

Graw-Hill's marketing and management publication of housing and light construction \$2 per copy

October 1972

House & Home



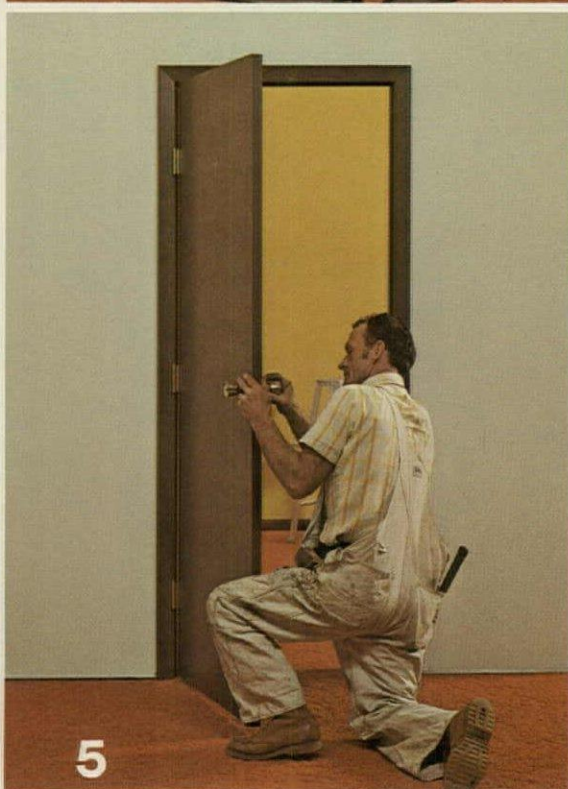
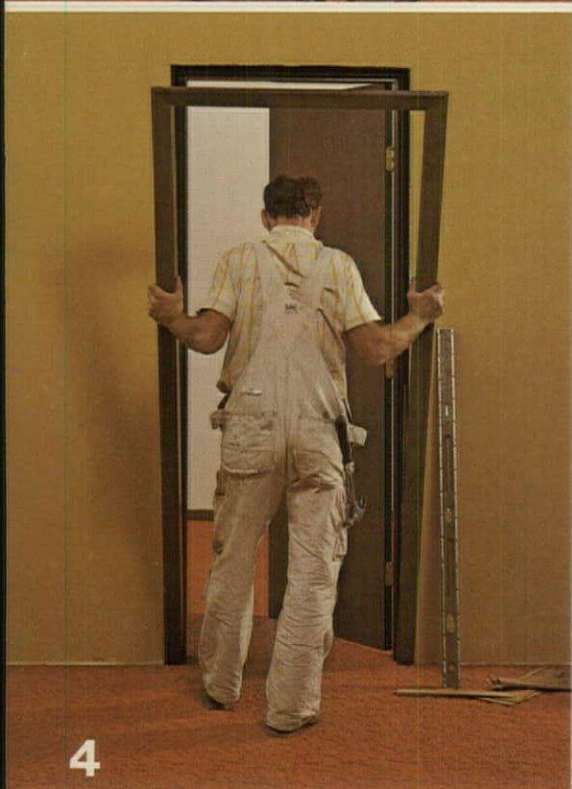
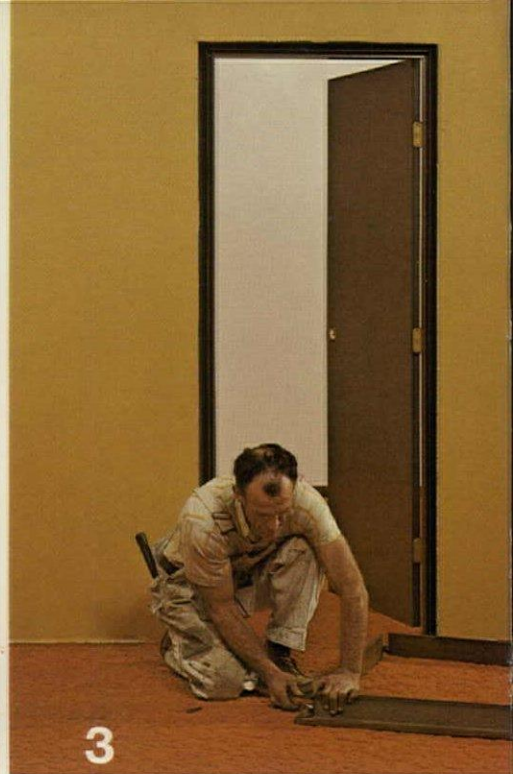
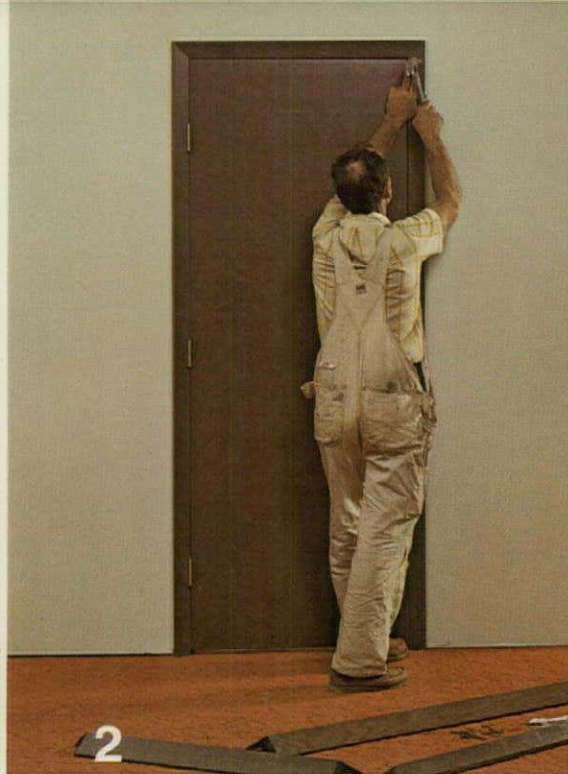
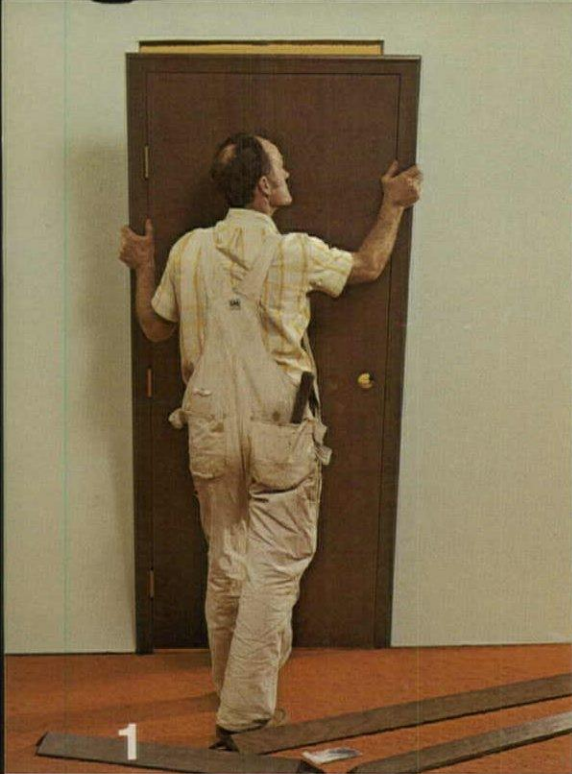
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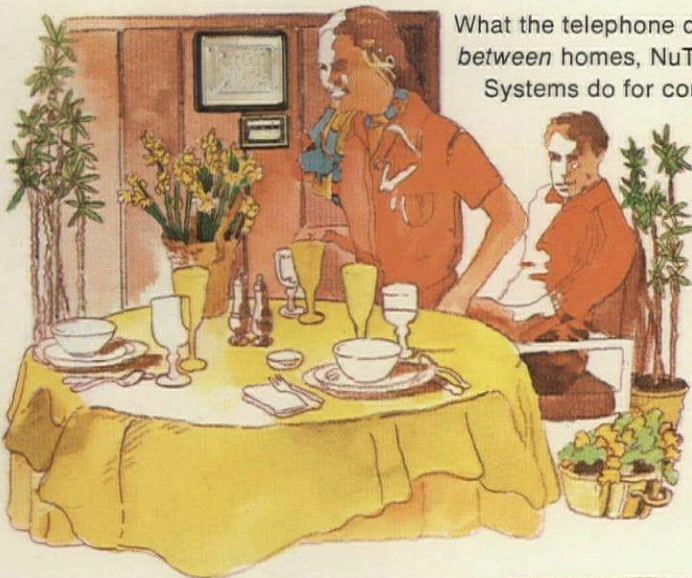
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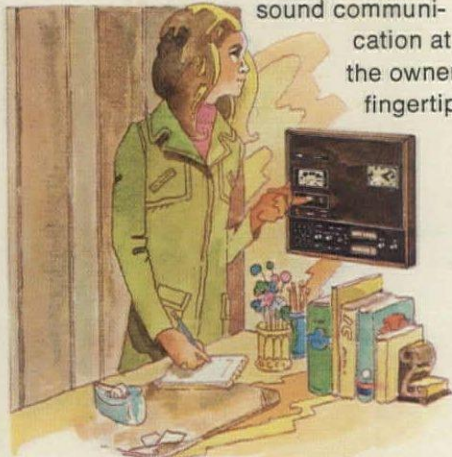


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Sales features in sight and sound. Remote high fidelity speakers throughout the home and grounds bring a new dimension to home and apartment sales.

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NuTone's Master Stations. The heart of every system. Houses solid-state FM/AM radio. Whole-house intercom and monitoring controls. The superb Communicenter® takes handy snap-in Cassettes for personalized sound or recorded messages. Plus a built-in clock-timer to put the system in action any time. Day or night. Puts in-home sound communication at the owner's fingertips.



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Common sense security.

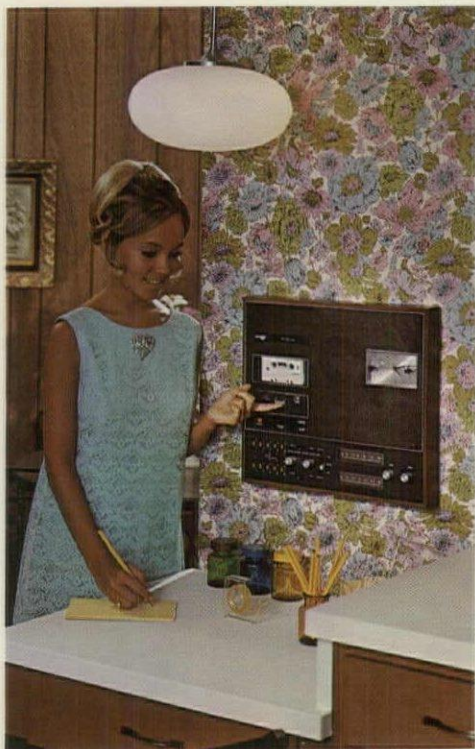
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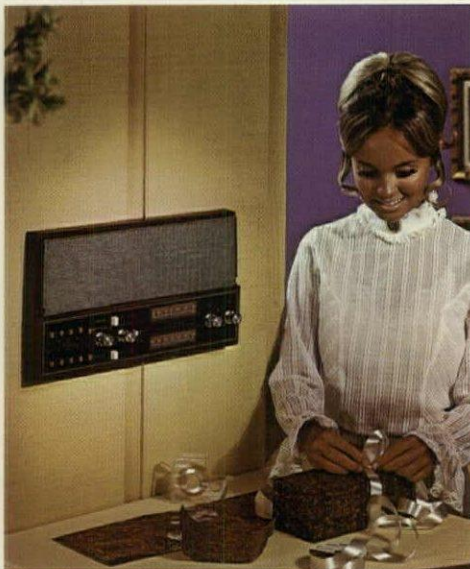
Sound Sense is... built-in communication and concert sound at a nominal one-time installation cost!



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House & Home

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Nixon landslide buries McGovern, 77% to 20%, in HOUSE & HOME reader poll

The second straw poll of HOUSE & HOME readers, taken between mid-August and mid-September, shows that an overwhelming 77.5% plan to vote for President Richard M. Nixon. Twenty percent plan to vote for Senator George McGovern, 1.7% named other candidates and .07% were undecided.

The earlier poll, taken between mid-May and mid-June [News, July] gave Nixon 57.1% of the vote, McGovern 17.1% and other candidates 18.2%, with 7.4% undecided.

Undecided vote. Thus, since the nominating conventions, Nixon has attracted many of the undecided voters plus supporters of other candidates for the nomination, while McGovern has done little more than hold onto those who were already committed to him.

The Nixon margin of 57.5 points over McGovern is considerably higher than the 34-point lead he polled in a national survey taken at the same time. However, the HOUSE & HOME sample is not representative of the electorate as a whole, as the magazine's subscribers are primarily construction industry leaders* who have prospered because of the President's housing policies.

Housing not an issue. In view of President Nixon's emphasis on housing as the spearhead of his economic recovery, a surprisingly high percentage—18%—of those who indicated they would vote for him were unsure about whether he would do the best job for housing and another 6% even said he would not do the best job in this area.

Still, many agreed with the Louisiana Democrat who said: "Housing is the least of the reasons for his selection." The majority of these readers felt that Nixon was the best man in general; others supported him because of his economic and foreign policies.

Against McGovern. A significant number indicated that they were not voting for Nixon but

*The poll is based on a sample of 1.5% of HOUSE & HOME's 94,000 domestic subscribers. HOUSE & HOME's readership is composed of builders, contractors and subcontractors (56%), architects, designers, engineers, decorators, etc. (14%), government employees (3%), manufacturers, dealers and distributors (11%), realty and financial firms (14%), miscellaneous (2%).

	Aug./Sept.		May/June	
	No. of Votes	% of Total	No. of Votes	% of Total
Nixon	1,121	77.5%	1,133	57.1%
McGovern	289	20.0%	341	17.1%
Others	25	1.7%	363	18.2%
Undecided	10	.7%	147	7.4%
Total	1,445	99.9%*	1,984	99.8%*

*Does not total 100% because percentages rounded off

against McGovern. "Have I a choice?" said a Pennsylvania Democrat. Again and again, Nixon voters termed him the lesser of two evils.

"We cannot afford a communistic type," said an Illinois Democrat, and many more Nixon supporters echoed the fear that McGovern was too far left.

Others felt "McGovern is unaware of reality," and that he is "too disorganized to govern." These comments came from an Arkansas Democrat and Illinois Republican, both of whom indicated they would vote for President Nixon even though they were not satisfied with his housing policies.

Priorities and the war. The McGovern voters cited ending the Vietnam war and reordering the nation's priorities as their chief reasons for voting for him. Twenty-one percent of his supporters were unsure about whether he would be the best man for housing, but just 1% thought he would not be.

However, although only two voters termed him the lesser of two evils, it was evident that, as with President Nixon, many were voting against the opposi-

tion rather than for a candidate of their choice.

"He can't do worse than Nixon," said a Massachusetts Independent. "We need a new broom," said a Florida Democrat. "Nixon's bureaucracy is mind-boggling," said a Michigan Independent.

Voter profile. A total of 1,427 respondents indicated their usual party affiliation: 45.2% Republican, 33.6% Democrat, 20.4% Independent and .8% Conservative, Liberal or American Party. President Nixon received 90.0% of the total Republican vote, whereas McGovern received only 34.2% of the total Democratic vote. The Independents gave Nixon 72.2% of their vote and McGovern 27.8%.

The geographical breakdown for Nixon versus McGovern was as follows: New England 59.8% vs. 37.3%; Middle Atlantic 65.2% vs. 30.1%; South Atlantic 78.6% vs. 18.8%; Southeast 94% vs. 5.2%; Midwest 81.5% vs. 17%; Rocky Mountain 83.8% vs. 16.2%; Southwest 85% vs. 15%; Pacific 77.5% vs. 19.5%.

Comments. Eighty-nine percent of the respondents an-

swered the question "What is the single most important thing the next President could do for housing?" (see chart).

In general, the Nixon supporters tended to mention financial matters, such as holding down interest rates or retaining price-wage controls while the McGovern voters concentrated on social issues such as subsidized housing and urban problems. However, on a significant number of issues both groups agreed. For example, similar percentages of Nixon and McGovern supporters cited the need to overhaul the FHA and HUD, stabilize the economy, standardize building codes and, surprisingly, insure better quality in construction.

Other frequent suggestions: eliminate HUD, eliminate the FHA, loosen mortgage requirements, place more emphasis on design and encourage the expansion of the economy.

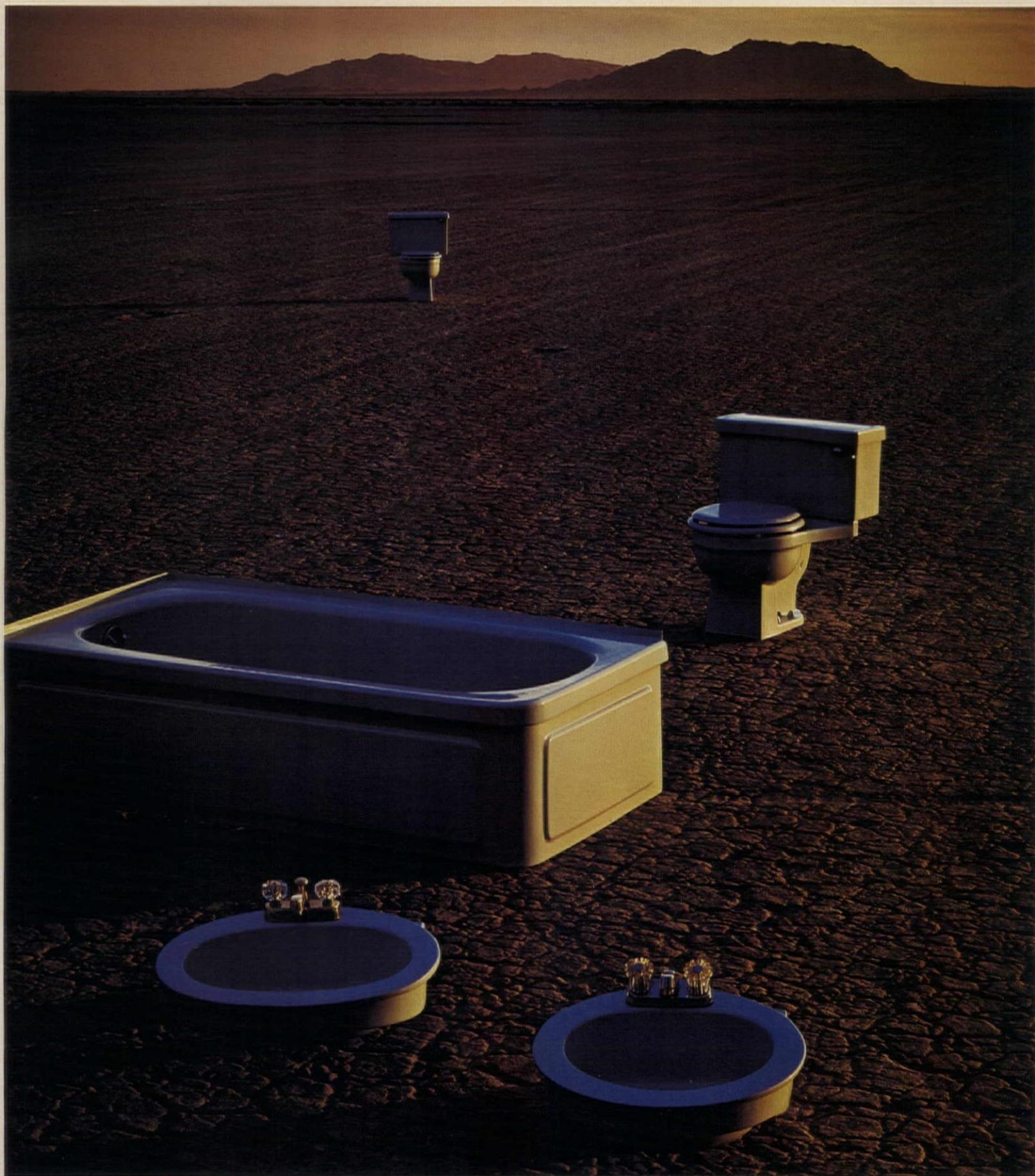
Fear of change. Housing policy is not an issue in this election as the Democratic and Republican programs are similar in many respects. However, many industry voters view the choice between Nixon and McGovern as a choice between less versus more government intervention.

They may not be entirely happy with things as they are, but they see no reason to elect a President who at best would be an unknown factor and at worst might effect major changes in the economy and the free enterprise system.

—NATALIE GERARDI

	Nixon Supporters	McGovern Supporters	Other/Undecided	Total Votes Cast
1. Hold down interest rates	14%	7%	3%	12%
2. Retain (or extend) price/wage controls	13%	2%	6%	10%
3. Keep enough low-cost money available	10%	6%	6%	9%
4. Control prices of construction materials	9%	1%	—	7%
5. Overhaul FHA	6%	5%	6%	6%
6. Stabilize the economy	5%	4%	3%	5%
7. More money for subsidized housing	2%	17%	3%	5%
8. Overhaul HUD	4%	4%	3%	4%
9. Cut red tape	5%	2%	12%	4%
10. Get gov't out of housing	4%	0.7%	12%	4%
11. Standardize bldg. codes	4%	4%	3%	4%
12. Control inflation	5%	0.7%	9%	4%
13. Get a better HUD secretary/staff	3%	2%	15%	3%
14. Less money for subsidized housing	3%	0.7%	9%	3%
15. Leave housing to free enterprise	3%	0.7%	—	3%
16. Stop waste—administer programs better	2%	0.4%	—	2%
17. Eliminate discount	2%	4%	—	2%
18. Cut property tax	3%	1%	—	2%
19. More emphasis on land-use planning	1%	4%	—	2%
20. Encourage manufactured housing	1%	4%	3%	2%

NORRIS INDUSTRIES, a new force in building products brings you ideas in bathroom fixtures



Ideas in bathroom fixtures from Plumbingwa



Vitreous China Oval Lavatories

Truly, a new dimension in elegance, Norris Industries No. 288 Playa oval lavatory offers convenience of installation in either dressing table or bathroom commode. Adaptability of use is further enhanced by mounting either singly or in matching pairs to meet today's "his 'n' her" concepts. Normal outside measurements of 21" x 17" provide perfect dimensions for easily building into 21" counter tops, whether tile, plastic or marble. The Playa's lustrous free flowing appearance is again enhanced by concealed front overflow. Anti-splash rim adds to its other conveniences.

CIRCLE 40 ON READER SERVICE CARD



1 Piece Beauty— 2 Piece Economy

The low silhouette beauty of Norris Industries #1.2 San Clemente vitreous china closet combines the handsome looks of the most expensive one piece closet with the low initial cost and economy of installation of two piece closets. No need for special trim with the San Clemente. Accommodates conventional seat and normal 12" rough in. Builder, Plumber and Owner all benefit from the outstanding features embodied in this syphon vortex close coupled reverse trap closet. Rouge Pink, Café Tan, Forest Green, Yellow, Blue, White, Avocado, Harvest Gold.

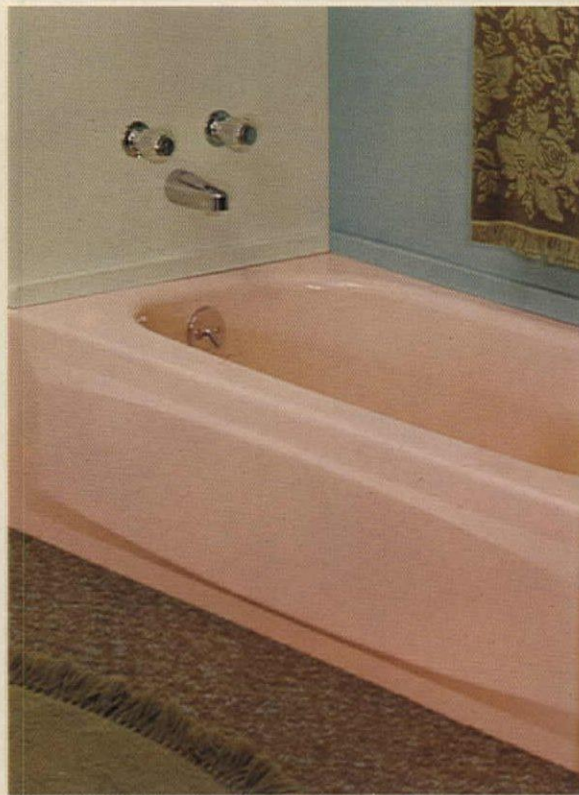
CIRCLE 41 ON READER SERVICE CARD



**Beauty you can See,
Quality you can Trust**

The 525 San Antonio boasts the contemporary styling and gleaming finish that is a hallmark of Norris Industries vitreous china. Classic in design and proportion the San Antonio is ever popular with Builders and Home Owners. Architects specify because it meets rigid requirements for efficiency and long term reliability. This easy to clean, close coupled reverse trap closet is always popular because it provides an easy economical method of updating older baths. Color shades blend harmoniously with colorful accessories. Rouge Pink, Café Tan, Forest Green, Blue, Yellow, White, Avocado, Harvest Gold.

CIRCLE 42 ON READER SERVICE CARD



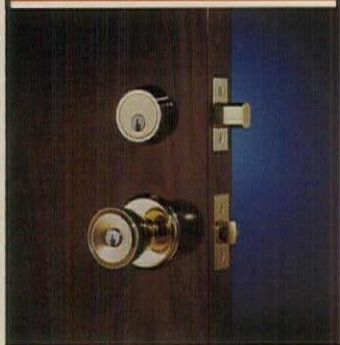
**Porcelain-on-steel one-piece
5 ft. Bathtub No. 610**

Dramatic design combines with functional features to make this one-piece bathtub a creation of beauty and durability. Its full width and full height one-piece construction achieves the largest interior bathing area while its over-all appearance is sleek and trim. Adaptable to any wall surface, this tub has wide edge and safety seat. Crafted especially for shower-over-tub installations, it's available with either right or left hand drain. Specify and install Norris Industries porcelain-on-steel bathtubs for strength...color...beauty...and economy. Rouge Pink, Café Tan, Forest Green, Blue, Yellow, White, Avocado, Harvest Gold.

CIRCLE 43 ON READER SERVICE CARD

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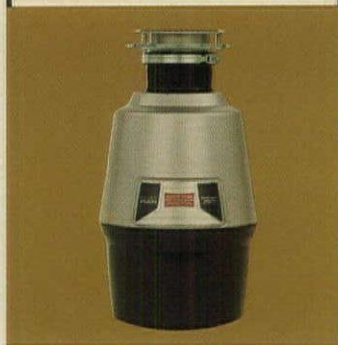
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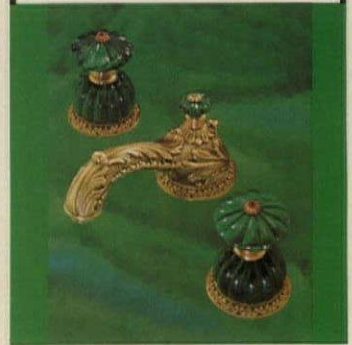
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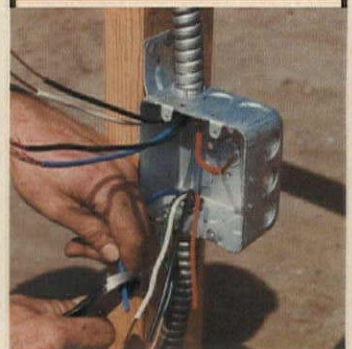
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IDEAS FOR THE ELECTRICAL CONTRACTOR



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CIRCLE 49 ON
READER SERVICE CARD

From Miami Beach

Confident Republicans promise the country four more years of the same

For housing, this means the Republicans are going to run on their record, and they're satisfied it's a good one.

The platform reflected their confidence in the status quo:

"We are building 2.3 million new homes a year," it said, "and housing quality has risen at the same time. We will maintain and increase this pattern of growth."

Recognizing that more must be done because "significant numbers of Americans still lack the means for decent housing," the platform pledged to:

- continue housing production for low- and moderate-income families.

- improve housing subsidy programs and expand Federal mortgage credit.

- continue development of technical and management innovations to lower housing costs.

Confidence. Even HUD Secretary George Romney, who shortly before the convention had told the President he was quitting [NEWS, Sept.], echoed the prevailing confidence.

"Solely from a production standpoint, it will be possible for this nation to realize the quarter-century-old goal of a decent home in a suitable living environment for every American family by 1976," he told the platform committee.

Romney and other Republican spokesmen alternated between criticizing the programs of the Democratic regime that had preceded them and taking credit for progress that had been made under many of these same programs.

There was, of course, no mention of the three years of scandals that have shaken HUD, sparked investigations in half a dozen cities, resulted in the indictment of a dozen people and turned housing into the nation's most investigated activity [NEWS, Sept.].

Divisions. The entire tenor of the convention and its platform writing sessions was one of cooperation and compromise. Still, some deep cracks in the facade of unity could not be hidden.

Senator Jacob K. Javits (R., N.Y.), speaking for the liberal wing of the party, urged a national policy to upgrade and preserve urban neighborhoods and



The moment of victory, as the Nixon-Agnew team acknowledged the cheering crowd.

to prevent the continued deterioration and abandonment of large numbers of houses in central cities.

When the platform writers finished their work, however, Javits' policy had been reduced to a pledge to urge "prompt action by the state, county and municipal governments to seek solutions to the serious problems caused by abandoned buildings in urban areas."

Labor. A controversy developed over the platform's labor planks, which praised the statesmanship of union leaders and pledged the party's support of organized labor.

Interior Secretary Rogers C. B. Morton termed the platform the most pro-labor in history, and AFL-CIO President George Meany called it the most liberal ever written by Republicans.

But many Republican traditionalists objected to its silence on the closed shop right-to-work issue that Republicans have backed for decades.

Former Postmaster General Winton Blount, once a general contractor in Alabama and now running for the Senate against Banking Committee Chairman John Sparkman, described the omission as a "nod to our new-found friends, the labor leaders."

The platform cited the Construction Industry Stabilization Committee as a prime example of the value of union and management cooperation and credited it with braking "the dangerously skyrocketing costs in the construction industry."

Economy. On economic issues, the platform boasted:

"Our mix of policies has worked. The nation's economic growth is once again strong and steady."

It promised to "pursue sound economic policies that will eliminate inflation, further cut unemployment, raise real incomes and strengthen our international economic position."

Wage and price controls will be removed "once the economic distortions spawned in the late 1960s are repaired. We are determined," the platform said, "to return to our unfettered economy at the earliest possible moment."

It also promised tax reform, pledging to "pursue such policies as revenue-sharing that will allow property tax relief."

New towns. The more vigorous economy, the Republicans say, enables them to accelerate other programs—for example, the development of new towns "in order to afford all Americans a wider range of residential choices."

However they strongly opposed the use of housing or community development programs to impose arbitrary housing patterns on unwilling communities. Instead, the platform pledged to provide communities "with the means and incentives to increase the quantity and quality of housing in conjunction with providing increased access to jobs for their low-income citizens."

Finally, regarding the environment, the Republicans termed it a nostalgic notion to believe that the clock could be turned back to a simpler time

when less energy was needed.

"We are not going to give up electric lighting and modern industry, but we do expect cleanly produced electric power to run them," it said.

They said that their administration was spending more money for civilian research and development than had been spent under previous Democratic administrations.

In addition, much of the additional funding has been funneled into homebuilding, energy, law enforcement and related fields, they said.

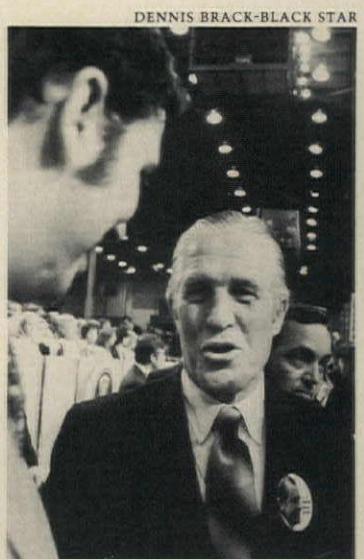
Republicans vs. Democrats.

Underneath the campaign rhetoric the housing policies of the Republicans and the Democrats are not strikingly different. Both pledge to maintain a high rate of homebuilding, both propose to promote new towns and new building techniques and both favor revenue-sharing as a means of reducing the property tax.

Both also favor housing subsidies, although Senator McGovern places greater emphasis on subsidizing the tenant or buyer rather than the builder. Both pledge to tackle the problems of the environment and the central cities, and here Senator McGovern has taken a stronger stand than President Nixon.

However, as important as they are, these are not the real issues of the campaign. The voters will decide, not on housing and taxation, but on the basic issue of what the role of government should be.

—WILLIAM D. HICKMAN
McGraw-Hill World News



Team player Romney at the convention.

Mission Viejo: committed to developing better places to live.

And Tappan is part of it.

Environment. Not so long ago, it was just another little-used word in the dictionary.

But not any more. Today everyone is thinking and talking environment.

who wanted a community with all the facilities that make life pleasant. A planned community with no "wrong side of the tracks."

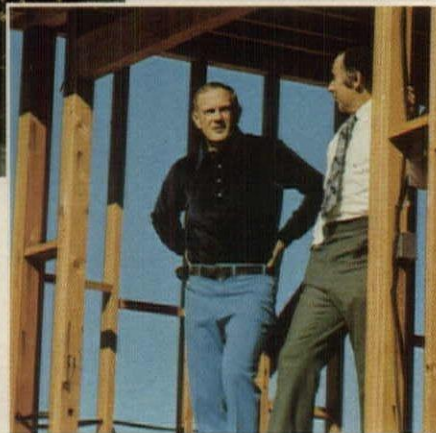
The idea was a winner. With only about twenty-five percent of the planned 11,000 acres now developed, Mission Viejo, California is already a beautiful city of some 20,000 residents. Multiple parks and recreation areas, shopping centers and a wide range of housing styles and prices have combined to make Mission Viejo a most desirable place to live and a particularly difficult place to leave.

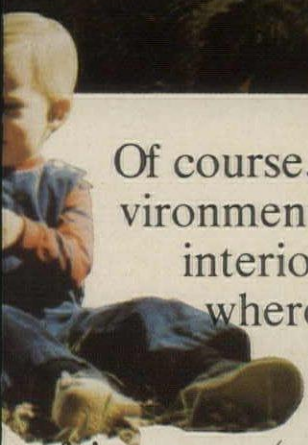
In fact, the Mission Viejo Company

has now expanded the same idea to two other locations in Arizona and Colorado. And they have earned the admiration of home builders and community planners all over the U.S.



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Lumber price spiral: multiple mark-ups, fast deals—and a pact of silence

The wage-price controls program was designed to halt a cost-push type of inflation, but whenever strong demand has begun to drive up prices, the controls have had little effect. Lumber is a striking example.

Lumber and plywood prices are in some cases 30% higher than when controls were imposed in the summer of 1971. The Price Commission held hearings in San Francisco, Portland and New Orleans in August and has another scheduled Oct. 19 in Atlanta, but there is no ready solution in sight for home-builders.

A commission task force headed by Assistant Executive Director Peter Carpenter is seeking an answer, but some staffers already regard the effort as a failure.

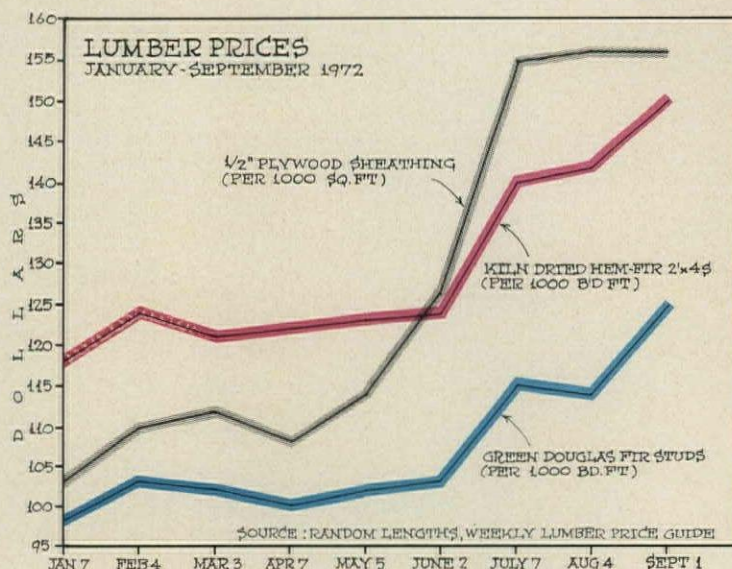
Even the commission chairman, C. Jackson Grayson Jr., admits the present approach to price control has done little to hold down inflation in instances where demand is outrunning supply.

Fear of testifying. Demand is the problem. With housing starts running well above an annual rate of 2 million units so far this year, it is a true seller's market. Demand is so strong, in fact, that the commission has had trouble getting lumber users to testify at its hearings.

"There is a reluctance among users to talk about violations of our rules because they are fearful their supplies will be cut off," a commission spokesman says.

However, the commission has asked the Internal Revenue Service to investigate some suspected violations and to begin a series of surprise audits of companies within the industry to uncover more. For example, the commission has received reports that lumber and plywood are being transferred among brokers, wholesalers and retailers several times so that the customary markup can be added each time it is transferred.

Builders' protest. Stanley Waranch, president of the National Association of Home Builders, in a letter to the commission calling for action, noted: "Reports circulate of gimmicks and subterfuges being employed to manipulate the market and to evade price-control regulations. There are pub-



lished reports of 'new and interesting channels of distribution' being employed, bold and imaginative schemes being hatched to avoid ceilings."

Added Waranch: "The current situation is both intolerable and baffling. Perhaps we builders may be naive, but we have as yet to understand how there may be ceiling prices at the production level—the mill—yet when the product reaches us those prices are 20 or 30 or 40 or, in some cases, more than 50% higher than the mill ceiling prices."

The NAHB president complained that mill prices have risen "in a range of 14% to about 48%, with the average increase for the framing lumber and plywood generally used in housing to be 25.9%," from mid-August 1971 to mid-August 1972.

Return of controls. As a direct result of soaring lumber prices,

and especially gouging by wholesalers, the Cost of Living Council on July 17 reimposed controls on lumber companies with sales of more than \$100,000 annually. They had become exempt on May 1 under the so-called small-business exemption. Despite the council's action, Waranch said, prices rose an average of an additional 1.6% from July 7 to Aug. 11.

The problem has several other dimensions, according to government authorities, including outright violations of the Price Commission's regulations by a significant number of lumber companies. The IRS says it hopes to stop such practices.

But a more difficult aspect remains untouched: The price of lumber is significantly affected by the price of stumpage paid by the mills, and the stumpage price is not presently controlled.

Exports to Japan. The com-

mission would also like to discourage log exports and encourage additional timber cutting to increase supply of timber for domestic use, hopefully at lower prices. But because of balance-of-payments problems, especially with Japan, the largest buyer of U.S. logs abroad, the Nixon Administration does not want to curb exports. And pleas for heavier cuts on federal timberlands draw fire from conservationists.

Behind the price cuts. Nevertheless, the commission takes heart from two recent developments. Weyerhaeuser Corp. and Georgia-Pacific Co., two of the biggest producers, have made price cuts that were not dictated by the market.

Both companies signed term-limit price accords with the commission months ago. They agreed to limit price increases for their products to a weighted average of 2%. Individual product prices might rise as much as 15%, and many wood products were marked up by that amount.

But Weyerhaeuser then found that it could not raise prices in its pulp and paper operations, where market conditions were firming, without either violating terms of its agreement or cutting its wood products prices. Because it was more interested in raising pulp prices than in maintaining its wood product prices, which it might have to trim anyway if the volatile market so demanded, it chose to cut the latter by about 5%.

Commission sources say Georgia-Pacific, on the other hand, apparently was about to get into trouble with another of the commission's rules, the profit-margin limitations. That rule limits a company's current pre-tax operating profit rate to the average rate it enjoyed in the best two of its last three fiscal years ending prior to Aug. 15, 1971. As a result, Georgia-Pacific cut prices on several products, including softwood sheathing plywood and 2x4 fir studs, by 2% to 4%.

So the price cuts are a drop in the bucket. The commission is still looking for a handle on the lumber problem, with scant prospects in sight.

—JOHN BERRY
McGraw-Hill World News,
Washington

New flood rules to mean revised building codes

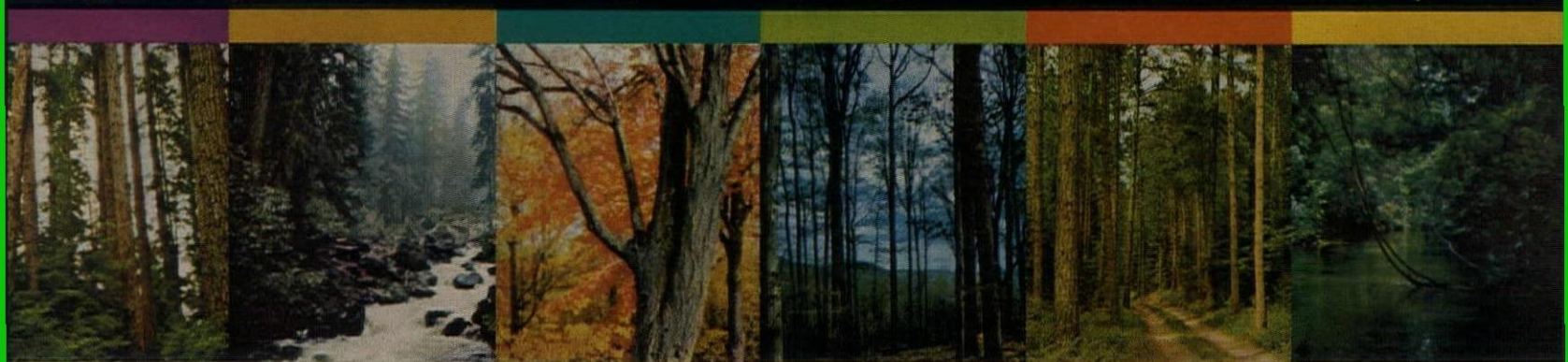
President Nixon has proposed stiff new measures that would double the coverage available under the federal flood insurance program and require new zoning and building codes.

Flood insurance would be mandatory for construction in flood-prone areas that is aided in any way by federal programs or financing—including mortgage insurance and guaranties and loans from federally insured or regulated financial institutions.

In addition, communities would be required to adopt "effective land-use controls."

Construction would have to meet certain flood protection standards, among them: that the first floor of houses be above the level of the hundred-year flood (the flood hazard that, according to hydrological surveys, has a 1% chance of occurring in any year); that new drainage and sewage systems be capable of carrying off the water involved without seepage; that new subdivisions be protected against damage from floods; that no new structures be built that would raise the level of the hundred-year flood more than one foot.

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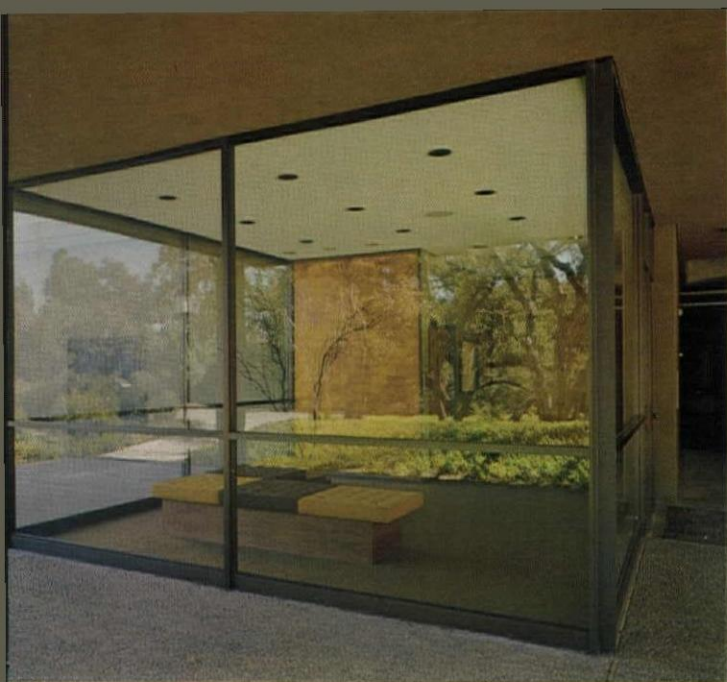
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9 The glass A-frame. Glass walls of an A-frame fourplex unit wrap around an enclosed courtyard to provide indoor-outdoor living with complete privacy.



2 The front-door merchandiser. A totally glass enclosed vestibule and waiting room in an apartment building are unique design details that can be a successful front-door merchandiser.



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7 The spacious owner's suite. A full structural mirror wall in this townhouse bedroom doubles the spaciousness.



8 The sunlit townhouse. This entire two-story townhouse plan is designed around a glass-enclosed atrium-type courtyard. ▶



10 The dramatic stairwell. A private court turns inward to brighten this entry and stairwell, as well as inside rooms.



11 The effective environment. Glass walls overlook a private patio and pool. An effective technique for merchandising the environment.

KEY TO PHOTOS: 1, 8: Coronado Cays, San Diego, Calif. Developers: Cedric Sanders Corp. and Signal Properties, Inc. 2, 6, 11: Oak Creek, San Francisco, Calif. Developer: Gerson Bakar & Assoc. 3: Sixty-01, Seattle, Wash. Developer: W-O Associates. 4, 5: The Meadows, Los Angeles, Calif. Developer: Ring Brothers Corp. (a subsidiary of Monogram Industries, Inc.) 7: The Bluffs, Newport Beach, Calif. Developer: George M. Holstein & Sons. 9: L'Atriums, Dallas, Texas. Developer: Devane Clarke & Assoc. 10: University Park/Village Three, Los Angeles, Calif. Developer: Stanley C. Swartz Co.

PPG: a Concern for the Future



Runaway from FHA—or how the mortgage business is going conventional

For more than 30 years the world of the mortgage banker has been the safe haven of the government-backed home loan, with its assured secondary market in the Federal National Mortgage Assn. (Fannie Mae).

The confused state of federally supported housing has changed all that, and irate mortgage bankers are now in a mood to try the risks of the conventional mortgage market.

Scandals have choked Federal Housing Administration programs in such red tape that a builder may have to wait a year in extreme cases for a go-ahead to start construction. Strictly private housing activity has never been more opulently inviting to developers, and therefore to mortgage bankers.

Goodbye to quality. For those mortgage bankers who would still rather cling to their old standby, there is another new fear—that the quality borrower who used to provide the industry's bread-and-butter income by taking out FHA-insured mortgages is increasingly likely to take a conventional loan from a savings and loan association.

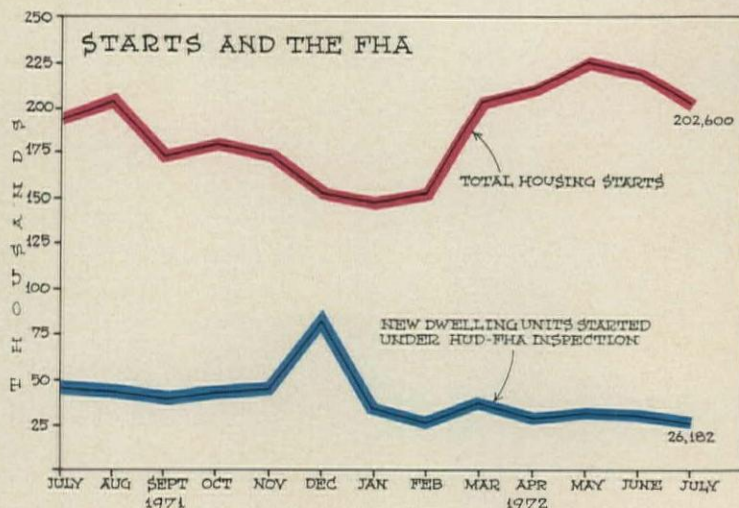
The conventional is not insured by the government, and it has usually required a larger down payment and faster repayment than an FHA or VA mortgage. But the private loan is often insured by private mortgage insurance companies, and it is granted in less time and with infinitely less red tape.

The 95% invasion. A new mortgage has now given the S&Ls and their conventional loans another distinct competitive advantage over the FHA-VA lenders.

The S&L industry's regulator, Chairman Preston Martin of the Home Loan Bank Board, has allowed S&Ls to write mortgages up to 95% of the house price—and this without the delays, and with few of the discount points, that plague the FHA-VA loans that mortgage bankers usually make.

The low downpayment has proven extremely seductive. An FHA loan, by contrast, can legally be a 97% mortgage—that means a downpayment of only 3%—but it is usually a 90% loan with a 10% downpayment.

Flight out of FHA. The FHA's strangulating paper work and



the S&L's 95% loans are inexorably changing the structure of mortgage finance.

Whereas in the first half of 1972 total housing starts rose 19% from the 1971 level, applications for FHA insurance by the second quarter of the year had sunk 42%, and insurance issued was down 27%. If present trends continue, several housing experts now contend, the home-lending market could go completely private except for subsidized housing.

Divided opinion. "The conventional won't replace the FHA in the immediate future," says Sidney Kay, executive vice president of Detroit's big Advance Mortgage Corp. But he concedes: "We're planning to make a big thing of it to take some of the slack out of FHA."

And President David DeFranceaux of Frederick W. Berens Inc., the Washington mortgage-banking house, maintains that there is a decided shift to the conventional loan.

The largest mortgage banking company, Lomas & Nettleton of New Haven, Conn., has set a target of \$55 million in conventional loans by the second quarter of next year. The present volume is "too small to count," says Vice President Richard Carnevale who adds:

"Prospects are good just about everywhere. A lot of S&Ls and mutual savings banks will buy conventionals because the yield and quality are better."

FHA's defenders. That question of who will buy the mortgage bankers' conventional loans, when they begin to initiate them in real volume, is far from clear. Since mortgage bankers are simply packagers of

loans to sell to other investors, this uncertainty is important. It is sufficient to prompt the more skeptical viewers of the vogue for conventionals to search for ways to resuscitate the close relationship with government loans.

"The burden of proof is on those who say you don't need FHA," insists John Wetmore, research director for the Mortgage Bankers Assn.

