story building—and cut the steel weight to 25 lbs. per sq. ft., with no columns in the perimeter office space.

Rental space increased by 10%

A Split Core with central corridor was selected in place of a Perimeter Corridor System. Choice of this system increased rental space by 10%.

Spaciousness results

from an entirely column-free interior. This allows completely flexible arrangement of office space in which a modular partition system can create walls at will.

One Liberty Plaza is an imaginative example of how architecture and structure can blend to produce a building that makes economic sense, functions well and is pleasing to look at.



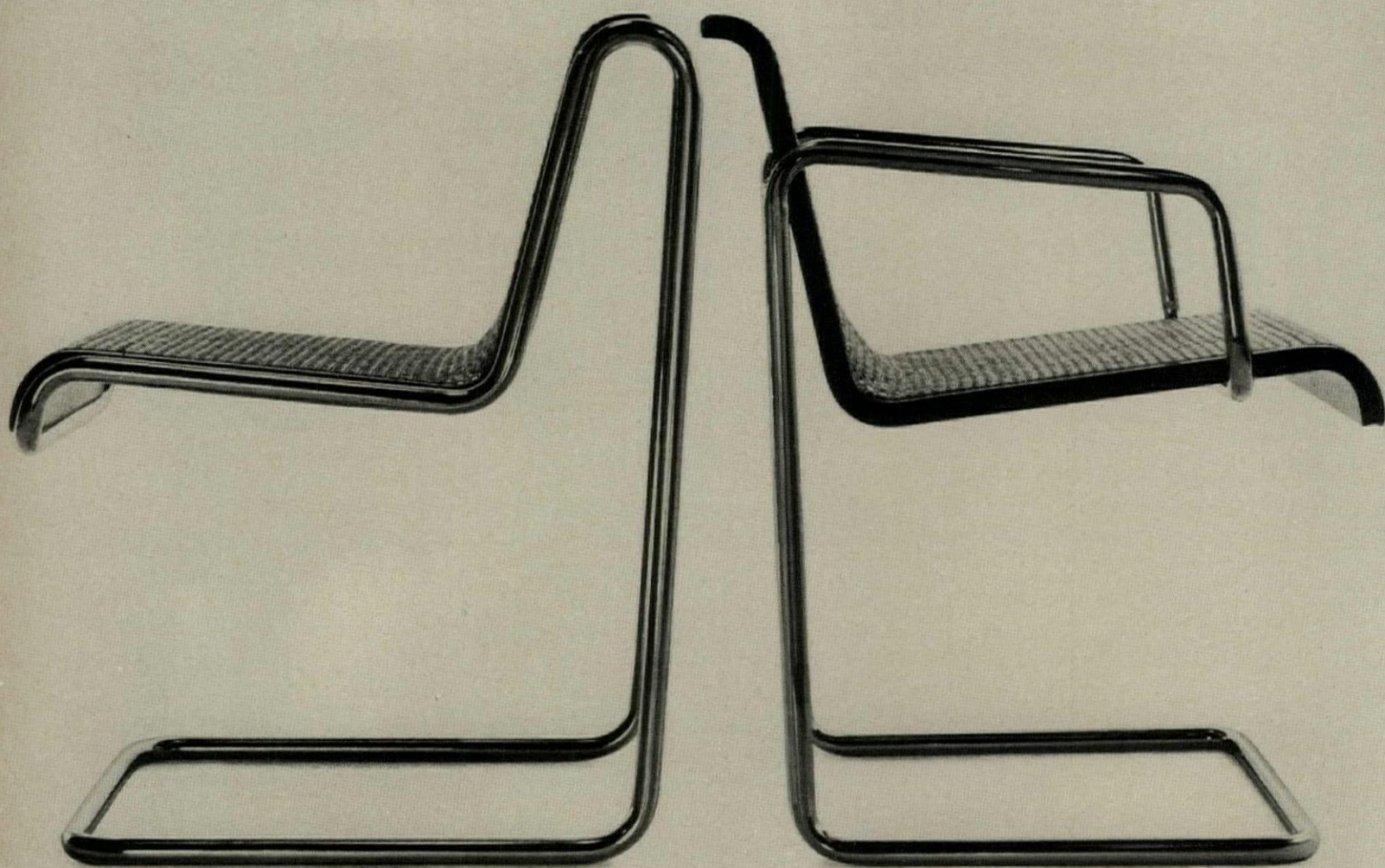
"Nine new looks at office buildings"

This fascinating report on the nine research programs that preceded the design of One Liberty Plaza, shows in detail how the best systems for this building were arrived at. For a copy of this report or for any other details, call our nearest sales office and ask for a USS Construction Marketing Representative. Or write U.S. Steel, Box 86, Pittsburgh, Pa. 15230.



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The Architect specified galvanized rebar to prevent "bleeding"

To protect the new \$40,000,000 Levi Strauss building in San Francisco against rust "bleeding" through to the surface, John Portman and Associates, architects, specified galvanized rebar.

