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August 1973



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House & Home

McGraw-Hill's marketing and management publication of housing and light construction

Volume 44 Number 2/August 1973

FEATURES

- 57 The when, where and how of village shopping centers
- 58 Three case studies: which come first—the shops or the houses?
- 67 Should you have a shopping center in your project?
- 70 Multifamily award-winners from the 1973 Homes for Better Living Program
- 84 Products that meet specialized needs of the commercial market

NEWS

- 4 NAHB considers extension of warranty plan to non-structural items
- 8 FHA rate of 7¾% is still expected to leave discounts at 5 points
- 12 U.S. takes hard look at mortgage insurers: Could they weather a depression?
- 16 Miami locks up against burglars, with builders buying the locks
- 20 An American company goes to Japan to build houses for Hawaii
- 20 Southern Methodist University sets up Aubrey Costa Mortgage Institute
- 24 Pacific builders congress gets a warning word: consumerism
- 32 Resort condos in Mexico: The boom is on south of the border
- 36 Tight squeeze: 24 units, plus parking, on less than half an acre
- 40 The California look—with a privacy bonus—goes over big in Charlotte, N.C.

DEPARTMENTS

- 28 Housing stock prices
- 42 The merchandising scene
Selling the condominium concept may hinge on how your models are decorated
- 44 Letters
- 50 Job/land market
- 93 Products
- 107 Readers service card
- 123 Literature
- 124 Advertisers Index



Cover/Monarch Bay Plaza, a 63,450 sq. ft. shopping center south of Los Angeles. Developer: Cabot, Cabot & Forbes Inc. Architects: Knowlton Fernald, R.A. Nicol, A.R. Schiller. Photo: Laursen/Mitchell Inc. For story, see page 64.

NAHB may extend its house warranty plan to non-structural items

Members of the Council of Housing Producers—the big guns of the housing industry—were not happy when they suddenly became aware earlier this year that George Martin, the NAHB president, hoped to commit the nation's homebuilders to a sweeping new ten-year house warranty program.

Some of them still are not happy about it and may not join up when the program is finally launched. As James Shapiro, marketing vice president of U.S. Home—who favors the warranty program—says: "Any program not supported by the ten or 15 biggest housing producers isn't going to work."

Objections, but . . . Council members had many complaints. Some were irked because they felt they were being locked into a program about which they had little to say. Some felt a warranty limited to structural defects was nearly valueless and did not cover the kind of complaints that consumers make most. Others were critical of adding \$50 to the cost of a house. Some felt that the warranty needs of the small builder and the big one are different. Some wanted a volume discount on the insurance/warranty premium for the big producers.

But Shapiro and executives of several other member firms of the council confirmed that there would be no concerted opposition from them. In fact, representatives of the producers group are going to be working with Martin and his staff to fashion a warranty and an organizational structure that will meet some of the objections the big builders have to the original plan laid out by Martin.

Agreement. That council members will cooperate with—rather than oppose—the Martin-NAHB warranty project became clear after a meeting in Washington in late June. Representing the council were half a dozen executives from such firms as Levitt, Larwin and Perl-Mack—plus the council's executive director, Rene Henry, and its Washington counsel, Philip N. Brownstein. Officials from the NAHB included Martin, Executive Vice President Nat Rogg, Staff Vice President Charles McMahon, Director of Consumer Affairs Patricia McKinney, and



LEVITT'S CORTESE
'The leaky faucet'

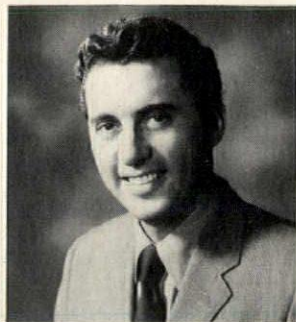
Robert G. Enzel, an NAHB economist who has been shifted to the warranty staff.

Martin and the NAHB staff laid out a detailed status report to council members after receiving a final report on the program from Eugene Gullede. As a consultant to NAHB, the former NAHB president and former FHA commissioner worked up the proposal for the two-year-warranty plus eight-year insurance proposal for Martin. The plan is modeled after a scheme operating successfully in Britain that covers only structural defects and failures.

Coverage. Shapiro and others say, however, that the purely structural defects covered by the NAHB warranty as proposed originally are rare cases and that most consumer complaints involve "the trim that warps, the door that won't close . . . the materials and workmanship that are guaranteed for a year." These are the complaints that enrage the consumer, Shapiro notes, particularly when the builder's response is unsatisfactory.

Edward Cortese, public relations vice president of Levitt & Sons, says that structural defects certainly have a place in the warranty but that the program might boomerang if it covered only that. Structural defects, he contends, "are probably the last thing the customer is worried about." They're mostly worried, he says, "about the leaky faucet and the nail pops."

Costs. The \$50 single-shot premium means a large addition to costs, Cortese points out, for a company that is building 10,600 units a year—\$530,000, to be exact—and Shapiro asks, "For the sake of argument, does it make sense to pay another \$50 for a warranty we've already got?" (U.S. Home, Levitt and several other builders have their



U.S. HOME'S SHAPIRO
'The door that won't close'

own warranties.)

But Cortese also says that if NAHB comes up with a warranty "as good or better than what we offer now, we are most willing to consider and reconsider it, and move into the plan." The warranty scheme, Cortese thinks, "should work out beautifully," but the question is "how much better will it be than what we are already doing for ourselves?"

Frank Edelstein of Leisure Technology Corp., a council member that builds retirement and second home-recreation projects, suggests that the warranty on structural elements "is a token kind of thing" and that "more has to be done to give the consumer something to hang his hat on." Edelstein says the warranty does not do enough and suggests that it is not needed by his firm. "Our company feels we deal much more directly with our consumers over a longer period of time," he says.

Changes. The NAHB staffers suggest that the warranty scheme may be modified and fleshed out in response to these criticisms. For example, the warranty may well include a specific list of so-called minor quality items for which many builders now offer warranties for a year. Some could be covered for two years.

Another modification that may be adopted, NAHB sources suggest, would allow some sort of sliding "volume discount" for the \$50 premium that is being used as the amount needed to finance the warranty. The \$50 would cover both parts of the scheme—the first two years (when the builder would be responsible for making good on defects) as well as the cost of the premium paid to an insurance company (for covering claims arising from the warranty's coverage during the remaining eight

years when builders are no longer liable.)