Problems. There may be another reason why mortgage bankers will prefer to stay with government loans. An official of the U.S. Savings and Loan League asserts:

"Mortgage bankers don't have the expertise to do underwriting. They've always leaned on FHA for that. But if they make conventional loans, the FHA won't be looking over their shoulders to help."

Proof that mortgage bankers are having underwriting difficulties comes in word from Fannie Mae that a lot of conventional loans mortgage bankers tried to sell to it have been rejected.

Exclusion. The Federal Home Loan Mortgage Corp. (Freddie Mac) is another Washington secondary market for conventional mortgages, and in some respects a better one, many mortgage bankers think.

But Freddie Mac was set up to buy loans from S&Ls. Mortgage bankers are effectively denied access to it, even indirectly through the sale of mortgages to S&Ls for resale to Freddie Mac.

In-fighting. "The S&Ls feel Freddie Mac is their baby," mourns Alan Rothenberg, director of corporate development for R.H. Lapin & Co., the San

Francisco mortgage banker. "Each year mortgage bankers introduce a bill in Congress to give themselves direct access to Freddie Mac, and each year the S&Ls knock it out."

Private market. But if the government isn't buying as many of their conventionals as mortgage bankers would like, there is a modest but burgeoning private secondary market where mortgage bankers are getting a piece of the action.

A spur to this development is the rapidly rising acceptance among mortgage men of private mortgage insurance. The first post-depression private insurance firm, Mortgage Guaranty Insurance Corp., was started in 1957 and grew slowly until the current housing boom. This year MGIC projects insurance applications at \$6 billion, six times the level two years ago.

And private insurance helps mortgage bankers find the secondary market buyers for conventional loans. Says David Engelman, MGIC's senior vice president: "The S&Ls, of course, account for most of our insurance volume. But, especially since March, mortgage bankers have been responsible for a greater share each month."

S&Ls as buyers. With thrift institutions still highly liquid with surplus funds, the mortgage bankers' biggest secondary market for conventional loans remains the individual S&L. Engelman estimates S&Ls will take \$1 billion in conventional loans off the hands of mortgage bankers in 1972.

This, he insists, is not just a loose-money phenomenon. "The more sophisticated S&L has changed its attitude," he says. "It no longer concentrates so much on initiating loans locally but buys quality loans from outside."

So the rush of mortgage bankers into conventionals goes forward, although many still insist it will not get out of hand. One executive puts it this way:

"Mortgage bankers are putting one toe into a cold pond."

While that experiment goes on, many mortgage men cling tightly to FHA. Says Wetmore:

"We'll get out of that only if we're driven out."

—STAN WILSON

McGraw-Hill News, Washington



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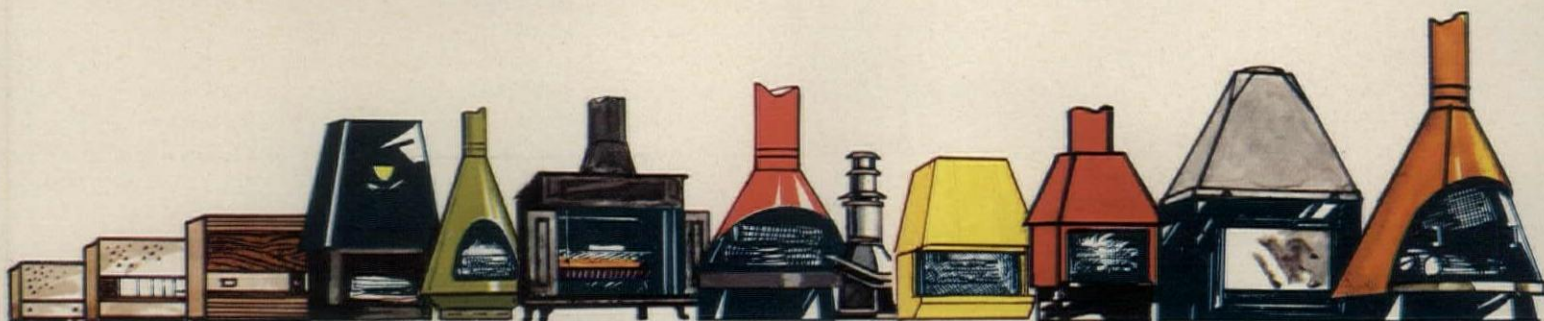
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Lopsided housing boom continues with record 2.3 million starts predicted

The nation's lopsided housing boom, led by the South and the West, continued in the first half of 1972 with housing starts totaling 1,161,300, up 19% from last year's vigorous first half.

Total starts for the year should be close to 2,300,000 units, according to the latest national survey by Advance Mortgage Corp. of Detroit. The 1971 total was 2,052,200.

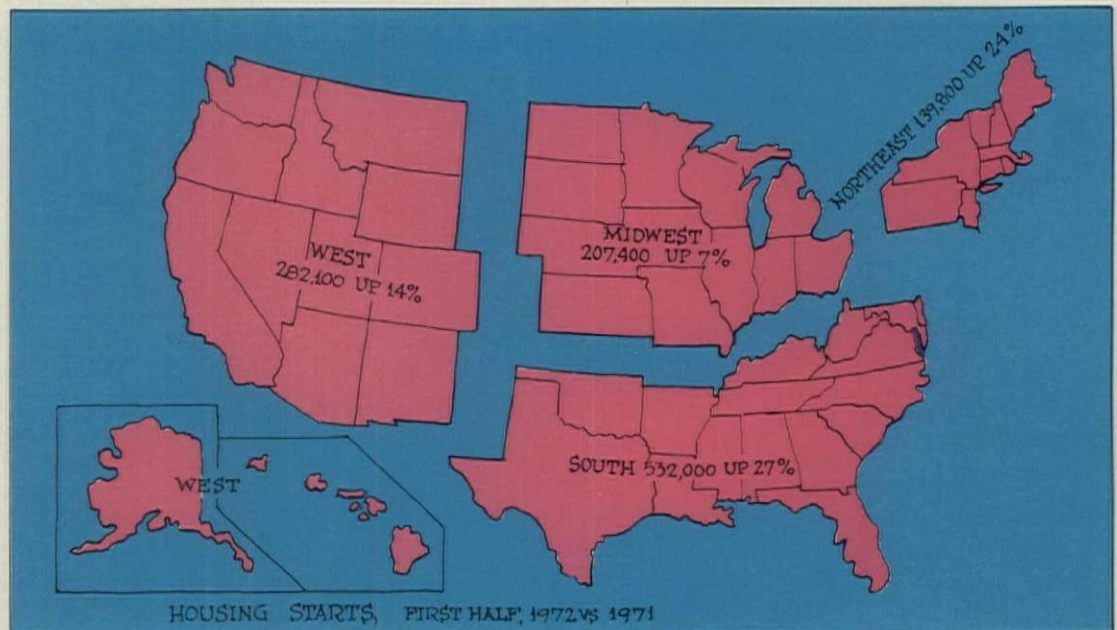
Lopsided boom. Seventy percent of the starts were in the South and West, which contains less than half of the nation's population but generated 66% of the new jobs.

Employment shifts are not the only reason for the lopsidedness of the boom, according to Irving Rose, president of Advance Mortgage. He noted that "many people are choosing the climate or environment in which they would like to live and taking a chance the jobs will follow them."

In addition, Rose points to the impact second homes and retirement housing have had on the market.

Hottest markets. These factors have combined to make Florida the hottest state housing market in U.S. history. Florida accounted for nearly a third of the increase in total permits and nearly half the increase in apartment permits.

"At its current annual rate of 33 permits per 1,000 population, the state will double its housing stock inside 10 years," Rose predicted.



The top market in Florida, and in the nation, was West Palm Beach, with an incredible 55 permits per 1,000 population. It was followed by Orlando, Fla., with 48 permits per 1,000, Tampa-St. Petersburg with 44, Phoenix, Ariz., with 38, and Miami-Fort Lauderdale, Fla., with 37.

Much building is also taking place outside of metropolitan areas. In the small towns and rural areas the composite rate is 23 permits per 1,000.

Apartments and condos. Apartment construction in the first half of 1972 totaled 438,800 units, 21% higher than a year ago, compared to 722,500 1-to-4 family homes built, an increase of 18%.

Only 12% of the total—106,800 homes and 32,300 apart-

ments—was government-subsidized, a 20% drop from last year's first half.

Condominiums accounted for a large part of the increase in apartment construction. Some 20% to 25% of this year's market were condominiums compared with 5% to 10% of last year's smaller market. In Florida they represented 60% of the apartment starts; in Detroit, 50%; and in Chicago and Atlanta, at least 25%.

Irving Rose points out that outside of Florida more condominiums are now under construction than have been built to date, and even more are in the planning stage. "If there is a danger of overbuilding anywhere," he says, "it is in this sector."

Vacancies. In the rental market vacancy rates continue in the 15% range in Dallas-Fort Worth and Houston [News, March], and they are also high in Atlanta, Denver, Phoenix and San Diego. Atlanta and Dallas have already cut back on apartment construction, and Phoenix and San Diego expect cutbacks in the second half. In Denver the vacancies are still concentrated in the southeastern sector and in luxury units while the rest of the market is strong. No cutback seems to be developing in Houston.

In California, which has shown signs of overbuilding for some time, second-half cutbacks are expected in the San Fernando Valley and in the San Francisco-Oakland area.

Southern Florida building boom threatened by pollution-control moratoriums

Florida's public services have not kept pace with the building boom that has turned that state into the nation's top housing market (see above). As a result, homebuilders are faced with a ruling by the State Pollution Control Board that could halt most new construction from Miami to Palm Beach.

Building halt. The Board has now set Jan. 1, 1973 as the date when it will move to stop issuance of building permits in all areas served by ocean outfall sewage disposal systems that do not remove 90% of the pollutants [News, May].

Sewage plants in Miami Beach, Key West, Pompano

Beach, Delray Beach and Lake Worth are pumping raw sewage into the ocean, and the Pollution Board says it would impose a total moratorium in those areas. In places where sewage is partially treated, the moratorium would merely seek to curtail construction.

How swiftly the building boom puts a strain on sewage facilities can be seen in Miami's big Virginia Key treatment plant. A year ago it removed 75% of pollutants, today it removes only 66%. New tie-ins are blamed for the decrease in efficiency.

Business reaction. The Miami Chamber of Commerce is press-

ing for a summit conference with Governor Reubin Askew. It wants a flexible deadline, area by area, to give local governments time to finance and build new treatment facilities at a reasonable pace.

"I think the deadlines should be based on what is possible," said former Chamber of Commerce President David Blumberg, a major southern Florida land developer.

Controversy. In the meantime, Pollution Board member James Redford, who has been pressing for an October 1 moratorium, resigned from the Miami Chamber of Commerce's Environmental Quality Action

Committee. He complained that the Chamber had done little to stimulate improvement of the community's sewage facilities and accused Chamber members of refusing his requests for meetings on the new state law and its enforcement.

"We are not trying to clobber the builders," Redford said in his resignation message. "The point is that the law is there. If we have done nothing when January 1st rolls around, any citizen's group could go to court with a writ of mandamus and order us to enforce the law."

—FRED SHERMAN
McGraw-Hill World News,
Miami



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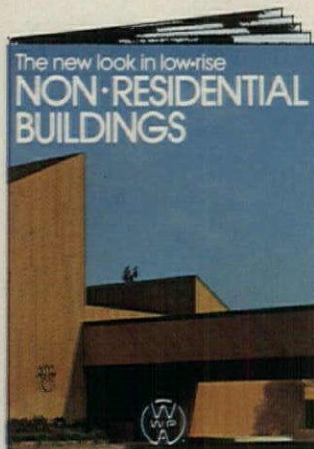


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Rockford learns to live with (but not to like) scatter-site public housing

That in itself is quite an achievement these days when the very words "scatter-site" are enough to set off a neighborhood crisis in places such as New York and Chicago.

But in Rockford, Ill., a city of 150,000 some 80 miles northwest of Chicago, the Rockford Housing Authority (RHA) has quietly been building scatter-site housing under HUD's section 236 program.

Despite some initial local opposition, 226 single and duplex units have been constructed. Some are located on isolated lots; others are grouped in cul-de-sac.

Low-income. The program is designed to serve families earning \$3,800 to \$7,700 a year, depending on family size. Residents pay 22% of their monthly income—the average monthly payment is \$62—for a maximum of 25 years, or until the \$19,000-\$22,100 brick and clapboard homes are purchased.

At this point 38% of the tenants are black, although blacks constitute only 9% of Rockford's overall population. However, after an initial flurry of opposition led by the mayor and aldermen who wanted as few of the homes as possible in their wards, the program has been accepted by the community to the extent that there is now little vocal opposition.

No integration. "The RHA has exercised good discretion in the location as well as the selection of people," says Mayor Benjamin F. Schleicher. "This is a housing program, not an integration program."

An original plan calling for public housing in high-income areas was a misfit, according to the mayor, who adds:

"You can't take public housing and put it into an area where you have \$50,000 homes."

Schleicher had been one of the program's strongest opponents back in 1967 when the RHA began planning Illinois' first scatter-site housing after outside consultants had studied Rockford's future housing needs and urged a stepped-up building program for households earning \$4,000 to \$7,000.

Opposition. The City Council tried to block construction by refusing to issue building permits. Finally, a legal opinion



An RHA house is hard to distinguish from other homes in the neighborhood.

from the Council's own staff and a threatened lawsuit forced it to rescind the ban.

In 1969 four Rockford residents also tried to block the program in circuit court, but the case was dismissed.

Even today, one RHA official admits that if a vote were taken on scatter-site housing in Rockford, the residents would vote it down. "There is a difference between tolerance and acceptance," he says.

Administration. What makes the program tolerable to Rockford is the way the RHA administers it.

• Applicants must meet a minimum income requirement of \$3,800 and have a good record of meeting payments and maintaining property. The RHA even goes so far as to interview past landlords. Says one official: "You have to limit selection of

individuals to those qualified to become potential homebuyers, or else it won't work."

This was a lesson the RHA learned from hard experience. Until it became more selective, there was a turnover rate of more than 50% because residents failed to make their monthly payments, bought other homes or left the city.

• Residents must attend classes in "care, maintenance and management responsibilities."

• The RHA inspects each site annually to make sure that the houses and grounds are being kept up properly. It bills the tenants for repairs due to vandalism, considerably reducing this expense to the Authority.

"You have to be strict like any landlord if you want this program to work," says RHA Executive Director William Lewis.

FDIC drafts rules to end mortgage discrimination

The Federal Deposit Insurance Corp. has proposed a series of regulations designed to eliminate discrimination in mortgage lending.

The new rules, which would affect some 8,000 insured commercial banks and 326 insured mutual savings banks, would allow loan applicants to fill out a form stating their racial or ethnic background. If the loan were denied, however, the bank would have to fill out a second form giving the reason for the decision.

Complaint. The form would advise the applicants that if they

thought they had been denied a loan because of race, color, religion or national origin, they could request a copy of the bank's reasons for the denial and subsequently file a complaint with HUD.

Census tract. Another proposed rule would require the banks to list on the loan application the number of the census tract in which the property was located. This would allow the FDIC to determine whether a bank was lending only to particular areas or if it was refusing loans to blacks who wanted to move into white areas.

• Finally, the agency is careful not to select sites in areas where the racial makeup is too homogeneous or where the price of the land is too high. Instead, it attempts to concentrate on racially mixed areas.

Then it delays announcing site locations until it applies for building permits, thus cutting the time for the opposition to organize and protest. The Authority is able to do this because it is completely autonomous from the City Council, which has to wait like everyone else for the official announcement of the sites.

Criticism. Critics charge that the scatter-site program does not meet the needs of very low-income families. A University of Illinois study, which was generally favorable, commented:

"Selection procedures for scatter-site units must be flexible enough to accommodate more lower-income families. In the search for stable families who could take on the responsibilities of ownership, the housing authority has discouraged a substantial proportion of low-income families from participation."

Lewis concedes this, but adds that the program was not intended for very low-income families who are accommodated by traditional public housing projects instead.

Another criticism, which Lewis also concedes, is that black residents rarely end up in the white areas of the city.

Economics. "It's strictly a question of economics—the price of the land—and what was offered to us," says Lewis. Lots for the program as a whole average between \$3,000 and \$4,000, but in the affluent northeast section they can go as high as \$6,000 or \$7,000.

"We are limited to what is available," Lewis adds, "but we also found that when we went to the people, minorities chose to live where their friends were."

Despite the criticism, HUD seems pleased with the program. It recently granted the RHA \$5.3 million for an additional 175 units, and the Authority already has taken options on 109 new sites.

—DENNIS CHASE
McGraw-Hill World News
Chicago

CRYPTAR MEANS SECURITY.



The Cryptar Interference Filter is a new exclusive feature of Genie Automatic Garage Door Opener Systems that's very big on garage door opener security.

With the Cryptar accessory unit, Genie Radio Controls will give you security not found in any other radio control for your garage door opener system.

Cryptar is an exclusive feature of Genie.

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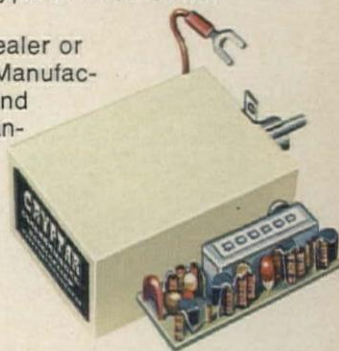
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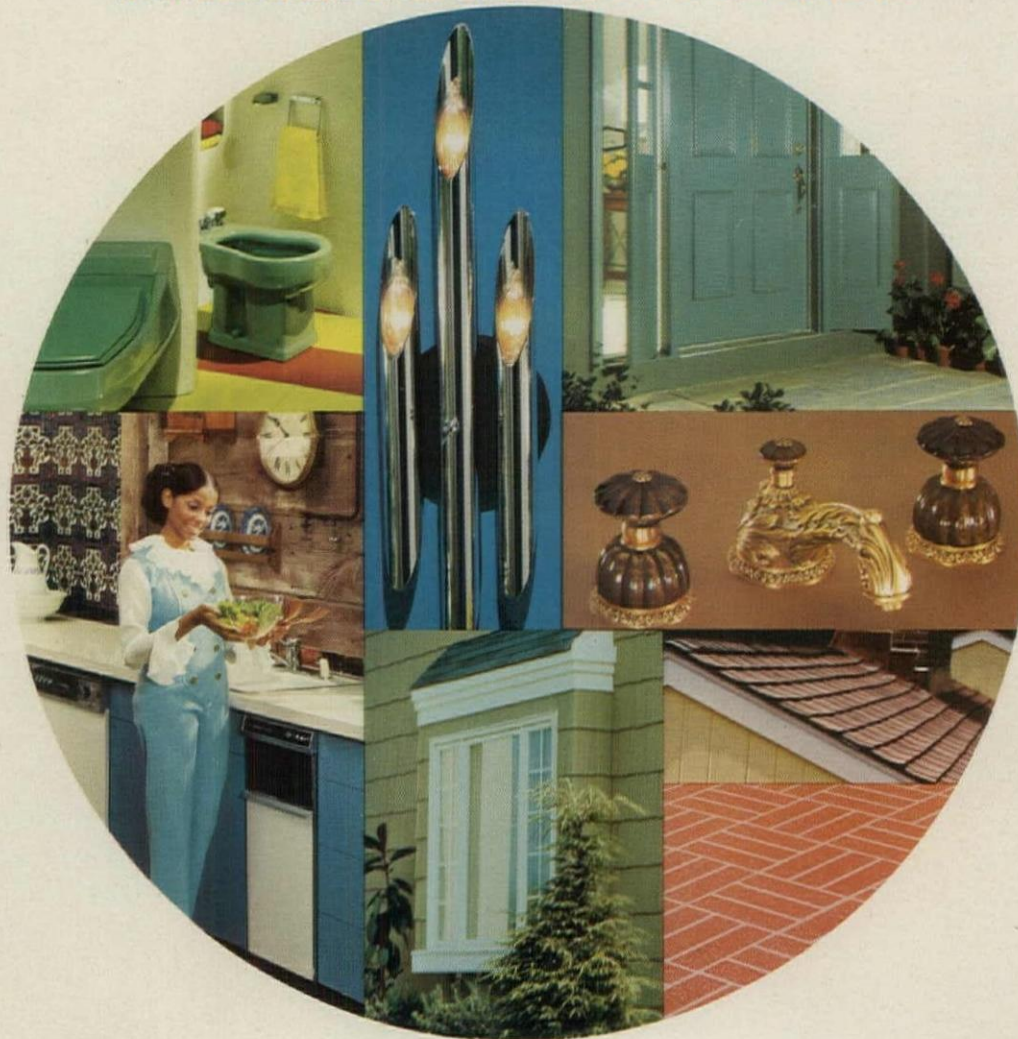
Call your local dealer or write The Alliance Manufacturing Co., Inc. to find out how the merchandising program for Genie Automatic Garage Door Opener Systems by Alliance with Cryptar can help you sell more homes.

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This pocket sized guide to the exhibits is a collection of building products, materials, tools and equipment...in each case especially selected by the exhibitors themselves as being the best, the newest, the most exciting they will be offering in 1973. Each product will be handsomely illustrated in full color, described in detail and identified by company and booth number.

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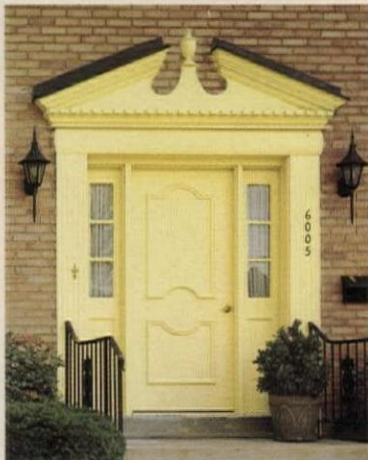
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It taxes credibility—but higher buildings don't mean higher tax revenues

Developers have always argued that they did.

But redeveloping a neighborhood from low-density homes to high-rise apartments will not add significantly to the tax coffers or benefit the taxpayer.

That's the startling finding of a study recently completed in metro Toronto.* Its conclusions cast into doubt the familiar argument that developers long have used to obtain rezoning—that large structures increase the assessment base and so provide greater tax revenues than the buildings they replace.

The study, which examined the fiscal effects of high-density land use, found that the added revenues that high-rises bring into an area are largely canceled out by the municipality's added expense in servicing the buildings and their people.

Fact over fiction. The \$25,000 research project, conducted by management consultants Price Waterhouse Associates, was commissioned by the Borough of York, a political subdivision of metro Toronto.

"Many citizens have questioned whether in fact high-rise apartments do pay their own way. Builders have always assumed they do," said Mayor Phillip White of York. "We decided facts were needed."

Case studies. To examine the effects of redevelopment on municipal income and expenditures, the consultants selected seven cases. Five were sites for which specific projects were under consideration, and two were apartment developments already built. The emphasis was on high-density dwellings, but other land uses, including commercial-industrial and low- or medium-density, were also studied.

The consultants estimated the added capital costs—recreation and community services, fire protection, sanitation and waste removal—that were attributable to redevelopment, but they did not consider the costs of its social impact.

They then compared the costs with the additional tax revenue to be anticipated from the higher market value and assess-



All the comforts of suburbia are just ten minutes from downtown Toronto, but...

ment of the new towers. The two developments already in place were compared with buildings that they had replaced.

Summary. The experts arrived at these conclusions:

- If all seven sites were redeveloped into high-density apartment properties, the added tax revenue from the new assessments would lower the average taxpayer's annual bill by only \$2.12.

- If all the best redevelopment decisions were made (i.e., those that would produce the highest tax revenues; for example, on one site industrial use would have brought in more taxes than apartment development), the average taxpayer would save only \$5.76 a year.

This means that replacing buildings assessed at \$7.5 million with structures worth \$160 million would cut only \$5.76 off the average tax bill of \$450.

The consultants summarized: "The study demonstrates that financial considerations are not so material in redevelopment decisions as some have thought them to be.

"The figures suggest that the financial stability of the borough is not so dependent on apartment redevelopment. The taxpayers therefore are free . . . to choose the kind of community they wish without incurring financial hardship."

Examples. The two developments already in place offer some specific examples.

The Hopewell site was formerly occupied by single-family homes. Now it is occupied by high-rise apartments with nearly 135 units per acre. The municipality gained \$182,400 in tax revenues from the change to higher density. However, \$111,500 of this had to be spent for

community services directly attributable to the high-rise apartments. Thus the average homeowner saved only four cents on his tax bill.

The Jane Woolner site changed from industrial use to high-rise apartments with 90 units per acre. That change brought \$123,900 in added revenue to the municipality, but required \$196,000 in added costs, resulting in a net loss to the taxpayer. In this case, however, the property was not developed to its maximum high-density potential. If maximum development had taken place, the property could have made a net contribution of \$77,500 to the municipality, or a savings of \$1.08 on the average tax bill.

Effect. Reverberations may reach a long way. Neighborhood associations are already using the findings to fight unwanted development. And although the study was admittedly an urban study rather than a suburban study, requests for copies have come from all parts of Canada and the United States.



Pressure for rezoning has brought high-rises into single-family neighborhoods.

(A similar study in San Francisco last year focused on downtown commercial high-rise and reached similar conclusions. But the data was collected by a citizens' group so its objectivity could be questioned. The Toronto study appears to have no such inherent bias.)

Hottest market. The results are particularly significant for metro Toronto because that city of 2.6-million people is growing at the rate of 50,000 residents a year. At the moment it is the biggest boom town in North America, with new people arriving daily from Europe, the rest of Canada and the United States. Naturally there is considerable pressure to build, and last year metro Toronto issued \$1.2 billion in building permits—more than any other city on the continent.

The arguments over development center on the control and direction of growth. Some builders and business people would like to restrict the center city to commercial and residential high-rise. But many residents have fought spiritedly, and with some success, to maintain the aspect of a city of homeowners. Several major developers actually shifted into suburban construction this year contending that zealous neighborhood associations have made land assembly too difficult.

Cutback. The Borough of York could have provided a locale for massive new building. Now that's less likely.

The 1969 official plan had designated new high-rise sites for 24,000 dwelling units. The forthcoming plan, which is for 10 years, allots high-rise land for only 3,600 new units, a reduction of 83%.

"That's not to say we are all-out opposed to such construction," says Mayor White. "Certainly there must be building to accommodate the people who enter the city as well as for senior citizens and young married couples. There are still suitable high-rise sites in and near commercial areas.

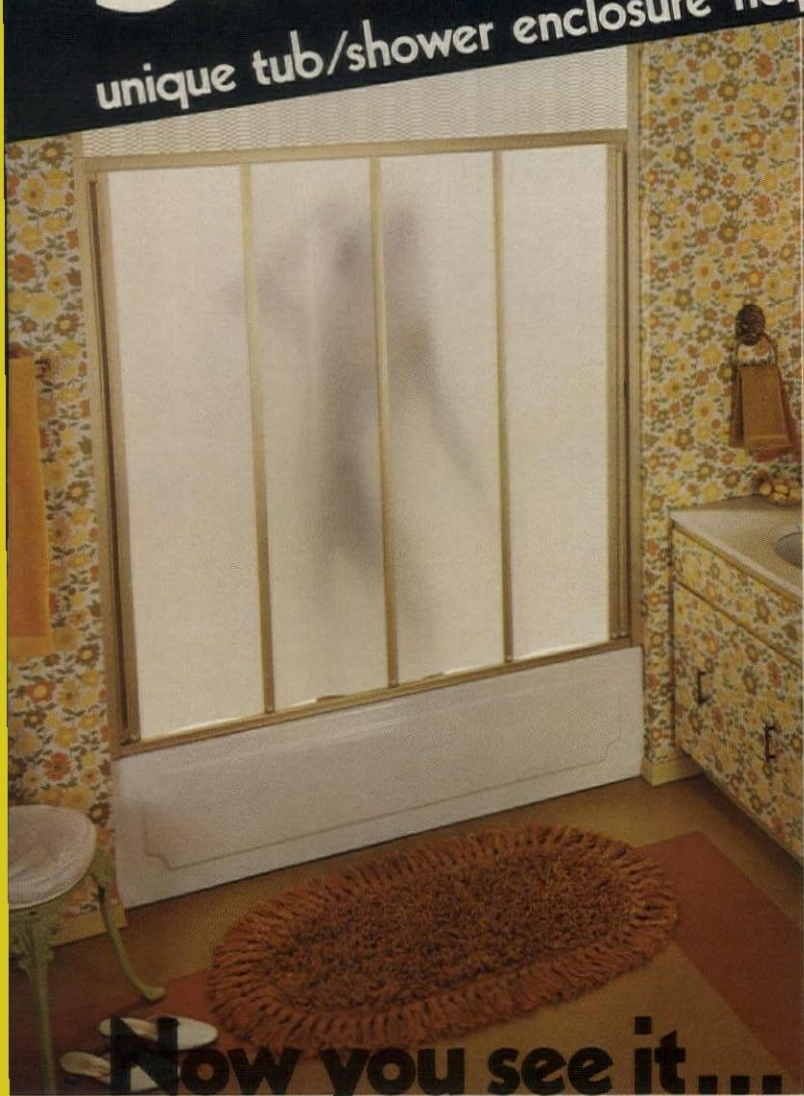
"But what the study does show is that the officials can no longer justify injecting high-rise into stable residential areas on the basis of public financial gain. —MARIANNE FRIEDLAND

Toronto

*Metro Toronto consists of six boroughs, each with its mayor and council.

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Now you see it...

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Make your bathrooms something special with the patented Showerfold tub and shower enclosures. There's nothing like them.

Showersfold's flexible panels open all the way like a curtain. So there's full access for easy in-and-out, bathing youngsters and cleaning up. Yet Showerfold closes lock-tight like a door. Positively keeps water inside. Showerfold has built-in safety, too. Panels are guaranteed crackproof and shatterproof for life (no call-backs, no replacement costs).

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Eye appeal? Definitely. A rich choice of decorator colors, accented with gleaming trim, enhances the bath beautifully.



Showersfold looks expensive . . . but isn't. There's a style for every type and size of tub and shower.

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Model Home Special: Try a Showerfold for only \$12.00. That, plus a half-hour installation, is all it will cost to show off a Showerfold in your model home . . . to let buyers see its advantages firsthand.

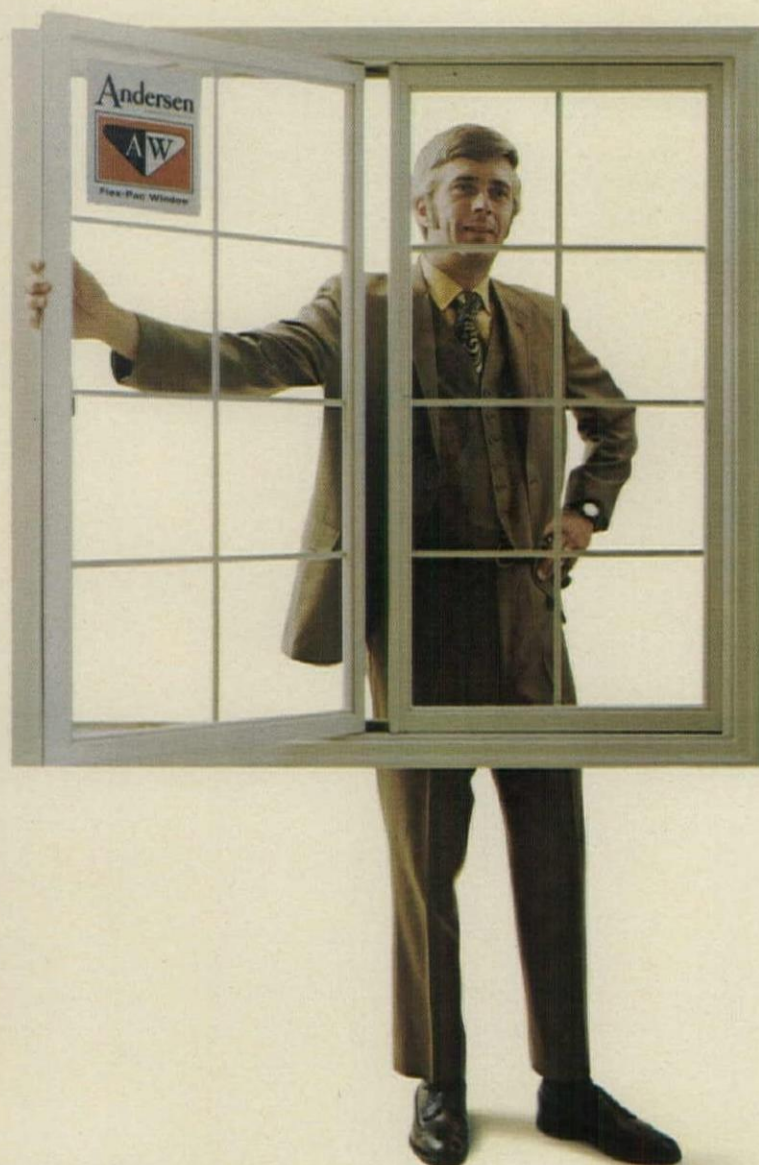
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Contemporary Awning?



It's just one window--the

Now there's a quality Andersen Window for lower-cost housing. It's Flex-Pac™, a new line of wood windows which brings Andersen's traditional quality and "curb appeal" within reach of builders selling to this market.

Yes, it has Andersen quality lumber, Andersen quality glazing, Andersen quality hardware, construction, design and finish. Yet Flex-Pac prices are truly competitive.

How did we achieve a lower-cost window without compromising Andersen quality? This way:

Long runs, lower costs.

We limited the range of sizes offered to a functional number, simplified the options, and achieved lower unit cost through volume production.

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Flex-Pac Units feature the latest development in

prefinishing wood windows with *electrostatically* applied paint. Andersen leads with this important new technology. Two coats, inside and out, mean no on-site painting and a higher quality finish, too.

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Flex-Pac is completely factory assembled. All operating hardware, including screen strikes, is factory applied, so there is no hardware to be attached on job site. The basic jamb is 3-9/16", which accommodates either 3 1/2" or 3 5/8" studs.

Factory-applied prefinished exterior casing allows easy installation. Factory-applied jamb liners allow flexibility in wall thickness up to 4 5/8", trimming out costs are minimized.

Four window styles—one window inventory.

Flex-Pac Windows can be installed as either an awning or a casement—beveled casing on all four

Contemporary Casement?

Traditional Awning?



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sides allows proper draining either way. This feature cuts inventories (it can halve them, in fact), without reducing variety. And removable grilles, which give either casement or awning window a traditional appearance, can easily be added.

Packed and ready to go.

Flex-Pac units are packed in protective cartons and our distributors and dealers are ready to supply them right now.

So now home builders or manufacturers working to tight budgets . . . in fact any builders . . . can include the quality and "curb appeal" of Andersen Windows and retain a competitive price. Everyone wins!

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3. Special services.

Hotpoint will do a lot more than sell you appliances. Our kitchen design staff will analyze your blueprints to help make your kitchens more saleable. They'll offer suggestions on layout, material and color combinations. And, when your job is done,

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Your Hotpoint builder representative is the guy who puts all the above to work for you. He's a guy who won't leave you once he has made the sale. He'll see your appliances are delivered as scheduled. And always be available for questions and problems, if they should ever come up.

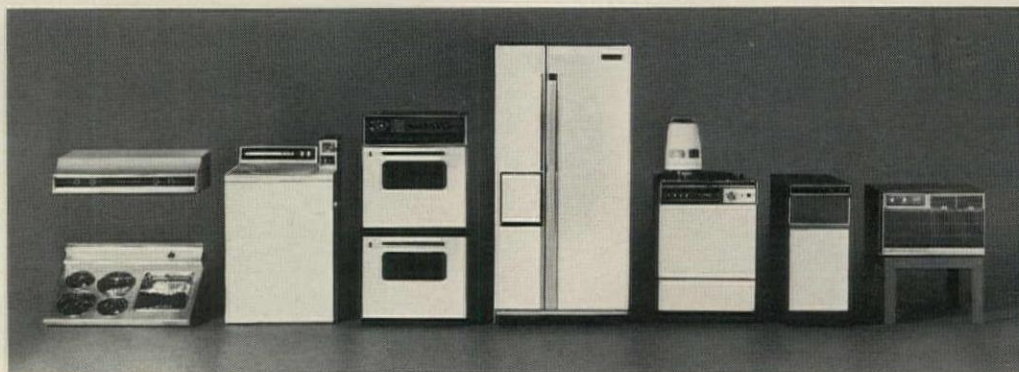
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We're putting a lot of money on the line because we believe in your business: new and increased manufacturing plants, the latest in research and development facilities, in advertising and merchandising, and the largest company-owned, company-trained service organization in the business. It all adds up to even better appliances and services for you and your customers.

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textured siding, remember: we make the most complete line in the business—vertical panels (both grooved and ungrooved), lap and board-and-batten. A total of 16 different styles, including Barnwall.

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As you can see from the living room pictured on the left, ceramic tile can make a big impact in a home.

When it's used creatively, it can make your homes look far more valuable than others in the same price range. That means quicker sales. And less quibbling over your asking price.

A prospective buyer can't help but be impressed with the distinctive appearance of a ceramic tile inlay in a foyer floor.

Or a dining room wall with sculptured tile.

And when it comes to the kitchen, nothing can be more impressive to a woman than ceramic tile walls, splash backs and countertops. Because ceramic tile is virtually cutproof, fireproof, waterproof and stainproof. And she knows it.

She also knows how practical and pretty it is in the bath.

In fact, the most beautiful bathrooms are still made with ceramic tile. Because the materials that try to look like ours end up looking like what they are: cheap imitations.

To help you visualize the stunning effects ceramic tile can create, we've put together a booklet that contains color pictures of applications that could turn a so-so house into a showplace.

Besides page after page of decorating ideas, our book also brings you up to date on the great new joint filler that can be color-blended: mastic grout, a pre-mixed formula that resists mildewing, staining and chipping.

Let us send you a copy of our booklet. It's yours for the asking. And it could be the most valuable thing you ever got for nothing.

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Send your free book "Ceramic Tile Makes a Lot
of Sense in a Lot of Rooms Besides the Bath."

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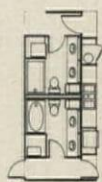
City, State, Zip

Tile Council of America, Inc.

'You are the architect, you can plan your own home...' builder tells buyers

"Start with a central core containing two complete bathrooms and a fully equipped kitchen. Then decide what rooms you want, where you want them, their ideal size. . . ."

This is the concept behind Inter Discipline Homes, a new company based in Alamo, Calif., which an enterprising group of California architects, interior designers, land planners, real estate brokers, lawyers, general contractors, electricians and carpenters formed because they believe that most people would like to design their own homes. The company describes its product as "a factory-built housing system that is trying very hard to be custom. . . ."

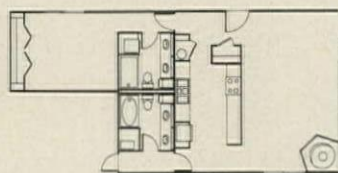


First you start with a central core . . .

Child's play. For the homebuyer, designing his dream house can be as easy as playing dominoes. Inter Discipline sends him diagrams of the central core and various other rooms and patios that he can cut out and fit together any way he pleases. He can make the

rooms larger or smaller, provided he does so in multiples of four feet. And he can choose from six roof styles plus a variety of exterior sidings and interior finishes.

Price. The do-it-yourself aspect even extends to pricing: once the buyer settles on a layout, he merely determines the number of square feet of living space and multiplies by \$17.50 (or \$15.50 if he is a developer).



. . . add living, dining and bedroom . . .

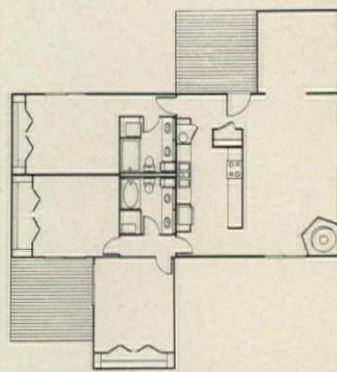
There is no extra charge for patios, exterior storage room, double carport, clothes washer and dryer, dishwasher, garbage disposal, electric range with two self- or continuous-cleaning ovens, 17-cu.-ft. refrigerator, fireplace, sliding-glass doors, shag carpeting and oak-parquet flooring in two rooms.

Inter Discipline houses are designed to comply with the national uniform code and can be purchased with conventional financing. The company is also

seeking FHA and VA approval.

Construction. A major advantage of these expandable modulars is that they can be erected quickly—in two-to-three weeks—and cheaply—principally by a carpenter and a crew of laborers. All of the high-technology work is done when the core is manufactured, so specialists merely hook-up the plumbing and electricity.

Construction starts with the drilling of pier holes in the building site. The core is then



. . . perhaps another bedroom, some patios

delivered and set in place by a crane. Next a steel foundation system (manufactured by Kaiser Steel) is assembled, squared and leveled. Concrete is poured into the pier holes, and the steel foundation is anchored to the concrete as it dries. The rest of the house is built of panels.

Designer into builder. The Inter Discipline concept was developed by general partner David Grassi, who calls himself a designer turned builder. The company has two more general partners plus twelve other partners, most of whom work for it only part-time.

Grassi sees his system as ideal for several people who might want to purchase a one- or two-acre parcel where they could plan their houses around some shared amenities.



. . . until finally this is what you have.

In the 7 months Inter Discipline has been in business, it has sold 10 houses. It now hopes to franchise the system throughout the country and to sell plans, cores and panels to developers who might want to assemble them on their own land.

—J.K.

Selling condominiums two at a time: one near Chicago, other in Florida

The concept of owning two condominium apartments—one wholly and the other jointly—is being promoted by Chicago's Richard J. Brown Inc. in conjunction with its Cambridge-on-the-Lake development in Buffalo Grove, Ill.

The development company, a subsidiary of Leisure Technology Corp. (Lakewood, N.J.), is assembling groups of two to six persons to buy condominiums at Seven Lakes, a 2,000-apartment community in Fort Myers, Fla., which is being developed by Karpay Bros. Inc., another Leisure Technology subsidiary. Bylaws at Seven Lakes permit joint ownership—which most condominium developments prohibit, according to the Brown Company.

The buyers. The joint ownership plan is being promoted both as an inducement to buy

in Cambridge and because Cambridge buyers themselves are considered good prospects for Seven Lakes. "At Cambridge we're selling to a market that is pre-retirement by ten to 20 years," explained Robert Verbic, the company's director of association activities. "These people talk about Florida, and many go there on vacations."

New Cambridge buyers who go to Florida to inspect Seven Lakes, and subsequently buy there, will receive the inspection trip without charge—at least during the initial period of the promotion. The Brown company will also help to put together groups of non-Cambridge buyers, but they won't qualify for the free Florida trip.

Financing. Mortgages on the Seven Lakes apartments are available through three Florida savings and loan associations.

The Brown company collects credit information and forwards it to the lenders.

Ultimately, the company hopes to offer financing for both Cambridge and Seven Lakes through one mortgagee. Two lenders are under consideration—a real-estate trust and an insurance company.

Each member of a six-member group at Seven Lakes receives two months' annual ownership for the price of a normal two-week Florida vacation, Verbic says, and there are also tax advantages.

Seven Lakes units sell from \$20,090 to \$41,490. Under the six-member joint purchase each buyer of a \$20,090 one-bedroom model, after downpayment, would pay \$32.50 a month for principal, interest, maintenance and taxes. For the \$24,790 two-bedroom model, each member's

share would be \$39.25 a month.

Rotating occupancy. Bylaws at Seven Lakes require that each group have a chairman, who will be rotated annually. Duties of the chairman include scheduling of time periods during which each member of the partnership has sole right to the Florida condominium. All members of a group take title as tenants-in-common. Husband and wife partners take title as joint tenants-in-common with the other partners.

Verbic hopes to expand the dual ownership plan to other Leisure Technology developments, including the Brown company's Leisure Village and Vacation Village, now nearing completion at Fox Lake, Ill.

Condominiums at Cambridge sell from \$26,390 to \$57,290.

—GORDON WRIGHT
McGraw-Hill News, Chicago

Something revolutionary

SPEAKMAN CHAMPAGNE SHOWER

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Speakman Champagne Shower. The first of its kind . . . mixes everyday faucet water with air . . . jets effervescent white foam . . . bubbles tiny bubbles . . . billions . . . soft and cushiony . . . a cascade of air in water . . . soft air bubbles . . . so soft they can't splash . . . they cling . . . they caress . . . they make showering very, very special.

The Champagne Shower is the creation of Elie P. Aghnides, the originator of the faucet aerator. Champagne Shower is covered by Aghnides patents 2,998,929 and 2,998,931 and patent pending.



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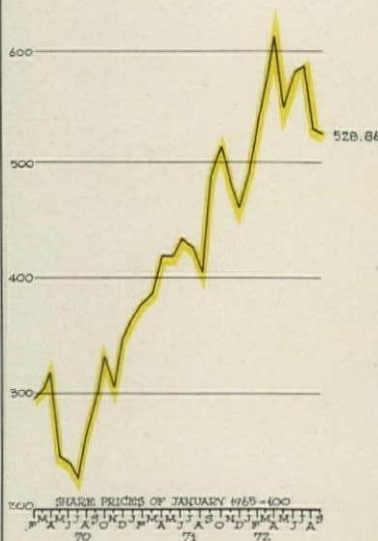
hang, hook or hold

Stocks still down

HOUSE & HOME's index of 25 housing stocks continued to slip in the month ended Sept. 6, closing at 528.86 versus 530.53 on Aug. 9. Mortgage companies and S&Ls provided the only bright spots as mobile homes and land developers continued their retreat and builders drifted to lower ground.

The index equates share values of January 1965 with 100. Issues on the index are overprinted in color in the lists that follow.

Here's the composite trace.



Here's how the five companies in each group performed.