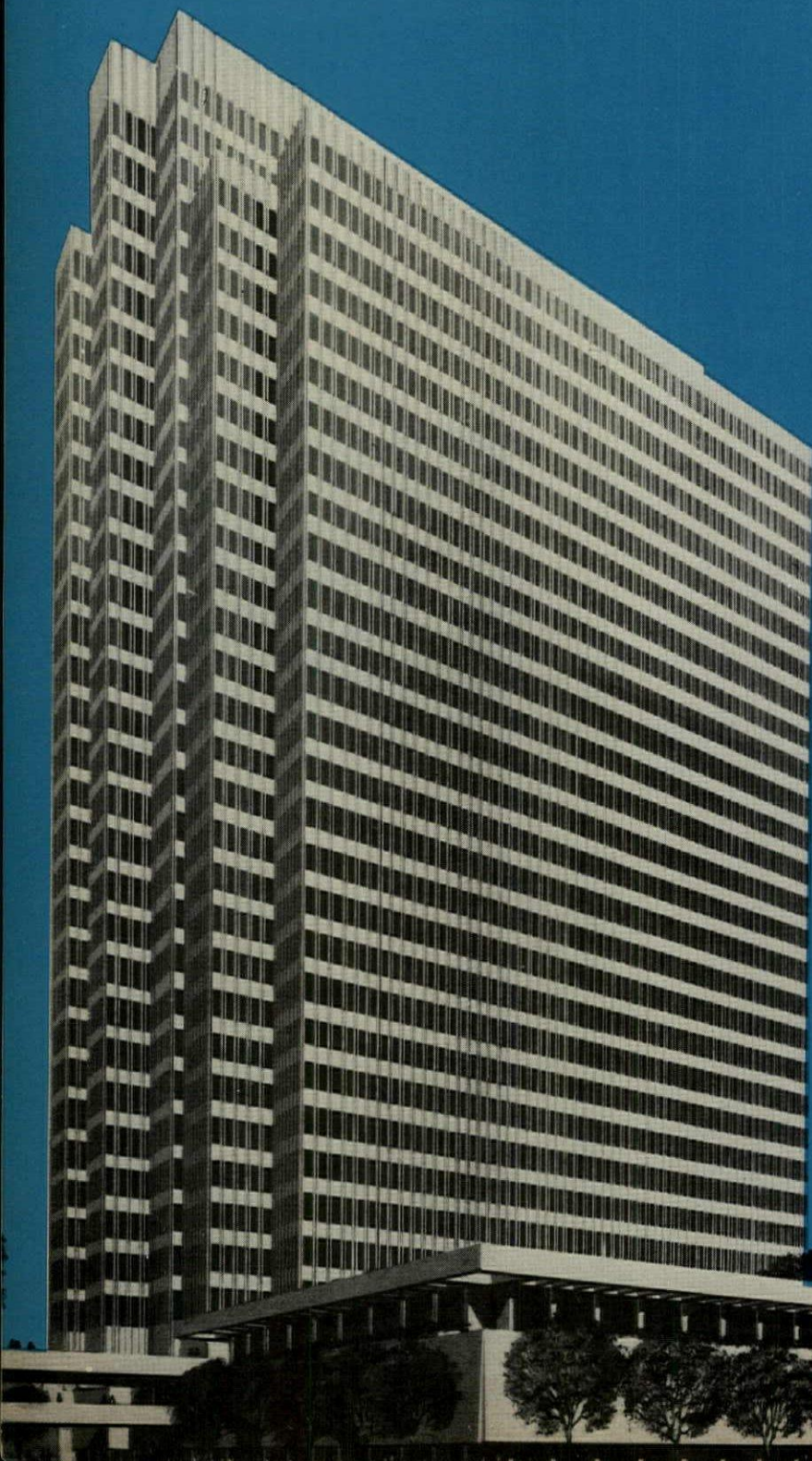
The building is constructed with precast concrete panels which means that the reinforcing steel is relatively close to the surface. Experience has shown that subsurface rusting of ungalvanized reinforcement can "bleed" through and disfigure the facade with ugly stains. In extreme cases, rebar corrosion can also build up pressures which crack and even spall the concrete.

Galvanizing metallurgically bonds a tough zinc coat to the steel reinforcement, developing an impermeable, corrosion resistant coating. Even if this coat is gouged through during shipping, storage or installation, the zinc continues to prevent rust by its second line of defense, galvanic sacrificial action. This dual protection has been proven over the years in many buildings.