\$50 and up. Some news accounts have indicated that the eight years of insurance would call for a premium payment on top of the \$50—but NAHB officials deny this. The \$50 premium isn't fixed, NAHB officials admit; "none of this is yet set in concrete." Privately, there's admission that the premium might go a bit higher—maybe \$60 or \$75—but not as high as \$100. "It would add too much to the cost of a house," says one source.

Insurance. The NAHB has been talking to insurance companies interested in the program as a new source of business.

Assuming a million units a year are eventually covered, insurance officials see themselves as getting from \$15 to \$35 of the \$50 premium on each house, and \$15 million to \$35 million a year—or even half that—is worth serious investigation.

"There's no problem in getting an underwriter," NAHB sources say. The size and complexity of the financial operation is one reason NAHB officials, admittedly novices in this area, were reportedly seeking a Wall Street financial consultant to advise them on the financial implications of the warranty program.

Martin and the NAHB executive committee have already tentatively committed \$1 million of NAHB's \$3.6 million in surplus and reserves to the program—the amount of front-end money estimated to get the program off the ground.

A major deadline for Martin was the meeting of the NAHB executive and finance committees set for the end of July. The next step is presentation to the board of directors in October. If the plan is ready by then, the time-table calls for it to be ready for launch by mid-January.

There is some question of whether Martin can do it all by the time his term ends. So much of the task of making the program work may fall to NAHB's Vice President Lewis Cener, the Atlanta lawyer-builder who is to become president of the association just as the warranty is scheduled for take-off.

—DON LOOMIS
McGraw-Hill News,
Washington



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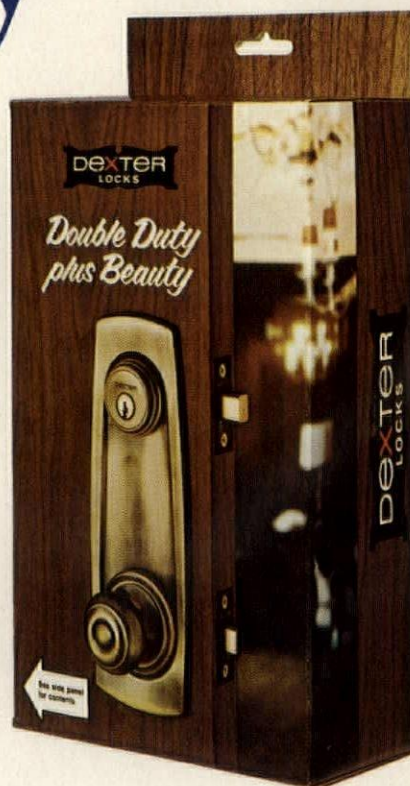
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FHA rate of 7¼% still expected to leave mortgage discounts at 5 points

The government has cleared the decks for mortgage interest rates to share some of the rise occurring in other interest rates. The actions were forced on reluctant federal agencies in order to keep the supply of mortgage money from dwindling faster, now that the central bank's credit squeeze has been tightened.

Three actions have been taken that either put upward pressure on mortgage rates directly or else affect them indirectly by raising costs mortgage lenders pay for money they re-lend. They are:

- A hike to 7¾%, from 7%, in the permissible interest rate on mortgages backed by the Federal Housing Administration or the Veterans Administration.

- A half-point rise in the permissible ceiling rate on passbook deposit accounts maintained at commercial banks and a quarter-point rise on passbook accounts at thrift institutions.

- Increases of from ½% to ¾% in the permissible ceiling yields on other thrift-institution and commercial bank deposits, coupled with increased flexibility in the kinds of savings instruments institutions are permitted to offer.

Impact on housing. The changes, all made at the same time, marked a partial reversal of the government's previous hopes that the housing market might be spared serious impact from tight money this year.

In early April the Committee on Interest and Dividends had set up the so-called dual prime rate to insulate yields on consumer loans from the rise in big business credit costs associated with the credit squeeze. For mortgages, the CID's goal at that time was defined by a very high official as "something like rough stability," with increases of no more than ½% in 1973.

Three months later the hope to leave housing relatively unpinched was blasted by the explosion of economic growth and inflation at home and the international monetary turmoil generated abroad by the Watergate scandal. At midyear Chairman Arthur Burns and the Federal Reserve were forced to shift monetary policy to a noticeably more restrictive course.

Mortgages. Since money goes where the yield is, the federal housing agencies lifted their



U. S. LEAGUE'S THYGERON
'Change... not so dramatic'

ceilings to make sure the housing market would have a chance to stay liquid despite the steep increases in competing rates elsewhere that followed the Fed's decision to toughen up. The CID, meanwhile, signified it would no longer ask mortgage lenders to hold rates flat, though it still wanted increases to come slowly and not to exceed the increase in lenders' costs.

In fact, builders and savings and loan institutions both voiced alarm that too much scope for increases in rates they had to pay would hurt housing. So the FHA-VA rate increase was not made large enough to fully wipe out the eight discount points mortgage bankers were charging to make below-market yield FHA-VA loans. The ¾% rate increase should theoretically reduce discounts by six points—two points for each ¼% of rate increase. But that is pure theory, and in practice the secondary market usually eats up half of any point reduction.

So the rate increase was expected to reduce discounts by three, rather than six, points—leaving the discount on the FHA's 203b new-house loan at about five points. The Loan Bank Board only advanced the ceiling on passbook accounts half the distance the Federal Reserve and the Federal Deposit Insurance Corp. were willing to increase



FED'S BURNS
Forced to take action

the maximum passbook deposit yield commercial banks may offer.

Mortgages actually traded briefly at discounts up to 22 points. When Congress recessed July 3 without extending the FHA, the agency said it lost power to set ceilings above the old FHA statute level of 6%. Lenders promptly told borrowers that only 6% money was available, and discounts reached 15 to 22 points in some cases.

Usury rule problem. It is the suspicion of homebuilders that raising ceilings only accelerates the inexorable rise in effective mortgage costs. The government's case for raising FHA-VA was bolstered, however, by the problem created by usury ceilings on conventional mortgage loans in some 13 states. The usury ceilings had been set low enough so they were beginning to choke off conventional loans. At the same time, the accumulation of points paid under the old 7% FHA-VA ceiling were, in the words of the Department of Housing and Urban Development, causing lenders "to avoid FHA-VA mortgages because there is an aversion to the complications which result whenever points must be charged."