	Sept.'71	Aug.'72	Sept.'72
Builders	563	470	465
Land develop.	562	445	431
Mortgage cos.	895	1,216	1,225
Mobile homes	1,246	1,752	1,531
S&Ls	199	181	220

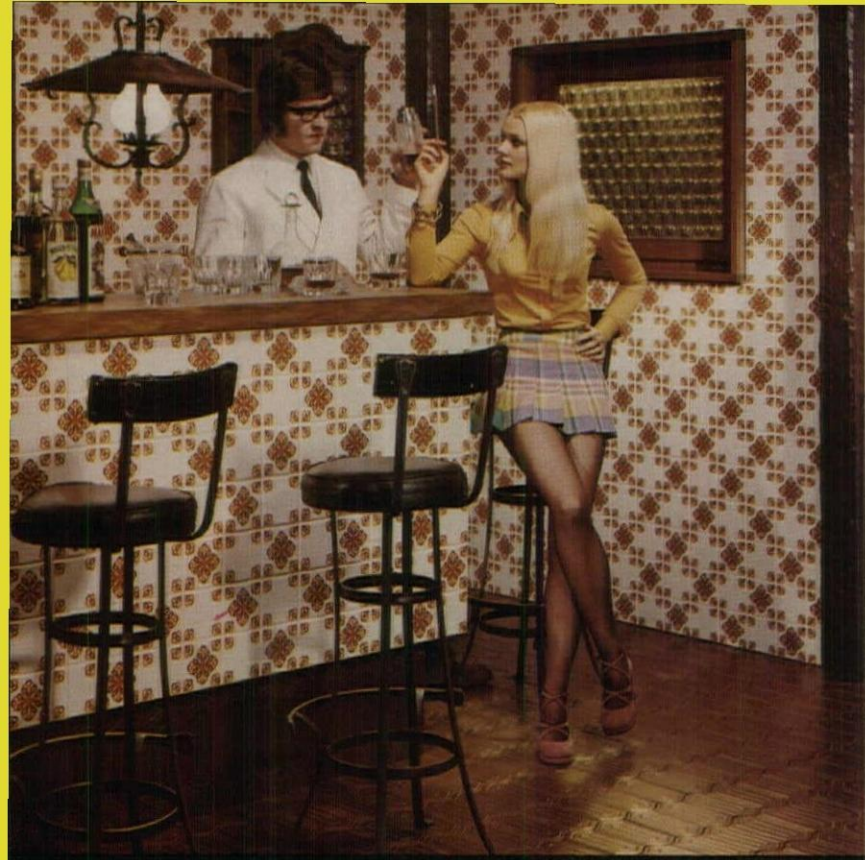
Company	Sept. 6 Bid/Close	Chng. Prev. Month
BUILDING		
Alodex	5 1/4	- 1
AVCO Community Devel.	3 1/2	- 1/4
American Housing Systems	7 3/4	+ 3/4
American Urban Corp.	6 1/2	- 1
Bramalea Cons. (Can.)	4.95	- .05
Building Systems Inc.	6 1/2	- 1/4
Capital Divers. (Can.)	.59	+ .02
Centex Corp.	26 1/4	- 1 1/4
Christiana Cos.	5 1/4	- 1/4
Cons. Bldg. (Can.)	2.50	+ .10
Dev. Corp. Amer.	36	- 1
Dev. Int. Corp.	2 1/4	- 1/4
Edwards Indus.	12 1/4	- 3/4
First Builders Bancorp.	5 1/4	- 3/4
First Hartford Corp.	4	+ 1/4
First Nat. Rity.	1	- 1/4
FPA Corp.	12 1/4	+ 1 1/4
Frouge Corp.	4 1/4	- 1/4
General Builders	3 1/4	- 1/4
Gil Development	7 1/4	+ 1/4
Hallcraft Homes	12	+ 1/4
Hoffman Rosner Corp.	6 1/4	- 1 1/4
Homewood Corp.	21 1/4	- 1 1/4
Hunt Building Corp.	12 1/4	+ 3/4
Kaufman & Broad	42	+ 1 1/2
Key Co.	5 1/4	- 1 1/4
Leadership Housing	7 1/4	- 1/4

Company	Sept. 6 Bid/Close	Chng. Prev. Month
Leisure Technology	17 1/4	+ 2 1/4
Lennar Corp.	22	- 2 1/4
McCarthy Co.	5 1/2	- 7/8
McKeon Const.	10 1/4	- 2 1/4
H. Miller & Sons	13 1/2	+ 3/4
National Environment (Sproul Homes)	3 1/4	+ 1 1/4
L. B. Nelson Corp.	11 3/4	+ 1 1/4
New America Ind.	7 1/4	- 1 1/4
Oriole Homes Corp.	34	- 7/8
Prel. Corp.	11 1/4	- 2 1/4
Presidential Realty	11 1/2	+ 3/4
Presley Development	12 1/4	- 2 1/4
Pulte Home Corp.	8 1/4	- 3/4
Robino-Ladd Co.	15 1/4	+ 2 1/4
Ryan Homes	24 1/4	- 1 1/4
Ryland Group	47 1/4	+ 1 1/4
Shapell Industries	22 1/4	+ 3/4
Shelter Corp. of America	8 1/2	- 1/2
Standard Pacific	4 1/4	- 1/2
3-H Building Corp.	12 1/4	+ 2
Universal House & Devel.	4	- 1/4
U.S. Financial	30 1/4	- 3/4
U.S. Home Corp.	26	+ 1 1/4
Valley Forge Corp.	13 1/4	- 2 1/4
Jim Walter	26 1/4	- 1/4
Washington Homes	9	- 1 1/4
Del. E. Webb	8 1/2	- 1 1/4
Western Orbis	2 1/2	- 1/4
Westchester Corp.	11 1/4	- 1 1/4

SAVINGS & LOAN ASSNS.		
American Fin.	16 1/4	- 1 1/4
Calif. Fin.	7 1/4	+ 1
Citizens S&L Assn.	32	+ 2 1/4
Empire Fin.	14 1/4	+ 2 1/4
Far West Fin.	10 1/4	+ 1 1/4
Fin. Corp. of Santa Barb.	27 1/2	+ 2 1/4
Fin. Fed.	22 1/4	+ 1 1/4
First Charter Fin.	31 1/4	+ 6
First Lincoln Fin.	6	+ 1 1/4
First S&L Shares	24 1/4	+ 2 1/4
First Surety	4	- 1/4
First West Fin.	2	- 3/4
Gibraltar Fin.	25 1/4	+ 4 1/4
Great West Fin.	31 1/4	+ 5 1/4
Hawthorne Fin.	14 1/4	+ 1 1/2
Imperial Corp.	16 1/4	+ 2 1/4
Trans-Coast Inv.	4 1/4	+ 1/4
Trans World Fin.	12 1/4	+ 3/4
Union Fin.	12	+ 1/4
United Fin. Cal.	13 1/4	+ 7/8
Wesco Fin.	15 1/2	+ 1 1/4

MORTGAGING		
Charter Co.	29 1/4	- 3/4
CMJ Investment Corp.	65 1/2	- 3 1/4
Colwell	22 1/4	- 3/4
Cont. Illinois Rity.	20 1/4	+ 1 1/2
Excel Investment	23 1/4	- 2
Fed Nat. Mtg. Assn.	20 1/4	+ 2 1/4
Financial Resources Gp. (Globe Mortgage)	3 1/4	+ 5/8
First Mtg. Ins. Co.	27 1/2	- 2 1/4
Lomas & Net. Fin.	23	+ 1 1/4
MGIC Inv. Corp.	70 1/4	- 1 1/4
Midwestern Fin.	19 1/2	- 2 1/4
Mtg. Associates	26	- 4 1/4
Palomar Fin.	9 1/4	- 1/4
So. Cal. Mort. & Loan Corp.	10 1/4	- 1/4
UPI Corp. (United Imp. & Inv.)	2 1/4	- 1/4

MORTGAGE INV. TRUSTS		
Alison Mtg.	27 1/4	+ 3/4
American Century	26 1/4	+ 1 1/4
Arlen Property Invest.	15	- 1/4
Atico Mtg.	21 1/4	+ 3/4
Baird & Warner	19 1/4	+ 3/4
BankAmerica Rity	25 1/4	+ 1 1/2
Bernett Mtg. Tr.	26	- 1 1/2
Beneficial Standard Mtg.	25 1/4	+ 1 1/4
Cameron Brown	30 1/4	+ 3/4
Capital Mortgage SBI	25 1/4	- 1/4
Chase Manhattan	54 1/4	+ 2 1/4
CI Mortgage group	22 1/4	- 1
Citizens Mtg.	14 1/4	- 1/4
Citizens & So. Rity.	31 1/4	+ 1 1/4
Cleve. Trust Rity. Investors	19 1/4	+ 3/4
Colwell Mtg. trust	28 1/4	+ 7/8
Conn. General	28 1/4	+ 1 1/4
Cont. Mtg. Investors	13 1/4	+ 2 1/4
Cousins Mtg. & Eq. Inv.	24 1/4	- 1/4
Diversified Mtg. Inv.	26 1/4	- 1/4
Equitable Life	29 1/4	- 1 1/4
Fidenco Growth Inv.	35 1/2	+ 1 1/4
Fidelity Mtg.	29 1/4	+ 1/4
First Memphis Realty	20 1/2	- 3/4
First Mtg. Investors	24 1/4	+ 1 1/4
First of Denver	19 1/2	+ 1/4
First Pennsylvania	24	- 7/8
Franklin Realty	8 1/4	- 1/4
Fraser Mtg.	22 1/2	- 2
Galbreath Mtg.	29 1/4	+ 7/8
Great Amer. Mtg. Inv.	33	+ 1 1/2
Guardian Mtg.	39 1/4	+ 3 1/4
Gulf Mtg. & Rity.	18 1/2	- 3/4
Hamilton Inv.	16 1/4	- 1/4
Heitman Mtg. Investors	13	- 3/4
Hubbard R. E. Investments	20 1/4	+ 3/4
Larwin Mtg.	28	- 1 1/4
Lincoln Mtg.	9 1/4	- 1/4



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Company	Sept. 6 Bid/Close	Chng. Prev. Month
Mass Mutual Mtg. & Realty ^a	27 3/4	- 2 1/8
Median Mtg. Investors	12 1/2	- 1/4
Mony Mtg. Inv. ^c	12 1/2	- 1/8
Mortgage Trust of Amer. ^c	22 1/2	- 1/4
National Mortgage Fund	13 1/4	-
North Amer. Mtg. Inv. ^c	31	+ 1
Northwestern Mutual Life Mtg. & Rty. ^c	22 1/4	- 1
PNB Mtg. & Rty. Investors ^b	24 1/4	+ 3/8
Palomar Mtg. Inv. ^b	15 1/2	+ 1/4
Penn. R. E. Inv. Tr. ^b	12 1/2	-
Property Capital ^d	27	- 1
Realty Income Tr. ^b	13	+ 7/8
Republic Mtg. ^b	17 1/2	- 3/8
B. F. Saul, R.E.I.T.	25 1/2	+ 3/4
Security Mtg. Investors ^b	13	- 1 1/2
Stadium Realty Tr.	10 1/4	- 1 1/2
State Mutual SBI ^b	24	+ 1/4
Sutro Mtg. ^b	18 1/4	+ 2
Unionamerica Mtg. & Eq. ^b	25 1/4	- 3/8
U.S. Realty Inv. ^b	15 1/2	- 1/4
Wachovia Realty Inc. ^c	31 1/2	+ 7/8
Wells Fargo Mtg. ^c	23 1/2	+ 3/8

LAND DEVELOPERS

All-State Properties	1 1/2	+ 1/4
American Land ^d	1 1/8	-
*AMREP Corp. ^c	16 1/4	-
Arvida Corp.	11 1/2	+ 1/2
Atlantic Imp.	5	- 1
Canaveral Int. ^{hd}	3 1/2	-
Cavanagh Communities	7 1/4	- 1 1/4
Crawford Corp.	5	- 1/4
*Deltona Corp. ^b	24 1/2	- 4 1/4
Disc. Inc.	3 1/2	+ 1/4
Fairfield Communities	3 1/4	- 1/2
*Gen. Development ^c	17 1/2	- 1 1/2
Getty Financial Corp. ^d	6 1/4	- 1/2
(formerly Don the Beach, comber)		
*Holly Corp. ^b	1 1/4	+ 1/4
Horizon Corp. ^c	27	- 3
Landmark Land Co. ^b	3	- 1/2
(Gulf State Land)		
Land Resources	3 1/2	- 1/4
Major Realty	8 1/4	- 1 1/4
*McCulloch Oil ^b	23 1/4	-
Southern Rty. & Util. ^{hd}	6 1/4	- 1/4

MOBILE HOMES & MODULES

Conchemco ^b	15 1/4	+ 3/8
*Champion Home Bldrs. ^b	16	- 3 1/2
Commodore Corp. ^b	10 1/2	- 1 1/4
De Rose Industries ^b	7 1/4	+ 1/4
*Fleetwood ^c	32	- 6 1/4
Golden West Mobile Homes ^b	13 1/4	- 1 1/2
*Guerdon ^b	26	+ 3/4
Moamco Corp. ^b	11 1/4	- 3/8
(formerly Mobil Americana)		
Mobile Home Ind. ^b	16 1/4	- 4
Monarch Ind.	3 1/4	- 3/4
*Redman Ind. ^c	23 1/2	- 2 1/2
Republic Housing Corp.	11 1/2	- 2
Rex-Noreco ^b	7 1/2	- 3 1/2
*Skyline ^c	51 1/2	- 4 1/4
Town & Country Mobile ^b	8	- 1 1/4
Triangle Mobile	4 1/2	- 3/8
Zimmer Homes ^b	9	- 1/4
Albee Homes	23 1/2	+ 1/2
ASM Ind. (formerly AABCO)	1 1/4	+ 1
Brigadier Ind.	4 1/4	-
Environmental Communities	4	- 1/4
Hodgson House	6 1/4	- 3/8
Liberty Homes	8	- 1 1/4
Lindal Cedar Homes	11 1/4	+ 1/2
Modular Dynamics	1 1/2	+ 1/2
Modular Housing Systems	8 1/2	- 1 1/4
Nationwide Homes ^b	11	- 1
Shelter Resources ^b	13	- 1 1/4
Stirling Homex	.15	- 2
Swift Industries	1 1/4	-

DIVERSIFIED COMPANIES

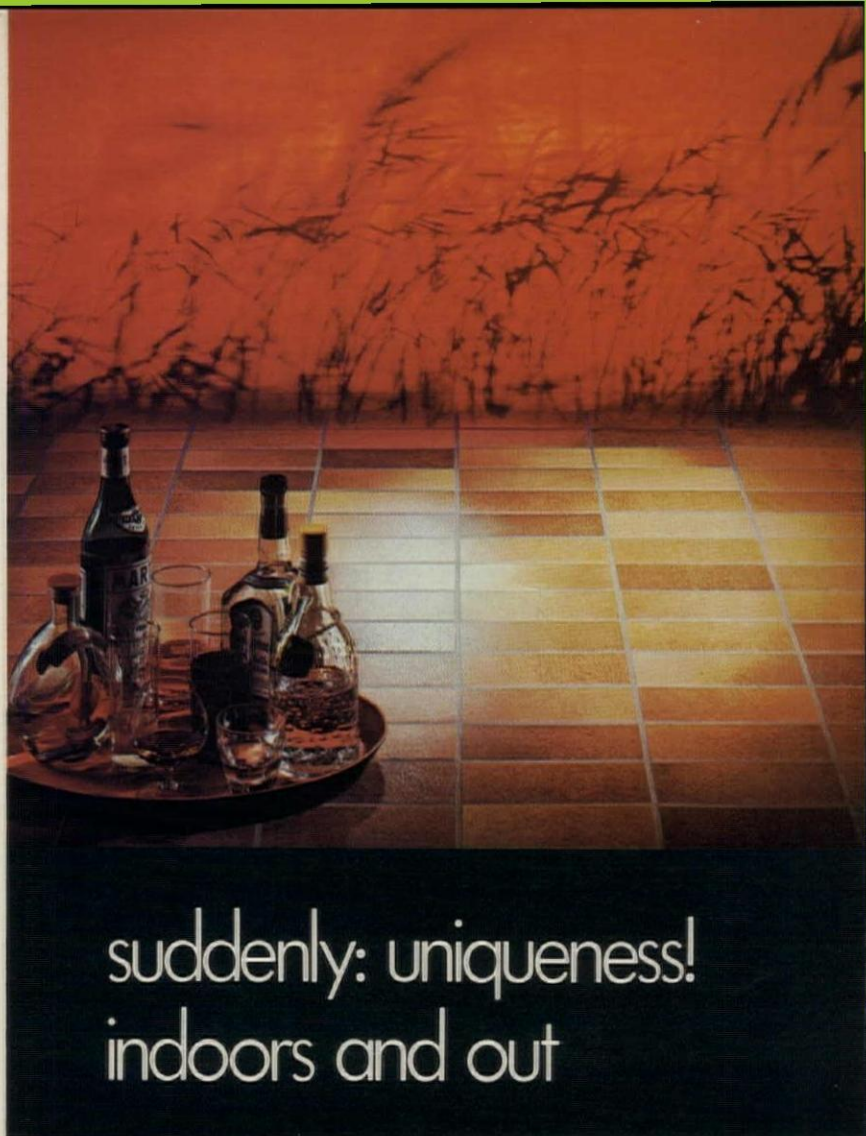
Amer. Cyanamid ^c	34 1/4	- 1 1/4
Amer. Standard	12 1/2	-
(Wm. Lyon)		
Arlen Realty & Develop. ^c	15 1/2	- 7/8
AVCO Corp. ^c	16	- 1 1/2
Bethlehem Steel ^c	29 1/2	+ 1 1/2
Boise Cascade ^c	10 1/4	- 1 1/2
CNA Financial (Larwin) ^c	20 1/2	- 1/2
Castle & Cooke ^c	17 1/2	+ 1/4
(Oceanic Prop.)		
CBS (Klingbell) ^c	58	- 4 1/2
Champion Int. Corp. ^c	22 1/4	- 5/8
(U.S. Plywood-Champion)		
Christiana Securities	194	+ 10
Citizens Financial ^b	9 1/2	-
City Investing ^c	15 1/2	- 1/2
(Sterling Forest)		
Corning Glass ^c	242 1/4	- 18 1/4
Cousins Properties	27 1/2	+ 1 1/4
Dreyfus Corp. ^c	15 1/2	- 1 1/2
(Bert Smohler)		
Environmental Systems	9	- 2
Evans Products ^c	22 1/2	+ 1/2
Ferro Corp. ^c	46 1/2	- 2 1/4
First Gen. Resources	2	- 1/4
Fischback & More ^c	59 1/4	+ 1 1/4
Forest City Ent. ^b	16 1/2	- 1/2
Flagg Industries ^b	7 1/4	- 3/4

Company	Sept. 6 Bid/Close	Chng. Prev. Month
Frank Paxton Corp. ^d	15 1/2	- 1/2
(Builder Assistance Corp.)		
Fruehauf Corp. ^c	38 1/2	+ 1 1/4
Fuqua Corp. ^c	17 1/2	- 2 1/2
Georgia Pacific ^c	39 1/4	+ 7/8
Glasrock Products ^b	12	+ 1
Great Southwest Corp.	13 1/4	+ 1/2
Gulf Oil (Gulf Reston) ^c	24 1/2	+ 2
INA Corp. (M. J. Brock) ^c	42 1/2	+ 1 1/2
Inland Steel ^c (Scholz)	32 1/2	+ 7/8
International Basic Econ.	5 1/2	- 1
International Paper ^c	35	- 2 1/4
Internat. Tel. & Tel. ^c	54 1/2	- 1/2
(Levitt)		
Investors Funding ^b	8 1/4	+ 1/2
Killbuck Properties ^b	15 1/2	- 3 1/2
Leroy Corp.	7 1/4	+ 1 1/2
Ludlow Corp. ^c	22	- 2 1/2
Monogram Industries ^c	12 1/2	+ 1/4
Monumental Corp.	63 1/2	- 2
(Jos. Meyerhoff Org.)		
National Homes ^c	16 1/2	- 2 1/2
Occidental Petroleum ^c	14 1/2	+ 3/8
(Occ. Pat. Land & Dev.)		
Pacific Coast Prop. ^b	3 1/4	- 1/4
Perini Corp. ^b	4	- 1/2
Philip Morris ^c	106	- 6 1/4
Prosher Corp.	3 1/2	-
Rouse Co.	26 1/4	+ 3/4
Santa Anita Consol.	23 1/2	- 2
(Robt. H. Grant Corp.)		
Sayre & Fisher ^{hd}	2 1/2	-
Shareholders Capital Corp.	1 1/2	- 1/4
(Shareholders R. E. Group)		
Temple Industries ^c	25	-
Tishman Realty ^c	21 1/2	+ 1/2
Titan Group Inc.	4	- 1
UGI Corp. ^c	18 1/2	+ 3/8
Uris Bldg. ^c	16 1/2	+ 1/2
Weil-McLain ^c	17 1/4	-
Westinghouse ^c	42	- 4
(Coral Ridge Prop.)		
Weyerhaeuser ^c	50 1/4	+ 2 1/2
(Weyer. Real Est. Co.)		
Whittaker (Vector Corp.) ^c	8	- 3/4
Wickes Corp. ^c	28 1/4	- 5

SUPPLIERS

Alpha Portland Cement ^c	17	+ 3/4
Armstrong Cork ^c	32 1/2	- 6
Automated Building Comp. ^b	9 1/2	- 3/8
Berven Carpets ^b	16 1/2	- 3/8
Bird & Son	32 1/2	- 2 1/4
Black & Decker ^c	101 1/4	- 3 1/2
Carrier Corp. ^c	24 1/2	- 1 1/2
Certain-teed ^c	21 1/4	- 1/4
Crane ^c	18 1/4	+ 2 1/2
Deere ^c	77 1/2	+ 13 1/2
Dexter ^c	22 1/2	- 1 1/2
Dover Corp. ^c	55 1/2	+ 3 1/4
Emerson Electric ^c	89 1/2	- 1
Emhart Corp. ^c	32 1/4	- 1 1/2
Fedders ^c	29 1/2	- 3 1/2
Flintkote ^c	25 1/2	- 2 1/4
GAF Corp. ^c	22 1/2	- 2 1/2
General Electric ^c	66 1/2	- 2 1/4
General Motors ^c	77	- 1 1/2
Gerber ^c	35	- 3/4
Goodrich ^c	28 1/2	+ 1 1/2
Hercules	69	- 1/4
Hobart Manufacturing ^c	68 1/4	+ 1 1/4
Int. Harvester ^c	37 1/2	+ 5 1/4
Johns Manville ^c	30 1/4	- 1/4
Kaiser Aluminum ^c	20	- 1/4
Keene Corp. ^c	10 1/4	+ 1/4
Kirsch ^c	42 1/4	- 1 1/4
Leigh Products ^b	21 1/4	- 2 1/2
Magic Chef ^c	45 1/4	+ 1/4
Masco Corp. ^c	51 1/2	- 7
Masonite Corp. ^c	65	+ 3/4
Maytag ^c	36 1/2	+ 2 1/2
Modern Maid ^b	9 1/2	+ 1/2
National Gypsum ^c	18	+ 3/8
Norris Industries ^c	51 1/4	- 1
Omark Ind. ^c	12	+ 1/4
Otis Elevator ^c	40 1/2	+ 1/2
Overhead Door ^c	19 1/2	- 2 1/2
Owens Corning Fibrgl. ^c	50 1/2	+ 4 1/2
Pottlatch Forests ^c	24	- 1/2
PPG Industries ^c	43 1/2	- 1/4
Reynolds Metals ^c	16 1/2	+ 3/4
Rockwell Mfg. ^c	34	- 1 1/4
Rohm Haas ^c	77 1/4	- 1 1/4
Ronson ^c	6 1/2	+ 1/4
Roper Corp. ^c	30 1/2	- 1/2
St. Regis Paper ^c	39 1/4	- 2
Scovill Mfg. ^c	26 1/2	- 1 1/2
Sherwin Williams ^c	55 1/2	-
Skil Corp. ^c	40 1/2	+ 4 1/2
Stanley Works ^c	46 1/2	- 7/8
Tappan ^c	24	- 4 1/2
Thomas Industries ^c	26 1/4	+ 3/4
U.S. Gypsum ^c	25 1/4	+ 3/8
U.S. Steel ^c	29 1/2	+ 1 1/2
Wallace Murray ^c	19 1/4	- 1 1/4
Welbilt Corp. ^c	2 1/2	- 1/2
Whirlpool Corp. ^c	33 1/4	- 1 1/4

a—stock newly added to table. b—closing price ASE. c—closing price NYSE. d—not traded on date quoted. g—closing price MSE. h—closing price PCSE. *—Computed in HOUSE & HOME's 25-stock value index. y—adjusted for 2-for-1 split.
Source: Standard & Poor's, New York City.



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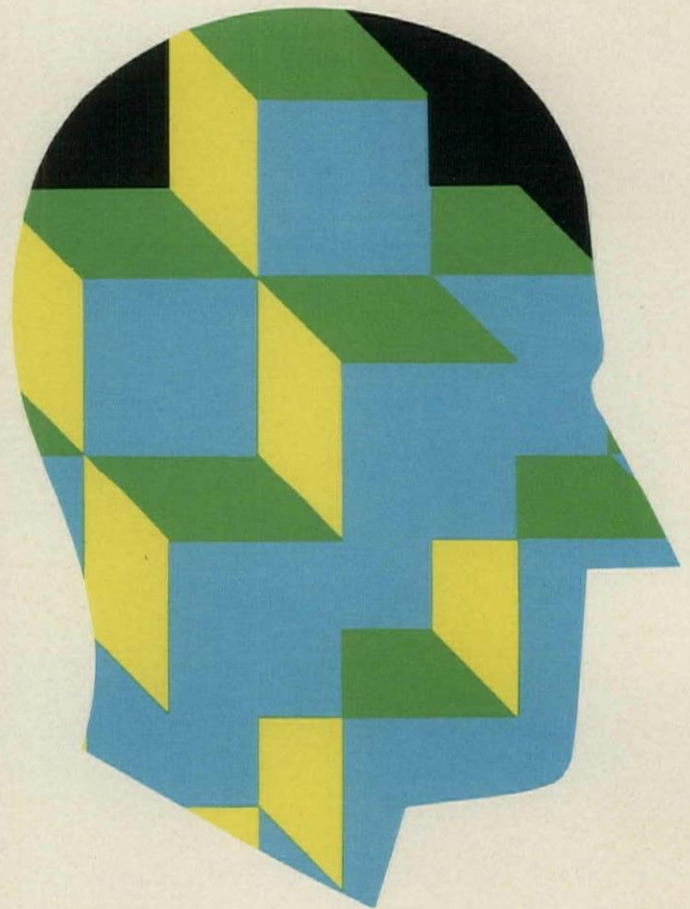
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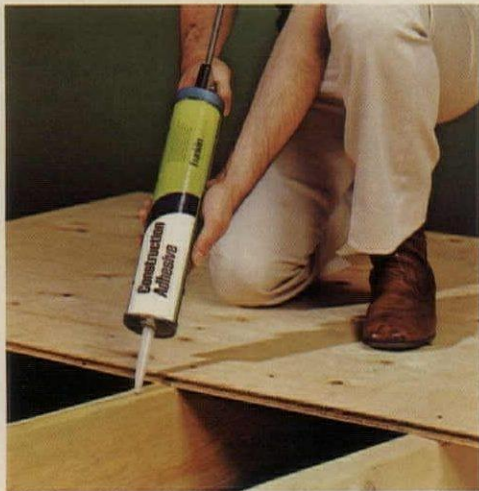
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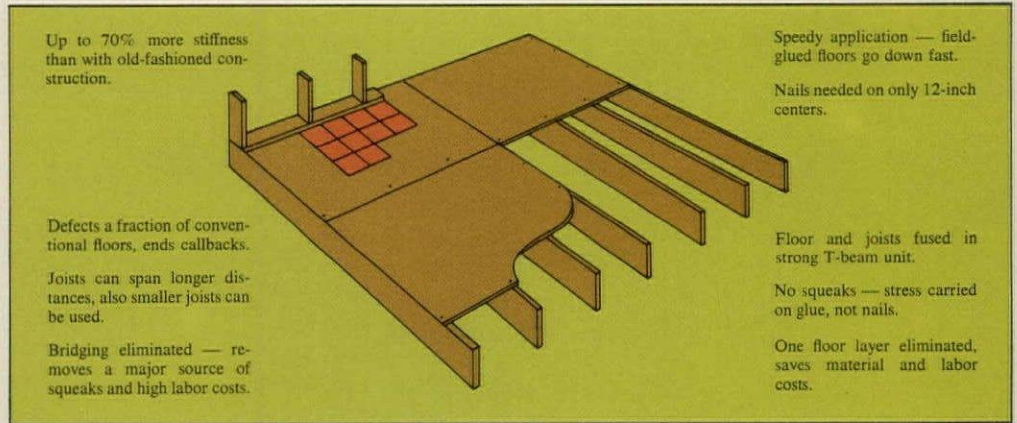


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- Contact Cements
- Solvent Elastomeric Mastics
- Emulsion Elastomeric Mastics
- Caulks and Sealants

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HH-72

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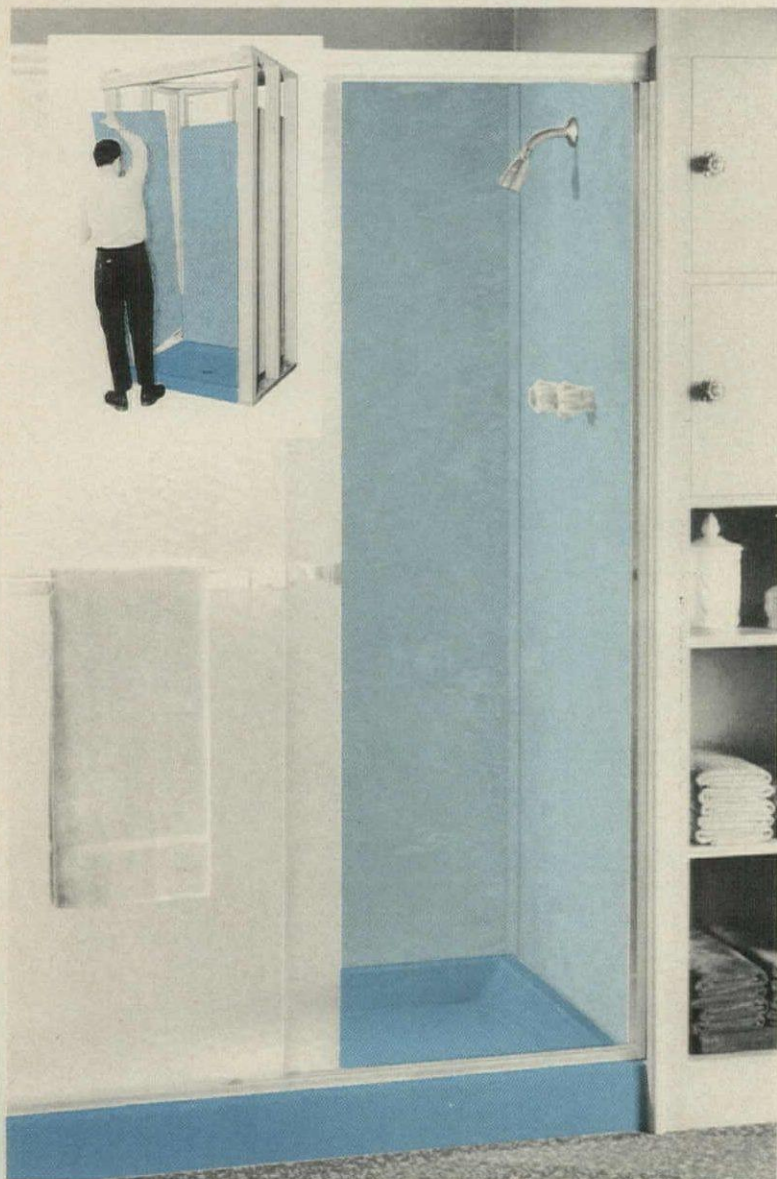
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The shower one man can
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No tile. No grout mess. One man can put up the FORMICA® walls and Molded Stone® base quickly and economically. And leakproof construction gives years of customer satisfaction.

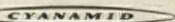
Trintessa® shower units come completely packaged for a fast one-man one-trade installation. The 5/8-inch Formica® brand laminate walls install dry—no mortar, no mess. Molded Stone® base has factory-installed stainless steel drain that can't leak. Simple corner moldings snap in for a finishing touch. And Trintessa showers come in *nine* different color combinations and three sizes for extra customer appeal. Ask about Trintessa . . . the "no-tile" shower. Contact your Fiat representative or write Dept. HH-10

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NEWS/MERGERS

Behring Corp. and Leadership merge to form a new stick-building firm

Leadership Housing Systems of Santa Ana, Calif., has merged with Behring Corp. of Ft. Lauderdale, Fla., and the combined company will be known as Leadership Housing Inc. The merger price was over \$35 million.

The new company, which will be headquartered in Ft. Lauderdale, Fla., will be owned 86.5% by Cerro Corp., headquartered in New York City. Cerro had owned 100% of Leadership Housing Systems and 65.2% of Behring.

Terms. Under the terms of the merger agreement, Cerro Corp. will receive 4,583,717 shares of Behring common stock in exchange for all of Leadership's common stock. At the same time Behring shareholders will receive one share of a new series A preferred stock of the new Leadership Housing Inc. for each five shares of Behring common that they owned on the merger date.

Finally, Cerro will receive 4 million shares of a new series B preferred stock of Leadership Housing Inc. in exchange for all of the original Leadership's issued and outstanding preferred stock.

The new company is assuming existing stock options and warrants covering 747,887 shares of Behring common stock. Thus, the entire transaction involves 5,331,604 shares of Behring, which closed at 7 7/8 on the day of the merger.

Payout. The merger agreement contains an earnings payout provision under which 20% of the shares will be kept in escrow and issued to Cerro and the option holders, most of whom are officers of the new company, only if earnings reach a certain level during 1972 and 1973.

H. M. Lasky, who had been president of both Behring and Leadership, will head the new company, and Lon B. Rubin, former executive vice president of both companies, will be executive vice president of the new one.

Background. The Behring-Leadership merger is the final in a series of events that began when Behring Corp., a successful Florida builder and developer, decided to enter the modular

housing field.

It built the modular industry's largest plant in Ft. Lauderdale in 1970. However, it was plagued with production problems and incurred heavy losses.

Finally in February 1972 Cerro bought 65% of the company's shares through its wholly-owned subsidiary, Leadership Housing Systems. It put in new management which immediately decided to close down the modular-housing plant and concentrate on conventional on-site construction.

The company estimates its 1971 loss resulting from the write down of the modular plant at \$12,335,920.

However, Kenneth B. Campbell, head of Audit Investment Research, calculates the losses and write-downs attributable to the modular disaster at \$20.12 million, before tax credits of \$7.65 million.

For the first six months of 1972 Leadership had an unaudited net income of \$982,000 and sales and other revenues of \$25,779,000, compared with a net loss of \$834,000 and sales and other revenue of \$23,752,000 for the first six months of 1971.

Projects. The new Leadership Housing is presently building single-family homes and apartments in California, Florida, Arizona and Texas, and it has entered into a joint venture with C. Brewer & Co. to build in Hawaii.

Larwin aide chosen for FHLB council

Daniel D. Ashe, president of the Urban Housing Division of the Larwin Group Inc., of Beverly Hills, Calif., has been appointed as one of the six industry representatives on the Federal Savings and Loan Advisory Council of the Federal Home Loan Bank Board.

Before joining Larwin in 1972, Ashe was director of Eastern operations for Boise Cascade Urban Development. He also served as president of the Armandaris Land Development Corp. of Los Angeles.

The Larwin Group is a subsidiary of CNA Financial Corp. of Chicago.

**Tough.
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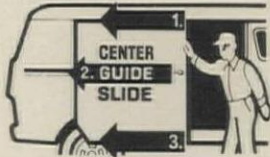


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City service demands a lot from a truck. And Ford Econolines...America's No. 1 vans... really deliver.

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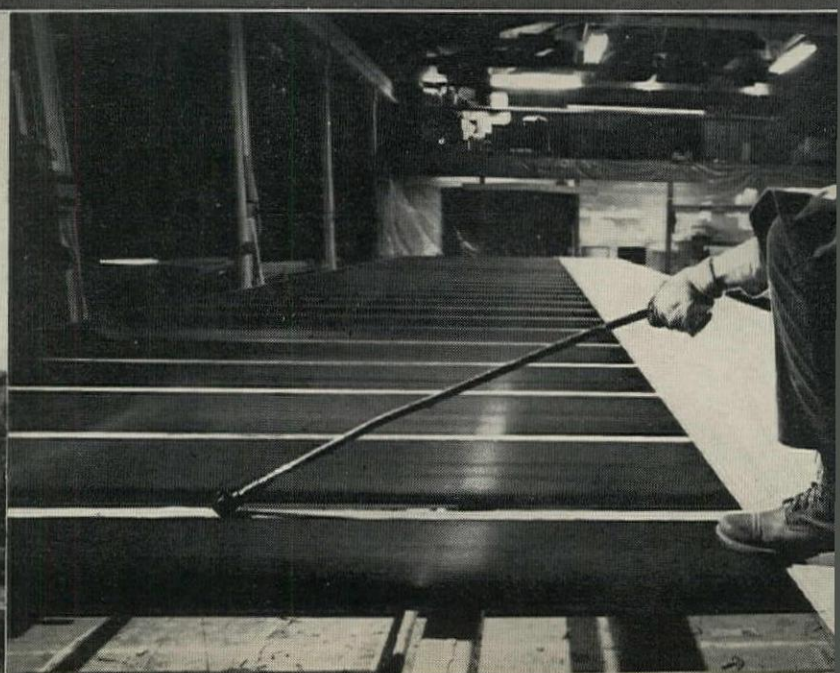
FORD ECONOLINE VANS

FORD DIVISION 




2 and 3-bedroom duplex townhouses like the one below were designed for National Homes by architects for the Frank Lloyd Wright Foundation. Each dwelling unit is assembled from four 3-dimensional modules, ranging from 12 to 14 feet wide, and from 24 to 54 feet long.

The floor system begins with USS Super-C Steel Joists spaced 24" on centers. These are spot welded to open steel channels running the length of the module. $\frac{3}{4}$ " plywood decking is then applied directly to the joists with both self-drilling screws and adhesive.



National Homes is building modular townhouses with steel joists.

We have a booklet that tells you why.



As the world's largest producer of manufactured homes, National Homes Corporation is always looking for new materials to improve their industrialized system. In a current series of modular townhouses, they found that steel joists developed by U.S. Steel cost less in place than wood. And because they're galvanized *steel*, these USS Super-C Joists are dimensionally stable...particularly important for assembly line operations. National Homes is only one of many builders using steel joists in a wide range of applications, from single family homes to apartments, factory built or field assembled. This experience is summarized in a highly factual booklet—which shows typical applications, various framing plans, even provides load span tables and cost estimates.

Read this booklet before you place another order for lumber.



TRADEMARK

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Dear Sirs: Please send me your booklet on USS Super-C Joists.

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Types of units planned _____

Number of units planned _____

Questions about worker productivity find answers in NAHB study

Q. What most destroys productivity at a building site?

A. Inefficient handling of material.

Q. What single factor is most likely to increase productivity?

A. Lots of supervision. These and many other questions that have long bugged builders are tentatively answered in a recent NAHB Research Foundation report entitled *Pilot Study of Productivity in the Residential Building Trades*.

The report concludes that material handling problems are most likely to steal time from what otherwise would be efficient work crews. A builder, the report says, has a material handling bottleneck if:

- Workers leave the site for materials.
- Workers seem productive but the total job takes longer than it should.
- Workers sometimes have to wait for material delivery.
- Materials are delivered to the wrong location in the job site.
- Material becomes damaged when handled.
- Material is scattered all around the site.
- Material is handled more than once.

The impetus for the *Pilot Study of Productivity* came from Lee Fisher, head of the industrial engineering section of the foundation. While compiling problem reports on individual building trades, Fisher noticed that crews were sometimes very productive, at other times very unproductive.

Breaking time. Using two industrial engineering observation methods (Group Timing Technique and Work Sampling Technique), Fisher's engineers broke construction time into three categories: productive-direct, productive-support and nonproductive (see definitions, right).

Thirteen case studies conducted at various construction sites throughout the U.S. focused on carpenters, electricians, masons, plumbers and painters. Each case study analyzed how workers spent their time and recommended changes in procedures. Then cost-benefit analyses were compiled to demonstrate what would happen if these recommendations were implemented and productivity increased.

For example, when four carpenters were observed installing load-bearing partitions and wood-frame floor systems in a three-story townhouse, their time was spent thus:

Productive-direct	66.6%
Support	17.4%
Material handling	16.0%
Talk business & maintain tools	1.4%
Nonproductive	16.0%
Idle	12.9%
Personal rest & coffee	3.1%
	100%

Suggestions for improving productivity were specific: "It is recommended that material be ordered and delivered for eight basement apartment-unit partitions and eight first-story floor systems rather than for the present four units. Material could be delivered in four separate bundles. . . . Two manhours per day should be saved. . . . Idle time (four manhours per day)

could be reduced by the construction superintendent talking business only with the foremen."

By increasing the material handling flow and reducing idle time, the engineers calculated a 10.5% probable time reduction, which is equivalent to an \$8,000 per year potential cost savings.

Plug the drain. It was obvious to the NAHB industrial engineers that for most job sites material handling bottlenecks were the most serious drain on productivity. The engineers suggest a careful investigation of the material handling sequence. Specifically:

- Predetermine the best methods for handling.
- Keep material lists updated.
- When ordering materials, specify precise delivery locations and times.
- Keep material handling systems flexible by anticipating equipment breakdowns; plan a

backup system.

• Insure proper placement at the site to reduce hand carrying and sorting. Minimize storing and moving materials from site to site.

• Have materials delivered and stacked by sequence of use, eliminating sorting and restacking.

• Purchase packaged and unitized materials to discourage scattering and pilferage.

• Reduce interdependence of men and machines to reduce waiting time.

• Schedule work for continuous material flow.

• Establish a good house-keeping program. Retrieving usable material from scrap and waste consumes time and impedes the movement of machines and men.

• Keep material handling equipment operating at close to its maximum capacity.

• Use multipurpose equipment (i.e. a front-loader-and-backhoe tractor can also pull wagons).

• Evaluate equipment purchases by comparing annual savings anticipated with annual equipment costs.

• Solicit employee ideas for reducing handling costs.

Talk is not cheap. In most of the case studies lack of supervision adversely affected the amount of productive-direct work. Rework was most often necessitated by poor communication in the form of erroneous or incomplete plans and specifications. Talk-business time was greatest on jobs where plans were vague.

NAHB engineers observed 17 work crews in 13 case studies. The data from such a small heterogeneous sampling cannot be considered statistically valid, but it does indicate areas for further research. The foundation is expanding its work in productivity research, using its own funds plus HUD money.

However tentative the pilot study may be, it cannot but provide builders with food for thought about their own operations.

Pilot Study of Productivity in the Residential Building Trades is available from the NAHB Research Foundation Inc., P.O. Box 1627, Rockville, Md. 20850. Price: \$2 per copy.

How workers used time in 13 case studies

Case study	Crew size	Productive	Support	Non-productive
1 Rough carpentry	4	66.6%	17.4%	16.0%
2a Carpentry	5	62.0%	20.0%	18.0%
2b Carpentry	3	51.2%	31.0%	17.8%
2c Carpentry	1	54.0%	32.0%	14.0%
3 Carpentry	5	55.1%	21.9%	23.0%
4 Masonry	6	90.5%	0	9.5%
5 Masonry	6	74.7%	0	25.3%
6a Masonry—masons	3	58.8%	25.2%	16.0%
6b Masonry—laborer	3	76.5%	4.2%	19.3%
7a Masonry—masons	2	59.2%	28.7%	12.1%
7b Masonry—laborer	2	42.2%	17.7%	40.1%
8 Electrical	2	81.2%	16.7%	2.1%
9 Electrical	2	73.0%	21.0%	6.0%
10 Plumbing	2	58.6%	34.9%	6.5%
11 Plumbing	2	50.3%	37.3%	12.4%
12 Paint Interior	2	72.4%	16.0%	11.6%
13 Paint Interior	2	86.1%	9.5%	4.4%

How to translate the engineer's jargon

Productive-direct is defined as time expended doing work "that can be identified and assessed against a particular construction operation and is considered necessary for progress of construction." Examples: nailing sheathing and framing walls.

Productive-support is defined as "time expended performing services necessary to production that cannot be assigned against a particular operation." Example: moving materials from delivery site to work area. Also included in

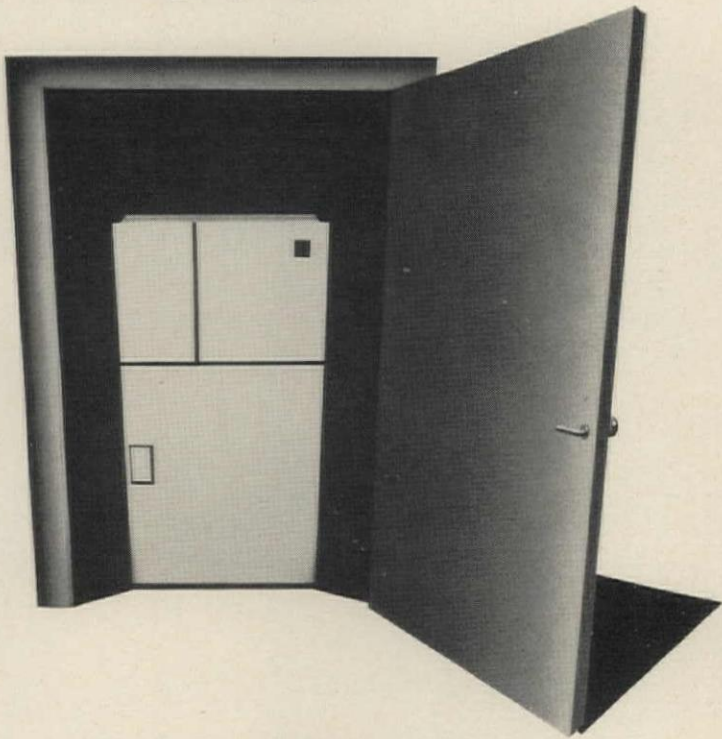
this category are talking business, reading plans, set up, put away, etc.

For a carpenter to nail trusses is productive-direct, for him to leave his immediate work area to get lumber is productive-support. For a mason laborer to carry bricks to a work area is productive-direct for his job category.

Nonproductive is defined as accountable time expended for personal reasons (hygienic needs), coffee breaks, unavoidable delay, idleness and rework.

Carrier changes apartment cooling inside and out.

Carrier's new split system equipment is tailored neatly to apartments. In both size and cooling capacity.



Inside, our 40VU fan coil unit stands out of the way in a closet. And quietly cools an apartment.

Comes in six sizes to match your apartment sizes. And now or later, you can slip in an electric heating coil. We made room for it. Upflow. Or downflow.

On larger models, a solid state circuit even controls the fan speed. Set it. And forget it.

Outside, Carrier's new 38GS Compact condensing unit completes the system. 16" low on the roof. Or behind the bushes on the ground.

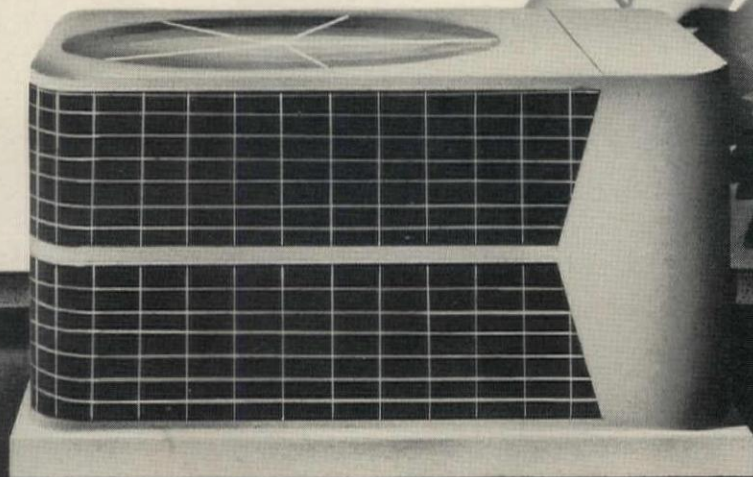
Its upflow air exhaust cuts down the sound. So does its unique computer-designed fan.

Like its inside companion, the 38GS comes in the sizes you need to handle tons of cooling in any apartment complex. Simply.

Know, too, that since the 38GS-40VU system carries our name, you'll get the kind of tenant recognition and dealer service that's made our name.

Have a Carrier Dealer quote your next garden apartment. Inside and out. He's in the Yellow Pages. Or write us. Carrier Air Conditioning Company, Syracuse, N.Y. 13201.

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The Condominium

We lit the spark. And we're doing more to keep it booming than anyone.

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Starting in Florida, the cradle of the condominium, and growing all over the U.S.

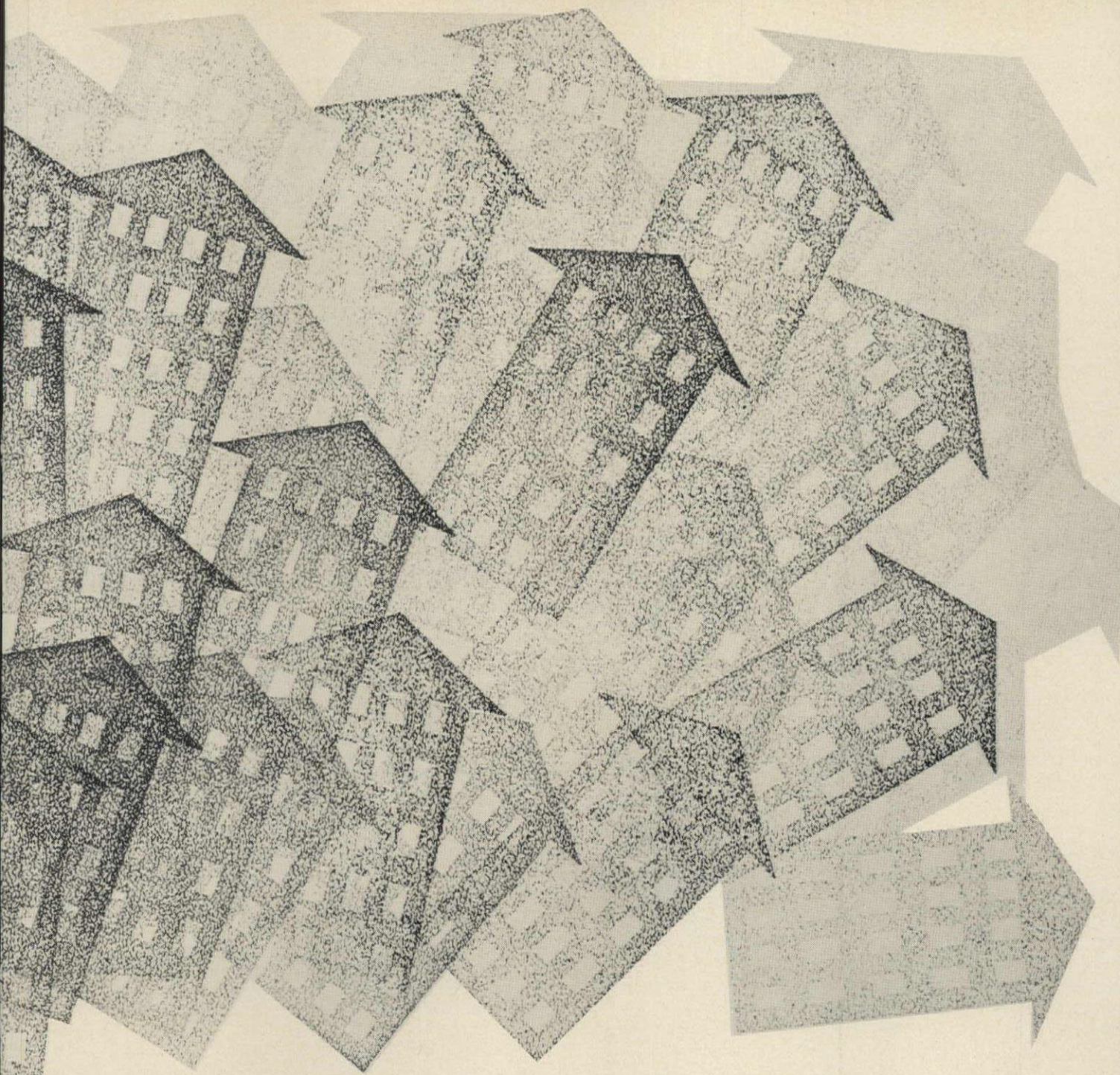
We have the first nationwide field service force in the mortgage investment trust industry, to help you over hurdles and around pitfalls.

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Refuse + disposal plant = heat + air conditioning

This is the equation proposed for solving Nashville's solid-waste disposal problem, while simultaneously providing heating and cooling for more than two dozen downtown buildings. If the equation works—and there's every indication that it will—it could aid large developers of high-density commercial and residential projects who are working with the community in reduction of the projects' impact on the local environment. Eventually the equation could possibly put large developers in the public utility business.

Nashville's plan is to use compacted garbage as fuel for a plant producing chilled water and steam used to air condition and heat 27 private and public buildings. Initially, when the \$17 million plant goes on steam in two years, it will consume 720 tons of solid waste per day in two incinerator-boilers equipped with high-efficiency pollution-abatement devices.

Steam from the boilers will drive turbines powering two water chillers totaling 13,500 tons of chilling capacity—enough to cool 5,400 one-family houses. By 1980 the plant will be expanded to consume 1,300 tons of waste per day—the amount of refuse now generated by the 500,000 residents of Nashville and surrounding Davidson County.

Major surgery helps. In 1969 Nashville's mayor, Beverly Briley, retained the engineering firm of I.C. Thomasson and Associates to investigate the feasibility of building a conventionally fueled central facility for heating and cooling metropolitan government buildings. The firm suggested a plant be built to provide chilled water and steam for the entire downtown area, which was soon to undergo the major surgery of urban renewal—with its attendant tearing up of streets. Thus, piping could be laid to new as well as existing buildings.

At about the same time the state passed a law requiring that by 1972 all solid waste landfills must use earth covering. This would increase the cost of an already expensive service.

"So," said Mayor Briley, "it seemed the district plant idea and the solid-waste problem just blended together naturally.