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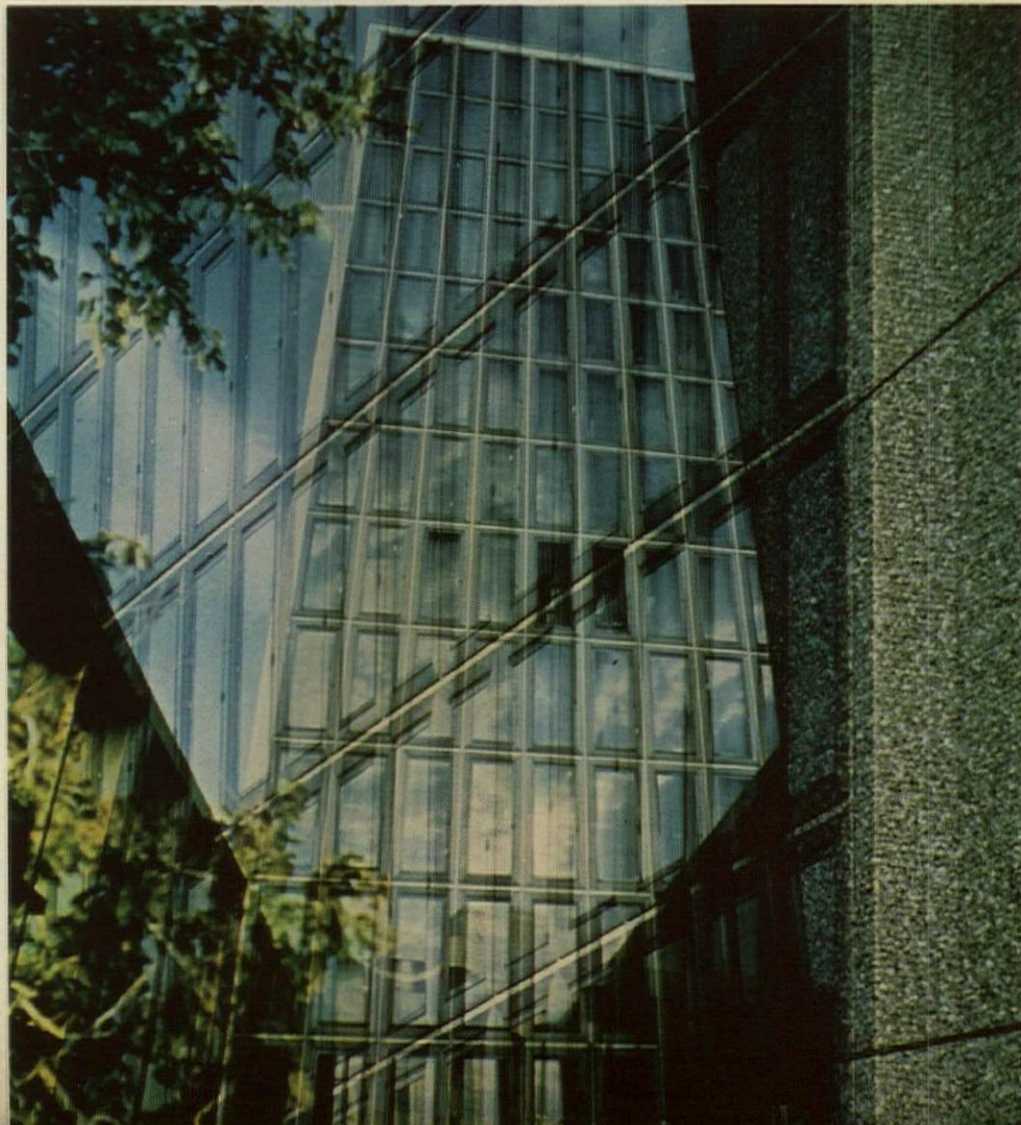
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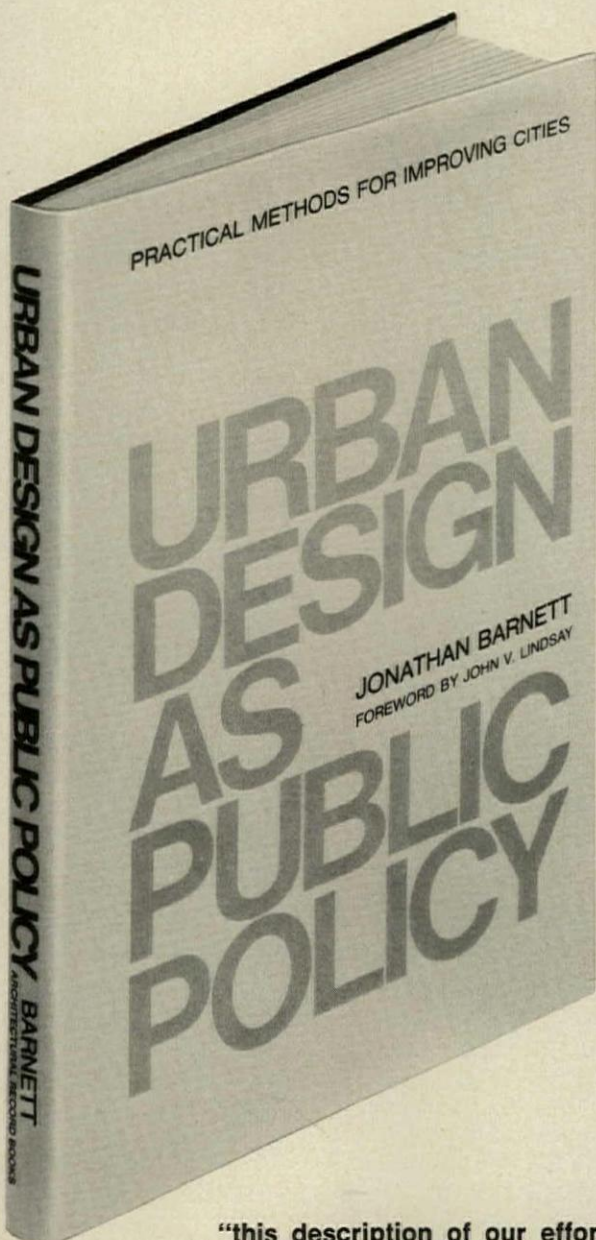
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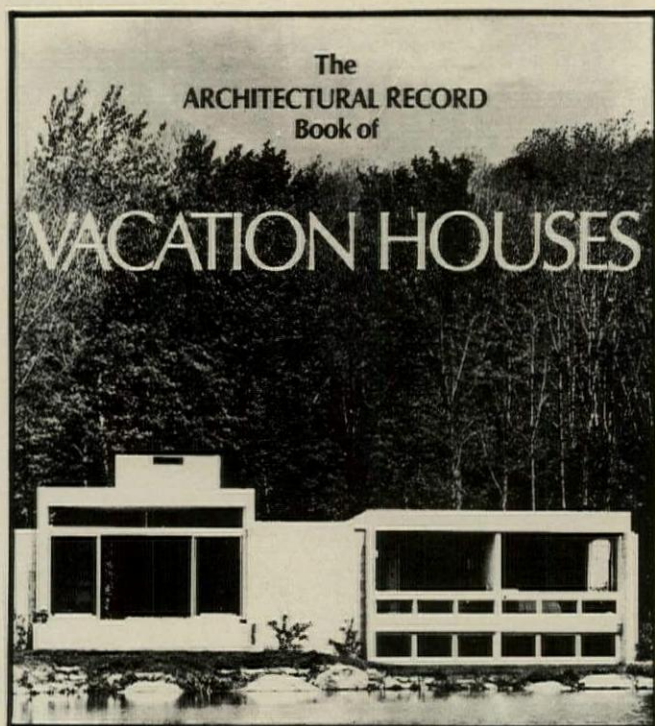
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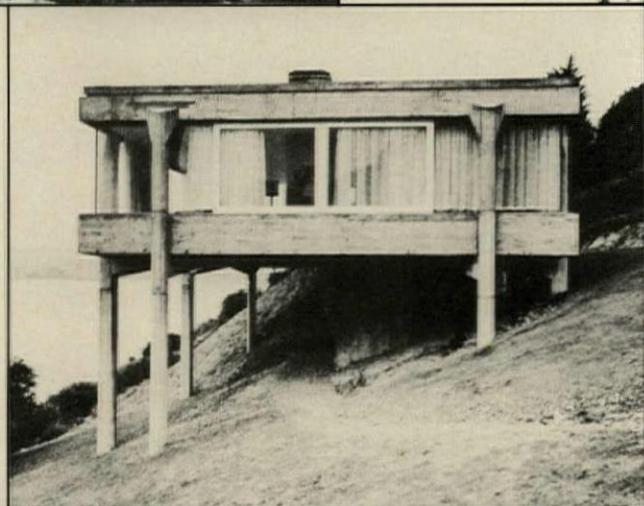
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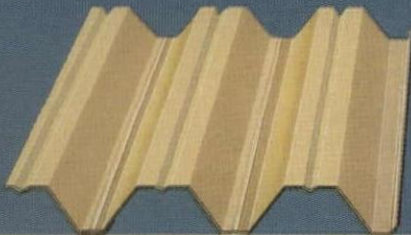