Starts. "The situation has not changed so dramatically from earlier in the year despite the notching up of housing ceiling

rates and the allied tightening of money," asserts the U.S. Savings and Loan League's economist Kenneth Thygeron.

He's shading down his estimates of housing starts a trifle, from 2.1 million units to 2 million even. Similarly, Thygeron is shifting his estimate of the rise in the year's mortgage rates from a modest quarter point to half a point.

The mortgage men. The president of the Mortgage Bankers Assn., Everett Mattson, praised HUD Secretary James Lynn for his proposal to raise the FHA rate.

"It will reduce housing prices that have been inflated to absorb deep discounts and it will increase the availability of mortgage credit," Mattson said, but he cautioned:

"Of course, the moderate-income buyer who depends on the FHA and the veteran borrower will not benefit from these significant changes in economic policy until Congress renews FHA's authority to establish a rate ceiling above the statutory 6% ceiling—a rate that is hopelessly out of touch with market conditions."

Return of tight money. "The impact of the new rates on deposit flows will depend heavily on the extent to which savings institutions and commercial banks promote the longer-maturity, higher-yielding certificates that can be offered under the new regulations," claims New York's Argus Research Corp. After a gingerly start, competition seems to be forcing lenders to push the new higher-cost certificates.

But prolonged tight money could negate their efforts. Thygeron hopes the difference between 1973 and the 1969 crunch will be a much briefer span of tight money this time. However, inflation this year has so far proven far more intractable than anybody expected and there are no bets in Washington on how fast it will give way to monetary restraint.

Says a HUD housing analyst: "What these latest actions signify is that tighter money is here to stay for a while. The Fed has to keep at it as long as it takes."

—STAN WILSON
McGraw-Hill World News,
Washington



MBA'S MATTSON
A word of praise for...



HUD'S LYNN
... man who raises FHA rate



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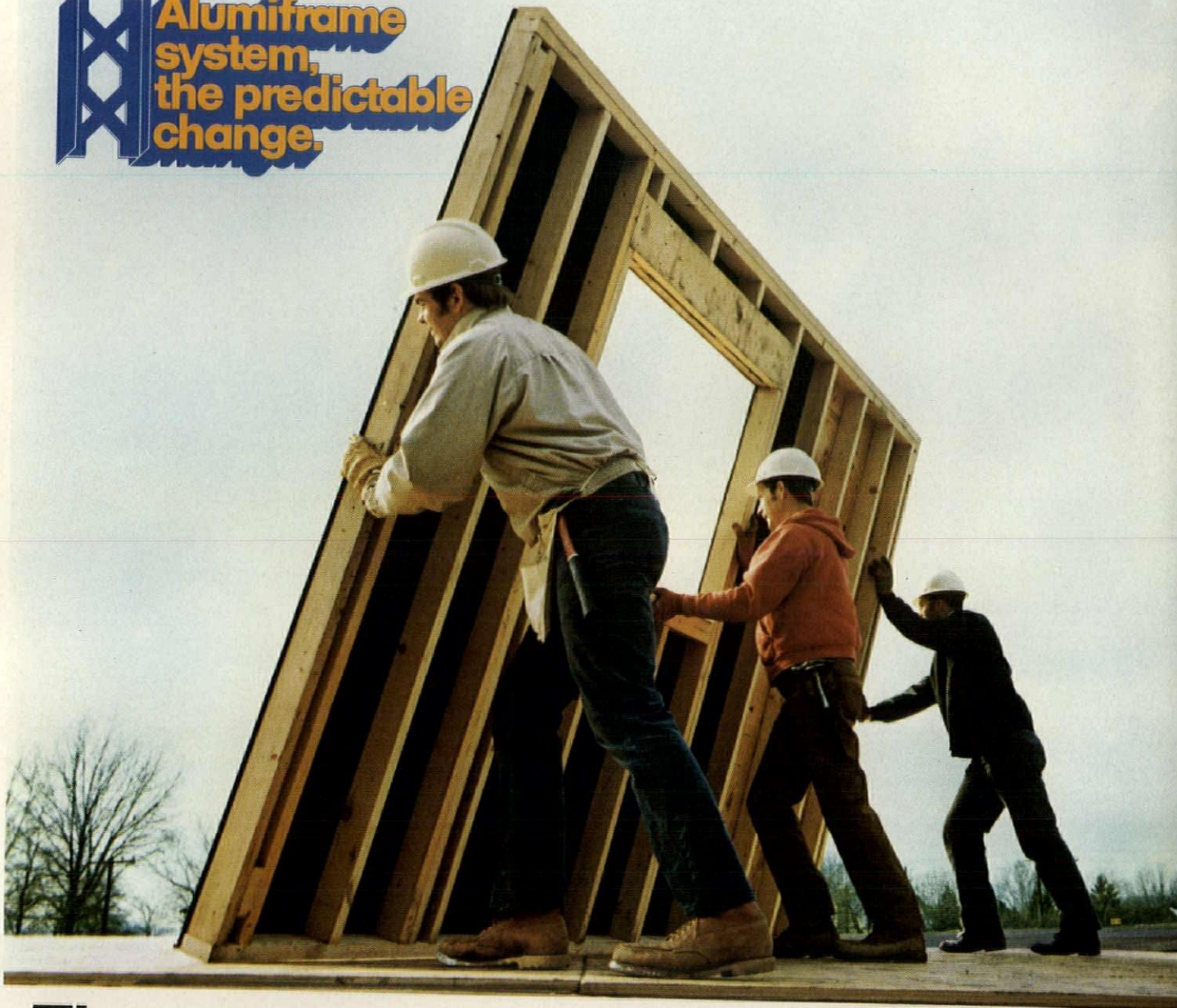


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 **ALCOA**

U.S. studies private mortgage insurers: Can they cope if going gets tough?

Better safe than sorry is the motto of the federal housing agencies.

The agencies have just commissioned a study that will weigh the chances the private mortgage insurance industry has of continuing to thrive in an economic slowdown in 1974.