Subsequent studies by the Thomasson firm indicated that using solid waste as a fuel was completely feasible." (Steam-generating plants which use compacted garbage as fuel have been operating successfully in Europe since 1954.)

From the city's viewpoint combining incineration of garbage with steam generation offers several advantages:

- The need for sanitary landfills is eliminated.
- Refuse collection costs are reduced.
- Consumption of electricity and fossil fuels are reduced.
- Air pollution is decreased.
- Some materials in the refuse may be recycled.
- Community heating and cooling is provided at lower cost.

The chilled water and steam will provide government and private buildings with cooling and heating at three fourths the cost of operating individually owned systems.

A nonprofit firm, Nashville Thermal Transfer Corp., has been established to build and operate the plant. NTTC was authorized to issue tax-exempt revenue bonds, and the plant will be turned over to the city when the bonds are paid off. The Internal Revenue Service has agreed to the firm's tax-free status on the grounds that the plant is in the public interest.

Free garbage. Under the terms of a 30-year contract, the city will deliver solid waste at no cost to NTTC.

"We will save about \$3 per ton of waste collected—more than \$1.25 million per year—through

reductions in sanitary landfill operation," says Mayor Briley. "We will realize another \$72,000 savings annually in lower haulage costs."

Contrary to rising costs anticipated for conventionally fueled heating and cooling systems, NTTC service costs are expected to remain fairly constant. One reason is the yearly increase in the thermal-energy value of garbage due to more disposable paper packaging.

A preliminary environmental impact statement, approved by the U.S. Environmental Protection Agency, showed that the NTTC plant will substantially decrease air pollution levels.

Sixty thousand acres lost. Melvin Holm, chairman of Carrier Corp., the firm that will supply the water chillers to the NTTC plant, believes strongly in the concept of district cooling and heating through solid waste incineration. He points out that each year the U.S. consumes to 60,000 acres of land in the process of disposing of 200 million tons of community refuse in landfills. The cost ranges from \$6 to \$20 per ton.

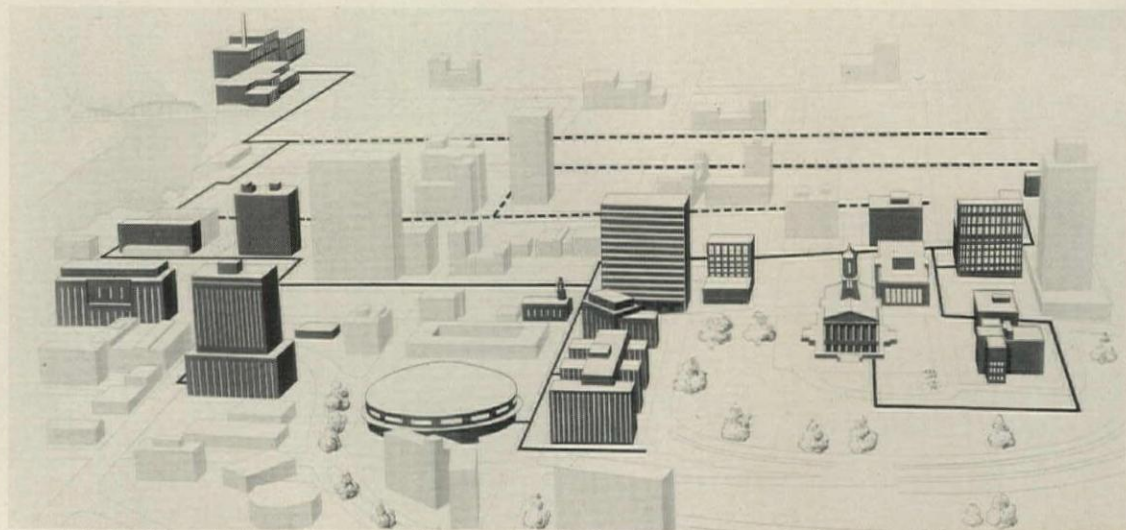
"Obviously this concept is a natural for municipalities," says Holm. "But it can also be used effectively in hospital complexes, university campuses, shopping centers, industrial parks or very high-density residential areas—actually, any place where district cooling and heating is feasible.

"I also see this concept as a possible tool for large real-estate developers, because they can use it in bargaining with municipal

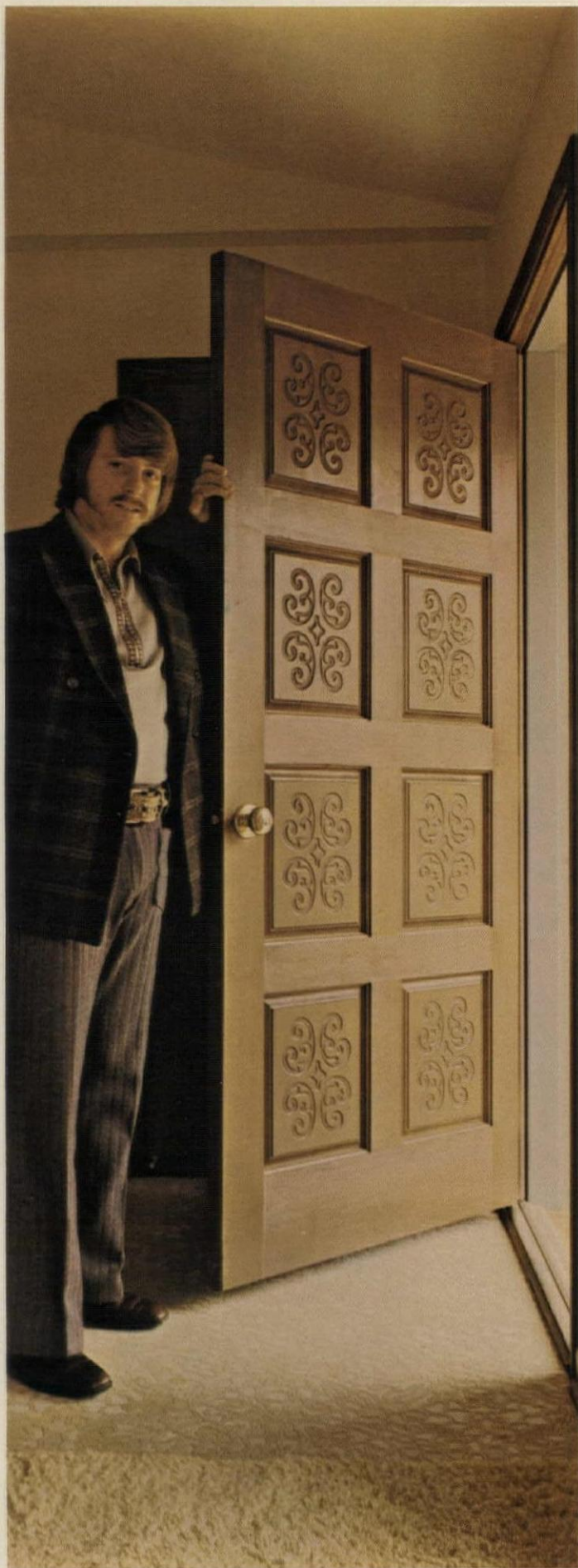
officials for rezoning of residential projects or tax rates for industrial and commercial projects. For instance, a developer wanting to put in a large high-density townhouse complex might tell the town fathers: 'Not only will this complex not generate more solid waste, but it will consume its own waste as well as X number of tons supplied by the town. In addition, the complex's disposal plant can supply heat and cooling at lower cost to the school across the street and the hospital down the block. The plant can also be equipped so that the steam powers electric generators.'"

Holm notes that the developer and the town might share the cost of the plant, or conceivably—if disposal plants can be economically scaled down—a developer might find it advantageous to build the plant himself and sell steam, chilled water and electricity to the town and private customers.

"Unfortunately, we don't have good yardsticks to quickly measure the economic viability of the concept. While we do know that a major limiting factor is the high cost of laying the piping, every situation must be evaluated on its own merits. Financing, local laws, tax benefits and so forth are going to vary widely across the country. But the fact remains that the disposal of solid waste, while generating district cooling and heating, offers municipalities and developers the opportunity for progress and at the same time improves the quality of the environment."



The Nashville plant will supply steam and chilled water to 27 buildings through 15,000 ft. of piping. Solid lines indicate the first installation phase; dotted lines show successive phases.



Waldo Wals and the Nord Regency A entry door used in the Pointe Bleue development near Atlanta.

“Nord doors give instant curb appeal.”

More than 80 acres of DeKalb County, near Atlanta, Georgia, have been developed by Waldo L. Wals. All the homes he has built have one thing in common—Nord doors. Wals likes the way Nord designs complement the style of his homes. And he thinks Nord does a better job of construction: “You can see the difference in the panels and the entire door.”

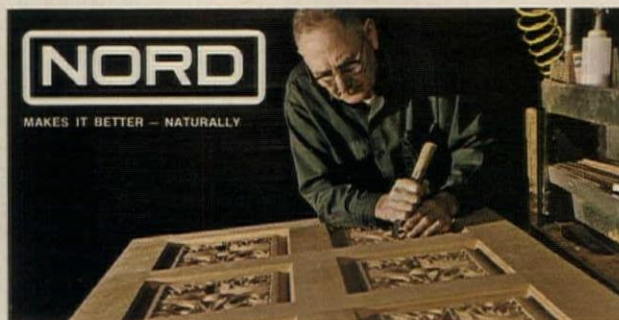
Gets the guided tour off to a good start

Wals builds about 80 units a year and has four major developments to his credit. One is Pointe Bleue, where the homes are priced from \$37,000. They are reflective of the French architecture he enjoys—and he can often be found showing the homes himself. “Since the door is one of the first features a prospect sees as he gets to the home, it is an important selling point. Nord doors get the guided tour off to a good start.”

Distinctive doors, “commodity” prices

Wals takes personal pride in his homes. Similarly, the Nord family takes personal pride in their doors. Nord perfected a 4-way clamp to assemble doors so all joints are tight and exact, but each door is still hand-finished by one of Nord’s skilled artisans. It’s part of the Nord philosophy of combining natural wood with advanced technology and old-world craftsmanship. That way, builders get doors of distinction at “commodity” prices.

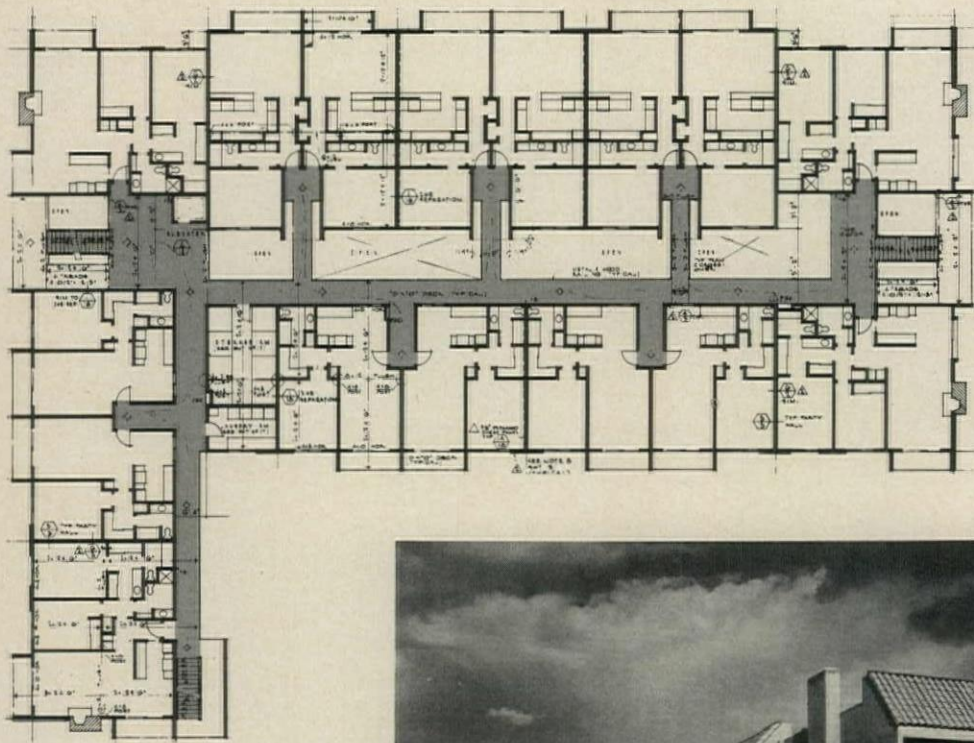
*For full-color literature on Nord doors of distinction, just write “doors” on your letterhead and mail it to
E. A. Nord Company, Everett, WA 98206.*



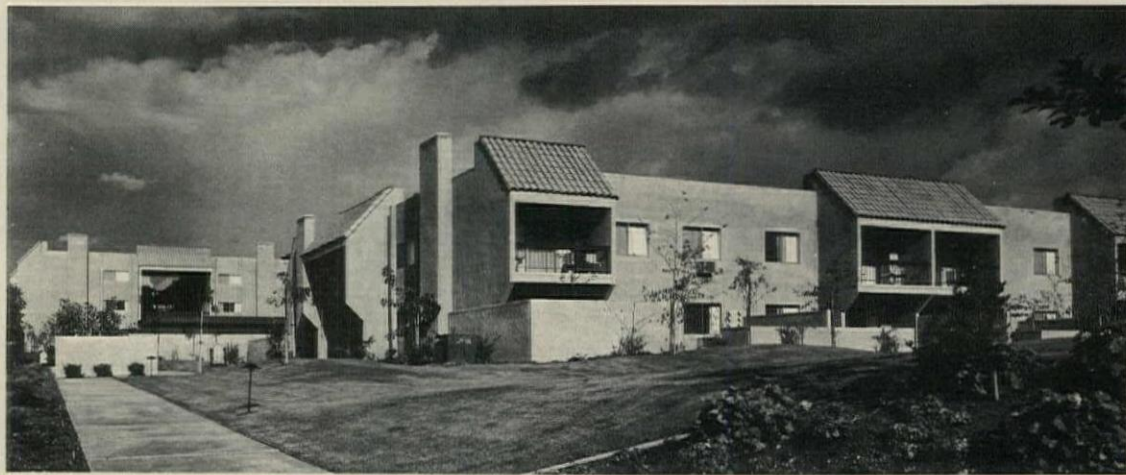
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MAKES IT BETTER — NATURALLY

Split buildings help open up a high-density garden project



Covered walkways and cross-over bridges are shown in shaded areas (above). Floor plan is the top floor of a three-story building split open 15 ft. A-type apartments measure 772 sq. ft.; B units, 741 sq. ft.; C units, 1,110 sq. ft. Exterior view of buildings (right) has one of the complex's four greenbelts in the foreground.



Outside walkways provide access to apartments in short leg of L-shaped buildings.

There are 256 units on the ten-acre site in Placentia, Calif. And even though some of the buildings have three stories, double-loaded interior corridors would normally have been used to cut down on ground coverage.

Instead the architect split open the seven 2- and 3-story buildings by inserting a 15-ft.-wide inner court yard into each L-shaped structure. The landscaped court yard is an open, continuous light well which also provides access to each apartment. At the ends of each building stairs lead up to outdoor covered walkways and covered bridges which cross the ten feet to the opposite side of the courtyard. Each bridge leads to a private entry for two apartments.

"The bridges coming off a single corridor provide a sense of identity to individual apartment entries," notes architect Peter Munselle. "Also an interior court makes each apartment more sunny since there are windows in front as well as back."

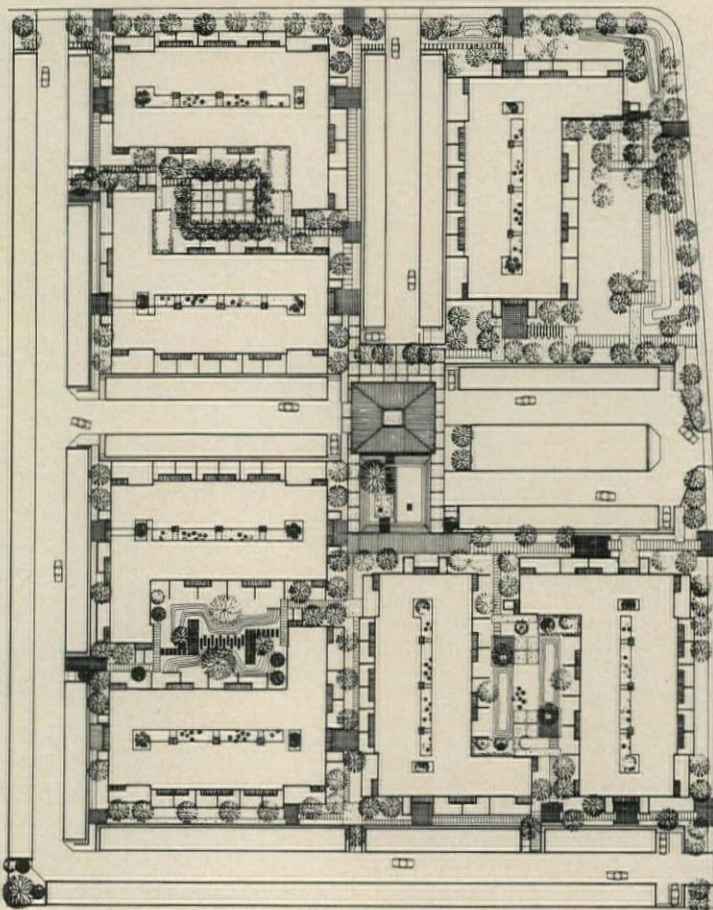
The open feeling is reinforced by greenbelts around the buildings and four landscaped courts.

Three walled-in parking areas are cut in almost to the site center. Space is available for more than 400 tenant and guest vehicles under carport roofs. A space between the parking lot wall and the carport roof admits sunlight to what is typically a dark back-alley.

At the site center is a swimming pool and a clubhouse containing a lounge, kitchen, card-room, sauna and showers.

Each apartment has either a private patio or balcony. Ground-floor sliding glass doors are screened by solid walls enclosing a patio, thus there are front entrances through the inner courtyard plus access ways through the patio for units facing the outer courts. Upper floors have extended-wall balconies.

The one- and two-bedroom units, which range in size from 741- to 1,110-sq. ft., rent from \$150 to \$220 per month. The vacancy rate is reported to be zero. The architect was Dorman/Munselle Associates, Beverly Hills; the builder, Wm. Lyon Development Co. Inc., a subsidiary of American-Standard Inc.



Site plan shows how seven buildings are separated by courts and parking areas. Pool and recreation building are at center of the site.

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Eligibility:

Any house or apartment building in the United States or its possessions, built since January 1, 1970 and designed by a registered architect is eligible. Entries may be submitted by any architect, builder, developer or owner. Any number of projects may be entered.

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*all categories include modular housing

†remodelings must take in the whole structure. Custom additions to a detached house must be tied into original design of house. No single room or single apartment remodelings are admissible. Redecorations are not admissible. Face-liftings must be structural. Photos of both before and after construction will be required for judging.

Registration date and fee:

Entry fee: \$20 per entry. Deadline: postmarked by midnight, Friday, December 15, 1972.

Submission of material:

On receipt of registration form and fee, entrant will be sent a spiral binder—color-coded to the project's category—

which is to be filled with sufficient black and white photographs and plans to illustrate the design, any unusual problems or solutions. (Detailed instructions for preparation of entries will be included in the binders mailed to entrants.)

Judging:

Will be held on March 20 and 21, 1973 at the American Institute of Architects headquarters in Washington, D.C. The panel will consist of outstanding architects, housing industry leaders and editors of *American Home* and *House & Home*. The number of awards to be presented shall be solely determined by the judges.

Winners:

Will be notified by telegram immediately after judging. Award certificates will be presented and photos of winning projects will be displayed during the 105th annual convention of the American Institute of Architects, May 7-10, 1973 in San Francisco. Winners will be expected to prepare and ship to the AIA convention—at their own expense—a project display board representing the winning entry. Instructions for these boards will be forwarded to winners. Winning binders and display boards will not be returned to entrants.

Conditions:

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If the requisite quality of the family room and/or den in a model home can be described in one word, the best one would be comfort. The more comfortable and inviting they are, the more effective they become in merchandising your overall product. Because no matter what section of the country you are building in, these rooms have become primary focal points in selling shelter to today's leisure-oriented consumer.

Home entertaining has become a way of life and even the backyard barbecue has moved indoors to become a buffet dinner or cocktail party in many households, and eventually these affairs gravitate to the family room.

Comfort and entertaining naturally complement one another, but capturing this convivial feeling in a model home or apartment is not all that easy. What is needed is an overall mood, and this can be accomplished largely with color and furnishings. Family-room decor should be casual, not formal, and it should provide a place where the husband can put his feet up on a coffee table without feeling a twinge of guilt. In other words, the family room should be a relaxed version of the living room which usually has a don't-touch or don't-wrinkle-my-pillow look.

There are no special rules to follow to obtain informality in a family room. Furnishings can be in a single style—traditional, French provincial, warm contemporary—or an eclectic blending.

Some pieces of furniture, however, should be specialized. Recreational equipment like a billiard table, or if the room is smaller, a bumper-pool table, is a sure bet to strike a responsive chord with dad and the kids. A dry bar is a good substitute for a wet one and should be placed in the family room.

The family room is also the perfect setting for an old player piano or organ. They don't have to work to be effective; just stick one in the corner, load it down with old sheet music, and it will radiate charm.

The overall goal in designing family-room interiors is to involve the whole family. Put in something for everyone: a chessboard (with the chessmen glued down), a stereo system, television, family games—anything that conveys the fact that this is where the family congregates and enjoys one another.

It might also be the place to exhibit youngsters' toys. After all, no mother wants her children underfoot in the kitchen. But if she can keep her eyes on them, she feels confident about their safety.

Designing a den is a special challenge all its own. The den, quite often used as an additional bedroom, should be a male retreat in my estimation. Make it private, reclusive almost—a cozy and comfortable escape for the head of the family.

I have long held that to please a man, really please a man, it is necessary to make him totally comfortable and secure. Translating comfort into color means using warm-toned hues, shutters, paneling, perhaps a desk and floor-to-ceiling bookcases.

Comfort can be achieved using a wide range of furnishings. Don't feel that every den must look like the main sitting room of a banker's or Union League club. Select from massive furniture, traditional, French Provincial or sleek chrome and glass. All can be used successfully while still giving the den a masculine ambience.

Accessorizing contributes heavily to this ambience, for it sets a definite mood. Accessories tell you something about the person who lives there. For instance, enlarged, mounted black-and-white photographs, a camera tripod and a scattering of prints obviously indicate that the head of the household is a camera buff. Old *National Geographic*, game trophies and an antique globe of the world are all items that appeal to a wide cross section of men.

Dens and family rooms, therefore, have a specific merchandising mission. In the den the sought-after mood is solitary relaxation and comfort for the man of the house; the

family room is a cheerful, chatty locale for a gathering of family and friends.

The dens and family rooms below illustrate how this can be accomplished in a variety of ways.

In photo A we have achieved warmth in a den by using coral-painted shutters to reinforce the coral, pink, shrimp and white color scheme of the quilted, traditional sofa and matching chair. An antique pushcart coffee table completes the furnishings; built-in ceiling-high bookcases frame the shutters.

The den in photo B is for the outdoorsman or for the dad who wishes he were outdoors more often. The super-comfortable couch is covered in a rough suede, a perfect place to stretch out, read a book or catch a few winks before dinner. The accessories draw on a taxidermist's talents. Colors are warm, soothing earth tones.

We have combined elements of both a family room and a den in photo C. The husky furniture, bookcase wall and dark-brown tones appeal to the male while the wrought iron and wood dining table and hints of white wicker will capture the woman's eye. A combination den and family room is appropriate in homes aimed at the first- or second-time homebuyer—where you are sure all the extra bedrooms will be put to use.

A house-and-garden family room seen in photo D dramatizes the indoor-outdoor architectural objectives found in many homes today. Family recreation is the theme here evidenced by the bumper-pool table. A conversational area fronts the fireplace. The color scheme is parrot green and white and again wicker and parson-styled tables are employed.

Summing up, dens and family rooms, more than any other rooms, offer a builder the opportunity to project the personality of his imaginary family into his product. Yet remember, the watchwords are leisure and comfort—two elements that must be present and credible in the interior design if your models are to be a merchandising success.



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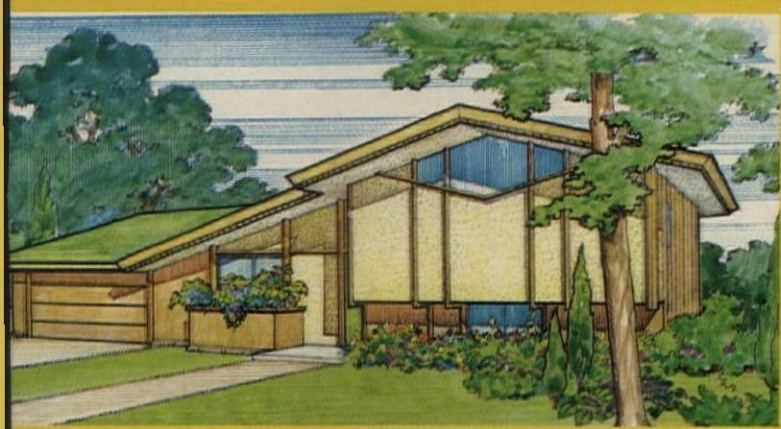
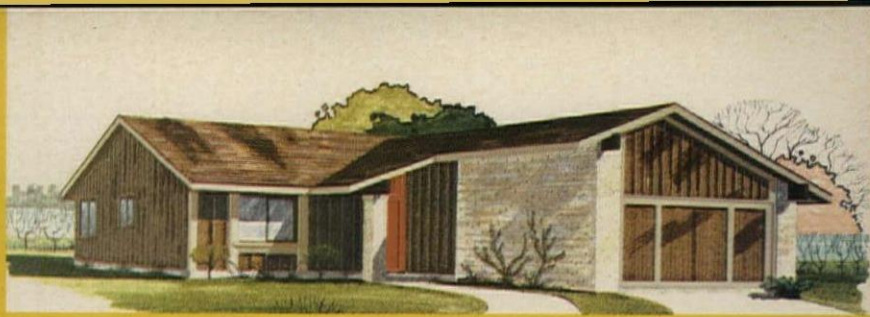
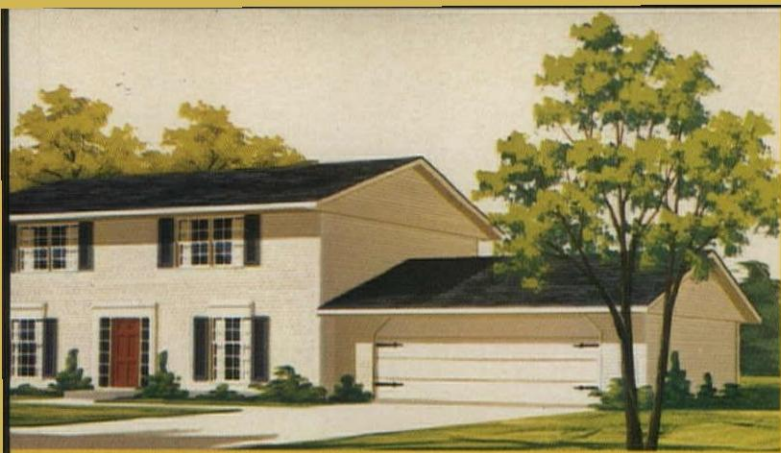
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**"Memo to apartment builders:
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complexes—and they're gaining momentum every day"**

It's time you apartment builders, owners and managers looked over your shoulders at your newest competitor. He's the condominium and/or townhouse builder, and he's gaining on you. In fact, he has the potential to capture much of your future rental market and present tenants, as well.

Until recently, your primary concerns have mainly been the apartment project down the street, or the newly planned complex a mile to the south or the request for a zoning change to multifamily just north of you. But things are changing. Condominium and townhouse projects are cutting into the rental market in a big way in several geographical markets and will do so soon in most others. And it won't just be a project on the next block or a mile away. In urban areas condominiums can pull renters out of projects from a 15-mile radius.

The market. Some of the demand for condominiums comes from empty nesters seeking to underpurchase (for the first time in their lives) in order to prepare for retirement and to have more cash for discretionary spending—traveling in Europe or buying a recreational vehicle, for example. Most of these buyers come from homes; therefore the ability to resell becomes a significant factor. Other prospects for condominiums are the singles—unmarrieds, divorced or widowed.

But the majority of the condominium-townhouse market is comprised of young households—mainly low- to moderate-income renters who have not been able to afford single-family detached homes. There is a pent-up demand that has been building for years, so the relatively moderate-priced condominium or townhouse attracts them. They have no resale problem and, unless they're tied into a long-term lease, no re-renting problem.

In other words, the demand for this kind of housing, unlike demand created by new family formations, can be and is generated without population growth. Thus if you as an apartment builder see no rental units being built or planned in your area, you could easily fall into a trap. You might find yourself overbuilding an area with rental units without realizing the potential effect of your condominium or townhouse competitor. California is a classic example and the leader of the movement. And trends experienced in California over the past couple of years are beginning to show up in other housing markets.

As an example, look at McKeon Con-

struction Co., which brought fourplex rental apartments into the market as low-cost condominiums, revitalizing the building industry. The original McKeon quads were no more attractive to the housing industry than the VW bug was to the automotive industry. However, like the VW manufacturer, McKeon found a hole in the market and satisfied a pent-up demand.

Even now, when McKeon's projects are more expensive and conventionally rather than FHA financed, the company hits home the fact that monthly payments (including principal and interest, fire insurance, taxes and homeowner association dues) are about the same as rent for comparable existing apartments and usually lower than most rents in new apartments. On top of this, it shows prospects a tax savings derived from home ownership which results in less net cost, a hedge on inflation and appreciation.

And McKeon is not the only one using this approach. Levitt & Sons' Casa Cañon condominiums (in Orange County) push the theme: "You can own your own home for less than you can rent someone else's apartment. We said own. With all the advantages of home ownership . . ." And Levitt also includes a cost analysis in its brochure. On top of this, the company's media advertising goes right out and verbally qualifies a young family interested in owning rather than renting: "If your income is \$675 per month, you can own a patio townhome in Anaheim."

On the average, about 70% of the condominium buyers previously rented. Of course this varies with the type of market responding to a particular condominium. The lower-priced shelter projects will attract more renters. However, the same program selling at the same price in two different areas of the same county will show variations. For example, over 75% of the sales at the Grant Corporation's successful Bradford Place townhouses [H&H, Dec. '71] in Stanton, Calif. (Orange County) came from renters. This same program, now being marketed just as successfully in Santa Ana, is only capturing 55% to 60% renters. Correlating with the larger number of buyers who previously owned homes is an increase in median age at the latter project.

Buyer profile. Actually, then, what the apartment builder must do is to study his market even more closely than he has done heretofore. See if the demographics of these condominium and PUD buyers match up

with your renters:

- Average household size is 2.5.
- 80% are married.
- 44% have no children.
- Of families with children the average number of children is 1.5 of which 60% are under 5 years old.
- White-collar workers relate better to condominiums than do blue-collar workers.
- Most condominium buyers had formerly resided within 15 miles; however, in the more sprawling urbanized areas, 40% to 45% had previously resided beyond the 15-mile radius.

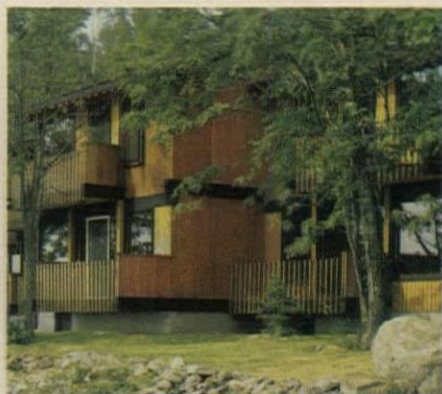
Of the condominium buyers only about half were specifically shopping for a condominium. What sold the others were price, closeness to friends, benefits of home ownership combined with conveniences of apartment living and lack of maintenance (which was of more significance to empty nesters moving from detached homes).

The acceptance of condominiums and townhouses by a large segment of the market has been established. There will now be a tendency to overbuild this type of housing in areas where it has been successful. This in turn will cause more hardship to the rental apartment builder and owner. As major builders look across the nation for new marketing areas, condominiums and townhouses will be offered almost everywhere over the next two years.

Even the inner-city apartment builder will not escape this trend. There are now the beginnings of a very large wave of condominium conversions from existing rental apartments.

Summing up. It's evident that many of you apartment builders and owners must find a way to combat this potential threat. Perhaps you can capitalize on some of the things condominium buyers dislike about their new homes. Many condominium or townhouse projects offer no more privacy than rental apartments. Lack of privacy and the transmission of noise are the biggest complaints. Another significant factor is poor management. We are now seeing problems in some of these projects emanating from local teenagers looking for fun and games.

But your best bet is to develop new marketing programs. One way may be to direct your design and/or merchandising to specific market segments. There are many, but one good example is working mothers needing day-care facilities. Such an approach may be the only way to keep ahead in the race.



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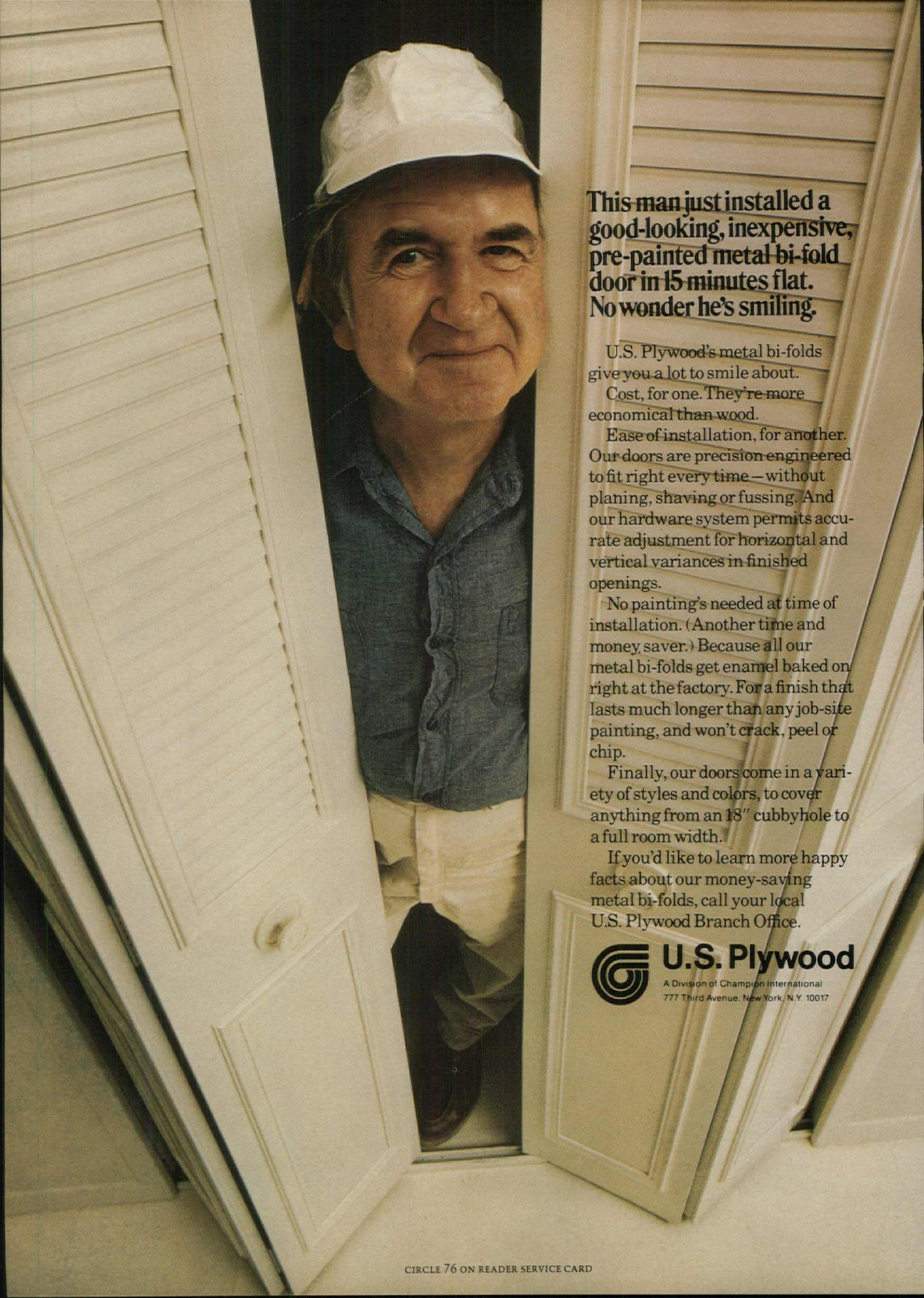
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Wall Street and housing: Who's doing what and with which and to whom?

You can't really talk about modular housing—as we're doing in this issue of *HOUSE & HOUSE*—without also dragging in the subject of Wall Street. So this is as good a time as any to look at the effect The Street has had not just on modular housing but on homebuilding in general, and in particular the current mania for going public.

In theory, at least, Wall Street and homebuilding should get along famously. Housing is a capital-shy industry engaged in a somewhat risky but potentially very profitable business; Wall Street's business is finding investors willing to share that risk for the promise of a handsome return.

But Wall Street itself doesn't share in the risk. It takes its bite when a company goes public and, if things go badly, takes another bite when disillusioned investors sell at a loss. When an industry catches the investing public's fancy, as both mobile and modular housing did recently, The Street pushes out new issues as fast as it can find new companies; when the bubble bursts, as it almost always does, well, that's showbiz; let's go find another hot one.

Wall Street doesn't get hurt, but housing does. For a long time investors are going to think of housing as a particularly bad risk, and solid companies, which are in fact very good risks, are going to find it next to impossible to raise a public nickel.

Then there's the other end of the stick. For a builder, developer or real estate firm, going public is not just a way to raise necessary capital; it is also a way to become very wealthy. The principals keep some stock for themselves, and what happens to the price of that stock gets to be very important indeed—sometimes too important. Then trouble can start.

At the root of the trouble is the fact that housing doesn't generate profits as fast as most other industries. Even a successful project may not show a positive cash flow until three or four years after it starts, and the real gravy doesn't flow till the very end—often seven or eight years after ground is first broken.

Most investors don't understand this, and in consequence a developer's stock may stay unnaturally low in the early years of a project. This is bad for the developer; it means his net worth, his borrowing power and his ability to go back to The Street for more capital all suffer.

In all too many cases the developer (or builder or real estate firm) then tries to force-feed the price of his stock. He may unload some land he'll need later on; he may sell off some good tax shelters; he may buy a marginal company just because its current cash flow is good—anything to improve that bottom line and make the stock look like a better buy.

One result is that he weakens his company over the long haul. Another is that instead of running his business, which is the prime source of his financial well being, he spends most of his energy trying to manipulate his stock. And whatever short-term benefits he may realize from this kind of diddling are going to disappear if his business goes belly-up.

One could say with some justice that all of this is the fault of the developer, not of Wall Street, which does nothing more than provide the machinery and the market for going public. But underwriting new issues of stock is very profitable for Wall Street firms, hence, their urgings to small companies to go public are usually strong and often indiscriminating. Thus many companies that have no business going public are persuaded to do so anyway, to their eventual misfortune.

None of the foregoing is meant to imply that going public to raise needed capital is necessarily a bad move. Many housing companies have prospered on this path, and many others will follow.

The point is, the decision to go public should be made on the merits of the case, not on the instigation of the underwriter. To put it in chauvinistic terms, housing should use Wall Street. If Wall Street uses housing, housing is in trouble.

MAXWELL C. HUNTOON JR.



The two faces of modular housing

noisy failures...
and quiet successes

The wrong people have been making most of the news in modular housing.

Behring Corp. has closed what was 'the biggest modular factory in the country; Stirling-Homex, best known of the modular producers, has gone down the drain; Wickes has shut down operations; the closing of Levitt's big plant seems assured; and there's ample evidence that a lot of other big names won't be around for very much longer.

Such a spate of big, bad news would seem to indicate that modular housing is in real trouble, perhaps even on the way out. Certainly Wall Street thinks so, as evidenced by its current downgrading of modular stocks.

But underneath all the noise generated by the big failures, the real modular-housing industry—still very small—is quietly but surely growing. It's this growth, not the big disasters, that is the important news. And it's this growth, and the way it's being achieved, that we'll talk about in the pages that follow.

First, there's this question of Wall Street's low regard for modular companies. Is it justified? To find out we talked to a specialist in housing stocks who has just written a book on modular companies. That story starts on the next page.

Following that is a close look at the plant operations of two of the country's more successful modular companies. You'll see what sort of plant, what sort of equipment and what sort of production philosophy lies behind the quiet successes.

the two faces of modular housing



who's making it, who isn't and how come?

These are confusing questions, to put it mildly. The big modular disasters are glaringly apparent, but among companies still in production it's extremely difficult to separate the possible failures from the possible or probable successes.

To help put the situation into clearer perspective, HOUSE & HOME talked to Kenneth Campbell, president of Audit Investment Research Inc., investment advisers specializing in housing and real estate, and a former associate editor on HOUSE & HOME. Campbell has just published a book, *Profits and the Factory-Built House, 1972 Update*, which is based on in-depth talks with the managements of 83 modular-housing companies.

Based on these talks, Campbell established four categories: companies that have ceased production (there were 17), companies that were successfully expanding (also 17) and the balance divided almost evenly between those in what he calls a holding or testing stage and those too new to be judged accurately. Examples of all four categories start on page 82.

Even more interesting than the analysis of specific companies is the insight Campbell gained into the current state of modular housing in general. Starting below, he gives his views on whether Wall Street's current opinions are valid, why some experts have been way off base in their initial judgments about modular production, what direction the industry will take and most important, what separates the successes from the failures.

Is Wall Street's present gloomy outlook on modular housing really justified?

No, says Campbell, because the same amount of fallacious reasoning that made the Street bullish about modulars is now making it bearish. In other words, there's been a failure to understand the business from the very beginning.

"It goes back to April, 1969," he says, "when HUD Secretary George Romney announced Operation Breakthrough. This seemed to say two things to people: first, that the federal government was going to stimulate production of industrialized housing and second, that there was an implied promise of government funding on a scale never before attempted in this country.

"There also was an implication that the business would report growth rates approaching 100% a year for five or seven years and that therefore profits would be quite handsome." But what actually happened in the next couple of years, Campbell says, is that while gross production of modular units did increase roughly as predicted, profits weren't so easy to come by. One reason was that the number of entrants into the field created a highly competitive situation, which in turn contributed to a number of companies sustaining large losses and quitting the business. And this struggle for profits combined with recent debacles like Behring and Stirling Homex, Campbell believes, is the source of the Street's current deep suspicions and cynicism. "Wall Street tends to think in concepts and in broad generalizations.

"The net result: Even companies that are performing well are not being recognized. Take a look at Nationwide Homes," Campbell says. "This small company recently reported a 92% increase in its quarterly earnings per share. The stock hit a new low right afterward."

But despite the highly publicized failures and heavy losses by other companies, Campbell is convinced that many firms will make it—particularly those which have gone through the testing stages, have assembled strong managements that can produce and so have a big head start over new companies.

Campbell also contends that a recent conclusion by *Barron's Weekly* that modular is going to be a tough business and that very few companies will survive and make money was too broad a generalization.

"But it is apparent," he adds, "that the investment community isn't going to support new modular operations—for a little while anyway."

Why did the experts guess wrong, and how come?

Principally, says Campbell, because the realities of modular production are very different from the concept. Too many companies—partly because of Breakthrough and partly because of "very, very muddy thinking"—assumed that you could build housing units by the yard, so to speak, and turn them out like gypsum board or plywood or any other industrial commodity. "In other words, they thought you could push a factory button and out would come complete housing units, and they'd be sold like automobiles. That was one wrong analogy. Another was the mobile home.

"People who entered the modular business failed to recognize that there's a major difference between real estate and chattels. Mobile homes are chattels or personal property as are automobiles. Housing is real estate, and a modular is real estate. There's a crucial difference between what happens when you set a mobile home on its pad and put a module on its foundation. A mobile on its pad is still legally mobile—even if the owner doesn't think of it that way. But a modular becomes a house or real estate the minute it's attached to a permanent foundation."

According to Campbell, modular producers are in exactly the same position as any other original equipment manufacturer. You have a piece of hardware—it may cost from \$10,000 to \$15,000—and there's no place to put it. Using the automobile analogy, you haven't any chassis to set the body on. The automobile body can be thrown onto a chassis assembly line and boom, there's an automobile. It's the same with a mobile home. Essentially, there's a large supply of pads that can take the mobile home as it comes off the assembly line.

"But in the modular business, you don't have this continuous line of chassis—a place to put these things and convert them to real estate."

Some people maintain the solution is merely to control the building site, and Campbell admits that some companies have had a moderate degree of success by minimizing investment in plant and maximizing investment in control of building sites.

"But," he says, "it's easy to say, but quite difficult to execute." And he cites one manufacturer who concluded it would be necessary to invest about seven times more money in model homes and control and subdivision of land than would be needed for investment in plants.

Actually, says Campbell, one of the industry's main problems is "the big plant fixation. People want to develop the most sophisticated plants. Some of the biggest fiascoes have been companies that called in appliance or automotive engineers and said, 'build me a very complex plant.'"

Another problem, he says, is that most modular companies started out with faulty estimates of capital needs, and so are currently undercapitalized. Here Campbell's analogy is the on-site home builder who has two sources of working capital not available to the modular builder—suppliers and subcontractors.

"In the modular business subcontractors won't extend any kind of credit based on work done in the plant. They say 'Sure you've got boxes, but you don't have them on the site, and I can't attach them with a mechanic's lien.' Similarly, the supplier says 'You really haven't proven you can sell or install them. I don't want to end up having my bill secured by a big bunch of boxes that may not be usable.' So these two big sources of credit, often the banks for the on-site builder, generally are denied to the modular producer."

Obviously, says Campbell, there were additional reasons why the experts guessed wrong. Among other things the big push from Washington implied that building in a factory would be duck-soup, whereas in reality it's an incredibly complex, logistical and technical business.

"And there were other pressures: The architects came in and said, 'This is the real way to upgrade the design characteristics of housing and get away from the little ticky-tacky single-family box. And let's do all sorts of fancy things ranging up to Habitat.' They tried to impose a mission—leadership in design—on a learning-kind-of-business. It created a load that was impossible for many companies to bear."

Despite the problems, some companies are making it. How come?

Basically, says Campbell, the successful companies follow certain key patterns.

First, they tend to operate with a very low profile. They haven't looked at modulars as an opportunity to promote their stock.

Second, with the exception of one or two

of the expanding companies, most decided that Operation Breakthrough would give them only moderate benefits. So they ignored it, went their own way and did their own thing.

Third, they pay a lot of attention to logistics—weather and transportation details, for example—which are particularly critical in multifamily operations.

"Take weather," Campbell says. "Once modules leave the plant, they're very vulnerable. If you're building a typical three-story garden apartment, the minute the shipping wrapping is removed, gypsum board ceilings on lower floors are exposed until the third tier of modules is put on. So any threat of rain in the morning kills you for the day."

"Then there's the site itself. If it rains, you probably need a dry-out time before you can get your trailers onto the site. So while you can build inside away from the weather, you're vulnerable once the installation process begins."

Campbell is convinced that one of Stirling Homex's big problems stemmed from this year's exceptionally wet spring in the Northeast. "They just weren't able to as-



Kenneth Campbell

semble or install any modules during that period."

Regarding transportation, Campbell visited an apartment-project site where it wasn't possible to keep a flow of modules to the site crew, even though the project was only two miles from the plant.

"Three trailers would be lined up in a row, and they would wait an hour while the crew worked continuously; then the ground crew would wait for 45 minutes or an hour until the next big string of trailers arrived."

So, says Campbell, since most contracts for modules call for payment of construction draws only when the modules are on the site, as the day for the draw comes closer a successful company's money man watches the flow of modules every hour of the day. If there's a delay, they'll work overtime to make up the lost time—even at premium pay—to get enough modules on foundations so they can get their cash to meet the payroll. That's why to be successful it's imperative

that a company must know its logistics.

A fourth sign of expanding companies, says Campbell: They tend to keep most operations as simple as possible. Many—at least those building wood-frame units—are essentially glorified wood-working shops where the efficiencies lie not in the way modulars are put together but in the way raw materials are bought.

"Look at it this way," says Campbell. "Labor is about 21% or 22% of the typical house, the materials about 56%. If you save 4% or 5% on material costs you've made a bigger proportional contribution to profitability than you can by cutting the percentage of man hours or pay scale. So these companies emphasize the economies of buying as opposed to the economies of labor."

A fifth indication, Campbell finds, is that successful companies do almost no sub-assembly or component work. They keep inventories to a minimum. They don't get involved in big capital expenditures either for the plant or the equipment inside it. Thus, they have minimal exposure on their investment.

And, he adds, they're doing what he is sure appalls architects and land planners: They're producing simple boxes which, with a few exceptions, are not architecturally attractive.

"But they have the advantage of making money for their producers. And that's what the business is all about."

What direction will the industry take, and is there room for newcomers?

The way Campbell sees it, the successful modular producer is going to be essentially a homebuilder who happens to build in a plant. And this, he maintains, "requires a great deal more capital than anyone in his wildest imagination has ever required. Anyone who wants in should be prepared to take a very high risk on his money.

"If you haven't been in the building business, forget about modulars. When companies like Behring and Levitt, long in the home-building business, can't make it in modulars, then I don't see much hope for a neophyte. The latter is going to come in and concentrate on plants and construction processes. He'll lose his shirt simply because that's the wrong thing to worry about."

Campbell strongly believes the best chance for success lies with building industry people who see modulars as a way to serve a market. But, he insists, they have to know their market, select a market they want to serve, then build a plant to serve this market. "Don't do it the other way round," he cautions. "Don't buy a plant and go out looking for a market. It's backwards."

A typical company on the right track, according to Campbell, is Nationwide Homes of Martinsville, Va. The company is sponsored essentially by Ralph Lester who has had long housing experience.

In 1969 Nationwide began producing a few modules in a 24,000-sq.-ft. plant. The first were virtually hand-crafted; then the com-

pany developed a production line. But for a long time this was the smallest plant in the industry, and nobody gave it passing notice. Meanwhile Nationwide was building a dealer organization comprised basically of local real-estate developers—subdividers who didn't want to be general contractors but who needed a product to put on their lots.