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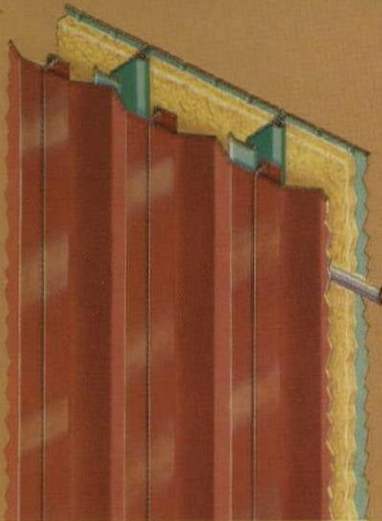
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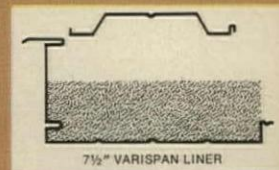
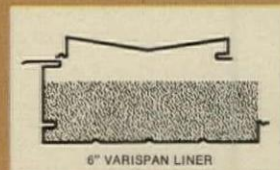
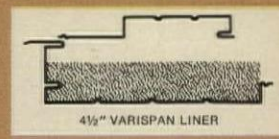
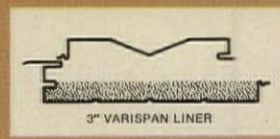
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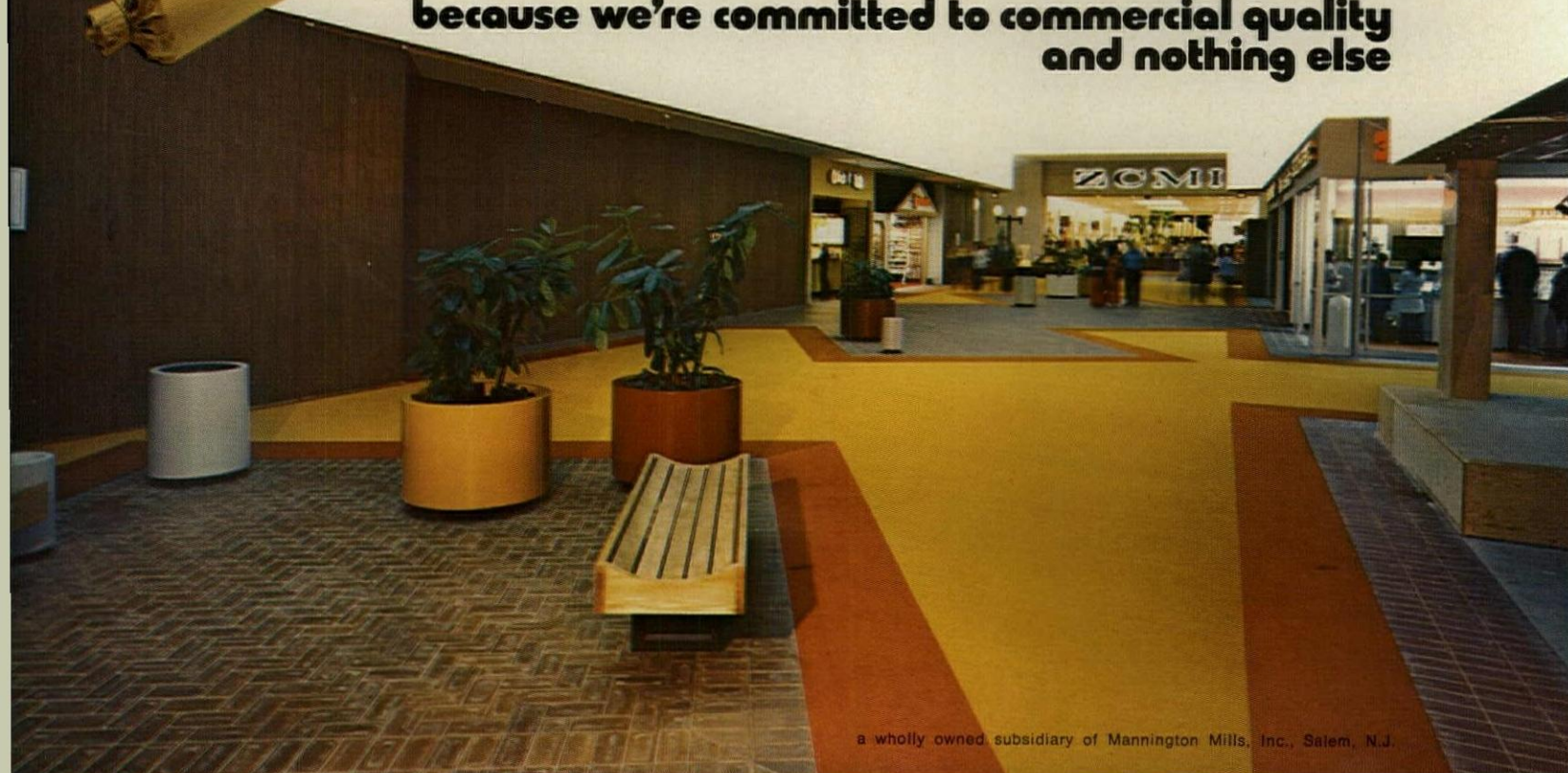
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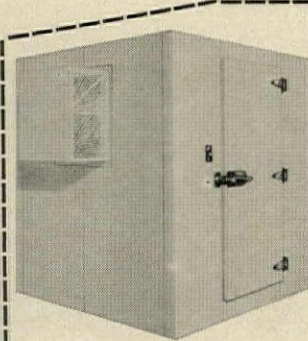