The Federal National Mortgage Assn., the Department of Housing and Urban Development and the Federal Home Loan Mortgage Corp. are funding the study through Arthur D. Little Inc., a research house. The sponsors all hasten to say there is no reason to doubt that mortgage insurers have been prudent or to anticipate that the economy will turn bad enough to overwhelm the companies. State insurance superintendents also regulate the PMIs closely, and the Washington agencies set elaborate capital and underwriting standards for them.

A full house. Given the incentive of a 15% compound growth rate, however, the private insurers are multiplying. Fifteen are already in business and "a lot of other people are ready to throw their hats in the ring," in the words of a reliable mortgage banking industry source.

So Washington wants to take stock of whether the industry is still made up of the viable insurers the federal agencies were requested to deal with in the 1970 Emergency Housing Act.

The Nixon Administration has concentrated much of its strategy for housing in the conventional—or private—mortgage market, whose liquidity has recently come to depend in large part on private mortgage insurance.

If there are no present signs of trouble, there are considerations that make the government curious. It would like to know much more than it does about what is going on with the private insurers and their underwriting of the controversial new 95%-of-value mortgage.

New breed. The 95% conventional loan, requiring a mere 5% in down payment, has brought to the private mortgage market a whole new class of middle-income home buyers who previously would have used the Federal Housing Administration's mortgage program.

While the study's sponsors

have standards for the private insurers to observe, they cannot monitor every loan. So there is

N.Y. state admits private insurers

Governor Nelson Rockefeller has signed a bill to permit private mortgage insurance companies to insure low-downpayment mortgages on homes in New York state.

Since the early 1930s, only the federal government's housing agencies had been able to insure such loans.

The bill became law July 1. It permits private companies to provide mortgage lenders with insurance similar to that written by the Federal Housing Administration (FHA). Private insurers had previously operated in the other 49 states to insure mortgages of up to 95% of the market value of a house.

Max H. Karl, president of Mortgage Guaranty Insurance Corp. (MGIC), the largest private insurer of mortgages, said his company would apply immediately for a license to operate in New York state.

Karl developed the modern-day concept of private insurance

a desire in Washington to know that the private insurers' reserves are adequate and that



MGIC'S KARL
Into the 50th state

for conventional (non-government) mortgages. He founded MGIC in Milwaukee in 1957, and for years the company was the only private mortgage insurer. In recent weeks the New York state legislation had come to be known in Albany as the MAGIC bill in recognition of MGIC's role in the industry. The company insured more residential mortgages than the FHA itself insured last year.

Mortgage bankers choose Williams

Walter B. Williams of Seattle has been nominated for election to the presidency of the Mortgage Bankers Assn. at the MBA's national convention in New York City October 23.

Williams, the MBA's first vice president, is president of Continental Inc., a Seattle mortgage banking house, and is a past president of the Seattle and Washington state MBAs. He is a former member of both the state Senate and the House.

William E. Ezzell, the MBA's second vice president and president of the Kentucky Mortgage Co. of Lexington, has been nominated as the association's first vice president. Jerome L. Howard, chairman of Mortgage & Trust Inc. of Houston, steps aboard the officers' ladder as second vice president.

The nominations were announced by Lon Worth Crow Jr., chairman of the MBA's nominating committee.

The MBA, founded in 1914,



MBA'S WILLIAMS
Head of the 1973-4 slate

has 2,000 member firms engaged in originating, marketing and servicing real estate mortgages. Mortgage bankers service—that is, they collect the payments on and police the delinquencies for—\$100 billion in loans. That includes more than half of all mortgages insured by the FHA or guaranteed by the VA, and it represents about one fifth of the \$500 to \$550 billion in total mortgage debt outstanding.

their underwriting standards are completely divorced from the insurance-selling side of the business. Such separation lessens the danger that standards will be compromised for the sake of beefing up volume.

Washington also wants to look at whatever data are available on the losses with the new 95% loans, but the study may have to concentrate on loss experience with 90 percenters. The data on the 95% mortgage is not yet extensive.

Recession risk. Foreclosure risks seem to crop up most often in the third year of a mortgage. This would suggest that the newest private insurance companies face their greatest risks in 1975 or 1976.

But there is also the possibility that a recession in 1974 will strain the finances of the young families that have been snatching up the 95% loans. Some industry sources expect that a judgment as to whether private insurers can cope with a recession is really the task facing Arthur D. Little Inc.

Fate of FHA. The opposite view is emphasized by David Engelman, senior vice president of the largest private insurer, Mortgage Guaranty Insurance Corp. of Milwaukee.

"The government must determine the appropriate role for the FHA," he says, and he goes on to say that the study may prove that private insurers can handle much of the old FHA market.

Not, Engelman adds, that PMIs will ever totally take over even the unsubsidized programs the FHA now provides.

Optimism. The government has a big investment in the public's confidence in private insurers, and if the study were to make recommendations, they would be more likely to run along the lines of strengthening rather than disqualifying the companies.

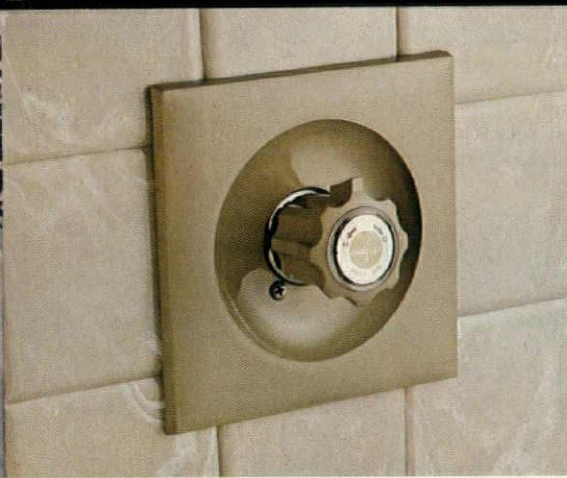
Furthermore, government and industry men say in private, if the 1974 recession should come in combination with inflation—as happened in 1970 and 1971—the rising price of houses could well bail the private insurers out of whatever losses they might otherwise face.

—STAN WILSON
McGraw-Hill World News,
Washington

The people who came up with Aurora in the first place



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Last year, we introduced colorful Aurora single-control faucets for the lavatory. Now, you can have them for the tub and shower... and for the kitchen, too.