This market relies to a great extent on Farmers Home Administration financing and some FHA loans, and it is relatively less restrictive in the areas of building codes and zoning. So, says Campbell, Nationwide was essentially stimulating a market which really lacked skilled craftsmen and, at the same time, didn't have many of the restrictions found in urban multifamily areas.

Once it had developed its product and market, Nationwide decided to expand and a year ago built a new plant that effectively quadrupled its capacity. The previously mentioned 92% increase in quarterly earnings was the first real reflection of this increase.

"So today," says Campbell, "the company has a plant that's on its books for not more than \$1 million. It doesn't have any deferred start-up expenses or a lot of other things that could be called negatives. What it does have is a viable product in a viable market.

"Nationwide is not going to get rich. Sales probably will not even get up to the \$10 million mark this year; it may take another year. But I believe that five years from now this company is going to be much bigger. It has developed an expertise in a method of operation that the others haven't. And it has done it without fanfare. This is the safest way. If the operation had folded in 1969 or 1970, what would have been lost? Maybe \$100,000 on a tiny plant.

"It was a small company and couldn't afford a big exposure, so it went in with what it could afford. There were no grandiose plans. The company went in on an experi-

mental kind of basis, made it work. That's the way I would enter the business."

All of which brings Campbell to the subject of who should not get into modulars—namely the big, blue chip industrialized companies.

"They tend to overlay this business with the bureaucracy of an industrialized organization. They tend to think in oversized terms—for example, the Fruehauf and Inland Scholz plants, which are going to be huge. They appear to have very little relationship to the industry as we see it evolving—companies closely attuned to the needs of the on-site builder rather than companies that just push things out of the factory door. So we feel companies producing appliances, or steel or automobiles have a very slim chance of making it."

Campbell admits that there are a couple of exceptions to this rule—Boise Cascade and AVCO for example. The reason, he says, is that they are relatively free-form in their operations. Managers can meet and serve the market as they see it. Both have somewhat stronger financial resources than many others in the business. And both are in the single-family home field, which, he believes, offers the best opportunity for the modular industry.

Campbell has some additional thoughts on what separates a potential success from a potential failure:

"One good indication is a comparison of installation figures vs. numbers of modules produced. A lot of companies have backed off from reporting this data because they claim it is competitive information.

"But as it turned out in the case of Stirling Homex, numbers weren't revealed because the company was ashamed of them. And when the financial community finally discovered that only 30% of the units produced over a three-year period had been installed, it was a startling discovery. This is one of

the main reasons why the entire industry is in the dog-house right now."

So Campbell believes that absolute candor about such data is essential.

"The automobile people learned this early in the game, but the modular industry has been very lax about it. The company that won't discuss inventory and installation numbers probably has a problem. That's one lesson from the Stirling Homex situation that the industry should never forget."

Campbell believes that those companies that are just now emerging are going to be "interesting, viable companies. But the business is going to be a much different kind of business than many people have envisioned up to now."

Following are eight encapsulated case histories selected from Campbell's book. His analyses and figures are based on data available in mid-July. His four categories are defined thus:

- *Expanding companies*—those far enough into modular housing to satisfy their managements that profits justify expansion.

- *Holding- or testing-stage companies*—those that have significant experience, but whose management, in Campbell's judgment is not ready to commit itself to expansion.

- *New entrants*—those which, in Campbell's judgment, have had only limited operating experience and so cannot be definitely placed.

- *Departing companies*—those which have actually ceased or are phasing out modular production.

The examples are presented in the reverse order—from the bottom up to so speak, and leading off is the noisiest failure of them all—Stirling Homex—which was in bankruptcy, but not yet out of business when the book was written.

—JUNE R. VOLLMAN

A company that didn't make it

STIRLING HOMEX CORP. (OTC)					
Fiscal year ends July 31					
Common shares: 8,849,200 outstanding as of July 31, 1971 1,379,310 reserved for conversion of 500,000 sh. of pfd.					
STATISTICAL RECORD (Dollars in millions)					
Year	Sales	Earnings	Earn./Share	Price range ^a	P/E ratio
1969	\$ 9.64	\$1.08	\$0.13	None	None
1970	22.55	2.04	0.24	51½-8¾	214-36
1971	36.85	3.25	0.37	26%-11¾	72-32
Interim:					
10 Mos. May, '72	16.97	26.31 ^d	3.03 ^{bd}		
^a For calendar years shown.					
^b After preferred dividends of \$0.09 per share.					
^d Deficit					

Stirling Homex, whose organizers were heavily experienced in on-site construction, began operating in August, 1968 as the largest company exclusively set up to produce modular housing. Its 215,000-sq.-ft. plant (expanded in 1971 from 140,000 sq. ft.) produces wood-frame modules for townhouses. Some components are produced nearby.

In February, 1970 the company went public, offering 1,175,000 shares at \$16.50. The stock price more than doubled in early trading, ultimately reaching a high of 51½. Then in 1970 and 1971 evaluation of company prospects dropped the shares to near the offering price. And when the company's accounting

methods came under criticism, a July, 1971 preliminary prospectus for a proposed offering of 500,000 preferred shares had to be revised twice.

This led to a reported loss in the nine months through April, 1972 and one month later to the election of Paul M. Kuveke (former vice president and treasurer) as president and chief operating officer. His report disclosed an inventory of 10,000 modules which had not yet been installed and also that the company was not in compliance with certain covenants contained in agreements under which it had obtained \$38 million in bank loans. The stock price declined to below \$5.

On July 10, the company filed a Chapter X bankruptcy petition. Share prices fell to under \$1.

A year before, the company had veered from its original marketing strategy of selling to public housing agencies under firm bid or turnkey contracts to selling to builder/developers; later, early in 1972, it announced it would sell to single-family house builders—in other words to customers who could provide cash progress payments, thus reducing the need to carry receivables for extended periods.

The backlog situation may explain this strategy change. In its initial February, 1970 offering, company backlog was reported at \$30 million as of December 31, 1969. In its July, 1971 prospectus backlog was reported at \$179 million, including a \$100 million order (from a nonprofit sponsor) that was contingent upon completion of a Gulfport, Miss. plant (originally announced in 1971, then delayed) and \$59 million subject to fulfillment of one or more conditions. Then in March, 1972 the backlog was reported as \$207 million as of January 31. This included the \$100 million contract deliverable over six years.

But the fact that backlog for the company has come to mean orders without cash progress payments, without firm delivery schedules and without hope of near-term construction in some instances gives the term backlog an imprecise connotation.

The company reports manu-

facturing sales and profits whenever a module is produced and assigned to a specific contract. Revenues and profits on installation work are recorded on a percentage-of-completion basis. The above-noted imprecise definition of backlog has permitted recognition of sales and earnings on production of nearly all modules, even though contracts have not permitted the company to bill for work done.

Thus a major portion of receivables carried on the company's books has consisted of unbilled receivables. On July 31, 1971 total contract receivables were \$35.02 million, of which \$24.63 million (about 70%) were unbilled. A year earlier only \$4.63 million (about 30%) of \$15.19 were unbilled.

This accounting policy has permitted the company to recognize significant gross profit in its manufacturing division while the installation division operated at or near breakeven.

Unfortunately, the realities of cash flow meant that unbilled receivables represented inventory which the company had to support through borrowing.

A look at production versus installation further explains the above figures. (The company has not provided investors with a clear picture of modular production, but some parameters can be gleaned from prospectus and other sources.)

From its inception in August, 1968 through December, 1969, Stirling Homex produced 4,283

modules for 1,136 dwelling units. Total production for fiscal 1970 (which overlapped five months of the above period) was 5,184 modules. During the nine months through April 30, 1971 an additional 4,526 modules were produced. Total production for fiscal 1971 was not disclosed.

During fiscal 1970 only 1,281 modules were installed, and for the nine months through April 30, 1971, 1,740 were installed—or 31.3% of total production for the combined period. On April 30, 1971 the company reported the remaining 6,689 were stored at the plant (43%) and at construction sites or were in transit. On May 10, 1972 the number of uninstalled modules was reported to have risen to about 10,000. But the company expected to reduce this to 5,500 by the end of calendar 1972. The announcement also noted that \$7.4 million had been provided for refurbishing stored modules through April, 1972.

Thus, cash flow is a major consideration in evaluating the company's current position and potential. For fiscal 1970 cash receipts of \$10.77 million equalled about 48% of \$22.55 million sales reported. In the nine months through April 30, 1971 cash receipts of \$9.02 million declined to about 26½% of the \$24.65 million reported sales. A major portion of sales not matched with cash receipts was financed by bank loans.

The company's bank credit lines in July, 1971 consisted of

a line of 90-day unsecured notes with interest rates ½% above the prime rate. In its July, 1971 prospectus the company stated it was negotiating for one-year revolving credit under which it could borrow up to 60% of specified receivables up to \$25 million. This agreement was not signed and another (for which terms were never publicized) was substituted. But the May, 1972 announcement said that bank loans then approximated \$38 million under agreements to provide Stirling Homex and a financing subsidiary (U.S. Shelter Corp.) up to \$55 million.

As noted earlier, the company said it was not in compliance with certain covenants in these agreements and when not in compliance, banks holding two-thirds of the amount drawn could declare the loans payable at any time. In consideration of the involved banks lending additional funds, and pending compliance, land and buildings owned by the company were mortgaged to the banks, and David Stirling Jr. and William G. Stirling (chairman and vice chairman) agreed to pledge their stock as security for the loans.

Other capitalization includes 500 shares of \$2.40 cumulative convertible preferred stock, convertible into shares at 14½ per share and carrying an involuntary liquidation value of \$20 million. There also is common stock with a carrying value of \$13.8 million after evaluating preferred at liquidating value. ■

Two companies just getting under way

BETHLEHEM STEEL CORP. (NYSE)

Owns 80% of Multicon Properties Inc.

Fiscal year ends December 31

Common shares: 44,012,000 outstanding as of December 31, 1971

STATISTICAL RECORD (Dollars in millions)

Year	Sales	Earnings	Earn./Share	Price range	P/E ratio
1969	\$2,927.7	\$156.5	\$3.56	36%-26½%	10-7½
1970	2,935.4	90.1	2.05	30%-19½	15-9½
1971	2,963.6	139.2	3.14	30½-20¼	10-6½

Interim:

3 Mos. March '72	701.3	25.0	0.56
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Bethlehem's modular operations are conducted through Multicon, which it acquired in

1970. Multicon, a Columbus, Ohio-based developer of apartment projects, has concentrated

in recent years on gaining experience in industrialized housing and last year developed a condominium project in the Cleveland suburb of Shaker Heights. Units selling for an average of \$35,000 were supplied by the DeLuxe Homes division of Fleetwood Enterprises (which recently suspended operations). But late last year Multicon acquired a 190,000-sq.-ft. modular plant in Delaware, Ohio, from Kaiser Aluminum & Chemical (which never started operations) and has begun producing wood-frame units priced \$20,000 to \$55,000.

For the present the company expects to continue to produce solely for its own developments. However, once enough experi-

ence is gained to begin marketing to independent builders/developers, Multicon expects the bulk of its sales will be to independents.

Although no figures on sales and earnings have been publicized, the operations are believed to have resulted in operating losses—depending on the amount of deferrals—through early 1972. An estimated production of 500 units could result in 1972 sales of about \$17.5 million (at about \$35,000 per unit) when units are sold to individuals. However, closing of all units is not likely in 1972. ■

TONEXT PAGE

FRUEHAUF CORP. (NYSE)					
Fiscal year ends December 31					
Common shares: 8,739,717 as of March 31, 1972					
STATISTICAL RECORD (Dollars in millions)					
Year	Sales	Earnings	Earn./Share	Price range	P/E ratio
1969	\$536.85	\$26.39	\$3.03	48-32	16-11
1970	450.12	17.76	2.03	42-23	21-11
1971	482.96	19.36	2.21	40-31	18-14
Interim:					
3 Mos. March, '72	129.66	5.76	0.61		

Fruehauf entered the modular housing field hoping to utilize its expertise in container manufacturing. The company builds steel-frame modules and has erected 108 homes in Michigan.

A standard two-story townhouse, consisting of four modules is expected to be builder-priced at \$12,000 including erection on a permanent foundation. The retail price, depending on lot

cost, will range from \$17,000 to \$25,000.

As of April Fruehauf was producing its units at a pilot plant at Ypsilanti, and the company anticipated production would begin at its first permanent plant—a 350,000-sq.-ft. facility in Milan, Mich.—in July. The Ypsilanti plant will be closed when operations at Milan are on stream.

The company has already sold some of the 79 planned townhouses at its Belle Villa townhouse project in Belleville, Mich. In conjunction with Thompson-Brown Co., a Detroit area developer/builder, Fruehauf plans to erect and merchandise 200 townhouses at River Bend where about 29 homes are already built.

But management indicates that further manufacturing of units for both River Bend and Belleville may be delayed due to high production costs at Ypsilanti.

As of December, 1971 stockholders' equity of \$230.3 million represented about 57% of total capital. Long-term debt amounted to \$117.1 million. The cost of the Milan plant, including land, amounts to over \$8 million.

Two companies still in question

UGI CORP. (NYSE)					
Fiscal year ends December 31					
Common shares: 4,110,044 outstanding as of March 31, 1972					
STATISTICAL RECORD (Dollars in millions)					
Year	Sales	Earnings	Earn./Share	Price range	P/E ratio
1969	\$73.2	\$7.0	\$1.88	29-18	15-10
1970	87.2	5.3	1.42	27-19	19-13
1971	103.5	8.0	2.09	26-19	12-9
Interim:					
3 Mos. Mar. '72	35.6	3.8	0.93		

UGI Corp., a Philadelphia-based utility, is involved in modular production through its wholly-owned subsidiary, UGI Development Co. The latter, through two of its subsidiaries, manufactures single-family homes and modular classrooms and offices.

The single-family home operation is conducted under the banner of Capital Industries Inc., a majority-owned (80%) subsidiary in an 86,000-sq.-ft. plant at Avis, Pa. Two lines are produced: the Crusader, which sells for below \$10,000 and the Royalty, which consists of eight models priced from \$17,000 to \$30,000. Capital sells in 16 states through builders/dealers as well as retail through its Royalty Homes sales operation.

The company's modular classrooms and offices are produced in a 230,000-sq.-ft. plant at Oswego, N.Y. by Sectional Structures Inc., a wholly-owned

subsidiary. Production of single- and multifamily units was due to begin in June. Sectional, which has its own staff to sell multifamily units, classrooms and offices in 15 states, will retail its single-family homes through Capital's Royalty Homes operation.

Capital began production in September, 1971, and although it averaged only two units per day through the balance of 1971, production has now almost reached the plant's maximum capacity of six-per-day. Sectional started producing in September, 1970, but no maximum production figures are available because operations have been on an erratic basis.

During 1971 Capital's unit sales climbed to 627 from 349 in 1970. Sales rose to \$7.3 million, up 49%, while net income climbed to \$177,000 in 1971 from \$43,000 in 1970. Startup

costs cut into earnings in 1971. Sectional's sales came to \$3 million in 1971, up from \$2.1 million in 1970. However, a net loss of \$539,000 was sustained in 1971 due to the change in emphasis from commercial and educational to residential units. UGI, whose modular operation

represented less than 10% of 1971 sales, expects sales and earnings improvement from both Capital and Sectional in 1972.

ALBEE HOMES INC. (OTC)					
Fiscal year ends June 30					
Common shares: 1,738,690 outstanding as of June 30, 1971 202,345 reserved for conversion, exercise of warrants and options					
STATISTICAL RECORD (Dollars in millions)					
Year	Sales	Earnings	Earn./Share	Price range ^a	P/E ratio
1969	\$2.10	\$1.53 ^d	\$0.92 ^d	14 $\frac{3}{4}$ -4	^d
1970	3.02	1.98 ^d	1.18 ^d	13 $\frac{1}{2}$ -1 $\frac{1}{2}$	^d
1971	3.77	1.15 ^d	0.66 ^d	5 $\frac{1}{2}$ -2 $\frac{1}{2}$	^d
Interim:					
6 Mos. Dec. '71	3.64	0.13	0.04 ^c		
^a Price range for calendar years indicated.					
^b Before tax credits of \$0.03 per share.					
^d Deficit.					

Albee produces wood-frame sectionals and apartment units at a Niles, Ohio, plant containing 70,000 sq. ft. of assembly and cutting area and about 100,000 sq. ft. for materials storage. Capacity of the plant, which is served by two rail sidings, is about 2,000 houses per year on a single-shift basis, and in May the company was producing three per day with one full and

one skeleton shift.

Albee's marketing thrust is two-pronged. Speculative units are erected in company-owned subdivisions—primarily in the Niles-Youngstown area—and sold by its own sales-force for \$25,000 to \$35,000 including lot. Other production, predominately multifamily units, is earmarked for large contracts. For fiscal 1972, about 37% of pro-

duction was for Section 236 units, about 27% for speculative use, about 23% for sale to public housing agencies and the balance to miscellaneous buyers. Section 236 and public housing sales are on firm contract after Albee submits firm proposals based on sponsors' specifications.

In the late 1950s, the company began primarily as a precast house manufacturer, and in fiscal 1965 its sales reached \$17 million. Subsequently, sales declined to a low of \$2.1 million in fiscal 1969, and the company's

struggle to repay a \$14.8 million bank debt without loss of principal was completed in fiscal 1969. In July of that year Albee obtained a \$1.5 million convertible promissory note which led to the start of its present operations. Losses totaled \$7.9 million in the six fiscal years through 1971 and reduced shareholders' equity to \$1.67 million by the end of 1971.

The company's speculative single-family houses are financed through conventional and FHA mortgages. For other production a local bank provides

50% on finished goods inventory under a standard collateral loan agreement. In May the bank had loaned \$150,000 on single-family units and \$288,000 on units being erected by the company in a Sec. 236 rental project near its plant. This arrangement, which allows Albee to borrow about 50% of the cost of modules during plant assembly and to recover direct costs and profits when modules are placed on foundations, but not necessarily accepted for final inspection, makes the company vulnerable to rainy weather.

Sales for the first half of fiscal 1972 indicated full-year figures in the \$7.7 to \$8 million range. Of this indicated total about \$3 million was estimated from the aforementioned 236 project, about \$1.8 million from public housing units in Pennsylvania and about \$2.2 million from single-family houses sales. ■

Two companies on the way up

NATIONWIDE HOMES INC. (ASE) Fiscal year ends March 31

Common shares: 749,631 outstanding as of March 31, 1972
49,500 sh. reserved for options

STATISTICAL RECORD (Dollars in millions)

Year	Sales	Earnings	Earn./Share	Price range ^a	P/E ratio
1969	\$1.91	\$0.29	\$0.48	10¼-2	21-4
1970	2.62	0.39	0.56	9½-6¾	16-12
1971	2.89	0.41	0.55	7¾-5½	13-10
1972	4.72	0.50	0.66	16¾-5¾	25-9

^aFor calendar years prior to fiscal years shown.

VINDALE CORP. (OTC) Fiscal year ends February 28

Common shares: 1,173,000 outstanding as of June 27, 1972 (adjusted)
28,575 reserved for options

STATISTICAL RECORD (Dollars in millions)

Year	Sales	Earnings	Earn./Share	Price range ^a	P/E ratio
1970	\$19.63	\$0.64	\$0.68	NM	NM
1971	23.47	0.68	0.66	10¼-6¾	16-9
1972	30.75	0.99	0.84	17¾-8	21-10

All share amounts adjusted for 50% stock dividend to be distributed July 28, 1972 to shareholders of record July 12, 1972.

^aPrice range for calendar year preceding fiscal year shown.
NM—No market; initial offering Oct. 14, 1970.

Nationwide began producing its wood-frame sectional units in 1969 at a 24,000-sq.-ft. plant in Martinsville, Va. In the fall of 1971 the company's production capacity was quadrupled when it opened a 120,000-sq.-ft. addition. Panelized-house production has also begun.

About two-thirds of its production is sold through a network of builder-dealers and the remainder on lots developed by the company. Builder-dealers average about 12 houses per year with the bulk of sales concentrated in suburban or rural areas within a 300-mile radius of the plant—although some are shipped farther. A deposit of under 10% of the \$8,000 to \$12,000 dealer price is generally required upon receipt of an order; company-marketed units are sold under third-party financing arrangements.

Before getting into the sectional business, Nationwide was an on-site builder, selling many units under installment or land-sales contracts. These are carried

at \$5.99 million as of March 31 before discounts of \$583,000. As of that date the company was capitalized with \$5.26 million shareholders' equity and \$2.54 million long-term debt, including a \$2.5 million term loan (entered into March 15, 1971) which calls for interest at the New York prime rate plus 1% within ranges of 7% to 9½%. Total company assets are \$9.13 million, including total receivables of \$5.93 million net, inventories of \$1.11 million and \$1.28 million net property and equipment. Net sales of houses in fiscal 1972 were \$3.99 million, up 84%. Unit volume in June was reported at 12 houses weekly, about half modular and half packaged houses. The company's housing operation produces about a 31% gross profit margin, one of the industry's highest. Nationwide, which has two-story units on the drawing board for use in garden apartments and townhouses, states it is in a position to double production this year. ■

Vindale produces mobile homes and sectional houses in four plants: Brookville, Ohio (147,000 sq. ft.); Crossville, Tenn. (90,000 sq. ft.); Tallahassee, Fla. (112,000 sq. ft.); and Ada, Okla. (95,000 sq. ft.). These plants have a combined monthly capacity of 425 mobiles and 225 sectionals. Wood and steel frame sectionals, selling for \$8.75 per sq. ft., are mainly sold through the company's established mobile home dealers, many of whom previously branched into mobile home park development and more recently into separate sectional house subdivisions. About 80% of the sectionals are presold by dealers, so invoices are generally paid promptly. Sales are balanced between urban fringe areas and smaller towns, and the company maintains that shipping costs are no barrier to sales up to 500 miles from its plants. No sectional or mobile homes are built for inventory.

Vindale, which began operations solely as a mobile home

manufacturer, got into sectionals in 1968. Since then sectional sales have grown from 9.4% of total sales in 1969 to 23.1% for fiscal 1972.

The company is capitalized with \$5.86 million in shareholder's equity or about 69% of total assets of \$8.54 million. Working capital is \$2.82 million, and the company has no long-term debts. As one of the more fully integrated mobile and sectional home manufacturers, Vindale has somewhat slower turnover of receivables and inventory than other mobile home companies. Fiscal 1972 operations returned 20.1% on shareholders' equity. The company hopes to open one new plant annually at a cost of \$1.25 to \$1.35 million, using cash flow and retained earnings to finance the expansion. ■

the two faces of modular housing



The key to quiet success:

think **Small**

MODULAR HOUSING SYSTEMS

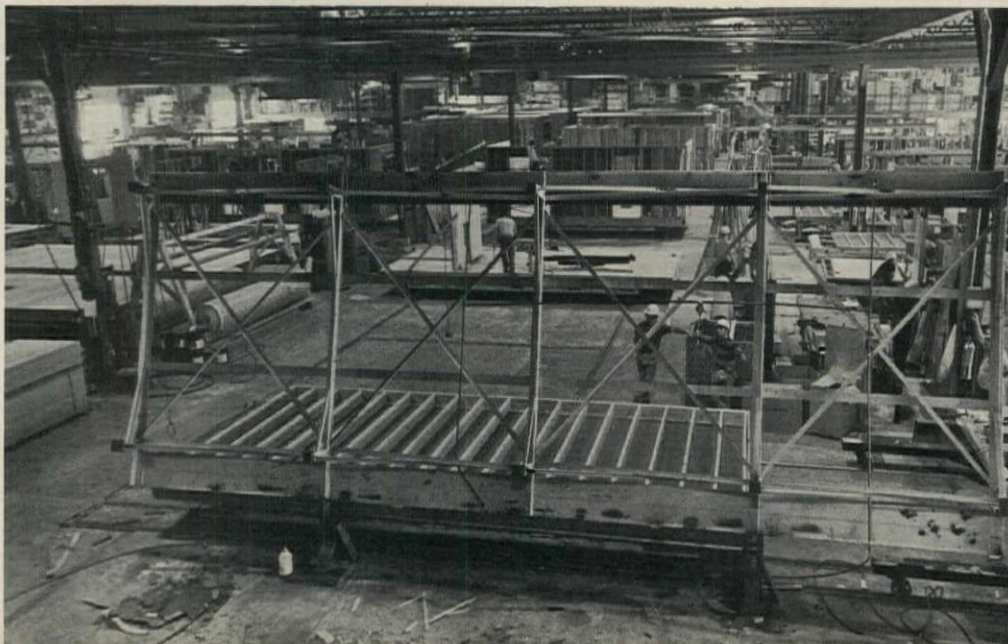
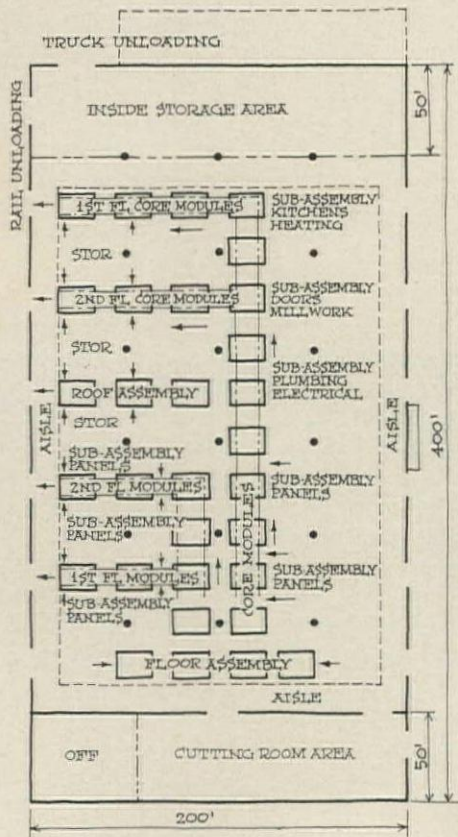
Recently acquired by U.S. Financial Corp., this company has a 100,000-sq.-ft. facility in Northumberland, Pa.

First-year output in 1970 was 500 units worth \$5.5 million; this year's projection is 1,300 units at \$20 million, says Executive Vice President Joseph C. Grasso.

An integral developer-builder-constructor, MHS produces multifamily units for its own rental and condominium projects, most of them conventionally financed.

TO PAGE 88

JOHN ASHWORTH



So say two modular builders who, for the moment at least, are operating profitably in a business where disaster is more the rule than the exception.

Thinking small does not mean limiting corporate aims; both companies are looking towards strong expansion. Rather it means holding down capital costs so that a company can make money despite the inevitable ups and downs that the vagaries of the housing business force on modular production.

Salem House produces single-family modulars, or sectionals, and has the usual seasonal problems in both site preparation and sales. Modular Housing Systems produces and develops multifamily modular units, and so has seasonal site problems plus the additional woes of zoning and construction scheduling.

For both companies these factors tend to create violent swings in demand—periods when the factory is hard pressed to keep up, alternating with periods of low demand where an overly expensive plant might not break even.

To deal with these swings, Salem and MHS run lean, no-frills production operations that can still make money at a fraction of full-plant capacity.

For Salem House, the break-even point is one house per day, compared with a capacity of three per day on one shift; for MHS the comparable figures are two and a half units per day vs. a capacity of five per day on one shift.

Low capital costs make these low break-even points possible. Salem's original plant and equipment price tag was a mere \$695,000—peanuts compared to some of the industry's more elaborate setups. And MHS, somewhat larger and more sophisticated in production equipment, has only \$1,200,000 invested. (Roughly speaking, each company has a break-even point of one unit per day per \$600,000 of capital cost.)

Keeping capital costs down is also an advantage for both companies' future marketing strategy. They can afford to expand by building new plants in new marketing areas rather than having to hold high production in a single plant and pay high transportation costs to the new markets.

A walk-through tour of pictures on the next six pages shows how both companies combine simplicity and efficiency in their factories.

—J. MICHAEL STIMSON

SALEM HOUSE

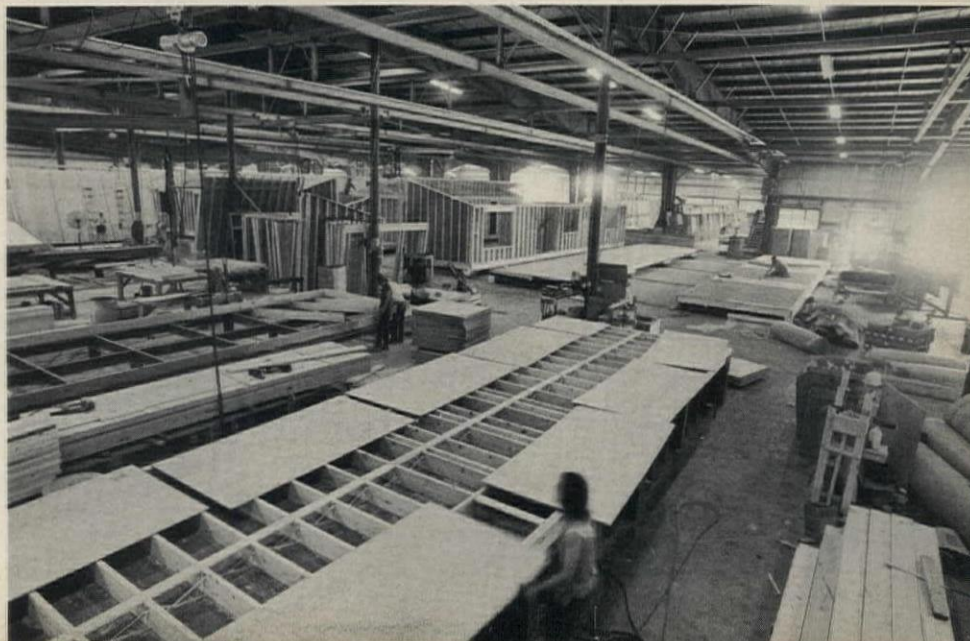
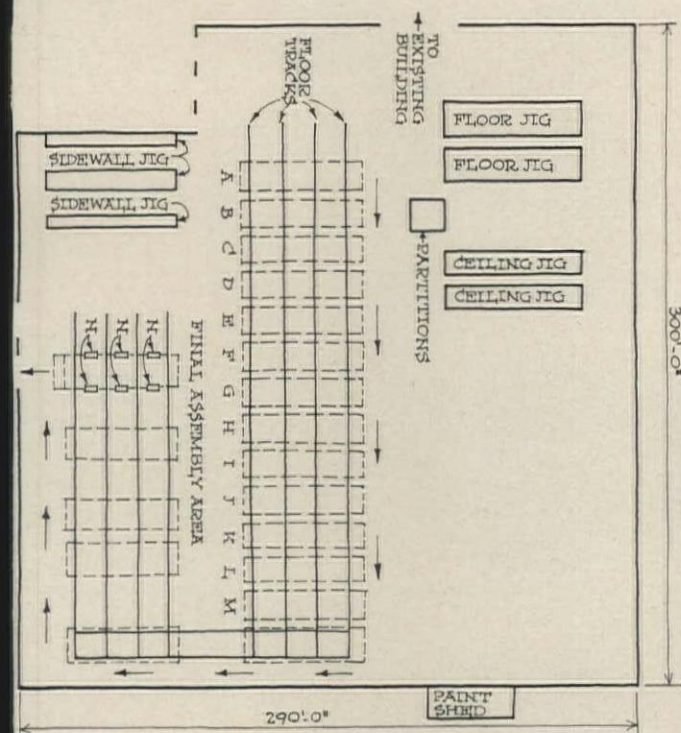
A division of Hodgson Houses Inc., Salem House operates an 85,000-sq.-ft. plant in Berwick, Pa.

Production began in April, 1969 with a first-year output of 56 units valued at \$65,000. Volume has just about doubled every year since; by 1974 the addition of five or six new plants will bring sales up to at least \$21 million, says Hodgson Houses' president Raphael D. Silver.

Salem's sectional houses sell for \$10,000 to \$15,000 f.o.b. and are marketed through dealers, chiefly in Pennsylvania.

TO PAGE 89

JOHN HILL



Preassembly techniques: where economies begin

MODULAR HOUSING SYSTEMS

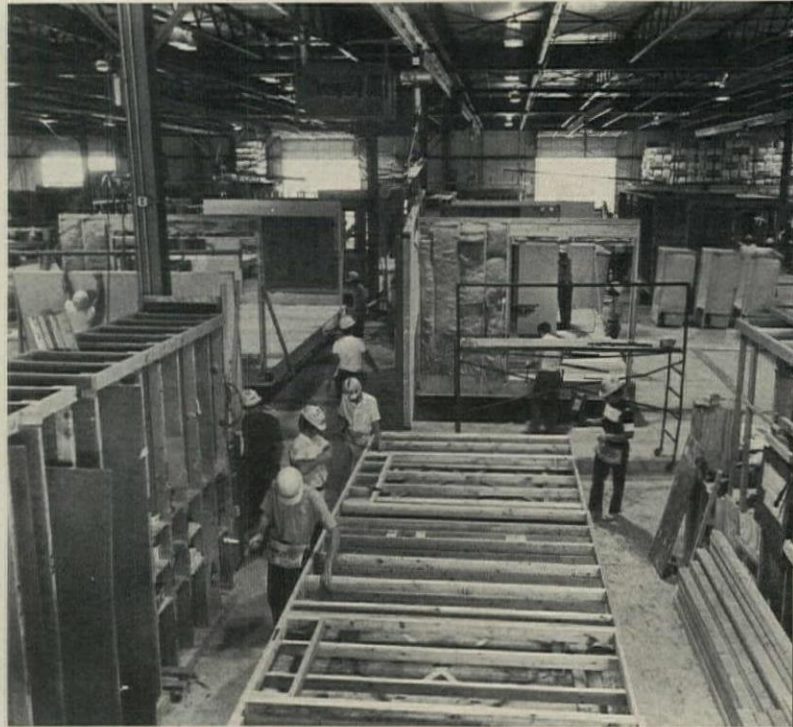
CONTINUED

"Keep it simple, keep it moving," is the way to run a modular assembly line, says Grasso. Simplicity is vital because complex automated equipment puts a prohibitive overhead burden on each house, and if it breaks down, the whole assembly line stops until the malfunction can be repaired.

Modular Housing Systems does virtually all its own subassembling in plant. Wall panels, for example, are hand-nailed on simple jig tables (1) before being fed to the main assembly line, and small framing members (2) are precut in batches by power saws. Just about the most complex tools in the plant are pneumatic hammers (3).

The company prefers to buy prefinished interior paneling and exterior materials to eliminate drying headaches.

TO PAGE 90



1
2
3



PHOTOS: JOHN ASHWORTH

SALEM HOUSE

CONTINUED

"Many people don't realize that less than half of a worker's time is spent productively," says Silver. "The rest is spent getting in and out of work positions. And no amount of machinery will cure that."

This, he adds, also increases the overhead burden of idle machinery on each unit produced and so is one more argument for cutting to the bone on plant equipment.

There are a few minor points of difference between Salem and MHS. For example, Salem House buys some components such as preassembled half-trusses for the roof, foreground in photo (4), and pre-hung doors. The company also favors wet processes such as painting (5) and spackling (6).

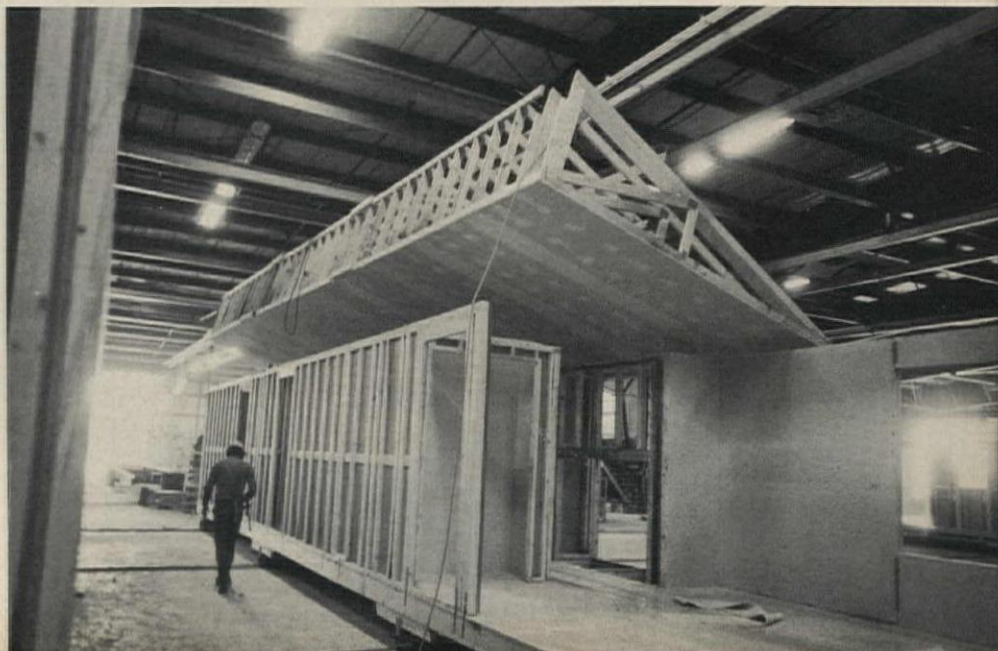
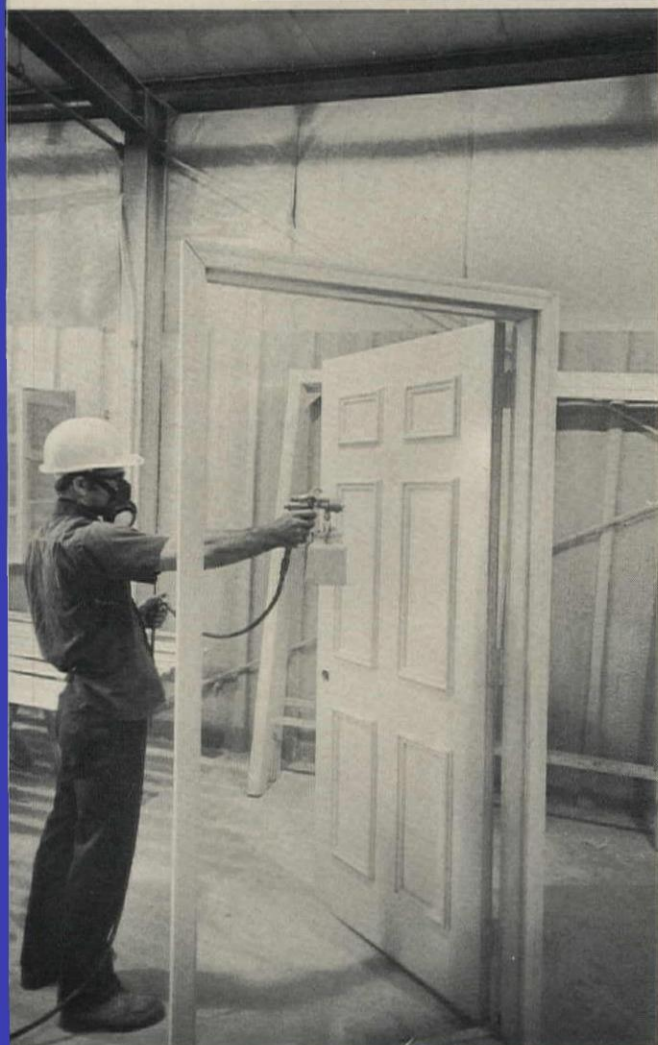
TO PAGE 91



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6



MODULAR HOUSING SYSTEMS CONTINUED

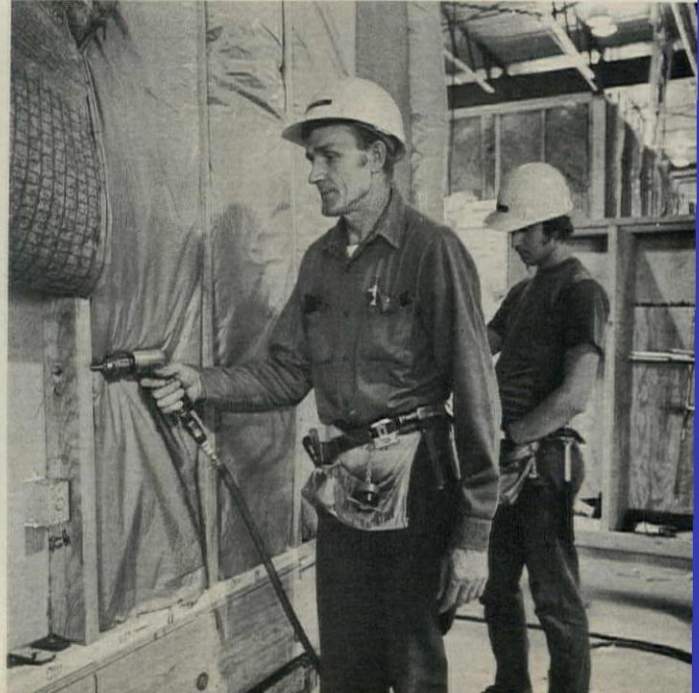
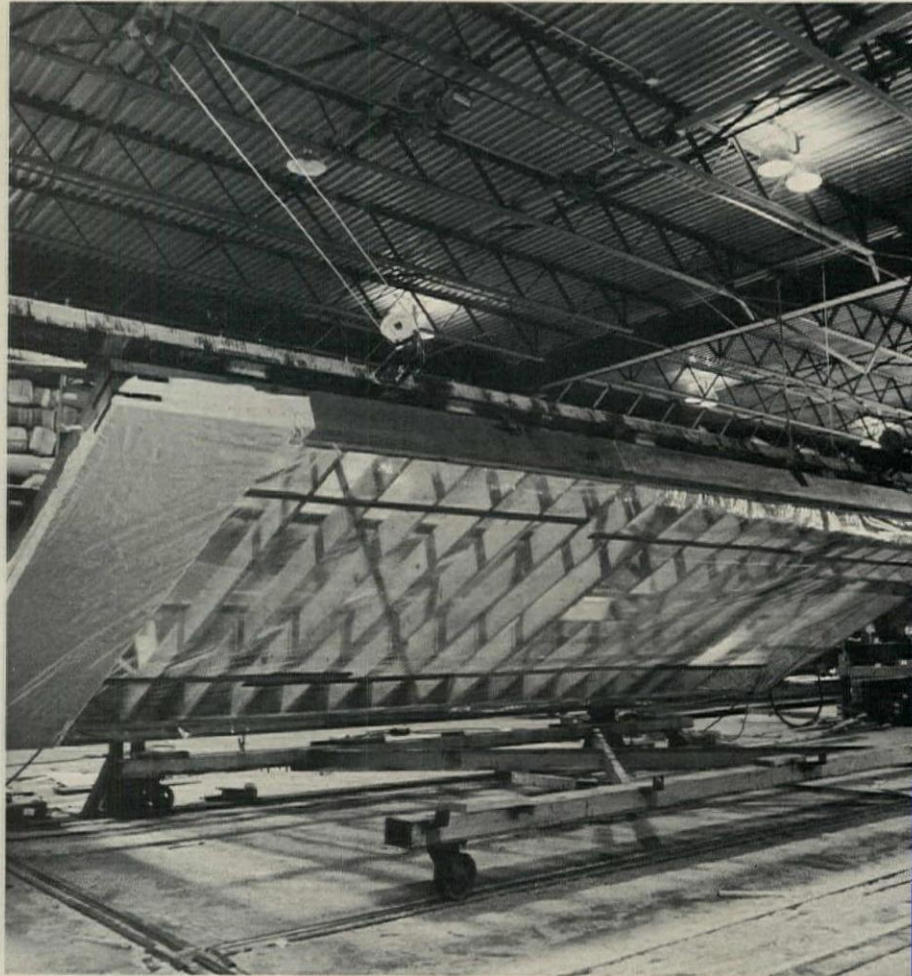
Most of the best methods for building wood-frame units were worked out years ago and are simply moved indoors. Thus, such operations as subfloor trimming (9) and running electrical wiring (10) are done in the conventional way.

However, the fact that the factory is weatherproof allows some conventional processes to run much more efficiently. For example, interior partitions are easily slipped into position before the ceiling goes up (8); at the same time, plumbing and electrical runs can be made in the wet walls.

Further, the limited size of most modular components allows them to be manipulated by the factory's relatively simple conveying systems so that many operations are simplified. Thus a floor section can be worked on one side, straightened up or flopped and worked on the other side.

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PHOTOS: JOHN ASHWORTH



SALEM HOUSE

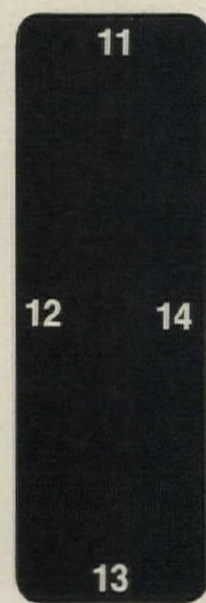
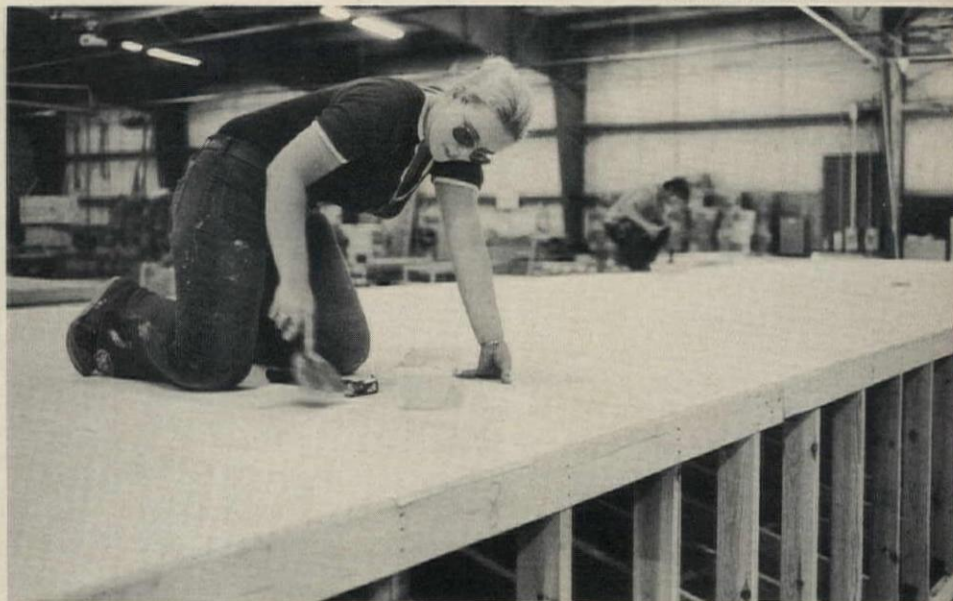
CONTINUED

In some instances the fact that modulares are built in a factory actually makes operations simpler than they are in the field. For example, taping and spackling ceilings in the field require either floor scaffolding or stilts, and often taping and spackling machines. But in Salem House's plant the roof-and-ceiling assembly (11), also shown on page 89, is flopped onto its back and finished with the simplest and least expensive tool possible—a spackling knife. (The spackler in the picture does not go through the gypsum board because there's a stiffening layer of plywood underneath.)

Likewise, power nailing can be done more quickly and easily because the work, such as this kneewall (12), can be better positioned. And floor cement can be spread very easily with hand trowels in a temperature-controlled, weather-proof environment.

Spray painting is widely used in the field; in the factory (14) it can be more efficient because a permanent paint station is set up and the work moved to it. TO PAGE 93

PHOTOS: JOHN HILL



MODULAR HOUSING SYSTEMS CONTINUED

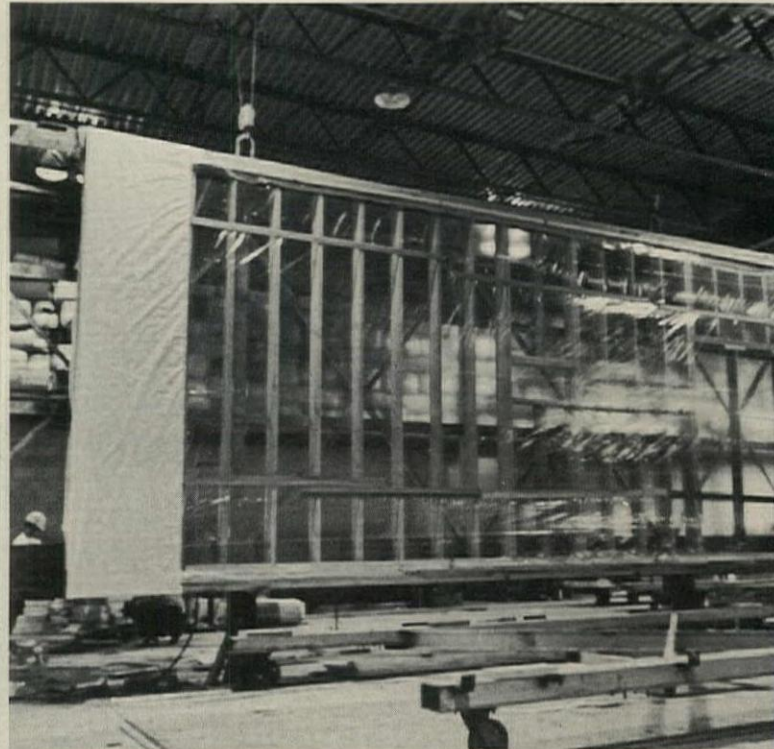
Only when it comes to moving panels or completed modules is there a need for relatively expensive equipment, but even here there is no need to go overboard: The key question is, what is the simplest way to do the job?

All of the heavy lifting and conveying in MHS's plant is handled by the same overhead crane system (15), also shown on the preceding pages.