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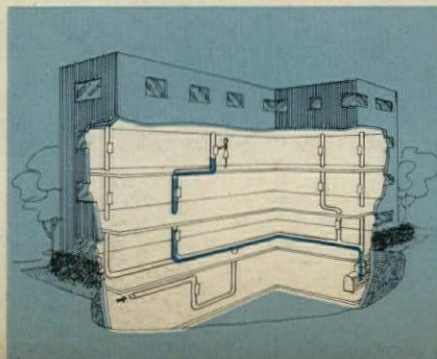
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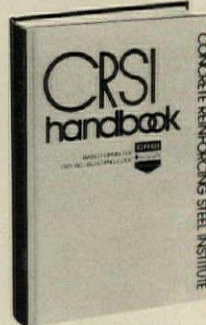
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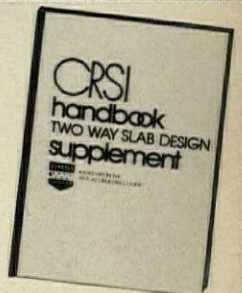
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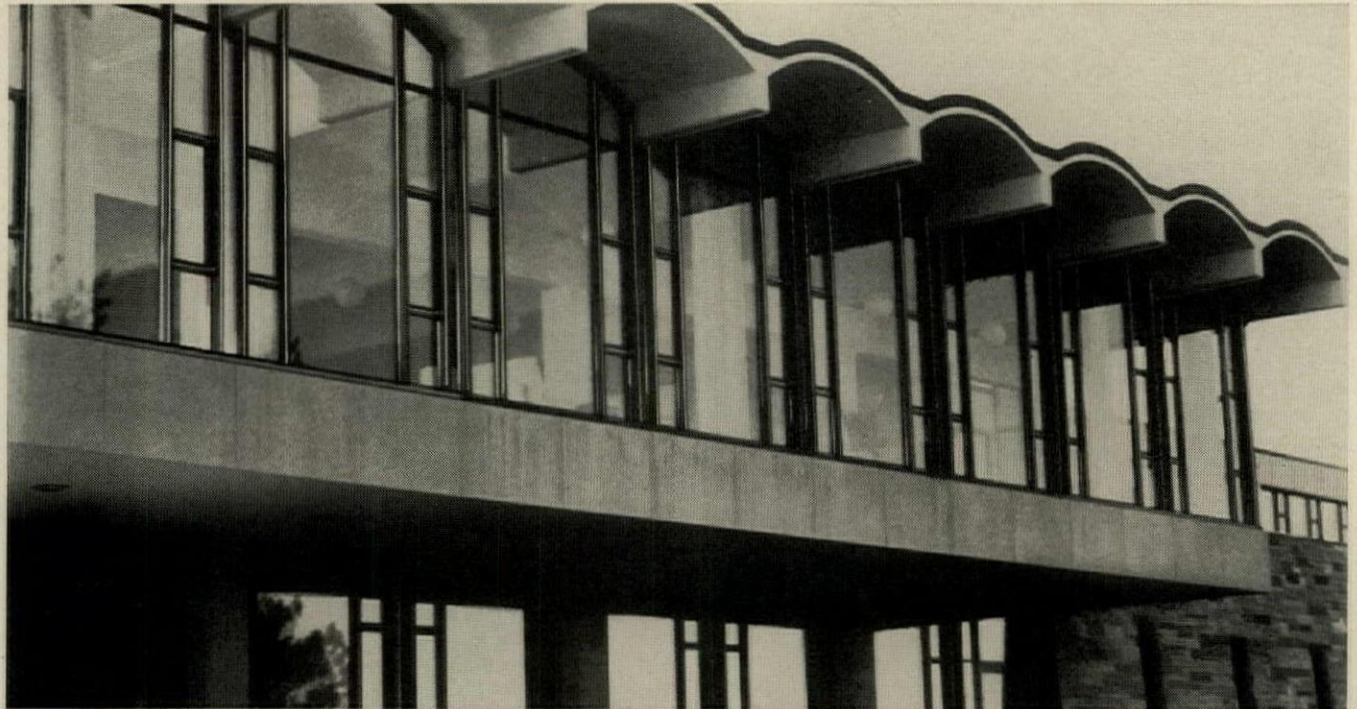
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A memo to architects and engineers from the publisher