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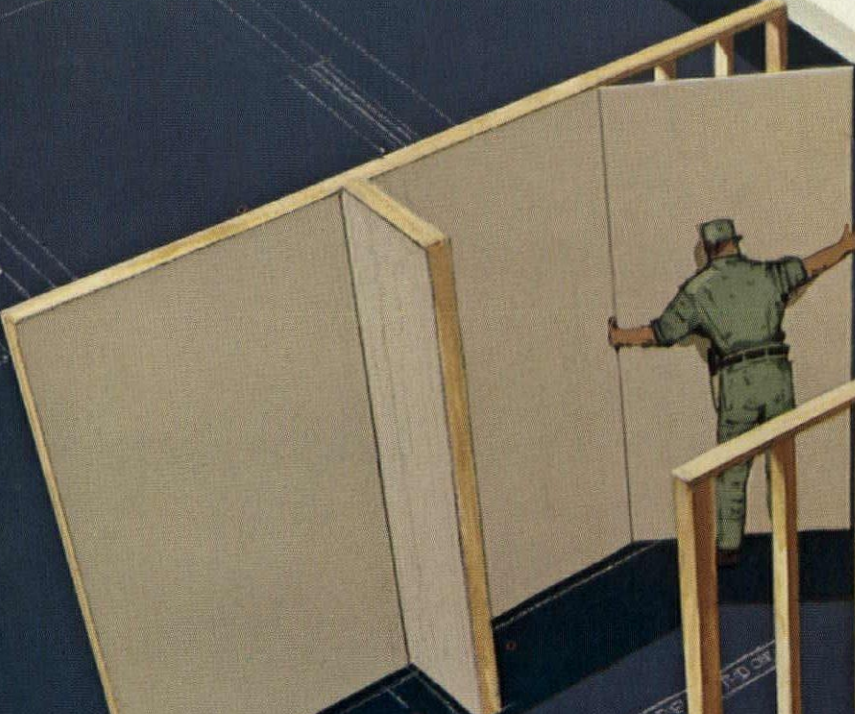
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Aurora. It's making a place for itself... in the bath and the kitchen. Write for complete literature. Bradley Corporation, Faucet and Special Products Division, 9121 Fountain Blvd., Menomonee Falls, Wisconsin 53051.

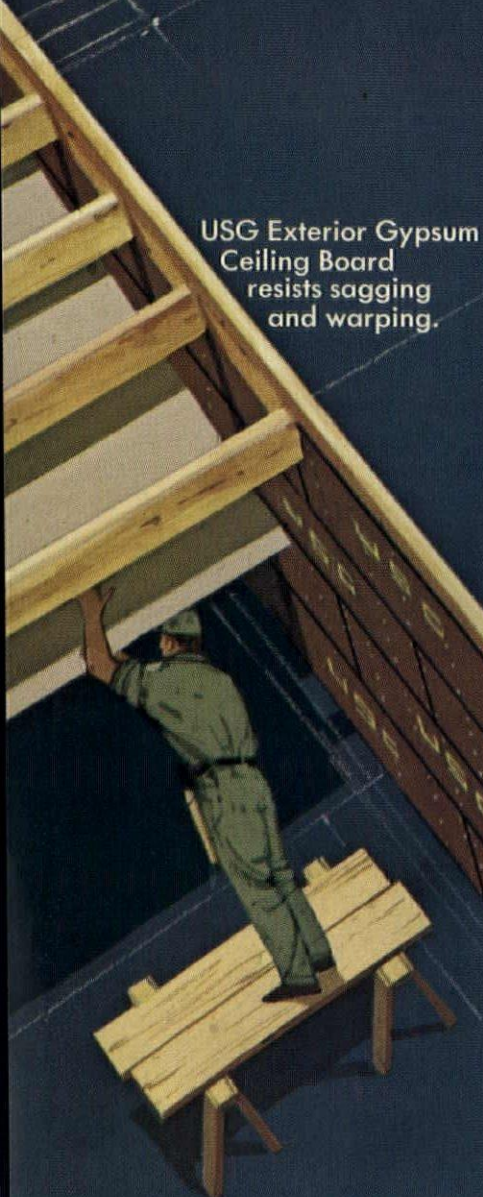


Bradley

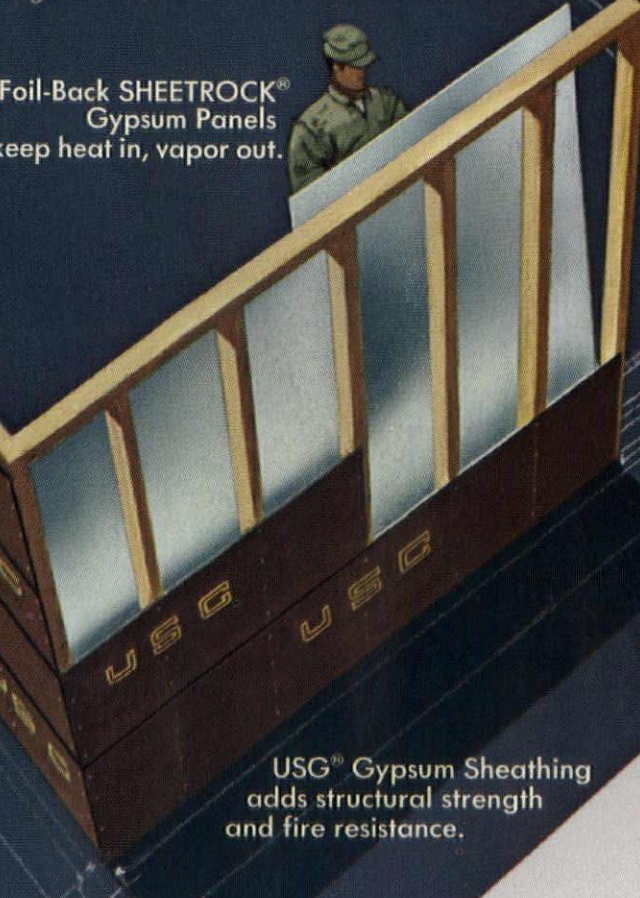
From U.S.G.




SHEETROCK Gypsum Panels
for highest quality
interior partitions.