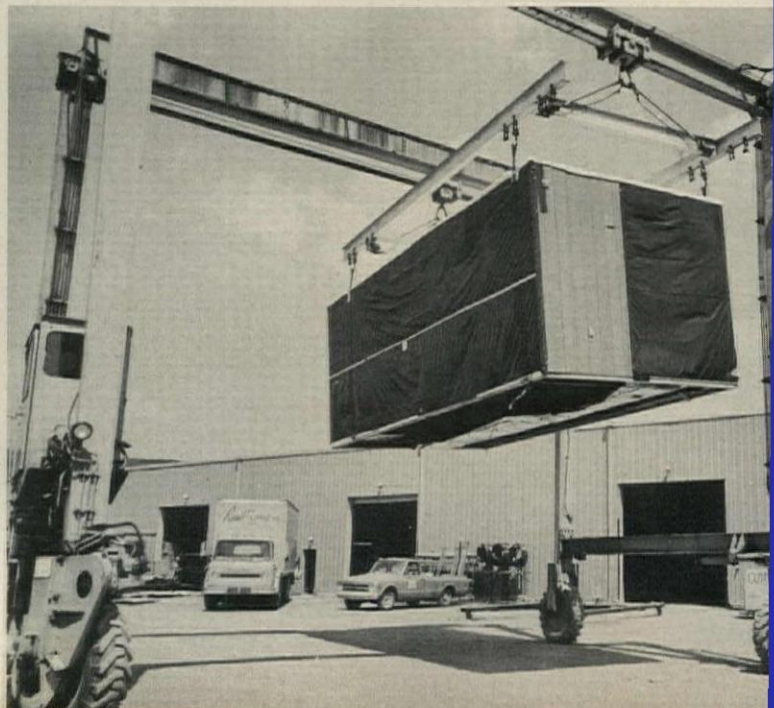
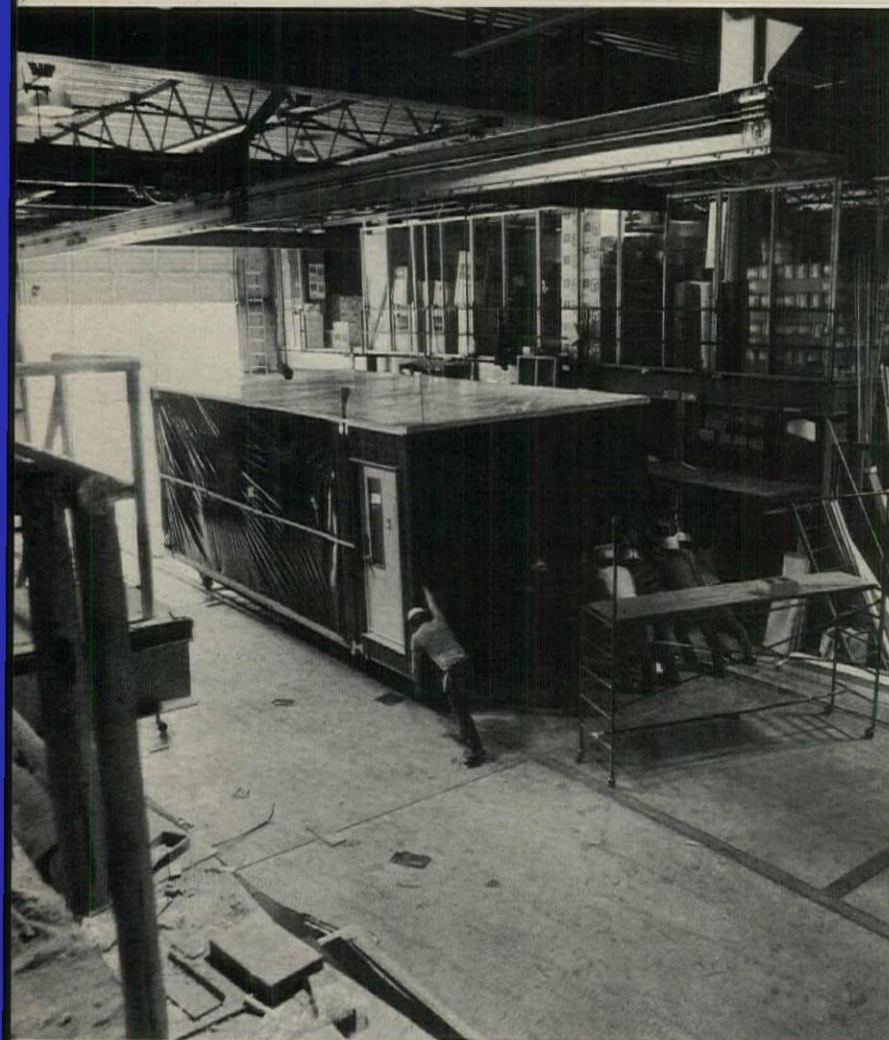
Even simpler is the method used to convey the module from one assembly point to the next. It's built on rail-mounted dollies, so it takes just a few men to push it down the line and out the door (16).

Once the unit (wrapped for weatherproofing) is outside, it is picked up by a specially designed straddle-carrier, whose high lift and wide spread allow it to inventory the units in rows separated by narrow aisles. ■

PHOTOS: JOHN ASHWORTH



15
16
17



SALEM HOUSE

CONTINUED

For Salem House the conveying problem is even simpler, since the sectional houses differ little from double-wide mobile homes.

Here again the overhead crane system handles most of the lifting chores (19). As in MHS's plant, Salem's modules are constructed on rail-mounted dollies and moved down the assembly line by the workmen (18).

After painting, curing and drying in a separate part of the plant, the sectionals are dollied over to a hydraulic jack. There they are lifted, and the flatbed trailer which will eventually haul them to the site is placed underneath. The tractor is then hooked up, and the house is on its way to the outdoor storage (20). ■

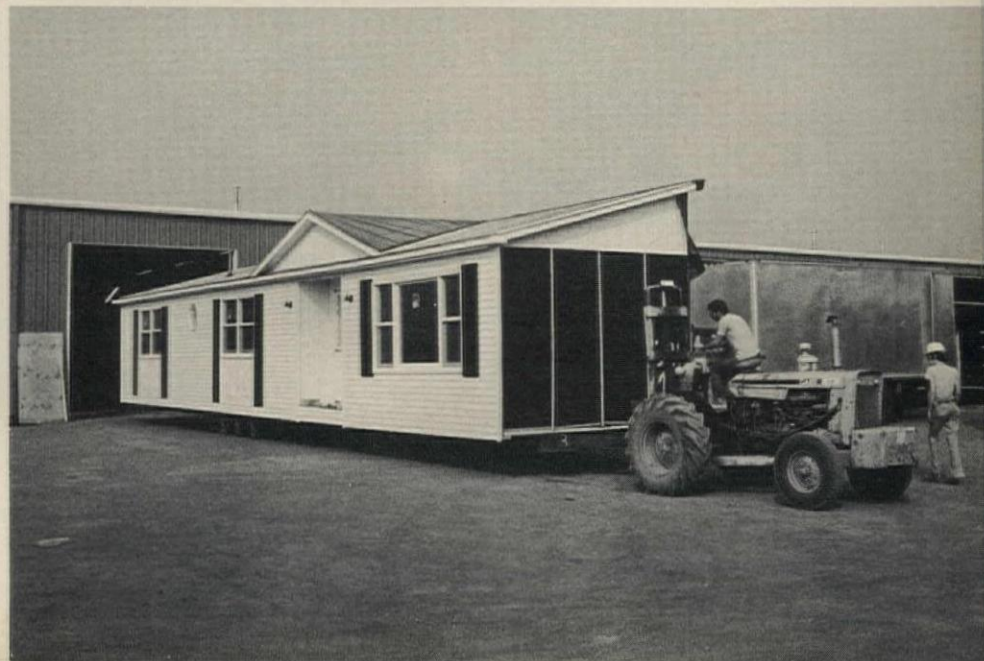
PHOTOS: JOHN HILL



18

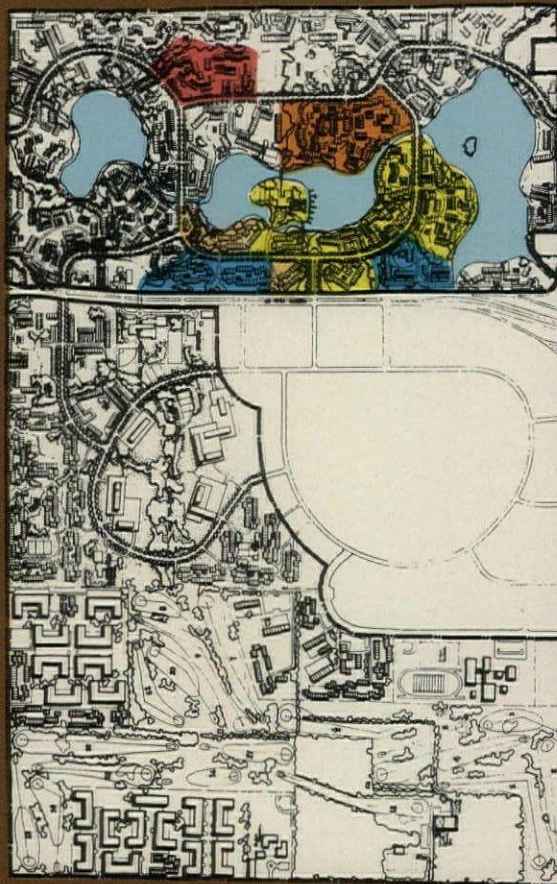
19

20



PROJECT PORTFOLIO

9



Overall site plan (above) has residential areas now under construction shown in color. Lakes are shown as dark blue. There was no water on the site originally, but the developer dammed up one corner of the project to create 38 acres of lake supported by run-off. Later springs were found to support another 17 acres of lakes. Commercial center, on right side, is under construction.

PROJECT: Northridge Lakes

LOCATION: Milwaukee, Wis.

DEVELOPER: Northridge Lakes Development Corp.

ARCHITECT: William Wenzler & Associates, Miller, Walz, Diedrich

LANDSCAPE ARCHITECTS: Lawrence Halprin & Associates

SITE AREA: 1,000 acres

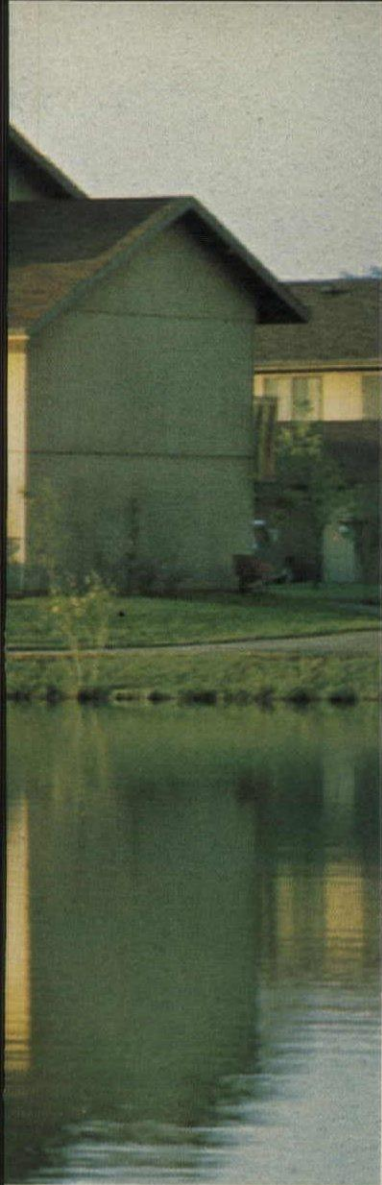
NUMBER OF UNITS: 9,000 apartments and condominium townhouses

ADDITIONAL FEATURES: 200-acre shopping and commercial center

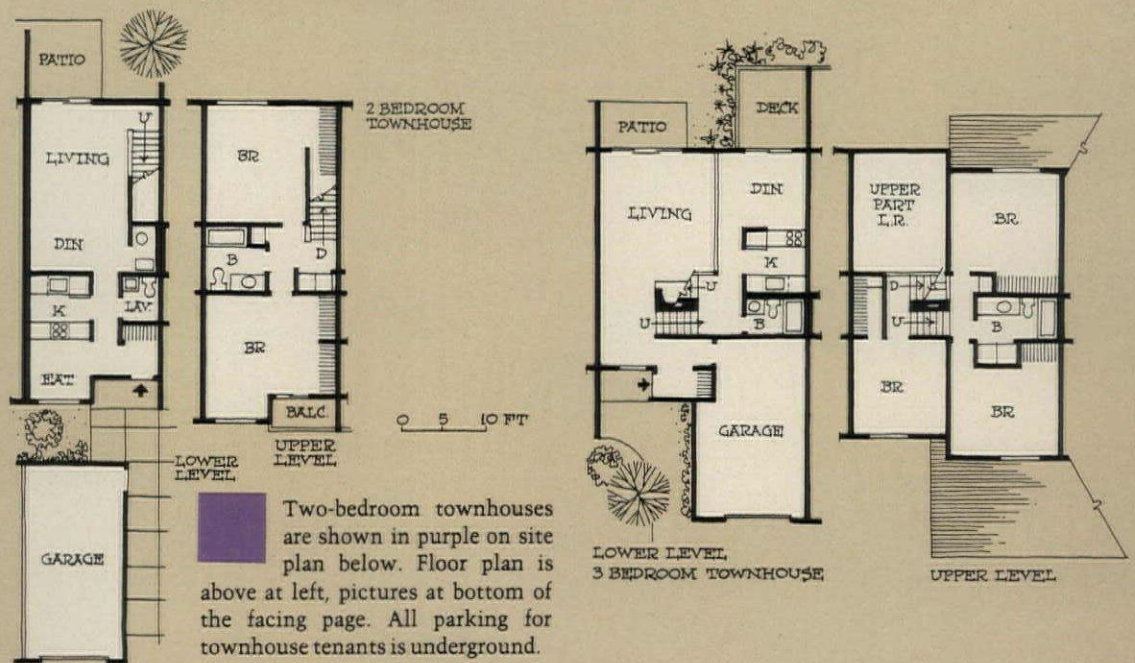


Northridge Lakes is a rare commodity—an in-city PUD. The developer was able to assemble 1,000 acres just ten miles from the center of Milwaukee only because an annexation problem scared other builders away. The site assembly started in 1963, ground was broken in 1969 and construction got underway in 1970. Housing type, mix and density reflect the project's urban location: All units are multifamily of some sort; price and rent range goes all the way from subsidy levels to luxury levels; and the net density after 255 acres of commercial center and lakes are deducted is more than 12 units per acre. Two phases of the area now under development have residents—Phase I (yellow in the site plan above) and Phase IV (red in the plan); they are shown in detail on the following pages. Phase II (FHA 236 units, shown in blue), Phase III (higher-priced condominium townhouses, shown in orange) and Phase V (condominiums, shown in tan) are under construction. The whole project should be completed in 1982.

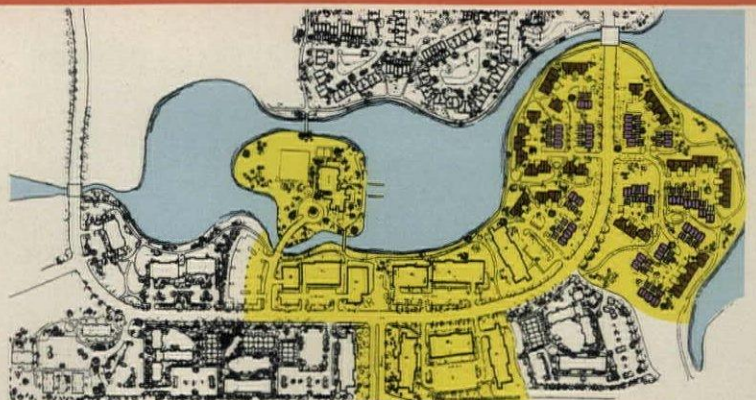




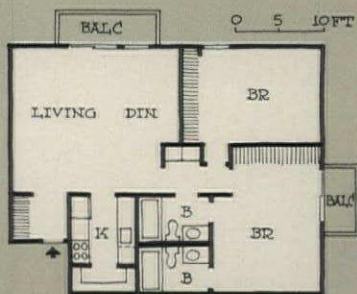
Three-bedroom townhouses are shown in brown on site plan. Floor plan is below at right, photo at top of facing page. These (and all other Phase I units) are rentals; the townhouses rent for from \$265 to \$370 with a \$20 premium for lakefront units.



Phase I: townhouses







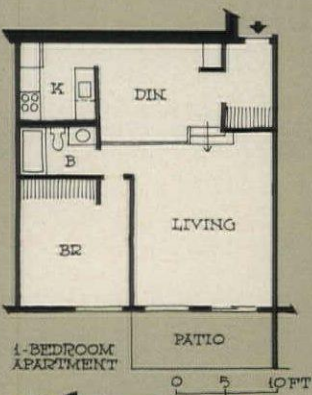
2 BEDROOM APARTMENT

Two-bedroom apartments are shown in green on site plan below and in photo at top of facing page; floor plan is above. Rent range for all apartment units is \$165 to \$275, and like the rental townhouses, lakefront apartments carry a \$20 monthly premium.

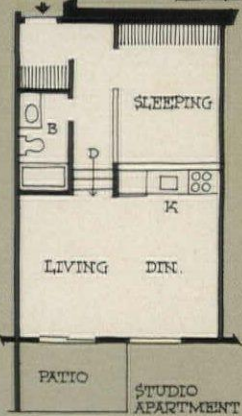
One-bedroom and studio apartments are shown in purple on site plan and in lower photo on facing page. Floor plan below shows typical units of each size.



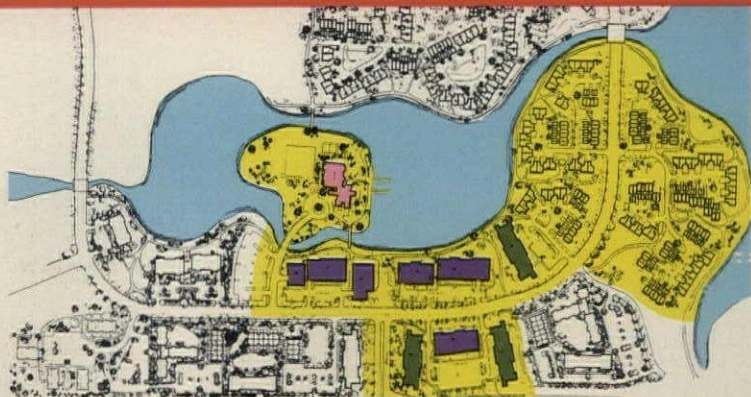
Clubhouse, shown in pink on the site plan, is part of a recreation complex on a four-acre island which includes tennis, putting green, marina and indoor pool in the 30,000-sq.-ft. clubhouse. Membership costs are \$10 for singles and \$15 for families; about 80% of all residents join.



1-BEDROOM APARTMENT



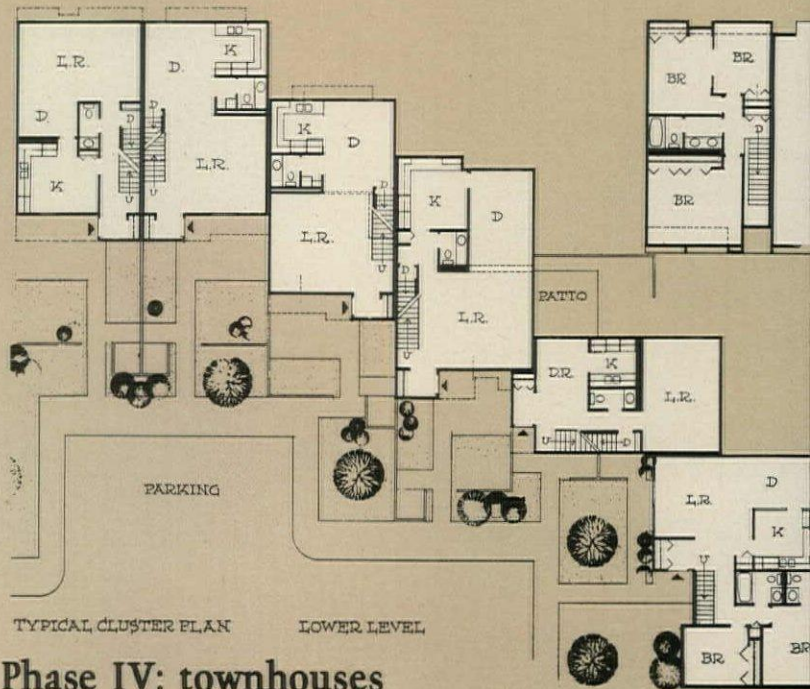
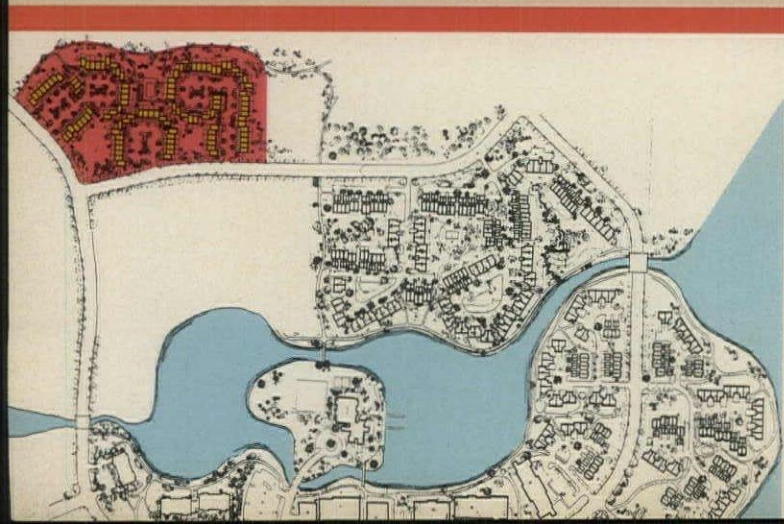
STUDIO APARTMENT



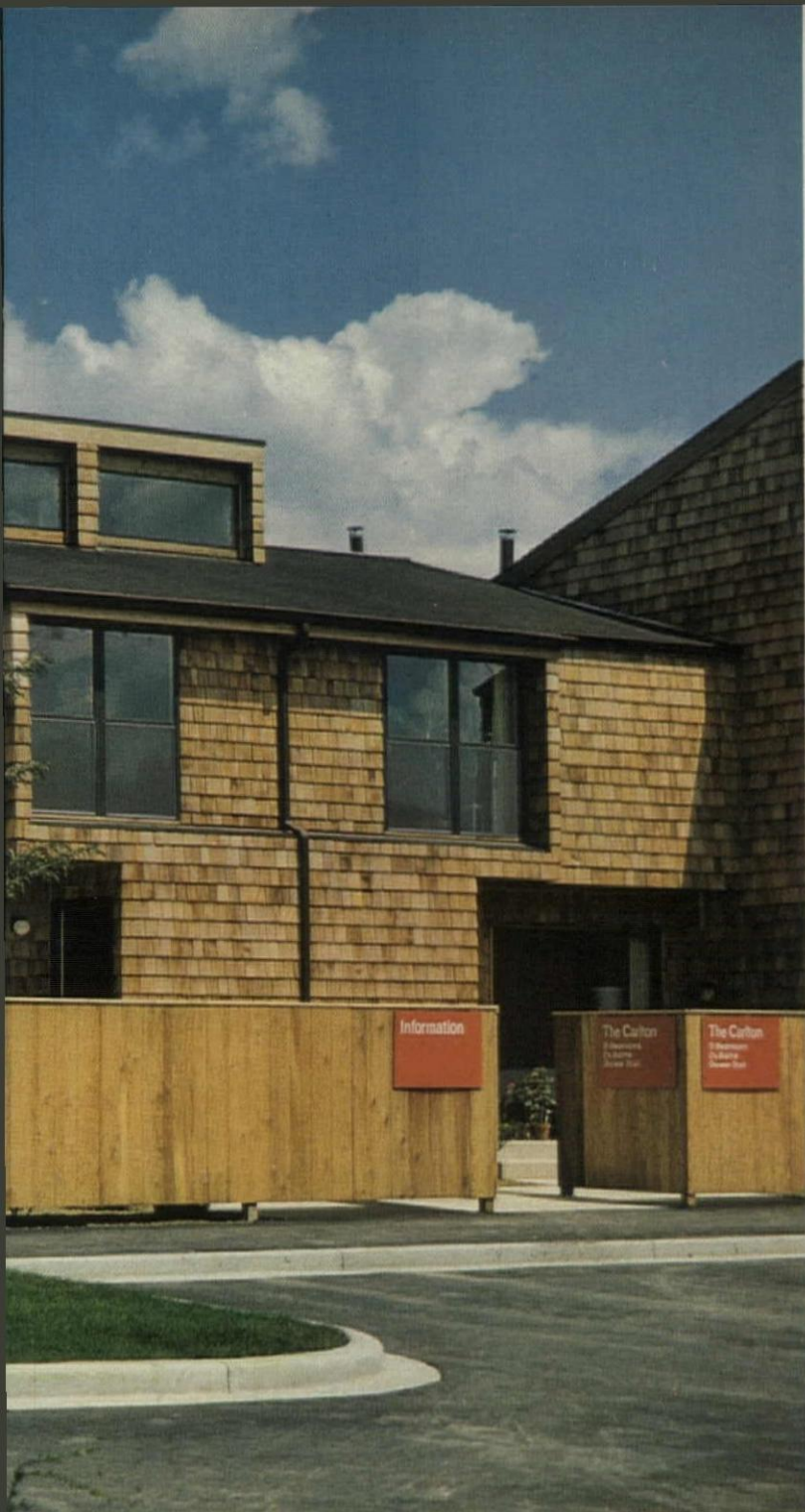
Phase I: apartments



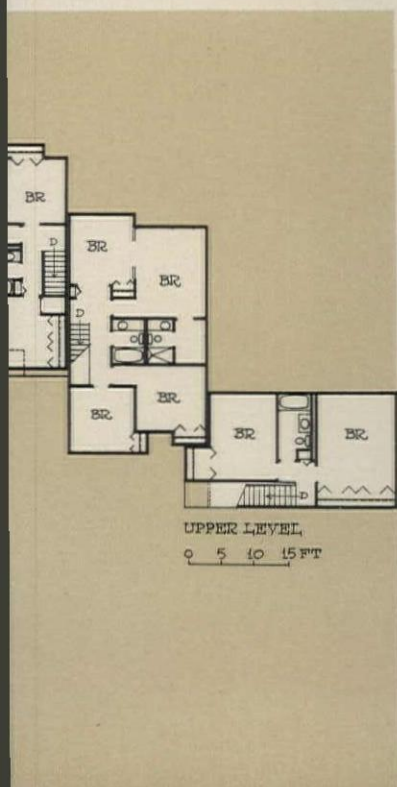
Condominium townhouses, shown in yellow on site plan below, are priced from \$23,900 to \$29,990 and are available with two, three or four bedrooms. First buyers moved in early this month. Of the total 122 units in this phase, 45 have thus far been sold.



Phase IV: townhouses



Fenced entry courts are shown from parking area in photo at left. They also double as patio area, accessible through sliding glass doors as shown in the photo above and the picture of the typical living room below. Most buyers are young families, many with children.



MARKET MEMO

To: House & Home edit staff

From: Barbara Lamb, McGraw-Hill World News, Los Angeles

Subject: The SAN DIEGO Market

The big San Diego market has gone from bust to boom to overbuilt for apartments and single-family homes. Condominiums are selling well.

These are the major conclusions that I've drawn while researching a market that last year saw starts jump 78.8% over 1970 to a total valuation of \$622 million.

As if the spectre of overbuilding were not ominous enough, builders are facing new municipal ordinances on top of restrictions enacted earlier this year. Now growth is slowing while the political process determines future land-use and building policies.

"Growth, no growth or guided growth. These are the basic questions facing San Diego," says Gerald Doughty, president of the San Diego Building Contractors Association (BCA).

There are, in fact, many movements afoot to clip the wings of builders and slow down suburban growth. Local ultra-environmentalists want to freeze the city where it stands now. They're determined not to go the Los Angeles-sprawl route.

And last January the City Council passed an enabling ordinance permitting it to invoke a moratorium on building in any area if schools and other facilities are not available.

Then in August the Council banned high-rise and high-density apartment construction in a fast-growing section of Pacific Beach. It down zoned more than 500 acres from R4 to R2A on the theory that there were too many cars in the area.

The Council has some opportunities to be even tougher. One will come with General Plan revisions. It could involve regulations instead of guidelines, as in the past. Another is working out its new policy that calls for orderly and planned growth and development. Basically, this will limit growth to specific areas and within the existing suburban area.

At this point some background on San Diego will help you understand the scope of the market: It's the oldest California city (1769) and second in size (it outgrew San Francisco in 1969), and it's No. 11 in the country. Population: 746,000. The city

takes in 337 square miles (more than three-quarters the size of Los Angeles). It extends south to the Mexican border and north almost to Escondido—roughly a 45-mile spread. The county has 4,255 square miles, slightly more than Los Angeles County's 4,083.

San Diego's 115 tract developments are concentrated in the western third of the county within 25 miles of the coast.

San Diego's weather—71° for an average year-round temperature and 10 inches of rain annually—is called "the most ideal in America" by the U.S. Weather Service.

Pent up demand. During the past three years San Diego has experienced a booming market. According to the Research Department of Security Pacific National Bank, 24,922 units were authorized in 1969 (57.3% of it multifamily units) and 22,868 in 1970 (57.4% multifamily). Last year the figure was 37,443 (58.9% multifamily). In addition, 2,920 new mobile homes were sold last year. (The county has 589 parks for them and 32,676 pads.)

Not only was 1971 63.8% over 1970, but so far this year the rate of increase is even higher. For the first seven months, 23,237 permits were authorized, according to the Economic Research Bureau of San Diego (which is supported by the city, county and Chamber of Commerce). Of this, 8,973 are single family and 14,264 are multifamily. The seven-month figure translates to an annual rate of 39,800 units.

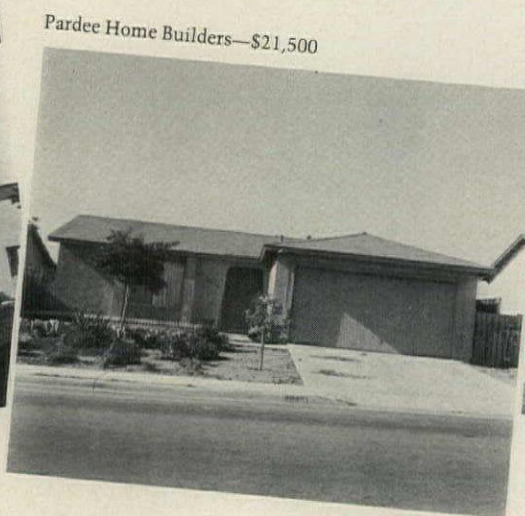
A big pent-up demand led to the boom. Back in 1959-60-61 General Dynamics—Corvair Division had 45,000 people on its payroll. This company, plus the Navy, made up 90% of San Diego's economic base. But aerospace cutbacks in the early sixties brought massive layoffs at Convair. Today's workforce is just 10,600.

People abandoned their homes. New houses stood empty for months and construction tapered off. Then tight money slowed construction even more.

The result was that by 1968 there was a growing housing shortage. Some 20,000 units were needed, and the vacancy factor had fallen to about 3%.



Sheltec Corp.-U.S. Financial, joint venture
condominiums—\$25,400-\$36,400



Pardee Home Builders—\$21,500



Donald L. Breen Co.-Land Resources Corp.
joint venture—rentals from \$145

Local builders became active again, doing everything they could to increase production. But they'd lost some of their best help, and it took time to get going.

San Diego was already headquarters for some top builders, including American Housing Guild, National Community Builders, Stanley C. Schwartz & Co., U.S. Financial (Western Division), Penasquitos Inc., J.R. Shattuck, Sheltec Corp. and AVCO Community Builders.

The area's new potential began attracting big builders from other points—particularly Los Angeles and Orange County. They included Kaufman & Broad, Boise Cascade, Christiana Community Builders, Larwin, Leadership Housing Systems, Levitt & Sons of California, Shapell Industries, Pacesetter, Ponderosa Homes, Gerson Bakar & Associates.

Sacramento-based McKeon Construction also came into the county with three fourplex projects. Fred C. Sproul Homes moved its home base from Denver to Carlsbad, in northern San Diego County.

In 1966 Phoenix-based Hallcraft Homes started its California operations with a San Diego division, buying Ashton & Kies, condominium-townhouse builders. Today, it has seven single-family and townhouse projects going.

Signal Landmark is building Coronado Cays, a luxury residential marina of 1,500 single-family homes and condominiums on 370 acres. And Ray Watt just opened San Diego Country Estates, a 3,200-acre residential resort near Ramona, about 44 miles northwest of downtown.

But Daniel B. Grady, president of Sanfric Inc., La Jolla-based

housing consultants, points out that because local government has reacted to no-growth groups by imposing building restrictions, some firms that came down into the market are now saying why fight it, we can do better elsewhere.

Larwin, for instance, has closed down its Trend project, and is now concentrating on Encore, its only other one in San Diego. Once this is sold, there are no plans (as of now) to open any more. The market is tight, say company spokesmen, particularly in its Mira Mesa area, which also has builders like Pardee, Ponderosa and Princess Homes.

Who knows what? George Fulton, director of the Marketing Services Division of Walker & Lee, Anaheim-based real estate firm (the country's largest) is about to launch an in-depth study of the San Diego market.

"It's extremely difficult to get information on this market because builders are restrictive with information," says Fulton. "Up here in Orange County builders can shop and get data. Down in San Diego there's generally a clam-up on such things as the number of units sold. I've been told the reason for this is that they don't want to talk about expansion because of growth resistance."

San Diego, Fulton feels, is virtually overbuilt. "But they keep on building, and they have good sales records. So who knows?"

Fulton adds that "San Diego is a healthy market, and low land prices are a factor."

Generally, builders and lenders don't think there is much overbuilding, except in apartments. The latest survey (June) by the Economic Research Bureau of San Diego lists only 1,659 unsold tract houses (un-

derway and completed).

New guys learn. Money's still available at most S&Ls, although some are no longer lending on apartments. One consultant told me, "They're overdoing it. The old guys that learned the lessons last time are gone, and it looks like the same lessons will have to be learned again by the new guys."

Home Federal Savings & Loan—San Diego's largest—views the homebuilding situation optimistically. Assistant Vice-President-Loan Officer Anthony Canaris says there's plenty of money, and Home just had its biggest months.

"It looks good. Housing is beautiful. I don't see houses or condominiums as overbuilt. Everybody's selling. Everything seems to fill up. Apartments have been slow, but loan qualifications are more stringent now."

Dan Grady reminded me of the old saw: "Builders will build as long as there is any money around, whether a market is there or not." Grady, who's a director as well as consultant to San Diego BCA, says the market is saturated in certain areas. In fact, it was overbuilt in apartments a year ago. There were 13,000 apartments authorized in 1970 and 20,000 last year.

The breaking wave. "When should we consider something overbuilt," asks Grady? "When vacancies occur—or when we know there will be vacancies?" With the latter, he notes, builders could cut down before they reach the crest, if they had accurate and timely statistics.

A group of apartments Sanfric has been watching as a bellwether of vacancies has gone from an original 2.4%-3% up to 4%-5% late in 1971 to 7.5%-8% today. "And vacancies in certain

parts of El Cajon and the South Bay area are up to 15%," says Grady. "We find that even in subsidized housing vacancies are increasing rapidly."

Recent FHA surveys show that in FHA 236 projects the two-bedroom vacancies approach 9%. In addition, it has been taking three months to get occupancy of a project. FHA won't build any more in the South Bay, and it's watching El Cajon very closely.

Grady says 6,169 subsidized housing units have been built in San Diego, both rental and sales. And only 23 have been foreclosed, and 75 are now in default, therefore success is running at a 98.441% factor.

Single-family housing is very active, with lots of competition at the lower end. The trend has been to overproduce \$20,000-\$30,000 units, mostly in PUDs. They are everywhere in the \$18,000-\$21,000 range. And there's a concentration of 235s along the Mexican border.

If there's one real need, it's housing for the elderly, primarily subsidized low-income housing below the 235 and 236 range.

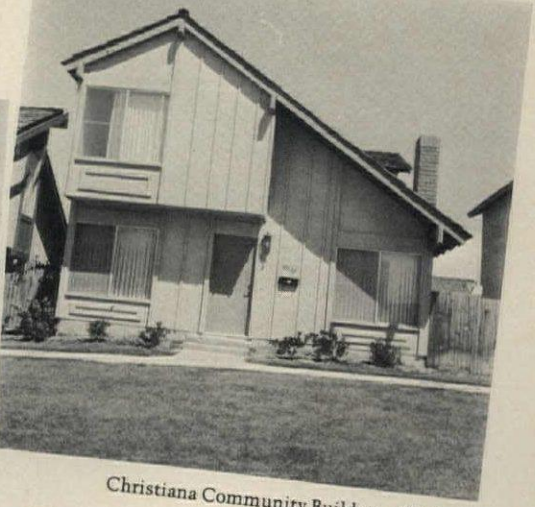
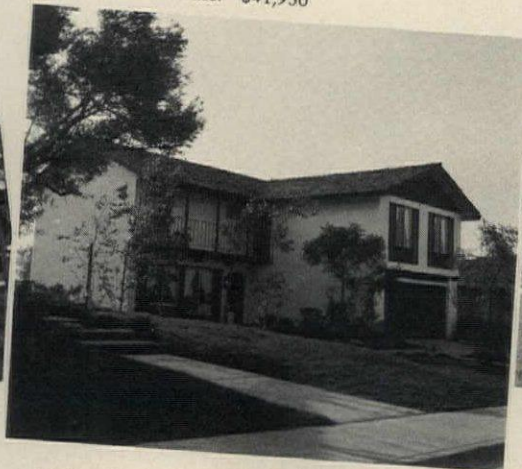
There's a strong market, too, in high-priced lines, but overall, it's a small one.

Condominiums are still going over, with the major market in PUDs below \$25,000. But, of course, these sales pull people out of rental apartments.

Townhouse - condominium living has inspired one major market change: Apartments are beginning to be converted into condominiums. This is exactly opposite of what happened in the sixties. One example is the Point Loma Tennis Club, with about 300 units. It was only renting at

TO NEXT PAGE

Shapell Industries Inc.—\$41,950



Christiana Community Builders—\$30,700

Leadership Homes—\$45,495

about 60%, so it was converted to condominiums, sold to a syndicate—and sold out.

And I saw luxury condominium townhouses everywhere. A standout condominium seller in the \$25,400-\$36,400 bracket is Friars Village, a 440-townhouse group in three- to eight-unit clusters. Its sales rate has been 2.6 units per day for the joint venture of Sheltec Corp. and U.S. Financial. Note: This is a good in-town location, on a hillside above Mission Valley and less than ten minutes from downtown.

Supply-demand imbalance.

Research on San Diego County by consultants Darley-Gobar Associates Inc. of Tustin, Calif., has rooted out some hard-to-get information for builder clients. For instance, there's the supply-demand balance. Only two market ranges still have a residual demand: under \$15,000 where demand is 16.67% and supply is 12.53% and in the \$20,000-\$24,999 range where demand is 27.20% and supply 25.16%.

As for saturation, the worst is in the \$15,000-\$19,999 range. It has a demand of 21.10% and a supply of 26.28%—a 5.18% excess. From \$25,000-\$34,999 there's a 20.34% demand and 20.74% supply; from \$35,000-\$49,999, a 10.01% demand and 10.02% supply. At \$50,000 and up there's a 4.68% demand and 5.20% supply. Says Dr. Alfred Gobar: "San Diego is a better-taste market. Good products sell. And it has a lot of second-home buyers."

Ten-thousand people and no schools. Restrictive building legislation was sparked by the bust-to-boom situation in Mira Mesa. Early developers got caught in tight money times and went broke, and the land re-

verted to the lender. In 1969 Pardee, Larwin and others came in. Buyer demand was so intense that within 28 months 10,000 people were living in the area. And there wasn't a school in sight.

It was this situation that prompted the City Council to pass an enabling ordinance permitting it to call a two-year moratorium on construction in any area where services were not available. Mira Mesa came under the threat first.

Actually, the council hasn't used its moratorium-power yet. It hasn't had to. Mira Mesa builders paid \$750 per tract pupil under an agreement with the San Diego Unified School District.

The district covers 80% of the city, and its needs are acute because of bond-issue defeats. So it adopted a policy on availability of schools. Under it schools won't be available to new residents if additional students mean double sessions, extended days or an extended year. If schools aren't available, the developer has to agree to provide either needed facilities (site, building and equipment)—or a cash equivalent determined by the district.

And the City Council won't accept a subdivision map unless it gets a school statement saying facilities are in. Schools will give this statement only if the builder goes along.

Now Poway School District has picked up the availability policy. Its terms: \$200 per dwelling unit.

Builders intend to go to court to fight the idea. BCA's president, Gerald Doughty, says the attempt by government to transfer its traditional responsibilities to homebuilders "just isn't morally or economically

right."

The shifting burden. He points out that it isn't the builder who will eventually pay. "He has to shift the extra cost burden to the new homeowner, new factory owner or new office owner. He has no other recourse."

But BCA is not passive. It is trying to get across to planning bodies its view of what needs to be done. It has even worked up its own planning policy for the county. I'm told it's the first of its kind in the country.

It's a seven-page document packed with positions on issues, but basically it calls for full employment and full education. If these are adhered to as major goals, BCA feels, all other environmental considerations will fall into place.

BCA wants its policies to be considered in amendments to the city's General Plan and the development of basic county goals. So it's taking it before every elected governmental body in the county.

The city's General Plan was enacted in 1967, but state law requires a revision every five years. That's being done now.

The plan has been flexible to meet different situations. Mostly it established guidelines. But builders feel the revised model may be a rigid set of regulations with no flexibility. To make matters worse they say a new state law requires all tentative subdivision maps to conform directly with General Plan specifics before they can be approved.

Citizens plan and builders complain. Citizen groups have played their part in preparing plans for community areas. Builders complain that all these plans try to maintain the status quo and discourage growth—and

then they're adopted by the Council.

But City Planning Director James Goff says, "The groups rarely have taken a no-growth stance. All plans are predicated on either modest or active growth. Developers might not like what's expressed, but it's not anti-growth. We're just getting into the master plan. We've got lots of input, and we're trying to sort out the changes that should be made."

Builders also are worried about a new policy regulating growth and development passed by the City Council in July.

The policy is a direct outgrowth of the city's experience in providing public facilities to Mira Mesa. It will permit phased growth in undeveloped areas only after a total cost-benefit analysis. It will also facilitate more intensive development and redevelopment in appropriate city areas already urbanized.

According to Mayor Pete Wilson—one of the policy's architects—it's a way of insuring that public facilities and services are available at the same time and place as a new development.

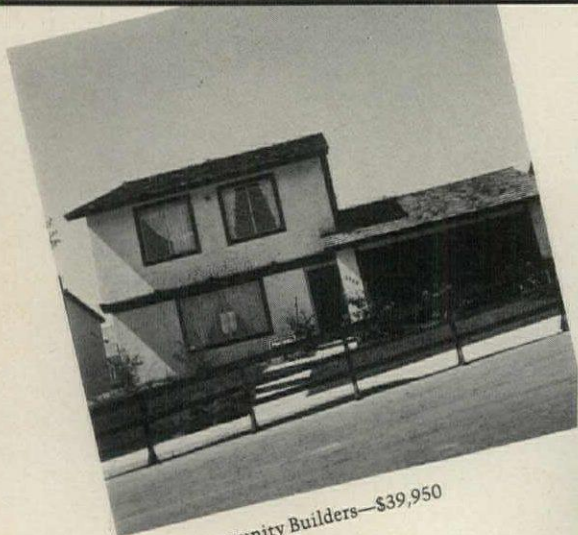
BCA General Counsel William H. Kronberger Jr. says it means partially built communities will be completed before adjacent lands are developed. Thus, he says, north county building will be limited to Rancho Bernardo, Scripps Ranch, Penasquitos, Mira Mesa—and then only after the total cost-benefit analysis.

One basic philosophy at the root of this, says Kronberger, is that new development doesn't pay for itself in terms of public services. As Al Gobar puts it: "Cost exceeds benefits of new people. It's a negative sort of benefit ratio."

Larwin Group—\$35,590



AVCO Community Builders—\$39,950



Gentry & Watts Development Co. garden condominiums—\$52,500-\$58,500



Government-sanctioned monopoly. Kronberger says, too, that one of the most obvious results of limiting development to specified areas is the creation of artificial values for lands not removed from the development inventory. "In essence, a government-sanctioned land monopoly will be created."

The city now is developing a computer model that will permit it to make cost-benefit studies before any major new construction is authorized. The model not only will provide cost-to-the-city data on a particular job but will let one project be compared with another.

"The big battle is going to be over attempts to open up jack-rabbit country," says Jim Goff. "There are outlying areas that developers would like to start opening up." There's virgin land both north and south, Goff points out, including 17,000 acres adjoining the Mexican border.

The future revealed? Population figures probably provide the best clue to San Diego's future.

The city's growth is tapering off. The greatest spurt occurred from 1940 to 1950, when population rose 93%. During the next decade it went up 86%. From 1960 to 1970 it grew only 32%, and from 1970 to 1980 the rate is expected to be at or below 32%.

Like the rest of California much of San Diego's population growth is due to in-migration.

It's difficult to round up predictions on future trends of in-migration, but most people I talked to feel current growth—both natural and incoming—is less than 2%.

The birth rate is declining too, to where it's as low as in mid-thirties Depression days. Last year, births ran only 11,000 over deaths. At mid-year the county's population was 1,448,000—a 3.4% gain amounting to 47,000 people more than mid-1971.

The firm of Darley-Gobar has worked out the housing demands for a normal population growth of 35,000 a year in San Diego county. Absorption would be 15,000 units.

Here's how the 15,000 breaks down: First of all, houses (including condominiums) should account for 8,437 (56.25%) and rental apartments for 6,563 (43.75%). Main emphasis—2,295 units, or 15.30% of the total 15,000—should be in the \$20,000-\$24,999 range. Next, with 1,781 units, or 11.87%, is the \$15,000-\$19,999 range. The less-than-\$15,000 category should get 1,406 units, or 9.38% and the \$25,000-\$29,999 area, 1,227 units or 8.18%.

Demand in various \$30,000-and-up categories runs only around 400 units each per year.

In apartments the largest group—1,484 units—should rent for \$120-\$149 a month, according to Darley-Gobar. There should be 1,287 units at \$60-\$79,

1,114 units at \$150-\$199 and 1,053 at \$100-\$119. These are the major rental categories. All the others call for far fewer units, and they add up to only 1,625.

Here is the direction of growth:

The eastern part of the county will continue to grow—but it's rapidly approaching the mountains. In the south the unbuilt area left is just about limited to low-income housing. The big push is—and will be—in the north.

Tennis, anyone? The first major north development was along north-south 395, which ties San Diego to San Bernardino and Riverside. Farthest up is Lake San Marcos, about 35 miles from the city line; but it appeals mostly to retired people. Farther down 395 is AVCO's 5,800-acre Rancho Bernardo. It has 3,358 units built out of a planned 17,000. (Rancho Bernardo has an innovative project about ready for grading. It's a tennis ranch—probably on 100 acres—with 40 courts surrounded by condominiums. A medical center may be built to tie in its research to tennis.)

There's Irving J. Kahn's Rancho Penasquitos and the 400-acre Leadership Scripps Ranch. To the west is the Mira Mesa area where Pardee is selling two- to four-bedroom houses in the \$18,750-\$26,650 range at 3% down. The package includes front lawn and trees, front fence

and gate. People tell me this is the lowest-priced single-family project around.

Still along 395, but only about 12 miles from downtown, is 2,600-acre Tierra Santa, a project of Christiana Community Builders eventually slated for 13,000 units.

The second development direction has been around east-west Interstate 8 connecting San Diego with El Centro. You'll find some of the fastest growing areas here—Santee, Lakeside and particularly San Carlos.

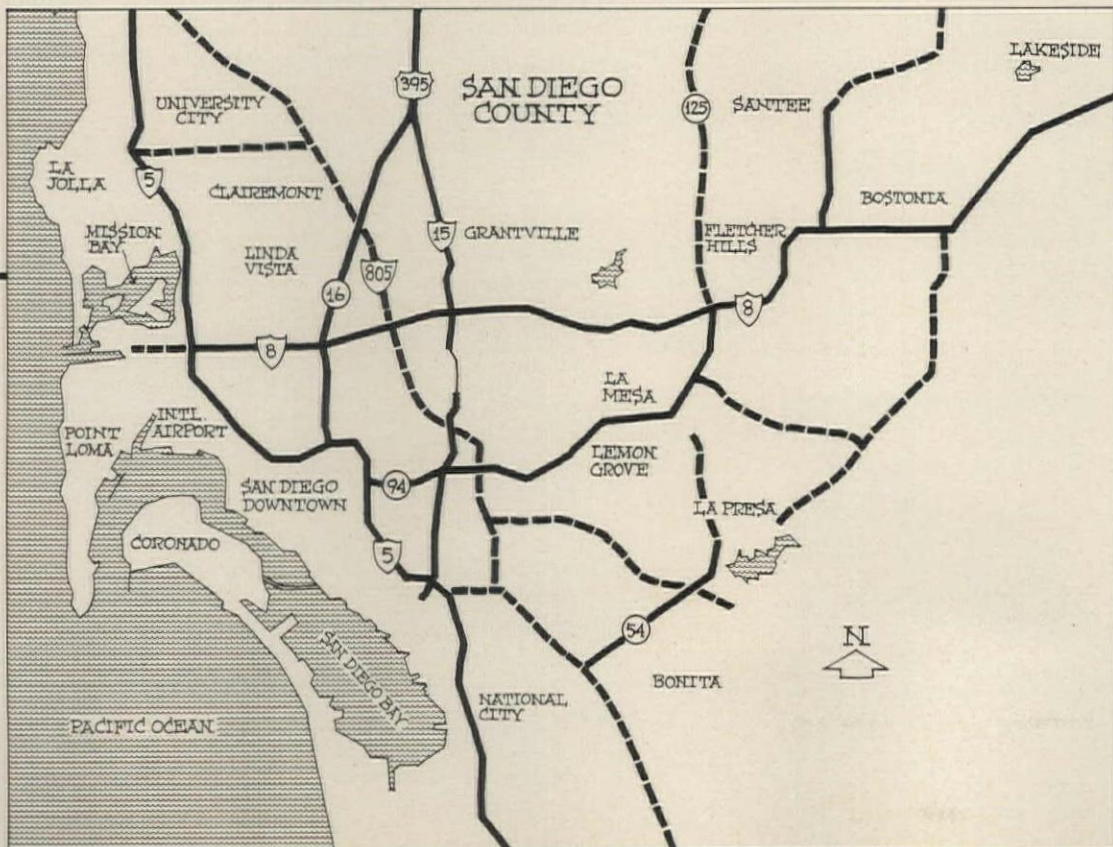
East, too, lies RSD Development Company's 6,000-acre Rancho San Diego, just getting its first community.