Subject: **PROJECT AIR RECLAMATION**

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In this regard it would be a most constructive development if architects, and the engineers who work with them, were more fully informed on anti-pollution systems and equipment designed for use in all types of buildings.

Architect and engineer expertise is essential to equipping new and existing buildings to meet anti-pollution standards. Moreover, architects and engineers bring to private projects a deeply reflected sense of responsibility to the public and the environment. As professionals they are the primary advocates of quality design solutions to quantitative building problems. Today, backed by clearly foreseeable legislative action and the pressure of public opinion, they are in a better position than ever before to persuade their clients to invest in the most efficient anti-pollution systems.

Unfortunately, effective dissemination of needed information to the design professions—and the stimulus that would provide to the introduction of effective anti-pollution systems—is dependent to a degree on editorial and advertising budgets. Therefore, with the hope of rendering a public and professional service, Architectural Record is offering upon application to the publisher one full black and white page free to any manufacturer of equipment specifically designed to reduce outdoor air pollution on the following conditions:

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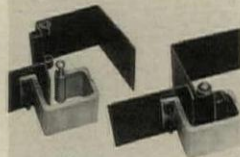
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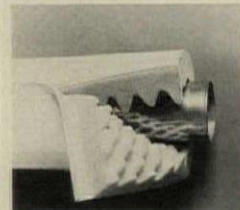
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By William B. Foxhall
Senior Editor Architectural Record



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- The corresponding shift in contracting method toward the multiple contract system that still requires a single management to unify and solidify the process.
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ADVERTISING INDEX

Prefiled catalogs of the manufacturers listed below are available in the 1973 Sweet's Catalog File as follows.