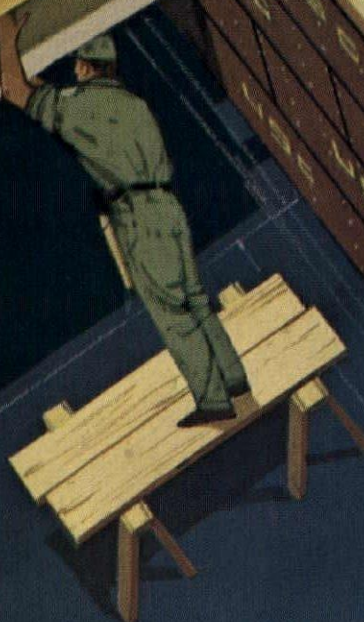
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Ceiling Board**
resists sagging
and warping.



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Gypsum Panels**
keep heat in, vapor out.



**SHEETROCK W/R
(Water-resistant)
Gypsum Panels**
for kitchen, baths,
laundry rooms.



USG® Gypsum Sheathing
adds structural strength
and fire resistance.

More construction economies.

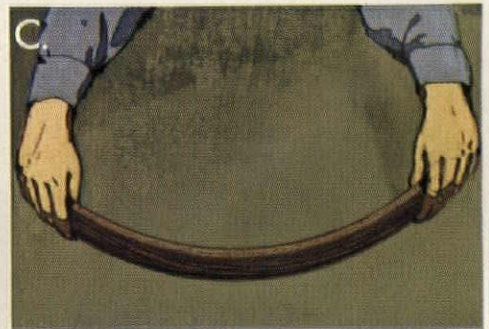
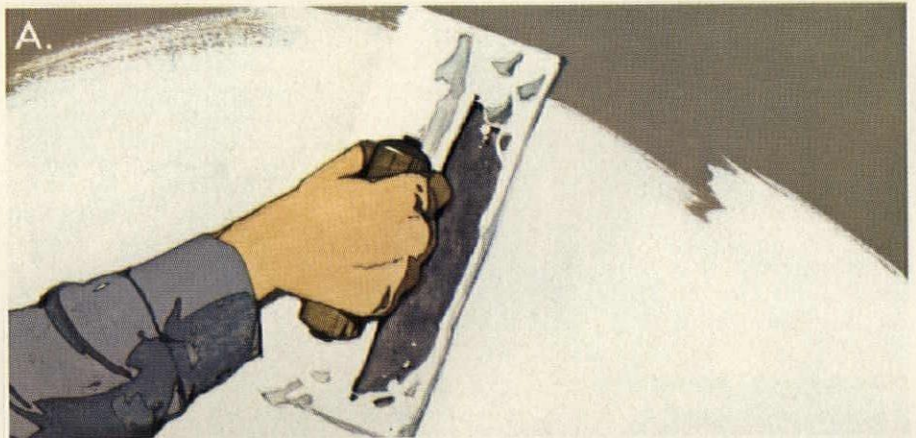
U.S.G. Gypsum Panels do a lot more than save money for builders.

Today, more and more builders are discovering that specialized types of gypsum panels are available to replace materials whose prices are high and rising. But, these gypsum panels offer not just a price advantage but exceptional performance as well. They're more fire resistant than plywood, more water and fire resistant than fiberboard, vapor resistant without plastic sheeting. And builders have the advantage of single-source availability with U.S.G. gypsum panels. We believe these specialized products should do more than save money. They should give better performance in the bargain.

A. IMPERIAL® Veneer Plaster system installs faster than regular plasters. Cuts drying time; provides an extra-durable surface.

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C. GOSSEN® Cellular Vinyl Mouldings look like wood, work easier than wood, and they're far more flexible.



For detailed literature on any of these products, write to Dept. SR-63,
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UNITED STATES GYPSUM 
BUILDING AMERICA

Miami's big lock-up: Builders must provide wide range of security devices

The jalousie door and window, familiar architectural features adopted in south Florida to catch the southeast trade winds in a time before air conditioning, have been declared illegal in greater Miami. A building security ordinance enacted by the Dade County Metropolitan Commission, effective Nov. 4, 1973, declares that doors with louvers—jalousies—shall not be installed in the exterior wall of areas requiring security unless the louvered area is protected by intrusion security devices. Jalousie windows are not to be allowed unless they are installed eight feet above ground.

Replacements. In the last five years, as the price became competitive, builders of homes and apartments have generally been using the awning-type window for greater customer appeal. The awning window can be left open during rainstorms, while the four-inch jalousie window must be almost shut.

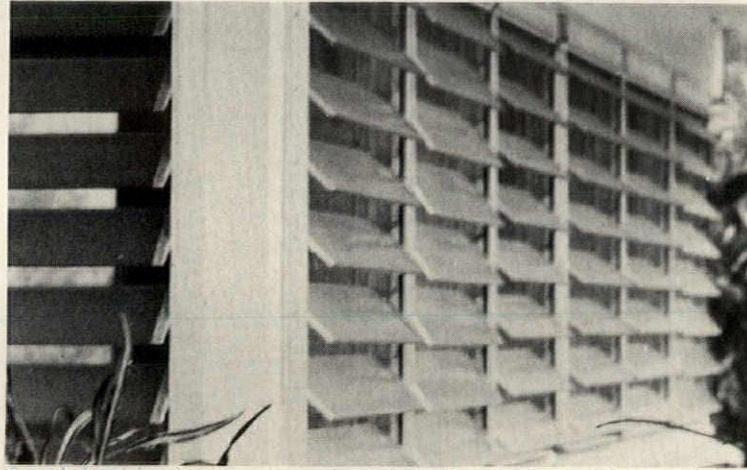
Builders have also gone to solid decorative front doors, but the jalousie door is still frequently installed in kitchens and in so-called Florida rooms because it admits light and air. Porch additions usually include a jalousie door.

The objection to jalousies is that the panels can be slipped easily from their frames by an intruder.

Locks. The security ordinance also will require dead-bolt locks on all outside doors. Locks on exterior doors must have a minimum of 6,000 key changes or locking combinations. Windows and sliding glass doors in exterior walls, if accessible from the outside, will have to have dead bolts or pins not removable or operable from the outside.

Sliding doors will have to withstand a 300-pound force. Window glass will have to withstand the blow of a five-pound weight dropped from 40 feet and will have to hold against a 150-pound force. Wood doors will have to be solid core in rabbetted jambs. Doors in apartment buildings will have to include vision panels or scopes.