The city's southern end, nearest the Mexican border, was described to me as sort of a Mira Mesa south. Emphasis is on low-income housing. A big project near National City is South Bay Terraces, a Penasquitos Inc. PUD project that plans 35,000 people on 865 acres.

Land around Interstate 5, which connects San Diego with Los Angeles and Tijuana, is getting today's push. There's 5,000-acre La Costa, expecting a population of 20,000. It has only 600 residents now, but some 500 units in 10 projects are under way or about to start. Then there's Village Park, 900 acres, another AVCO Community slated to have an eventual 11,000 population. Right now, 332 units have been built out of a planned 3,761.

The trend right now is to fill in along Interstate 5 as it gets closer to town, particularly around the University City area east of La Jolla.

Homebuyers will work mainly in manufacturing, tourism and defense firms, but blue-collar jobs remain scarce. ■





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The cost is \$2.00 per word with a minimum of 25 words. Your complete address or use of a private box number counts as 5 words. Typewritten text is needed the eighth of the month preceding the date of the desired issue. Payment in full must accompany your order. Send to JOB MARKET, House & Home, 1221 Avenue of the Americas, New York, N.Y. 10020.

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CIRCLE 107 ON READER SERVICE CARD

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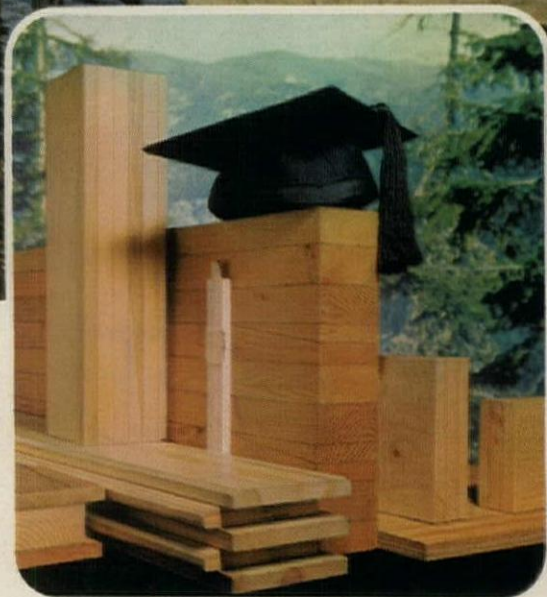
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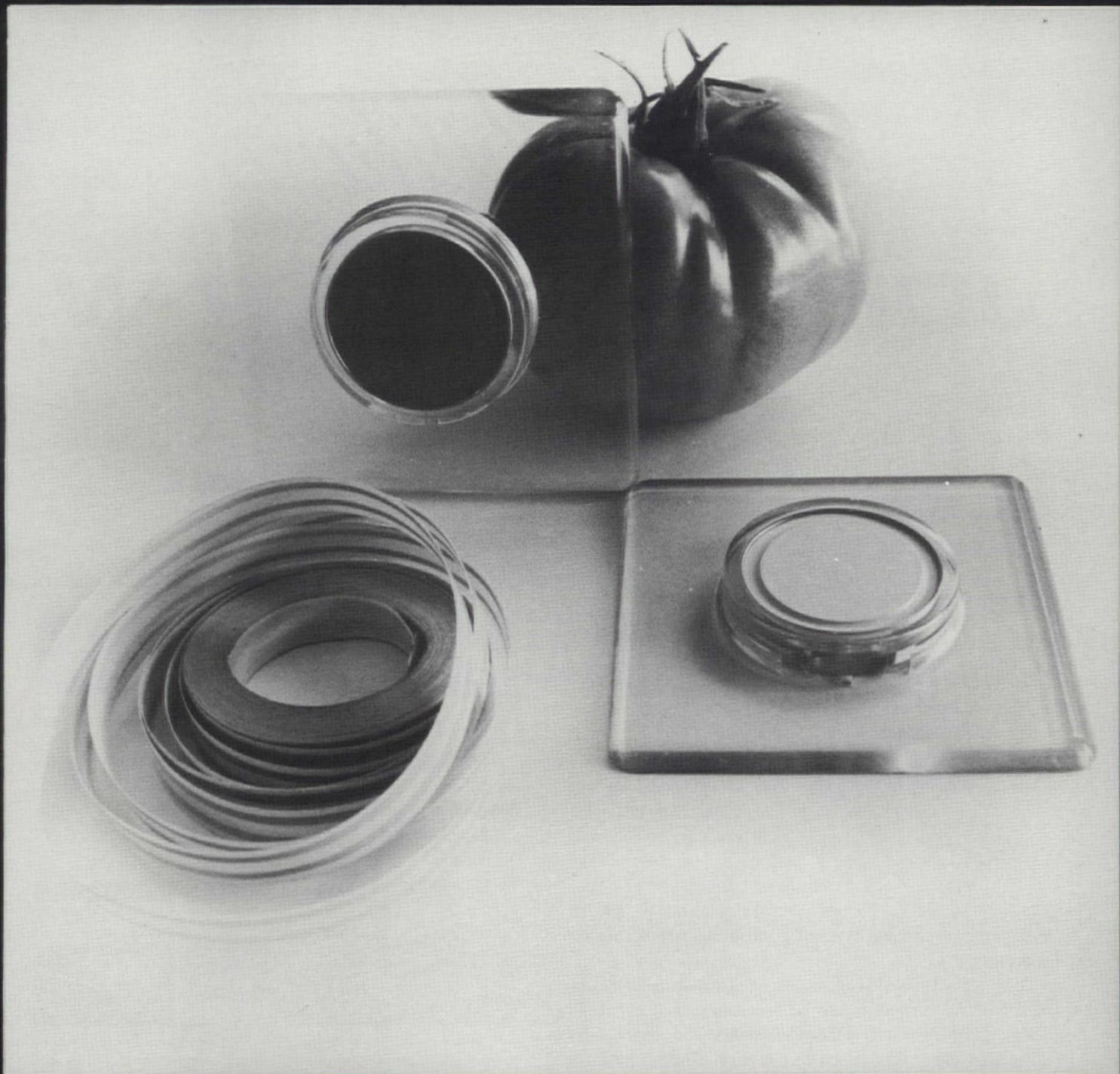
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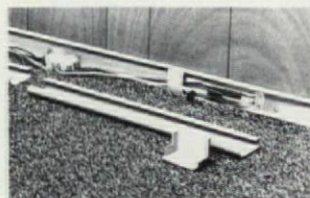
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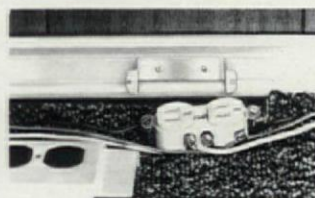
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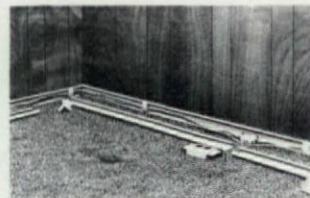
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CIRCLE 190 ON READER SERVICE CARD

Kitchen Equipment: a summary of Sales Actions taken by House & Home readers

To identify all the important people in housing & light construction who are active in selecting products in this category, House & Home followed up all such advertising inquiries received through its Reader Service Card.

Survey questions were designed to determine what, if any, sales actions were taken as a result of readers having seen advertisements in House & Home.

Sales actions—for purposes of these studies—have been defined as *specifying, recommending, approving, purchasing* and *still investigat-*

ing: all positive actions bringing products and prospects closer to a sale.

For each sales action, of course, the unknown multiplier is the number of residential or other units for which the sales action was taken. For example, a single *purchase* mention could involve a 10 house development, a 280-unit apartment complex, or anything in-between.

Results of House & Home's Sales Action Measurement studies clearly indicate that sales action in this product category comes from every segment of the industry, as shown in the table below.

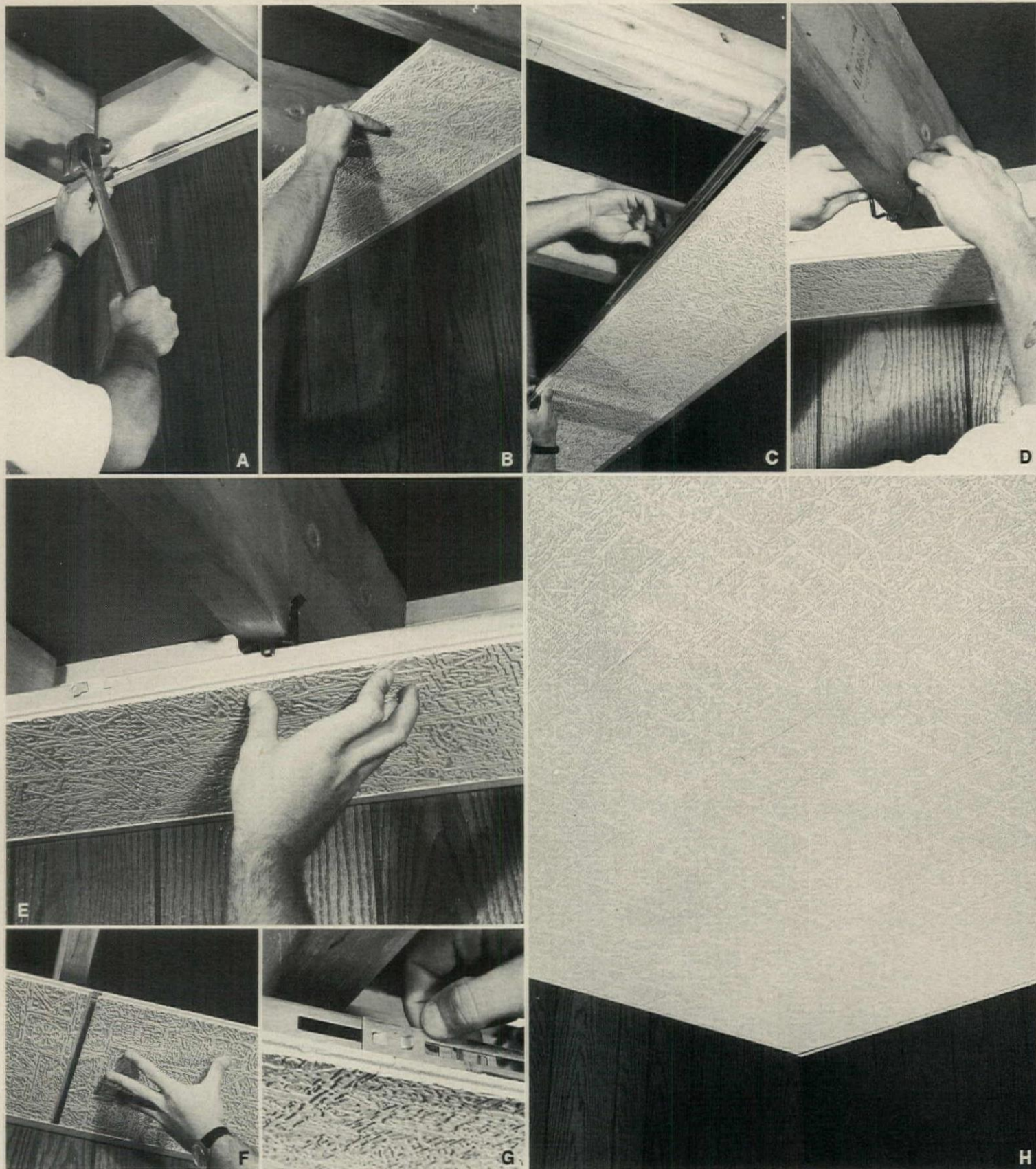
SALES ACTIONS TAKEN ON KITCHEN EQUIPMENT ADVERTISING

Reader Classification	Literature Requested by Readers Surveyed	Literature Requested by Survey Respondents	Literature Received by Survey Respondents	Specified Product	Recommended Product	Approved Product	Purchased Product	Still Investigating Product	Total Sales Actions	Sales Actions as % of Literature Received
Architects & Designers	8,132	2,800	2,429	243	394	207	58	575	1,477	60.8%
Builders & Contractors	15,489	4,489	3,820	264	450	360	370	1,286	2,730	71.5%
Commercial/Industrial	630	191	162	4	11	7	8	64	94	58.0%
Engineers	1,177	452	391	26	41	19	9	142	237	60.6%
Financial	696	252	223	8	20	10	12	66	116	52.0%
Government	849	395	353	21	26	16	11	118	192	54.4%
Realty	1,426	444	387	21	36	37	23	155	272	70.3%
Retail Dealers	778	230	172	10	13	14	19	66	122	70.9%
Subcontractors	1,434	410	367	25	56	31	27	119	258	70.3%
Wholesale Distributors	426	118	106	8	13	3	10	32	66	62.3%
Others not identifying self	7,235	2,214	1,906	103	173	135	73	513	997	52.3%
TOTAL	38,272	11,995	10,316	733	1,233	839	620	3,136	6,561	63.6%

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perpendicular to the joists. The first tile slips into place in the molding (B). A 4'-long flanged supporting cross tee slides onto the leading edge of the tile (C). This provides support but is not visible when tiles are fitted together. Each cross tee is supported by at least one of the special joist clips (D). Spread the arms and the clip snaps easily onto the joist. Once it is in place a slight pull downward on the clip sets the metal teeth into the

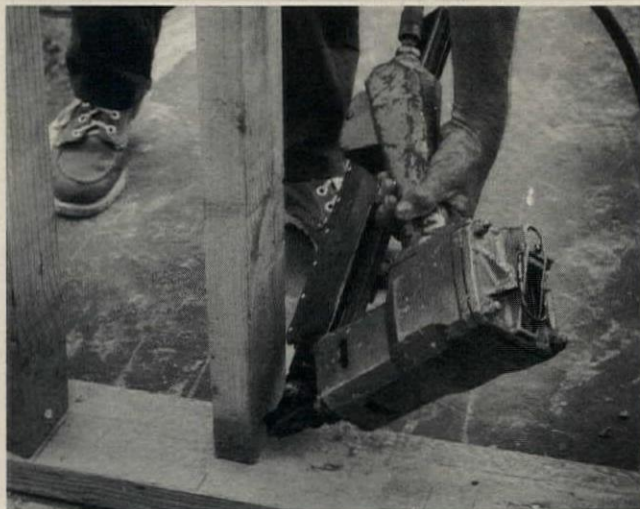
wood. A push up on the tile engages the cross tee and the clip (E), completing installation of the first tile. This process is continued across the room row by row. Tiles are butted tightly together (F). Specially fabricated locks snap the cross tees together (G), forming an unbroken strip across. Finished ceiling is seamless and smooth (H). Armstrong Cork, Lancaster, Pa.

CIRCLE 265 ON READER SERVICE CARD

How Duo-Fast steps up your production...and profits



AUTOMATIC WALL FRAMING speeds wall assemblies. Ideal for both in-plant and on-site use. Tandem Duo-Fast Nailers sense studs and drive two 16d nails simultaneously for big economies.



TOE NAILING, on the site, is fast and accurate with the versatile CN-137 Nailer...the nailer that drives 6d common thru 16d sinkers. Also replaces costly hand nailing on other construction jobs.



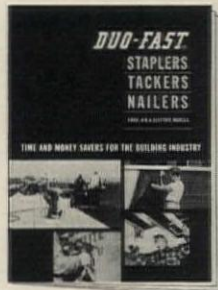
SOFFITS install easier and faster with the new, lightweight KN-1840 which drives heavy, narrow-crown, galvanized staples. The narrow crowns are inconspicuous and resist pull-thru. Has many applications in building.



FINISHING is the job of the FN-83 Finish Nailer. Interior trim goes on in a hurry. The Brad Nailer is used widely to speed up installation of paneling, using brads with heads colored to match the surface.

ADD the Duo-Fast Gun Tackers, Hammer Tackers and Strike Tackers for insulation, building papers, ceiling tile, underlayment...and watch production climb while costs tumble.

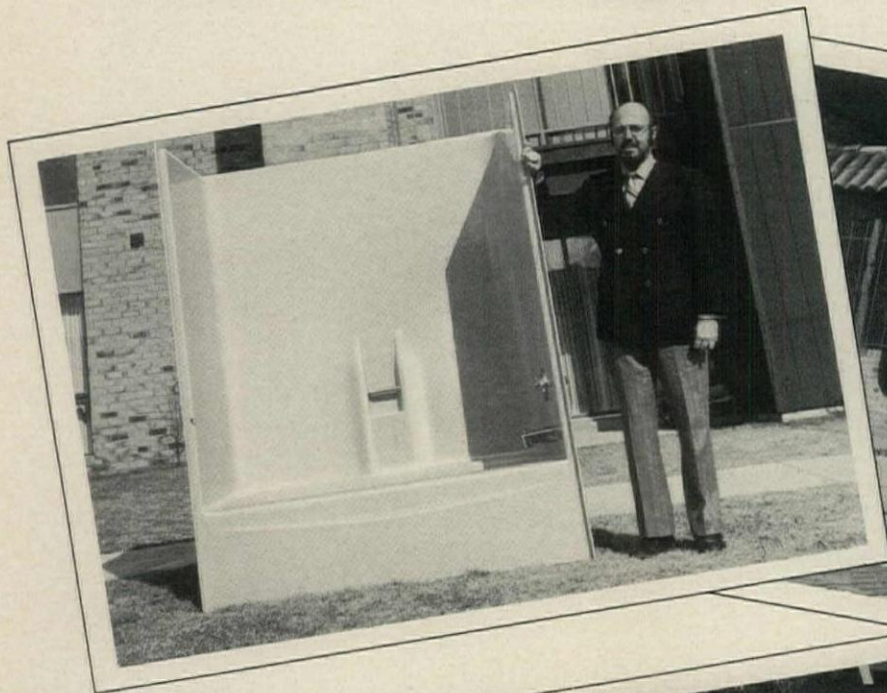
SEND NOW for free copy of Bulletin FT-26 and demonstration of these cost cutters.



**DUO-FAST FASTENER
CORPORATION,**
3702 River Road
Franklin Park, IL 60131

DUO-FAST EVERYTHING
FOR
STAPLING
NAILING

The big boys go



Goodwin Homes, Inc., Mt. Laurel, New Jersey, with its 14 subsidiaries has completed nearly 25,000 dwellings in the last few years. President Dick Goodwin says, "The U/R fiberglass bath reflects our commitment to use the finest materials available in all Goodwin townhouse/apartment communities."



Jack P. DeBoer Associates Wichita, Kansas, tallies up more than \$60 million a year in multifamily housing. Says Chuck Lawrence, Director of Construction, "The exceptional durability and strength of the U/R one-piece fiberglass units virtually eliminate maintenance. They're a positive factor in our apartment rent-ups."



Ray Ellison Industries San Antonio, offers 150 different plans in homes up to \$35,000. Ray Ellison, Chairman, says, "We've installed more than 5,000 U/R fiberglass units in our new communities and we're more than pleased with the assist they give us in the sale of homes."

Housing giants from coast to coast choose the fabulous U/R fiberglass bath for seven basic reasons:

1. **It's lightweight.** U/R fiberglass units are easy to handle.
2. **Quickly installed.** Just set the one-piece unit into framing, nail the flanges and it's ready for plumbing hookup.
3. **No tiles, no grouting needed.** One contract does it all!
4. **Seamless construction.** No chance of leakage, no callbacks, no customer complaints, ever.
5. **Quality control.** Universal-Rundle, long the leader in fiberglass bathroom fixtures, maintains the strictest standards of quality control in the industry—by far exceeding ANSI, FHA and building code minimums.
6. **National distribution.** With five fiberglass production facilities and more than 650 wholesale dealers strategically placed across the country, U/R provides efficient service and prompt delivery anywhere in continental United States.

The seventh? Among big builders, it's an instinctive recognition of new ideas that help sell homes and rent apartments. For example:

- the easy-care appeal of the scrubless, scourless U/R fiberglass bath.
- the dollars-and-cents appeal of features that make U/R fiberglass bath virtually maintenance-free (it's leakproof, rustproof, stainproof).
- the eye-appeal of gloss-finished rich pastels that mix or match with other bathroom fixtures in the famous U/R Decorator Line.

Tying in with U/R helps the big boys become giants.

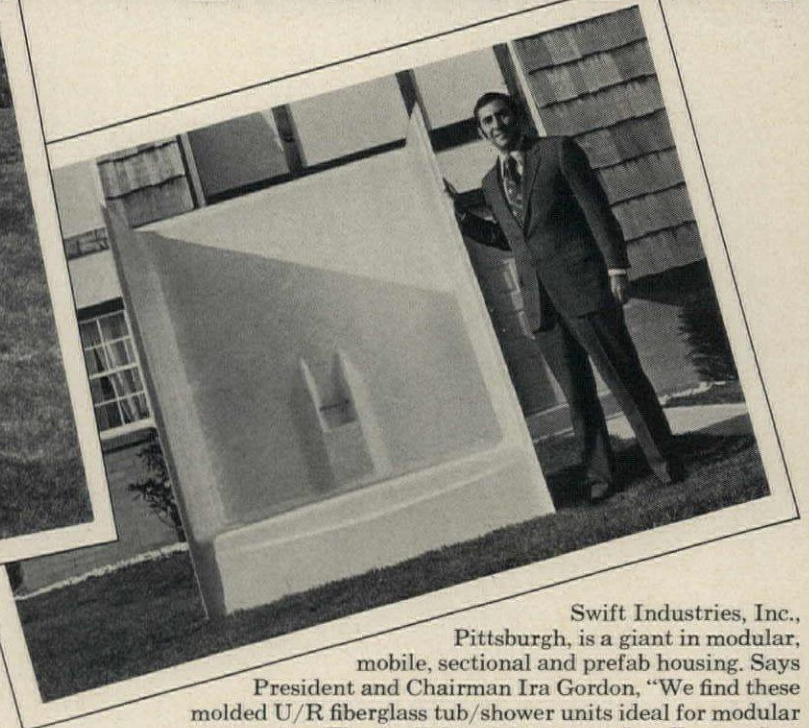
Like to join them? Look us up in Sweet's File 15.20/UN; check the Yellow Pages for your nearest U/R dealer or write Universal-Rundle Corporation New Castle, Pennsylvania 16103.



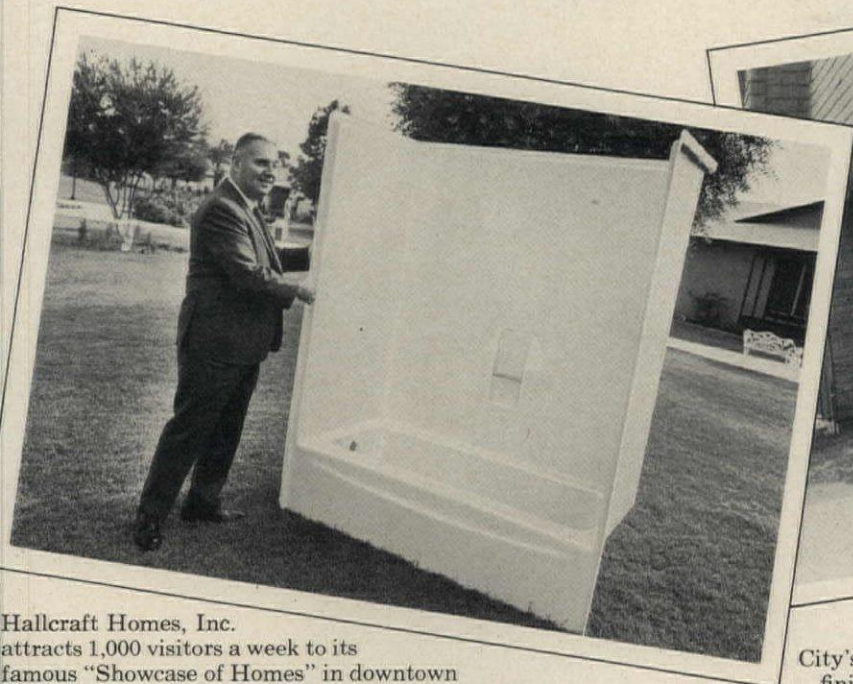
with the leader!



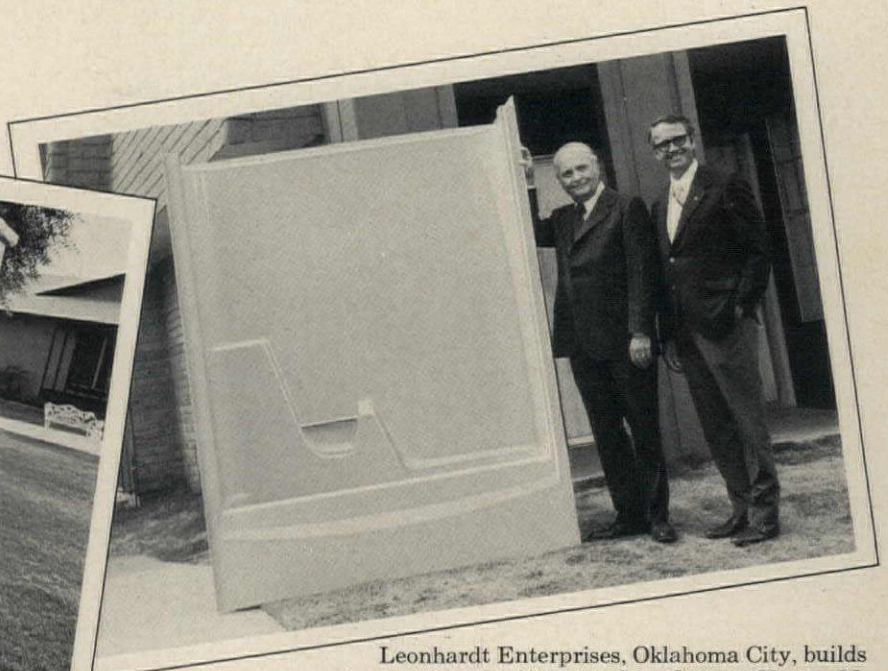
Wood Bros. Homes, Inc., Denver, has grown from a one-house start in 1950 to one of the largest home builders in Colorado and the Southwest today. Brothers Bob and John, Jr. find that the U/R fiberglass bath rates high in public acceptance. "Its maintenance advantages in particular are readily recognized by our customers," say the Woods.



Swift Industries, Inc., Pittsburgh, is a giant in modular, mobile, sectional and prefab housing. Says President and Chairman Ira Gordon, "We find these molded U/R fiberglass tub/shower units ideal for modular construction. They're lightweight, easy to handle, speed up assembly and the price is right, too."

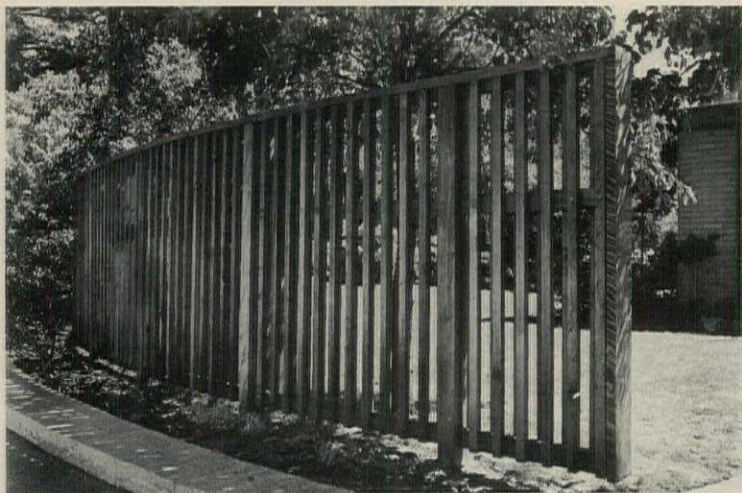


Hallcraft Homes, Inc. attracts 1,000 visitors a week to its famous "Showcase of Homes" in downtown Phoenix; has built housing equivalent to a city of 150,000 people. Says John Hall, Chairman, "The U/R fiberglass bath is easy to install, saves on labor costs. It helps keep us competitive in four hot housing markets."



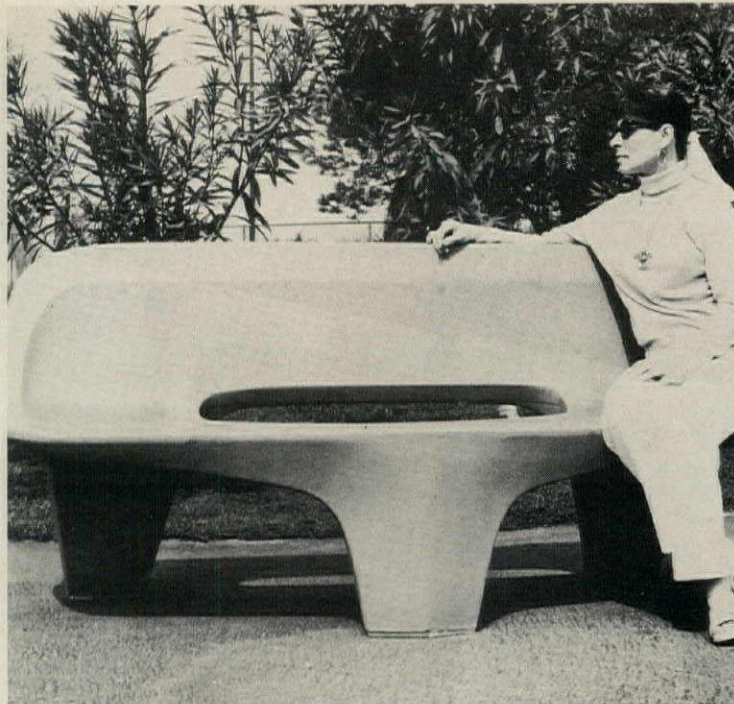
Leonhardt Enterprises, Oklahoma City, builds homes up to the \$250,000 class. Owners Chester N. Leonhardt, Sr., (named 1971 Builder of the Year by Oklahoma City's HBA) and son Chet chose the U/R fiberglass bath "for its excellent finish, as well as U/R's strict quality control and splendid cooperation."

Universal-Rundle



Redwood offers a natural look for outdoor settings. Three economical grades are available for garden use: construction heart, construction common and merchantable. Heart wood, the only type suitable for direct ground contact because it is inherently insect and decay resistant, is shown on wide tread steps (left). Curved screen-like fence that protects privacy (above) is a combination of heart and common grades. California Redwood Assn., San Francisco, Calif.

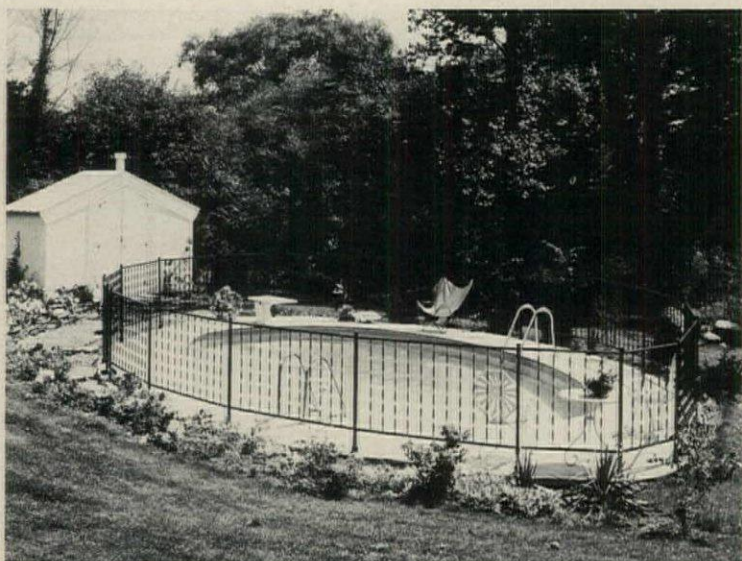
CIRCLE 213 ON READER SERVICE CARD



Three-legged concrete bench with a full back rest is cast in one piece. Reinforced with a welded steel frame, the 28 3/4"-wide, 77"-long bench can accommodate three adults. The seat is contoured for comfort and sloped for drainage.

Bench is equipped with aluminum base plates for easy installation. Unit is available in natural, white or muted tones of yellow, red, orange, brown and black. Form, South Lyon, Mich.

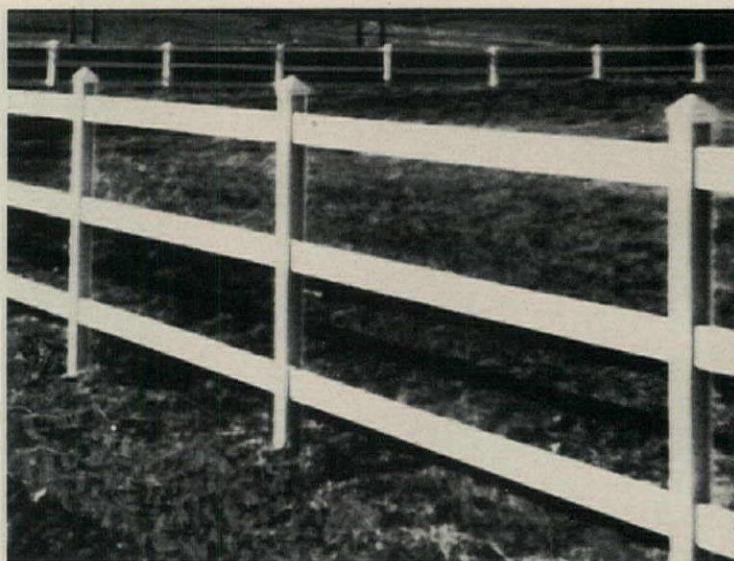
CIRCLE 214 ON READER SERVICE CARD



Wrought-iron railings are used around a backyard pool area as a safety precaution. The fully adjustable rail sections can be pitched to match any stair angle. Easy-to-in-

stall railings are chemically treated inside and out with a black primer that prevents rust. Units can be painted any color. Versa, Lodi, Ohio.

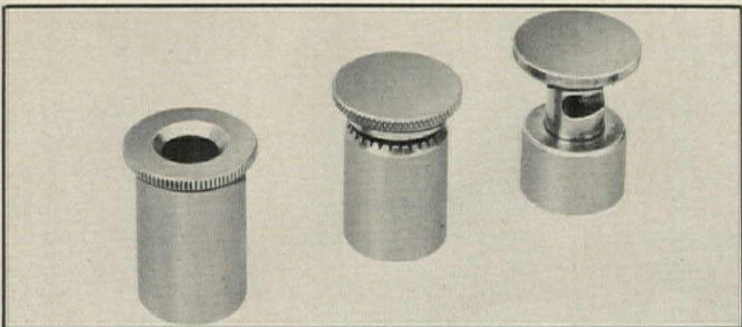
CIRCLE 215 ON READER SERVICE CARD



White aluminum rail fence is designed to simulate the historic charm of a country lane. Engineered primarily for 4'-high enclosures with three rails, the fence system can be

easily modified to two rails. Heavy-duty, nonrust posts and rails require little or no maintenance. Nichols-Homeshield, Davenport, Iowa.

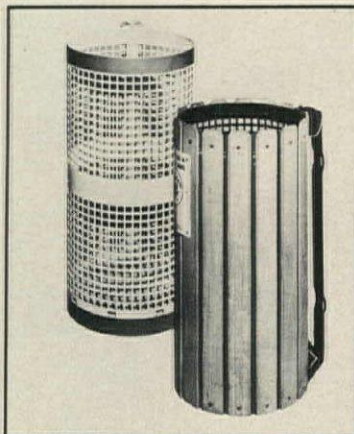
CIRCLE 216 ON READER SERVICE CARD



Nozzles for underground sprinkler system are of brass construction. Mist spray comes in quarter, half, three-quarter and full circle spray

patterns in 15' or 20' spacing intervals. Jet spray offers 18' spacing. New England Union, New York City.

CIRCLE 217 ON READER SERVICE CARD



Litter control receptacle is designed to be a permanent addition to landscaping. Exterior of the unit is slatted wood to blend with the surroundings. The heavy-duty receptacle comes complete with a mounting bracket for pole or wall use and a special patented locking device engineered to withstand vandalism. Unit, with its easy-to-empty 16-gauge perforated steel basket liner is 12" in diameter, 24" high and is available in 18 painted colors. Howard Metalcraft, Emmaus, Pa.

CIRCLE 218 ON READER SERVICE CARD

For 28 years, Thermopane has been the household word for insulating glass. It did its job in protecting your customers against the elements. Now comes Thermopane Xi. And LOF makes a good thing even better.

All Thermopane units with the GlasSeal® edge now feature inert gas between the panes instead of dry air. The 3/16" of inert gas gives the same insulating power as 3/8" of dry air.

Thermopane Xi helps give your customers' homes a more consistent level of temperature and

humidity, increasing their comfort . . . no matter how the weather rages outside.

There's less chance of windows fogging. And your customers save on heating bills—another comforting thought.

Thermopane Xi. A little more insulation from the people who started it all in the first place. Available only from Libbey-Owens-Ford Company, Toledo, Ohio 43695.

Making progress
in comfort



CIRCLE 119 ON READER SERVICE CARD

If it were your home, you'd choose Thermopane® Xi.™

Casement sash by Andersen Corp., Bayport, Minn.



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Stiff Underfoot.

"By nail-gluing 5/8 inch particleboard underlayment instead of nailing only, the stiffness of a basic floor is increased . . . double the amount due to just nailing." Report on floor underlayment from an independent home building testing organization.

Basketball players need stiff floors to play. And builders need them to cut costly callbacks. There's never been any question that stiffer floors cut callbacks, only how to

get a stiffer, more economical floor system.

Now, an independent study proves that particleboard glue-nailed gives you the floor system you've been looking for. Recommended over 1/2 inch plywood subfloor, it makes an economically competitive floor system that pays off for you in satisfied customers.

And it does what other floor systems can't do. It eliminates the need for repairing easily damaged subflooring that eats up

time and profit. Because with a two-floor particleboard system, simple clean-up procedures are all that are necessary.

Next time you want a clean, stiff floor system, look for NPA grademarked particleboard floor underlayment. It's smooth, void-free and trouble-free, and meets or exceeds CS 236-66. For glue and nail installation instructions, write the National Particleboard Association.

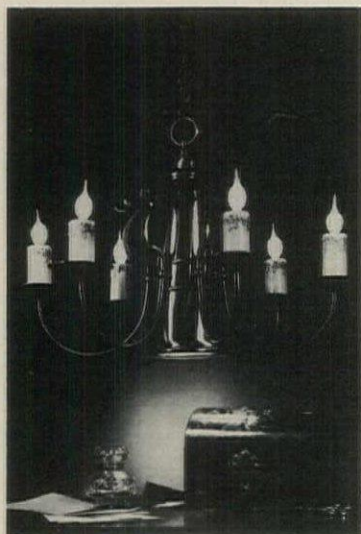
That way you'll make a basket everytime.



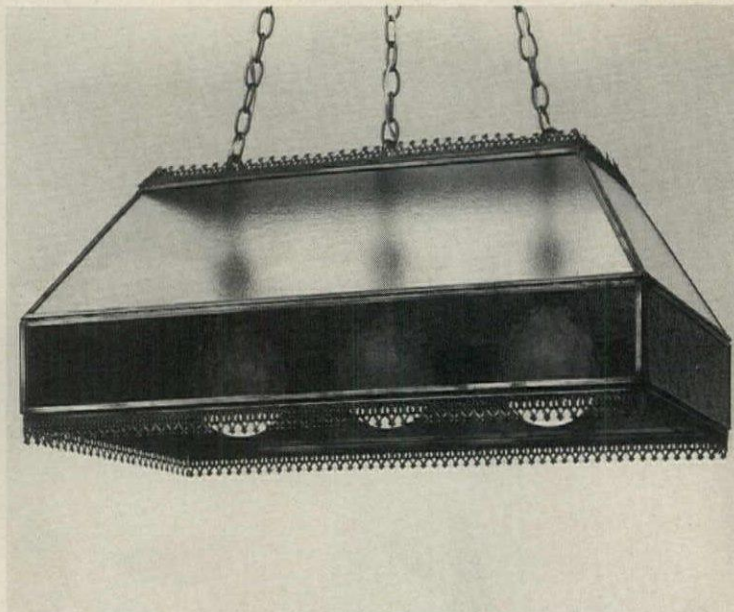
National Particleboard Association
2306 Perkins Place, Silver Spring, Md. 20910

NPA Members: (those with asterisks manufacture underlayment)

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Antique brass chandelier has a concealed downlight in the center column to dramatize table settings or provide proper illumination for work and play. A three-way switch controls either the bulbs, the downlight or both. Progress, Philadelphia, Pa. CIRCLE 219 ON READER SERVICE CARD



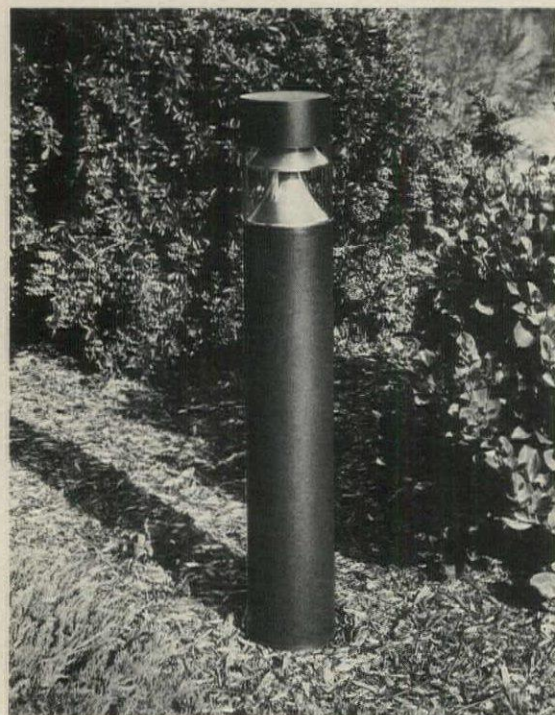
Solid brass pool or game-table lamp adds an old fashioned touch to any den or dining area. The unit accommodates three Globelite bulbs up to 100 watts each in medium base

porcelain sockets. Hung from a triple chain, the fixture has frosted acrylic panels. Georgian Art Lighting, Lawrenceville, Ga.

CIRCLE 220 ON READER SERVICE CARD



Traditional foyer fixture features clear bevelled, molded-plastic panels that simulate expensive wheel-cut, polished glass. The series includes four models: a three-light drop (shown), a one-light drop and ceiling fixtures of each. Halo, Rosemont, Ill. CIRCLE 221 ON READER SERVICE CARD



Reflector bollard for outdoor areas directs light in a wide downward pattern while shielding the lamp for exceptionally low-level brightness. The rugged, low-profile mercury-vapor unit is constructed of heavy cast-aluminum, making it suitable for use in damp locations. Clear acrylic enclosure and concealed base mountings have no exposed bolts or covers, providing a smooth look. Prescolite, San Leandro, Calif.

CIRCLE 222 ON READER SERVICE CARD

Traditional double-cage colonial lantern in a post style has glass panel sides and crown. Brass-finished fixture with a unique scrollwork lantern hook has an overall height of 25". The cage is 9"x11" and extends 11" from the post. Unit can accommodate two 60-watt candelabra base lamps. Matching chain-hung and wall-mounted models are also available. Residential Lighting Div., Thomas Industries, Louisville, Ky.

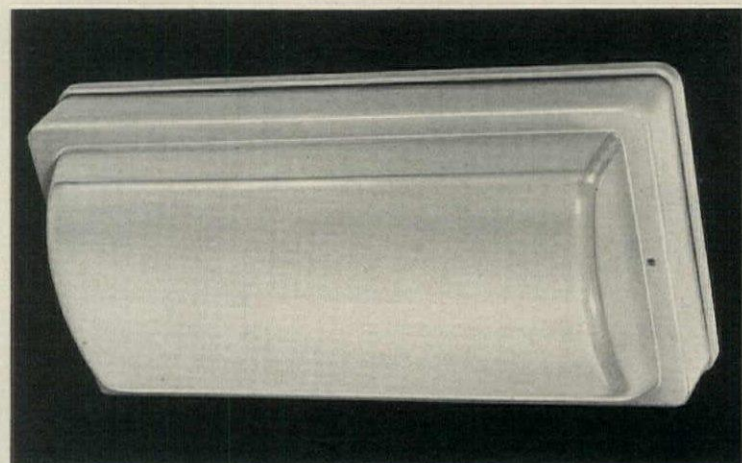
CIRCLE 223 ON READER SERVICE CARD



Tudor and mansard-style luminaires are available in both incandescent and mercury-vapor versions. Covers and bases are constructed of corro-

sion-resistant aluminum, and the refractors are shatterproof acrylic. McGraw-Edison, Racine, Wis.

CIRCLE 224 ON READER SERVICE CARD

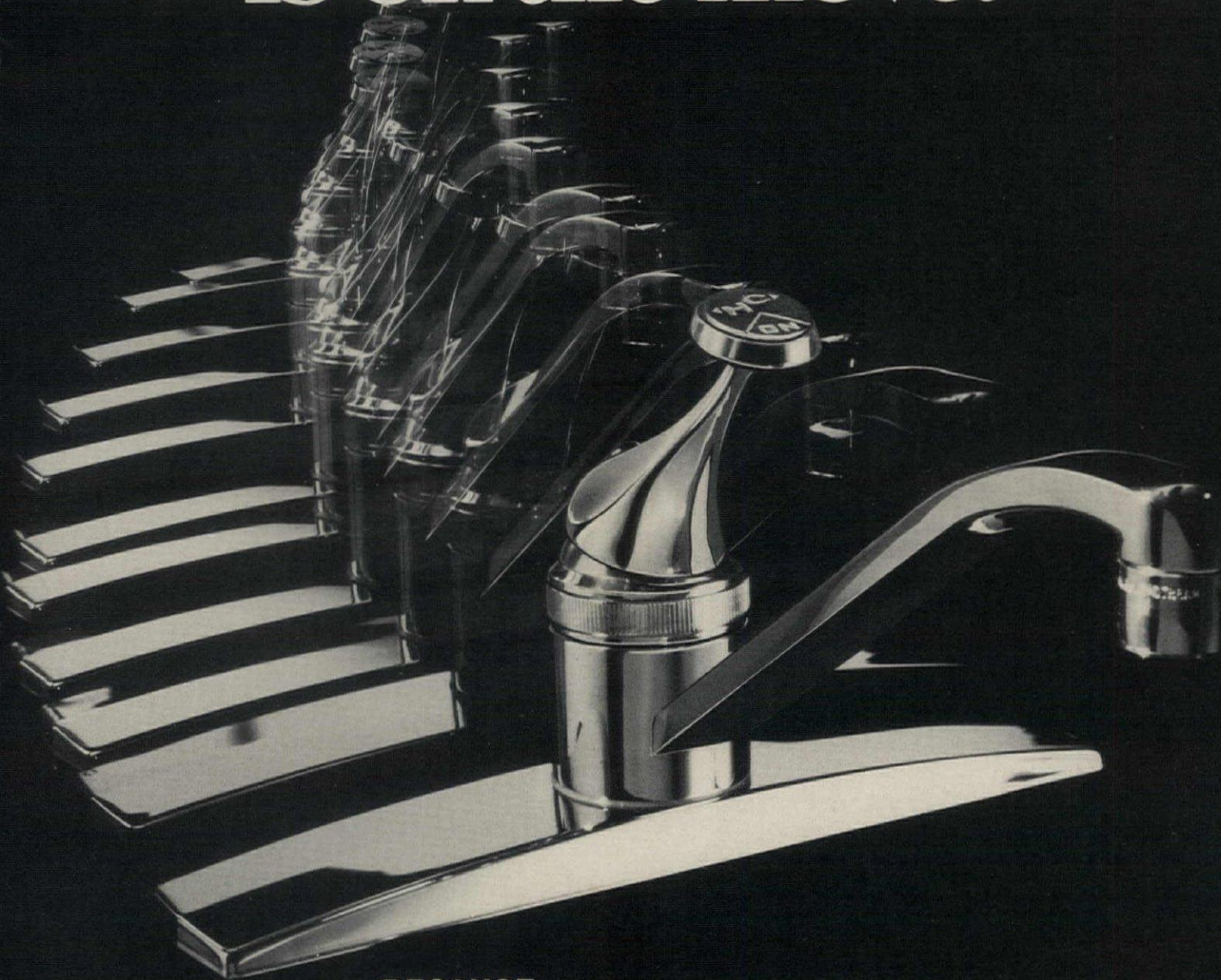


Weatherproof, breakproof fixture for indoor or outdoor lighting can be wall or ceiling surface mounted. The luminaire is protected from vandal-

ism by a Lexan® diffuser and tamperproof retaining screws. Stonco Div., Keene, Union, N.J.

CIRCLE 225 ON READER SERVICE CARD

Valley, the new leader is on the move.



BECAUSE

1. Valley gave the plumber a one-year, \$10.00 no-call-back guarantee, plus a five-year parts warranty.
2. Valley made a faucet with an exclusive "hydroseal" leak-proof internal design.
3. Valley created for the homemaker a beautiful mirror-like "tri-plate" chrome finish.

4. Valley created for her convenience the feather touch control action.

See your Valley distributor and find out what the next move will be!

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VALLEY TRIMWARE•SPEEDFLEX SUPPLIES•DURO FITTINGS•CONNECTORS LOOK FOR THESE MARKS FOR SUPERIOR PLUMBING QUALITY

Not so long ago, most of us got a good look at the Great Wall of China, in living color.

It is quite a sight.

Built where it is.

But some people would like to build a "Great Wall" around America. And that would be a different sight entirely.

The specifications for the wall are contained in the Burke-Hartke Bill, now before Congress. The key provisions of this bill would:

- Establish permanent quotas on foreign imports into the U.S., at about 60% of current levels.
- Regulate, and severely restrict, the export of U.S. capital and technology.
- Impose a form of double taxation on the foreign earnings of U.S. companies.