- A Architectural File (green)
- I Industrial Construction File (blue)
- L Light Construction File (yellow)
- D Interior Design File (black)

A	
A AllianceWall Corporation	75
A-D Allied Chemical Corp., Fibers Div.	84
A-I-L Aluminum Co. of America	24-25
American Enka Corp.	208
American Louver Co.	26
A American Olean Tile Company	69
Architectural Record Books	190, 196, 211
Architectural Review	32-6
A Armor Elevator Co. Inc.	212
A-I-L-D Armstrong Cork Co.	2-3
A-I-L-D Armstrong Cork Co.	2nd cover-1
A-L-D Artistic Brass Div.—Norris Industries	66
A-I-L ASG Industries Inc.	173
Azrock Floor Products	3rd cover

B	
A Bally Case & Cooler, Inc.	71
Bethlehem Steel Corp.	20-21, 174-175
Blu-Ray, Inc.	209
Bruning Division—Addressograph Multigraph Corporation	30
I Buffalo Forge Co.	176
Burke Rubber	32-1

C	
A-L Caradco Division of Scovill Mfg. Co.	6-7
Carpet Cushion Council	51
A-I-L Carrier Air Conditioning Co.	70
A-I Ceco Corp.	162-163
A-I Celotex Corp.	146-147
A Chester Products Inc.	170
A-I Clark Door Co., Inc.	166
A Cold Spring Granite	192-193
Collins & Aikman	79
A Combustion Engineering—C-E Glass Division	200-201
Commercial Carpet Corporation	17
Concrete Reinforcing Steel Institute	205
A-I Conwed Corp.	28-29

D	
Delta Air Lines	43
Delta Faucet Company	177
A Dover Corp., Elevator Div.	36
D Dow Badische Co.	58
DuPont De Nemours & Co., Inc., E.I.—Pneumacel	68-68A

E	
A Eastman Kodak Co.	82
A Eaton Corp., Lock & Hardware Div., Norton Door Closer Dept.	172
Eaton Corp. Security Products and Systems	78
A-I Ebco Mfg. Co.	155
A-I ECI Air Flyte Corp.—Sub. of Eastern Cyclone	204
Eljer Plumbingware Div., Wallace- Murray	57

F	
A Follansbee Steel Corp.	67

G	
Gaco Western Inc.	32-2
GAF Corp.—Diazo Equipment	48
A-I-L General Electric Co.	46-47
A-I-L-D Georgia-Pacific Corporation	154
A-L-D Goodrich General Products Co., B.F.	171
A Goodyear Tire & Rubber Co.	54
Graber Co., The	217
A-I-L Grace & Co., W.R., Construction Products	160
GTE—Sylvania, I/C Lighting	164-165

H	
Hager Hinge Company	50
Harbor Universal Inc.	191
A hc Products Co.	187-188
A-I Heatilator Fireplace	209
Holophane Co., Inc.	64

I	
A Ickes-Braun Glasshouses Inc.	209
International Masonry Institute	185
A-D InterRoyal	220

J	
J.G. Furniture Company, Inc.	51
Jute Carpet Backing Council, Inc.	194

K	
Kaiser Gypsum Co.	44-45
A Kalwall Corp.	194
A Kawneer Co.	168-169
A KDI Paragon	219
A-I Kinnear Corp.	194

L	
L'Architecture D'Aujourd'hui	205
A LCN Closers, Inc.	76
A-I-L Lennox Industries, Inc.	161
A-I-L Libbey-Owens-Ford Co.	13 to 16
Litecraft/Luminous Ceilings Company	22-23

M	
Manning Co. Inc., R.A.	203
A Marlite Div. Masonite Corp.	80-81
A-L-D Masonite Corp.	11
A Massey Seating Co.	209
McGraw-Hill Books	153
I Monsanto Company, Textiles Div.	38
A Mosler/Airmatic Systems Division	42
Mueller Climatrol Corp.	194

N	
National Electrical Contractors Association	167
A-I-L-D National Gypsum Co.	18-19, 64-65
A-I-L Neenah Foundry Co.	66
A Nor-Lake, Inc.	203
Nucor Corp. Vulcraft Div.	178-179

P	
A-L Pella Rolscreen Co.	149-150
A-I Pittsburgh Corning Corp.	180
Pomona Tile	69
A-L-D Potlatch Corp.	181
Powers Regulator	203, 205
A-L PPG Industries, Inc., Commercial Glass	72-73
Pyrotector Inc.	66

R	
A-L Red Cedar Shingle & Handsplit Shake Bureau	145
A-I Republic Steel Corp.	83, 195
A-L Rohm & Haas Company	31
Rusco Electronic Systems	12