Security drive. The move to enact such an ordinance began a year ago when the county sheriff's department met with civic organizations, representatives of building-material



Famed glass jalousie, shown in windows of Key Biscayne home, is being outlawed.

manufacturers and with the building industry as represented by the county's board of rules and appeals, which has jurisdiction over the building code.

The Dade grand jury endorsed the proposed ordinance, stating: "We believe the standards as set forth in this section would benefit the community. We affirm

Developer wins over an Eagle Scout

Two San Francisco developers have just won the California Coastal Zone Conservation Commission's approval of projects opposed by conservationists.

The developers had received permits earlier from a regional commission, but those permits were appealed to the state body by conservationists under provisions of California's Proposition 20, the coastal protection statute.

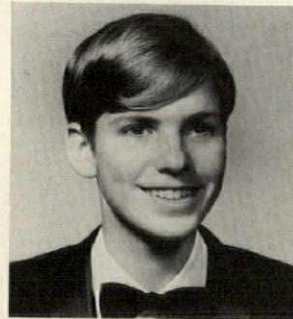
Jeremy Ets-Hokin's multimillion dollar Playland-at-the-Beach project, a residential and shopping center, was approved with modifications by a unanimous vote. Gerson Bakar's \$9 million Lake Merced Hill was upheld 11 to 1.

Scout's deeds. The appeal against Lake Merced Hill had been filed by 18-year-old Allan Riley. The project ground to a halt last spring.

Riley's crusade to save the lake began as a project for his Eagle Scout award, long before Bakar's development was announced. Convinced that Lake Merced Hill would pollute the lake, drive away the swallows, increase traffic congestion and lead to more development, Riley first fought it at City Hall, but lost.

After Proposition 20 was passed last November, Riley got the regional coastal commission to halt construction.

Riley also sued in San Fran-



SCOUT RILEY

Merit badge for conservation

cisco Superior Court and won a temporary restraining order stopping the project until the regional coastal commission granted a permit.

Basis of ruling. The regional commission granted Bakar's permit May 17, and it was immediately appealed to the state commission, which decided that the 112 townhouses and 88 condominium apartments would have little effect on the lake. Riley, now at the University of California at Santa Barbara, plans to be an environmental lawyer. He was assisted in his campaign by Lowell High School students Jonathan Hoff and George Duesdieker, who were co-chairmen of a group called Save Lake Merced (SLAM). They are considering whether to appeal the state commission's decision through the courts.

—JENNESS KEENE
McGraw-Hill World News,
San Francisco

that this or similar regulations could go a long way in reducing burglary in south Florida."

Municipal police chiefs and the Aluminum Manufacturers Assn. indicated support.

Builders' objections. The building industry resisted the changes, charging that the proposed ordinance would raise costs and affect the ability of the builders to provide much low-cost housing.

The builders say the ordinance will raise costs \$400 a house. The county building department thinks this estimate is far too high.

The county manager's office urged adoption of the ordinance, pointing out that more than \$6 million was lost to burglars last year in the unincorporated areas of the county alone, averaging \$240 a burglary. The manager's report concluded: "We feel that the minimal additional cost for implementing this ordinance is far outweighed by the costs associated with criminal acts which the ordinance attempts to prevent."

The effective date was set six months after adoption to give the local aluminum companies time to produce the windows and doors required.

Apartments. Another ordinance that will contribute to higher costs for apartment builders in greater Miami will require sprinkler systems in new buildings 36 feet tall or higher. Most new apartment developments are at least three stories and will be covered by the law, effective July 15. Builders estimate it will add \$1.50 a square foot to the cost of construction.

The ordinance had originally been proposed to cover buildings at least seven stories high and the construction industry had felt it was a fair proposal because local fire equipment cannot work above seventy feet. But when the ordinance came up for adoption with no opposition in sight, the sponsor lowered the height figure. The builders will appeal.

Neighboring Broward County (Fort Lauderdale), which is covered by the south Florida building code, has indicated it will not adopt either the sprinkler or the security ordinance.

—FRED SHERMAN
McGraw-Hill World News,
Miami

If you read about the sound levels of air conditioners now, you won't have to hear about them later.

If you want to know how quiet an outdoor central air-conditioning unit will be, you don't have to use your home buyers as guinea pigs. You can find out for yourself just by looking it up.

Three out of four of today's outdoor residential units are covered by ARI's Sound Certification program and display the ARI Sound Seal.

The program not only makes it possible for you to know the amount of sound produced by a "certified" unit: By using a simple ARI-developed formula, you can accurately predict the sound level of a unit at any given point of evaluation—at a lot line, on a patio, or in a neighbor's home.

This helps you avoid violating reasonable sound control ordinances where they exist—or creating an outdoor sound problem in one of your projects (the kind of thing that can make homebuyers short tempered).

ARI's program also provides public officials with practical data and guides for setting up reasonable sound control ordinances.

ARI has a booklet that explains its sound control program to home builders and public officials. Write us and we'll send you a free copy: Air-Conditioning & Refrigeration Institute, 1815 North Fort Myer Drive, Arlington, Virginia 22209.

*Sound-rated central air-conditioning units are listed in the ARI Directory of Certified Equipment. Nearly all air-conditioning contractors have the Directory. Ask your contractor to show you the sound rating of the units he plans to install.

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& Refrigeration
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For example, tests prove that it is 2 times stronger on wet lumber, and in a water resistance test.

And 4 times stronger on dry lumber, and in a gap fill test.

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And remember that what you get is more than what you see.

For more information write B.F. Goodrich General Products Co., Akron, Ohio 44318.

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**Free! The Bridlecreek
Success Story!**

The builders get the word in California—and its a zinger: consumerism

California's homebuilders have just been served with a new notice of an old caveat: "The customer is always right."

It is the customer's advocates who lead the new consumer movement, now fanning over the land like a prairie fire. Overriding all else, the movement galvanized the attention of housing leaders assembled for the Pacific Coast Builders Conference in San Francisco.

One of the industry's own spokesmen was among the first to concede the dimensions of the builders' problems with an aroused consumer class. She was Pat McKinney, director of consumer relations for the National Association of Home Builders.

Seller beware! Public discontent with builders is spreading, Miss McKinney said, and she cited a California survey indicating that two of every three buyers now believe there has been no improvement in construction quality in the last five years.

Miss McKinney described the no-growth movement as merely one form of consumerism, and she added that builders are coming under attack from many quarters—the courts, legislatures, environmental groups and the general public.