The Great Wall of China was built to keep out invaders. The Burke-Hartke Wall goes the Chinese one better. It has *two* sides. One to keep out, and one to keep in. One to shut out foreign competition, and one to shut in *American* competition—in the form of American products, or of American initiative and enterprise.

The clear prospect is that the Burke-Hartke Wall would do far more shutting in than shutting out, at the catastrophic expense of most of U.S. business and industry, most of U.S. labor, and all American consumers and taxpayers.

The even grimmer prospect is that this hostile and defiant act—the United States against the world—would trigger an international trade war. Which would be an economic, political and moral disaster for all concerned.

Why take such an obviously extreme, desperate and dangerous step?

Because, say the supporters of Burke-Hartke, our case is desperate. Foreign com-

petition and the export of U.S. capital and technology have created a "national crisis." We face the "destruction of major industries" and the "loss of one million American jobs."

It is time to set some things straight.

For 77 years, from 1893 through 1970, the U.S. exported more than it imported. The net result was a constant, cumulative increase in U.S. jobs and wages.

In 1971, for the first time in this century, we imported more than we exported—by \$2.9-billion. The net result, at least in theory, was to displace \$2.9-billion worth of domestic goods with foreign imports—and to reduce total U.S. output and employment accordingly.

Total U.S. output in goods in 1971 was well over \$600-billion. The possible loss in output attributable to the \$2.9-billion trading gap was, consequently, 0.5% of the total—and the presumable loss in employment about the same. That is, less than one-half of one percent.

These are the exact dimensions of the "crisis" as it relates to trade.

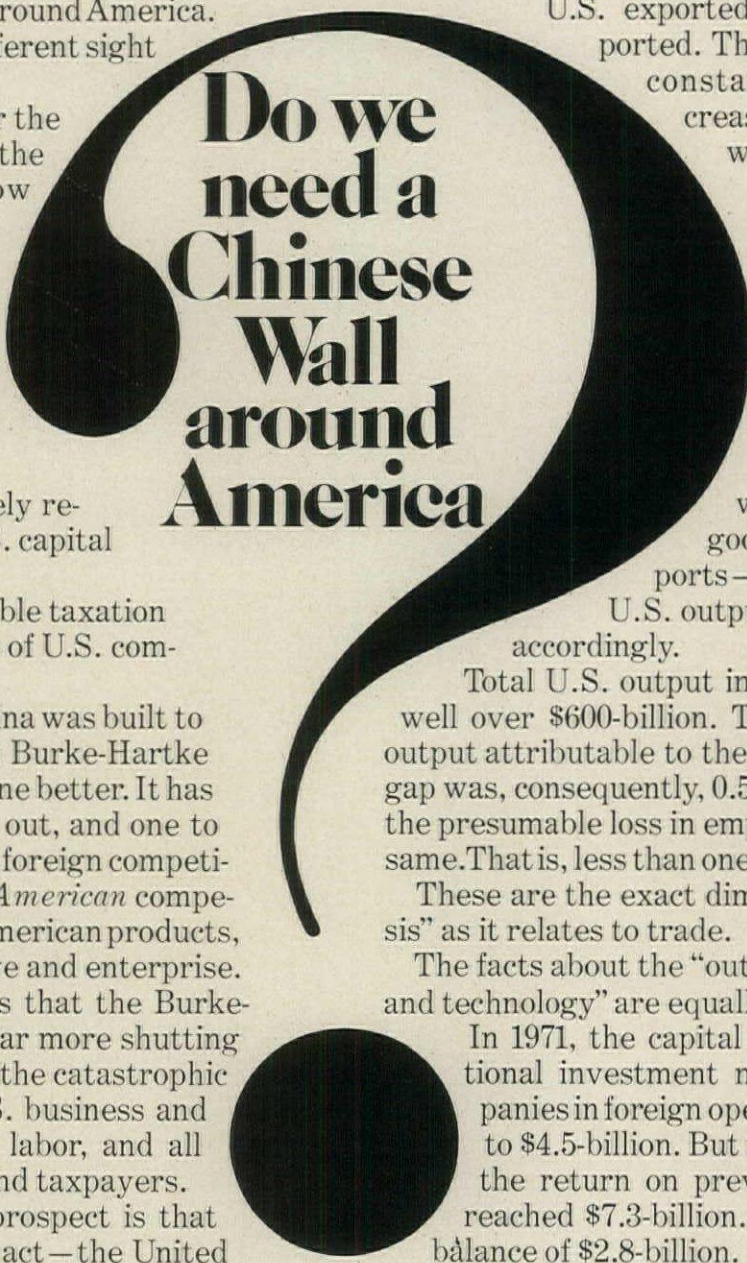
The facts about the "outflow of U.S. capital and technology" are equally plain.

In 1971, the capital outflow—the additional investment made by U.S. companies in foreign operations—amounted to \$4.5-billion. But the capital inflow—the return on previous investment—reached \$7.3-billion. Leaving a positive balance of \$2.8-billion.

Similarly, the previous export of U.S. technology produced a cash inflow, in the form of royalties and fees, that amounted to \$2.0-billion in 1971.

The idea that the outflow of U.S. capital and technology costs U.S. jobs is quite simply a delusion.

The foreign subsidiaries of U.S. multinational companies are essentially local businesses. 92% of what they produce is sold abroad—and, in most cases, can *only* be made and sold abroad. It *cannot* be made in the U.S., shipped abroad and sold competitively against domestic products.



Do we need a Chinese Wall around America

Thus, to put it bluntly, the "lost" jobs never existed, and cannot exist. Except in the imagination of those willing to ignore reality to make a case.

The plain truth of the matter is that the "crisis" that has produced the Burke-Hartke Bill is not national, and has nothing to do with exports—of goods, or of capital and technology.

This Bill is the result of the very particular and special problems of certain industries and companies that find themselves unable, for a variety of reasons, to compete effectively against foreign imports.

With all due regard for the reality and seriousness of these problems—and for the industries, companies and people concerned—the Burke-Hartke Bill is *not* the answer.

To protect their interests, it is proposed that we ignore all other interests, all other considerations, and all possible consequences. To (perhaps) save their jobs, it is proposed that we gamble the jobs of another, larger group of Americans.

The trouble is, it won't work—for anybody. It is a bad idea, and a worse gamble.

The Burke-Hartke idea, in brief, is to deliberately demolish the entire delicately balanced structure of international trade and commerce, kick aside the pieces, and declare "a whole new ball game."

The gamble, on which everything rides, is that we can play the game by *our own rules*—with the outcome fixed in advance, in our favor.

The Burke-Hartke rules arbitrarily and unilaterally cut U.S. imports almost in half—from \$47-billion in 1971, to a fixed annual rate of about \$28-billion.

This presents the other nations of the world with an ultimatum—and two equally bleak alternatives.

They can accept an \$18-billion annual loss in sales to the U.S., while continuing to buy at the rate of \$40-50-billion from the U.S.—thus accepting a *permanent* trading gap on the order of \$20-billion a year.

Or they can cut their purchases of U.S. goods, build their own walls, and let the trade war take its ruinous course.

A hard choice. But can there be any doubt as to the answer? And the results?

Walls, in the general experience of mankind, are rooted in fear, built on delusion, and doomed to futility. The Burke-Hartke Wall is no exception.

It is a product of fear, based on the delusion that the answer to competition is to refuse to compete.

It is a symbol of panic and despair—crying, "Stop the world, we want to get off!"

But the world won't stop, we can't get off, and we don't need a wall, but a way.

A way, quite simply, to make this country what it can and should be. Strong, productive, and confidently competitive in a competitive world.

This is the way—the *only* way—to really save our jobs.

And our self-respect.

We at McGraw-Hill believe in the interdependence of American society. We believe that, particularly among the major groups—business, professions, labor and government—there is too little recognition of our mutual dependence, and of our respective contributions. And we believe that it is the responsibility of the media to improve this recognition.

This is the fourth of a series of editorial messages on a variety of significant subjects that we hope will contribute to a broader understanding.

Permission is freely granted to individuals and organizations to reprint or republish these messages.

John R. Emery
John R. Emery, President
McGraw-Hill Publications Co.



To the prudent real estate investor who thinks of Quality as only one kind of shelter.

It's two.

The motel kind, providing an exceptionally high rate of return per square foot. And the tax kind, because motel ownership offers a higher degree of tax sheltered income than almost any form of real estate investment.

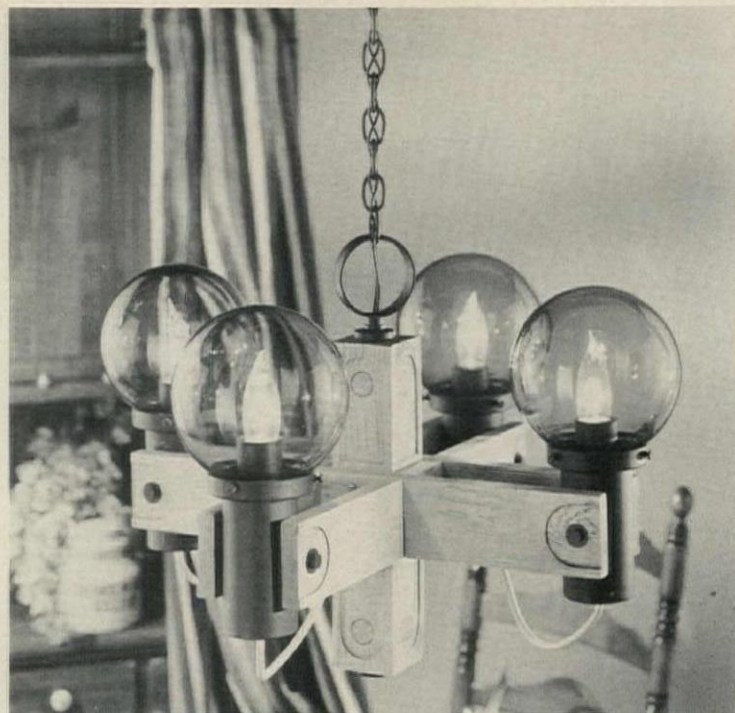
As for the rate of return, figure it out.

A typical room occupies 250 square feet and takes in \$14.50 about 75% of the time. That's \$16.00 a square foot.

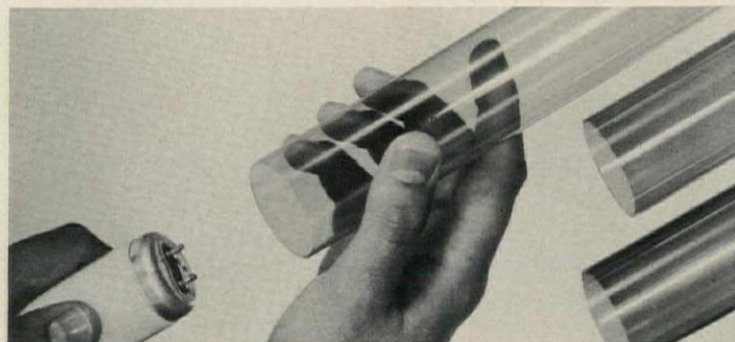
Do you know many leasing agents getting that kind of rent?

No, operational costs don't put a damper on things. The net cash flow from a successful motel operation runs well above that obtained from office or apartment rentals.

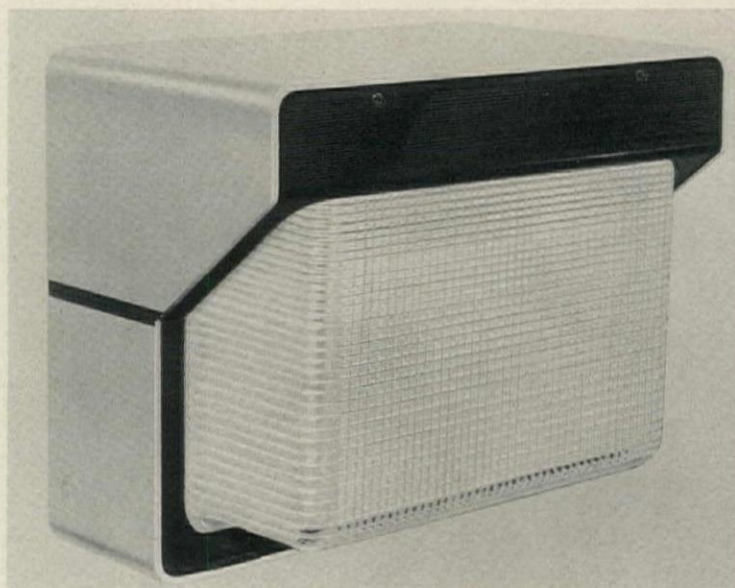
To meet our objective of 65,000 *new* rooms in 5 years, Quality is looking for new properties and franchisees. Write L. K. Dowiak, Dir., Franchise Operations, Quality Inns International, 10750 Columbia Pike, Silver Spring, Md. 20901. Or phone 301-593-5600.



Modern ranch chandelier has topaz black finish. Matching two-light globes that can be mounted up, down or on the end of the arms. The fixture, with four candelabra bulbs, combines weathered oak and a matte black finish. Matching two-light mini-chandeliers and wall brackets are available. Lightcraft of California, Nutone, Cincinnati, Ohio. CIRCLE 226 ON READER SERVICE CARD



Colored plastic sleeves slip over fluorescent tubes adding mood and dimension to decorating. The inexpensive accents take the place of more costly color fluorescent lighting or special fixtures. Unbreakable plastic sleeves are available in green, amber, pink, blue or red. Thermo-plastic Processing, Stirling, N.J. CIRCLE 227 ON READER SERVICE CARD



Wall-mounted mercury vapor fixture for outdoor use has tempered prismatic glass refractor that directs light downward and out. Heavy cast-aluminum frame has double hinge and safety chain. Benjamin, Div. Thomas Industries, Louisville, Ky. CIRCLE 228 ON READER SERVICE CARD

H 110

Quality Inns International
10750 Columbia Pike, Silver Spring, Md. 20901

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You manufacture homes, we make closet doors to fit anything you can turn out. It's the biggest line in the business today — with prices almost too good to be true!

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2. Fleet of trucks. When you order sizeable amounts, in most cases, Float-Away assures you direct, on-schedule deliveries with our own truck fleet.

3. Mobile home type distributors. If it's not to your advantage to buy direct, deal through one of our distributors. He can deliver weekly or maintain back-up stock to supply your needs.

4. Quality products. Float-Away manufactures the finest bi-fold closet doors and shelves on the market. All pre-finished with our exclusive Floata-Plate process.

So, if you manufacture homes, get with the people who can make your job a whole lot easier. Float-Away. Write today.

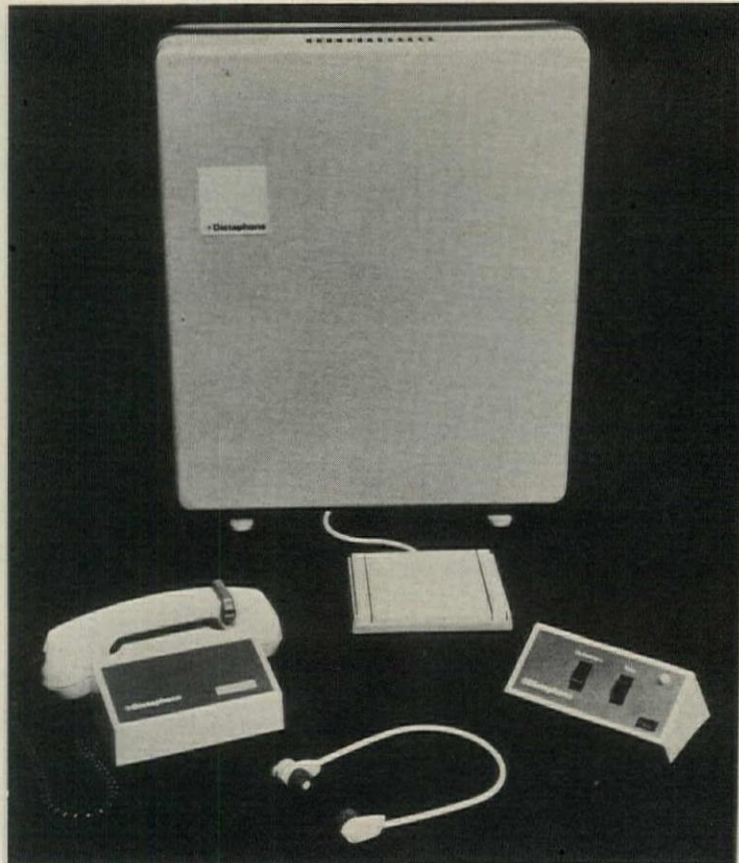
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FLOAT-AWAY DOOR DIVISION

Dept. HH-10, 1123 Zonolite Rd., NE, Atlanta, Ga. 30306.



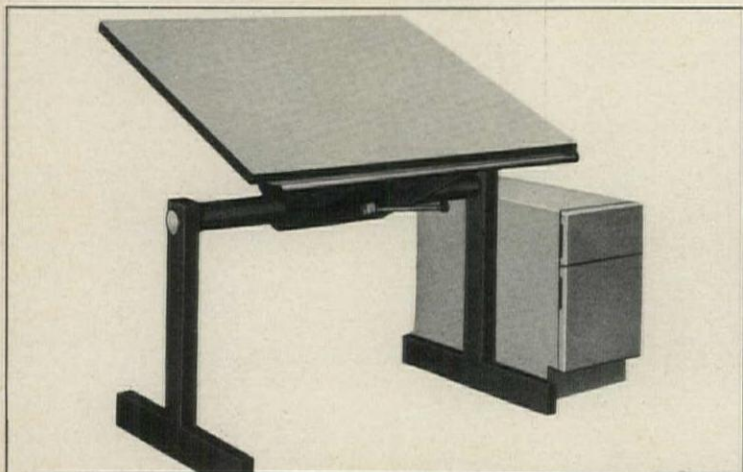
Electronic pocket calculator performs addition, subtraction, multiplication and division including chain or mixed multiplication and division using a stored constant. The

unit, which operates on household current or rechargeable batteries, has eight digits and a floating decimal point. Bowmar, Acton, Mass. CIRCLE 200 ON READER SERVICE CARD



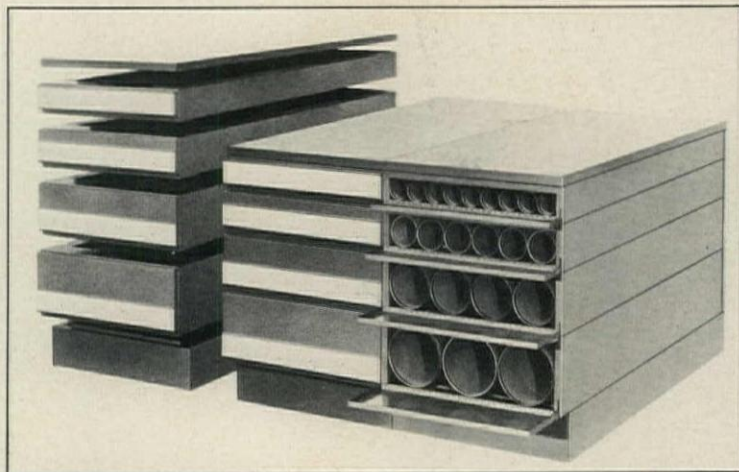
Continuous-flow dictating system includes a recording playback tank with endless loop magnetic tape and a compact transcribing control unit. The dictator speaks into a tele-

phone-like instrument with a thumb-operated control. Transcribing can begin 12 seconds after dictating starts. Dictaphone, Rye, N.Y. CIRCLE 201 ON READER SERVICE CARD



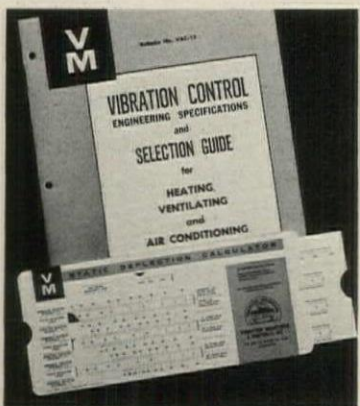
Radius tension drafting tables are available in two sizes: a 37½"x72" board model and a 43½"x72" board unit. Steel tables are equipped with detachable reference cabinets which can be positioned according to indi-

vidual preference. Free-standing cabinet rests flush on the floor on its own 5"-high base so that opening and closing of drawers cannot disturb board work. Huey, Chicago, Ill. CIRCLE 202 ON READER SERVICE CARD



Modular-stacking storage tubes provide maximum space economy. "Staktube" units consist of heavy-gauge reinforced steel frames containing a series of horizontal filing tubes. Tubes are available in a choice

of four diameters and eight lengths. Each module interlocks at the top and bottom with other units, forming a tight rigid assembly without screws or bolts. Stacor, Newark, N.J. CIRCLE 203 ON READER SERVICE CARD



Handheld calculator and selection guide mathematically determines what is needed to control vibration from heating, ventilating and air conditioning equipment. The easy-to-read tools facilitate selection of neutralization and isolation equipment. To establish correct control set the calculator to the appropriate disturbing frequency and read the static deflection and/or the isolation efficiency in the window provided for the given floor span. Vibrations Mountings & Control, Butler, N.J. CIRCLE 204 ON READER SERVICE CARD

Free-scanning input device makes automatic on-line drafting simple and easy. The hand-held digitized unit can be fed directly from a map or blueprint. The device operates on an electromagnetic system that requires no moving parts. Nothing interferes with free movement around curves and irregular shapes. Information is automatically stored in a computer for easy retrieval. Viewingscreen shown is one of the variety of optional modifications available. Ferranti, Plainview, N.Y. CIRCLE 205 ON READER SERVICE CARD



PLYWOOD
SAVINGS
PLAN

#25

Industrialized housing.

1971:



1972:



What next?



Sponsors: American Plywood Association and Stylex Homes
 Architect: Daniellan, Moon, Sampieri & Iig, AIA, Newport Beach, Cal.



FIRST LEVEL



SECOND LEVEL



1973: Operation UnBox.

See the UnBox at the INBEX Oct. 30–Nov. 2

1973:

The year APA® reshapes the box and proves that if you don't want to go modular it's not the end of the industrialized housing world.

The UnBox can be built two ways. Modular or panelized. Modular is great and getting greater, but so is panelized. It's easy to get into. Flexible design-wise. Low cost.

A preview:

The UnBox is an all-plywood 4-unit townhouse designed for modular or panelized construction.

One of the four units will be shipped to the Industrialized Building Exposition & Congress in Louisville, Kentucky—1,000 miles, round trip.

See it. Walk through it. Ask a thousand questions.

Two key plywood systems:

Both systems, APA Single Wall and APA Glued Floor, demonstrate three unbeatable advantages. Assembly-line speed. Strength needed for over-the-road hauls. And economy. (APA Single Wall cuts siding-sheathing costs up to 40%. APA Glued Floor can save 20% over conventional construction. Plus no squeaks.) The exterior is a fresh plywood look, Texture 1-11 applied horizontally.

Once again. While everybody was talking about better industrialized housing concepts, the American Plywood Association did something about it. Hello UnBox.

American Plywood Association, Dept. H-102
Tacoma, Washington 98401

I'd like to join the plywood savings plan. Please send me more facts on the APA Glued Floor System and on plywood for siding.

Name _____

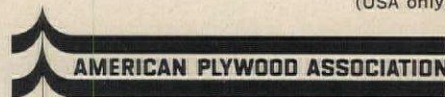
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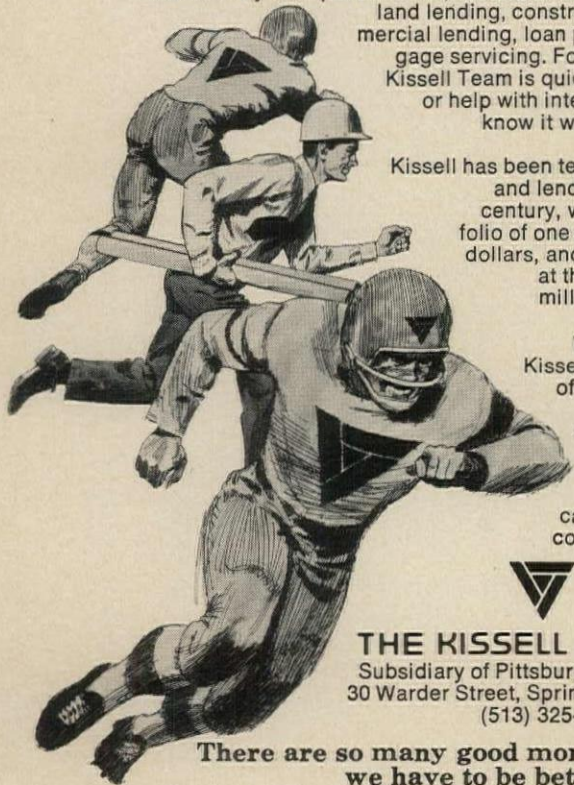
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**There are so many good mortgage bankers
we have to be better.**

CIRCLE 86 ON READER SERVICE CARD



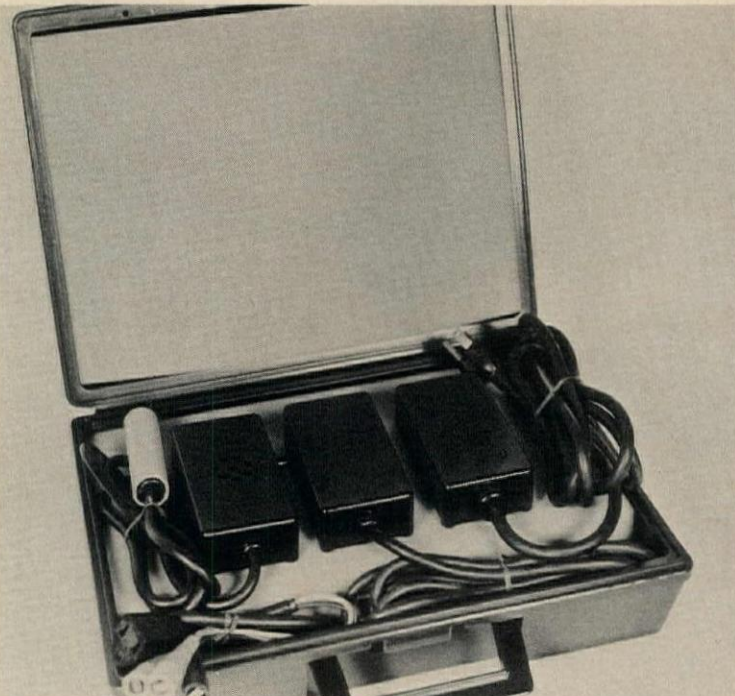
PRODUCTS/ELECTRICAL



Built-in 8-track tape player is designed for use with the "Musicom 2600" stereo system. The fold-out tape player plugs easily into master station. Unit is the same size, frame

and panel finish as the fold away record changer. Components can be arranged horizontally or vertically. NuTone, Cincinnati, Ohio.

CIRCLE 252 ON READER SERVICE CARD



Circuit tracer kit uses audio-tone signals to locate short circuits and hidden electrical line paths. The kit consists of a line interrupter, a tone

generator, a circuit tracer receiver, a pigtail adaptor and a carrying case. Lowcom Systems, Barrington, Ill.

CIRCLE 253 ON READER SERVICE CARD

510 NAILS A MINUTE:

THE KLINCHER GOES AT A FAST CLIP

Panel-Clip's Klincher Truss Press and Clips are the most economical fastening system for trusses on the market today. The lease cost of the Klincher and Jig is less than \$2.00 a day, and that includes our free design service (Klincher and Jig can be leased for only \$40.26 per month or purchased for \$1,184.00).

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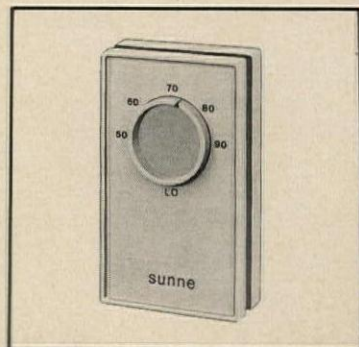
The Panel-Clip Co.

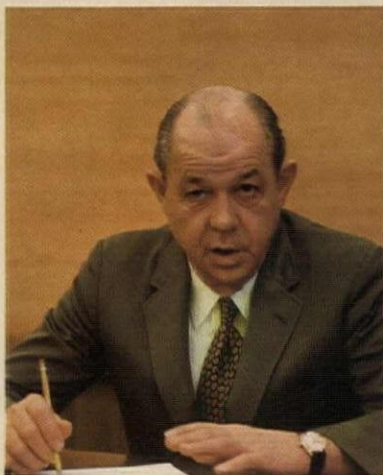
BOX 423, FARMINGTON, MICHIGAN 48024



Low-profile thermostat is for line voltage control of electric heating. Designed with a textured floating cover in contrasting gray and beige, the unit blends with any interior. Easily installed thermostat has 360° perimeter ventilation of the bi-metal to assure optimum sensor response. Unit has snap action switch and a rigid metal base to guard against calibration shift. Sunne Controls, Portland, Ore.

CIRCLE 254 ON READER SERVICE CARD





"More families live in National Homes than any other homes in the world. Prefinished aluminum is one of the quality features offered by National Homes. We prefer it because of its many manufacturing and on-site advantages, as well as its saleability to home buyers who want a long lasting, low maintenance exterior."

George E. Price, President
National Homes Corporation



Factory assembly of prefinished aluminum products into home modules is done with ease in National Homes plants.




The value offered in a National Home attracts buyers in every community.

Lasting protection and beauty of DURACRON® Coatings from PPG add value to National Homes.

Prefinished aluminum building products in lasting DURACRON color coatings from PPG provide many advantages and economies to National Homes and its builders. These architectural coatings are made for exterior surfaces and baked on at the factory to a tough, mar-resistant finish. Sidewall, soffit and trim are assembled with ease and installed without problems—no breakage or cutting problems

as encountered with other types of materials. And prefinished aluminum offers a variety of textures, wide color choice and low, stable cost factors. Put the value of PPG coated aluminum in your construction. For more information on DURACRON Coatings, contact PPG INDUSTRIES, Inc., Dept. 16W, One Gateway Center, Pittsburgh, Pa. 15222
PPG: a Concern for the Future

Coil
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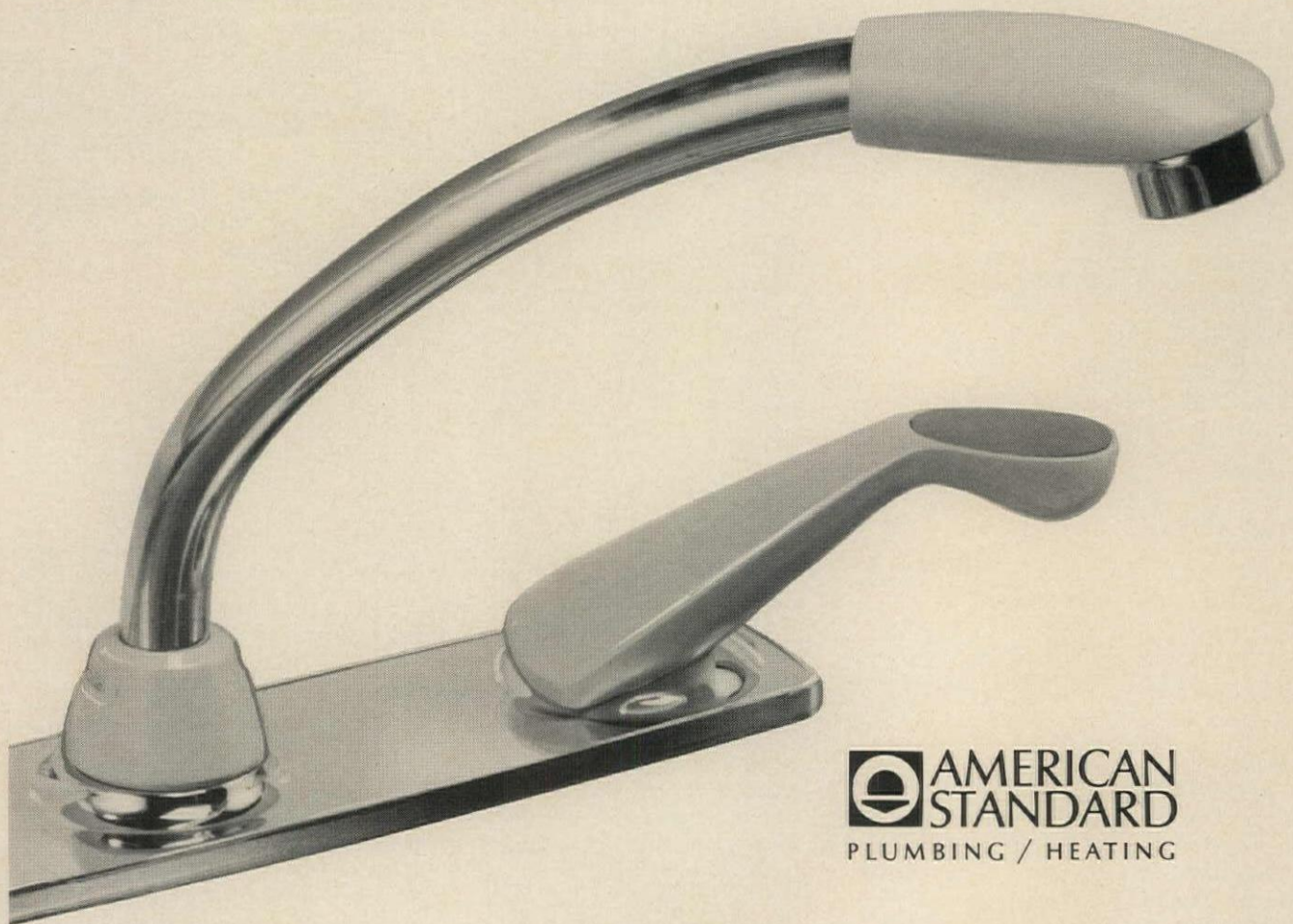
You start out saving when you choose Aquamix because it's the only single-lever kitchen fitting in its low-cost price range.

You save again when you install it. The whole operation takes one man, with a few tools, less than 15 minutes.

And you keep right on saving because repairs are almost unheard of. Aquamix has a washerless ceramic disc cartridge system

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Another nice thing about Aquamix: With its easy operation and graceful styling, nobody's going to suspect how much you saved. Write for free literature. American-Standard, P.O. Box 2003, New Brunswick, N.J. 08903.



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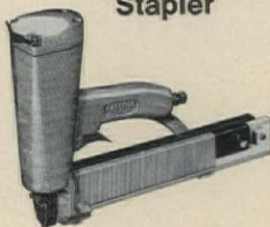
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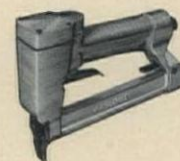
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Pinto II Stapler

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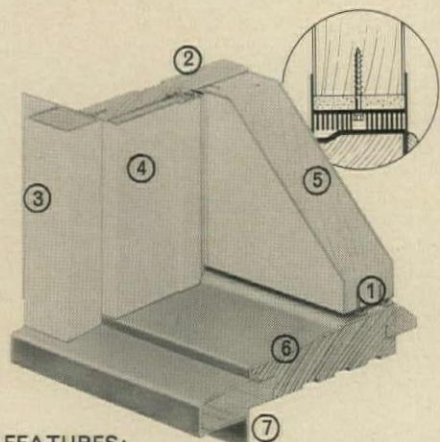
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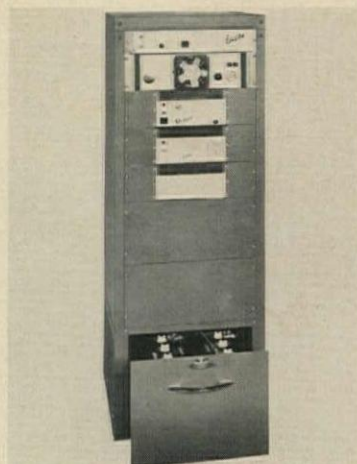


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 - ⑤ Insulated doors and sidelights
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 - ⑦ Trim fins below sill, at side and head
 - ⑧ Sash doors glazed insulated tempered (Safety) glass



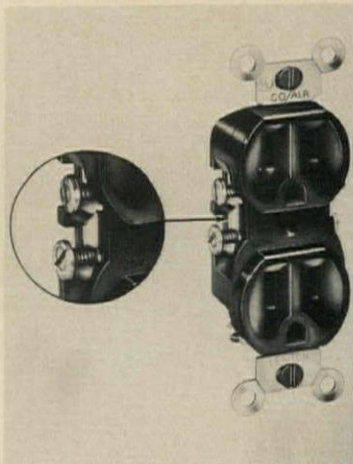
OSHKOSH, WISCONSIN 54901

CIRCLE 166 ON READER SERVICE CARD



Standby power system provides AC power from batteries up to 3,000 watts in emergency situations. One compact cabinet houses a battery power source, an analog computer charging system, a DC to AC output inversion system and automatic load transfer circuits. The uninterruptable system can be installed anywhere without fumes, noise or fuel hook-up. Automatic maintenance of the electric charge eliminates battery damage caused by under- or over-charging. Terado, St. Paul, Minn.

CIRCLE 255 ON READER SERVICE CARD



Duplex grounding receptacle, designed for direct connection to aluminum conductors, can also be used with copper and copperclad aluminum wiring. The side-wired unit features large head terminal screws, captive mounting screws, convenient break-off fins for two circuit conversion and handy break-off plastic ears. A built-in fast-loop wire guide permits quick, easy wire connection. Unit is available in brown, white or ivory, with or without a self-grounding feature. Leviton, Brooklyn, N.Y.

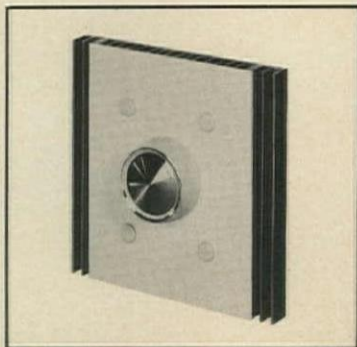
CIRCLE 256 ON READER SERVICE CARD



Radio controls for automatic garage door openers offer 144 different codes with only 12 transmitters. The VHF solid-state package consists of a

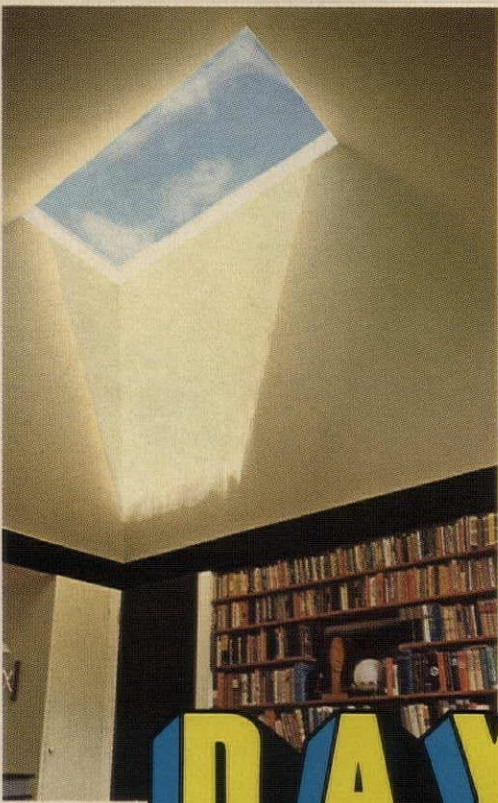
portable transmitter and receiver. Units have advance design circuits. Alliance Mfg., Alliance, Ohio.

CIRCLE 257 ON READER SERVICE CARD



High-capacity incandescent dimmers are available in 1,000, 1,500 and 2,000 watts. Units give 100% dimming range and feature RFI filtering and positive rotary click control. Dimmers sit flush against any electrical box and can be easily ganged for multiple use. Devices are designed to blend with any decor with gold anodized back plates, ivory faces and matching knobs. Thyrocon Controls, Line Lexington, Pa.

CIRCLE 258 ON READER SERVICE CARD



You build a more desirable home when you open it to natural light through single or multiple skylights of Plexiglas acrylic sheet.

Standard skylights of Plexiglas are available in a range of shapes and sizes to conform with any house design and permit the daylighting of all types of rooms, or even a completely enclosed atrium. In addition to crystal-clear colorless Plexiglas, you can choose from a range of grey and bronze tints that control solar heat and glare.

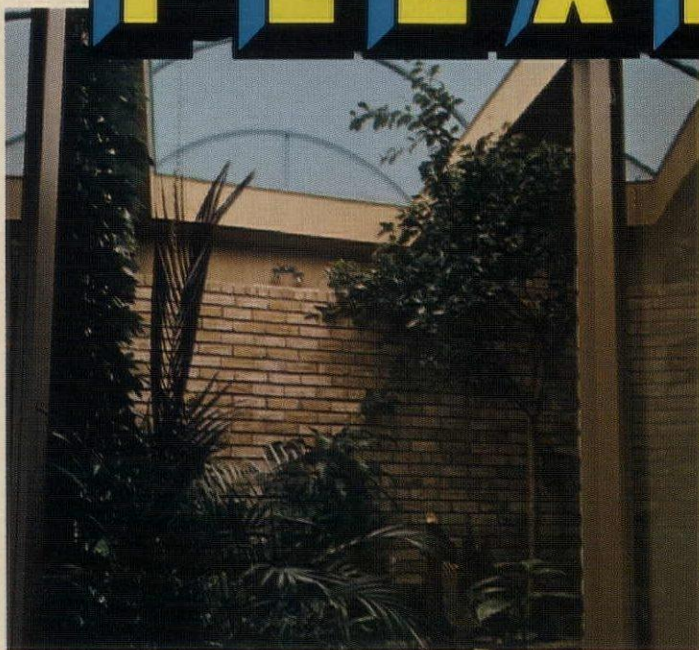
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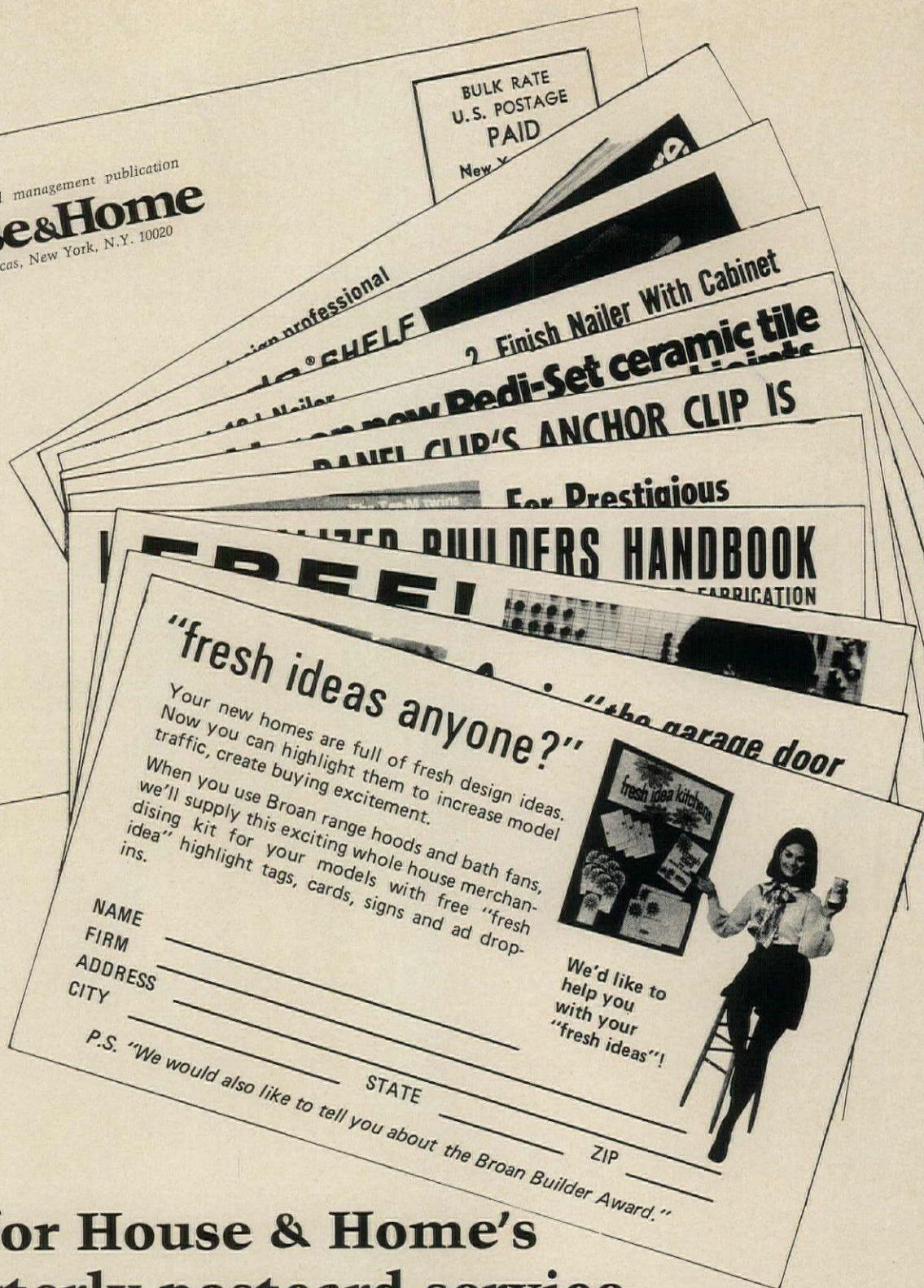


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LITERATURE

Outdoor lighting catalog includes complete specification and ordering information in chart form. Technical information includes application and engineering details, wind-loading ratings, dimension drawings and pole and control data. Many models are illustrated in full color. McGraw-Edison, Racine, Wis.
CIRCLE 301 ON READER SERVICE CARD

"Millwork Sources of Supply" lists NWMA members manufacturing wood windows and doors. Given in chart form, information includes products available from each firm, company addresses and names of top personnel. National Woodwork Manufacturers Assn., Chicago.
CIRCLE 302 ON READER SERVICE CARD

Decorative ceramic wall tiles are pictured in full color. Tile sizes featured are 6"x6", 4 1/4"x4 1/4" and 4"x8". Over 125 different patterns illustrated include abstracts, geometrics, florals. Amsterdam, New York.
CIRCLE 303 ON READER SERVICE CARD

Precast concrete decks and concrete or masonry party walls are discussed as effective noise deadeners in multifamily buildings. Other sound conditioning aids, such as the plugging of air leaks and isolation of plumbing, are pointed out. "Practi-

cal Sound Conditioning" contains easy-to-read text and is completely yet simply illustrated. Flexicore, Dayton, Ohio.
CIRCLE 304 ON READER SERVICE CARD

Steel doors and frames are featured in hole-punched brochure. Products are described with detailed illustrations and short text. Specifications included. Builders Manufacturing, of Jim Walter, Birmingham, Ala.
CIRCLE 305 ON READER SERVICE CARD

Fireplace screens and accessories are pictured in full color. Items described and illustrated include andirons, grates, screens, wood holders and carriers, tools, bellows, firelighters and brooms. Also hood-screens, top bars for sliding-curtain-type screens and matching fenders. A full page features instructions in text and diagrams for measuring a fireplace for custom screen ordering. For a copy of "Fireplace Ideas", send 25¢ to Portland Willamette Co., 6898 N.E. 59th Place, Dept. 26, Portland, Ore. 97218.

Wood foundation system is presented in three-fold pamphlet. Included are a simple explanation of how construction is executed, a discussion of the advantages of wood foundation and a list of approving

recognized organizations. Osmose, Buffalo, N.Y.
CIRCLE 309 ON READER SERVICE CARD

Fluorescent light dimming catalog includes specifications, typical wiring diagrams for both manual and motorized systems and ordering information. Hole punched for binder filing. Lutron Electronics, Coopersburg, Pa.
CIRCLE 310 ON READER SERVICE CARD

Textured wallcoverings with fabric backing are shown in 15 black and white illustrations. The three-dimensional designs mimic natural patterns and surfaces such as wood, marble and woven fabric. James Seeman, Garden City Park, N.Y.
CIRCLE 307 ON READER SERVICE CARD

Weatherstripping for doors and windows is featured. Factors to be considered when choosing the product are paralleled with product benefits. A section on selection of the correct pile height and density for each job is included. Products cataloged are resin-backed, polypropylene-backed and metal-backed insulations. USM Corp., Bailey Div., Seabrook, N.H.
CIRCLE 311 ON READER SERVICE CARD

Floor mats—in link, solid and carpet-top surfaces—are illustrated in

commercial, institutional and industrial applications. Diagrams included: individual links, details of weave and cross-sections of the matting. Solid colors and patterns available are shown, and factory-made recess frames are discussed. Specifications included. Samuel Furness, Edison, N.J.
CIRCLE 312 ON READER SERVICE CARD

Non-combustible roofing, resembling cedar-wood shakes, is shown in silhouetted photos of actual applications. Product data and application information is included. Fireless, Redwood City, Calif.
CIRCLE 308 ON READER SERVICE CARD

Intercom systems for use in multifamily buildings are featured. Folder includes description of components, a list of available accessories and systems options and names and addresses of sales representatives. Booklet is binder-hole punched. American Device, Steepleville, Ill.
CIRCLE 315 ON READER SERVICE CARD

Wallcoverings with an oriental influence are shown in full-color photographs of actual applications. Six metallic patterns make up the collection, "Great Wallcoverings of China". Jack Denst, Chicago.
CIRCLE 316 ON READER SERVICE CARD

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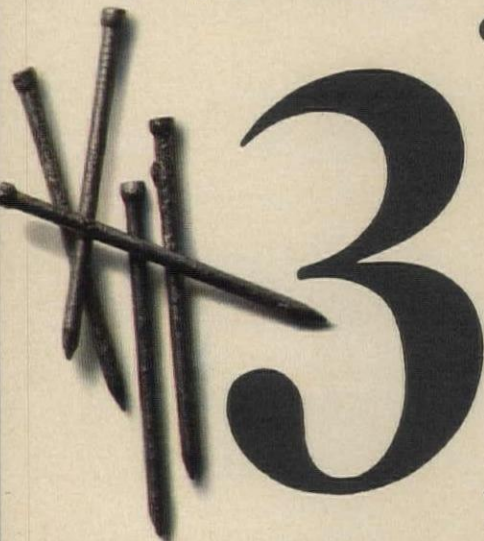
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