S	
St. Joe Minerals Corporation	186
A Sargent & Company	158-159
Schlage Lock Co.	8
A-I Shatterproof Glass Co.	189
A Silbrico Corp.	51
Simple Space-Rite Lettering System	205
Simpson Timber Co.	32-3, 202
L Singer Co.— Climate Control Div.	148
Sloan Valve Company	4th cover
A Smith, Elwin G. Div. Cyclops Corp.	197
Southern California Gas Company	32-4-32-5
A Spencer Turbine Co.	77
Square D Company	68B
A Standard Conveyor Co.	156

T	
A-I Taylor Co., The Halsey W.	49
A-I Thiokol Chemical Corp.	206
Thonet American Chair Company	74, 184
A TPI Corporation	32

U	
A-L-D U.S. Plywood Corp.	27, 152
A-I United States Steel Corp.	182-183
A-L Uvalde Rock Asphalt Co.	3rd cover

V	
Vinyl Plastics	203

W	
Watson Mfg. Co.	157
Wellco Carpet	198
Westinghouse Electric—Corporate	52-53
Wiremold Company	62

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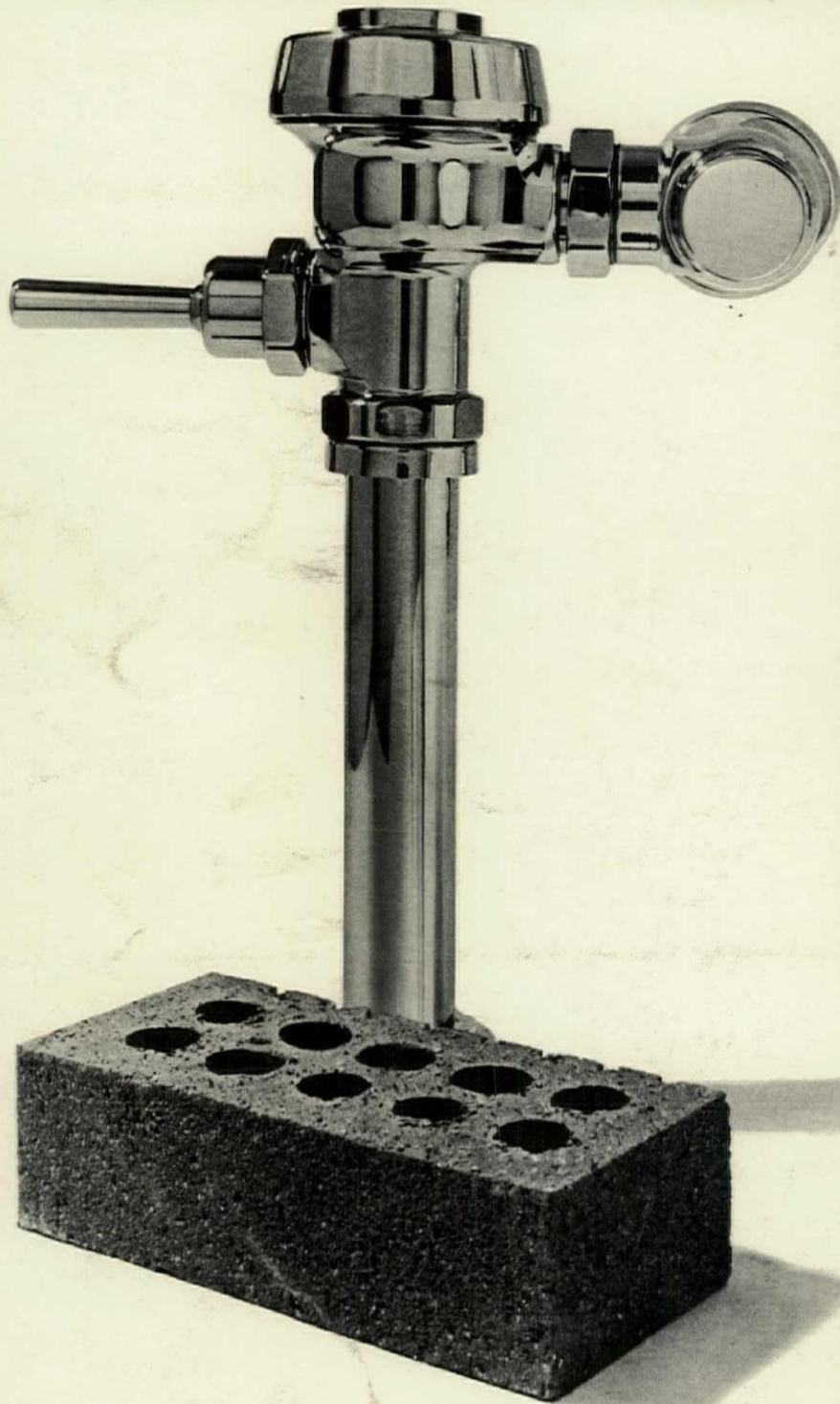
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