The NAHB's own studies, Miss McKinney said, have uncovered national trends toward more licensing requirements, extension of builder liability periods, substantial bonding rules and a drift toward class-action suits against developers.

Either—or. "Public opinion drives consumerism, and public opinion often becomes law," Miss McKinney cautioned, and she put the builders on notice:

Police yourselves or face the option of congressional legislation to control the building business.

Miss McKinney advocated one form of self-regulation—the warranty and insurance program being urged upon the NAHB and its 70,000 members by the association's president, George C. Martin [NEWS, June].

(For more on the warranty program, see page 7.)

Stand-pat barrier. A public relations representative for several California builders and developers supplemented Miss McKinney's warning.



GOVERNOR McCALL
'Open space into mincemeat'



PUBLICIST LEWIS
'A rekindling of pride'

N. Richard Lewis, president of Lewis & Associates of Los Angeles and San Francisco, said that, in a new era of consumerism, most builders are still using advertising and marketing techniques based on business-as-usual. His own survey of 20 California building companies, he said, found that 60% had made no changes in their sales approach or in their programs to orient salesmen to the spirit of consumerism.

Lewis warned that salesmen can now do serious harm by misrepresentation, and he argued a strong case for full disclosure in sales office and model home. He predicted that these four consu-

merist trends would develop in the next year:

- At least one unit in every model home complex will remain unfurnished, showing the consumer exactly what he is getting—no more, no less.

- More builders will require buyers to sign a written release stating that no promises were made to the effect that the house would appreciate in value.

- The industry will adopt a national program for a ten or 15-year structural warranty.

- The class-action suit will fade into disuse as courts recognize that too many are instigated by irresponsible lawyers who encourage litigation for personal

profit and publicity.

Despite the severity of his approach, Lewis had kind words for consumerism on balance. He told the builders:

"As the years go by, I think consumerism will result in the rekindling of pride in one's work and one's product—the pursuit of excellence, if you will."

Regard for land. Governor Tom McCall, Oregon's articulate conservationist, warned the builders that the public now demands far better land management and environmental protection than has been the rule.

"There is a new mood in America," McCall cautioned, and he went on to criticize developers "who are turning our wide open spaces into mincemeat."

To control the urban sprawl that devours agricultural land, McCall urged that government and industry join to assemble acreage suitable to development. New state commissions on consumer protection and land development might assure the public that developers' promises would be kept, he said.

The builders' side. The NAHB's Martin said the building industry was indeed mindful of consumerism but that it will not lie down and play dead in the face of attack.

Martin promised that the association would provide legal help to local chapters fighting against building limitations, and he said the NAHB would supply data to convince local businessmen that no community can prosper without growth.

Elections. The Coast meeting drew 6,000 builders, suppliers and wives. The sponsor was the California Builders Council, legislative arm for ten of the state's builder associations.

Ray Lehmkuhl of the Ray Lehmkuhl Co. of Lafayette, Calif. was elected president of the 1974 conference. He succeeds Gordon W. Hanson, president of Challenge Developments of Redwood City.

The council elected Barry Scherman, vice president of the Hofmann Co. of Concord, as president to succeed John B. Clark Jr., president of the San Diego Fence Co.

—JENNESS KEENE
McGraw-Hill World News,
San Francisco



COUNCIL'S SCHERMAN
He'll sponsor '74 meeting



CONFERENCE'S LEHMKUHL
And he'll run the show

Freddie Mac gets a new chief . . .

. . . and the chief gets a new title.

He is William J. Popejoy, just named as president of the Federal National Mortgage Corp.

The title is new. Popejoy replaces Thomas R. Bomar as the corporation's chief operating officer, but Bomar's old title of executive vice president goes to Philip N. Harrington, the FHLMC's former vice president for operations.

Bomar, now chairman of the parent Home Loan Bank Board [NEWS, May], automatically becomes chairman of the FHLMC. He had been the corporation's

chief executive since the FHLMC's inception in 1970, and he announced the Popejoy appointment.

Popejoy, a former vice president of Brentwood Mortgage Corp. of Panorama City, Calif. (now Rexford National Mortgage), had been the FHLMC's vice president for sales.

The FHLMC is the Home Loan Bank System's mortgage purchase arm and is known in the housing industry as Freddie Mac, a kind of sister agency to the Federal National Mortgage Assn. (FNMA, or Fannie Mae).



New Maytag D18 Commercial Dryer

1. Drum volume 26% bigger than previous models.
2. Bigger door makes it easier to load and unload.
3. Lint filter in door well for easy cleaning.
4. Epoxy powder drum finish. Highly resistant to chipping, scratching, abrasion.
5. Settings match Maytag DIAL-A-FABRIC Washers: White & Colors; Permanent-Press; Delicate & Bright Colors.
6. Safety door with Push-to-start button prevents accidental starts. Magnetic door latch.
7. Choice of coin-operated, manual-operated or exclusive Ticket-Operated models.
8. Entire dryer can be serviced from the front.
9. Choice of gas or electric models.

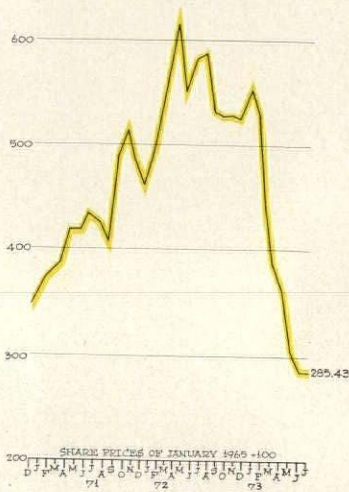
Housing stocks steadier; builder and mobile-home groups manage rallies

HOUSE & HOME's price index of 25 housing stocks has firmed after a six-month decline.

The composite closed at 285.43 on July 3, virtually unchanged from the 285.75 of the previous month. The building-company and mobile-home groups actually staged minor rallies.

Shapell Industries of California was factored into the index to replace U.S. Financial, which had not been traded since November 1972 [News, May].

Here's the composite graph.



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

	July '72	June '73	July '73
Builders	470	230	245
Land develop.	601	150	149
Mortgage cos.	1,213	1,046	1,031
Mobile homes	2,143	434	460
S&Ls	196	119	111

Company	July 3 Bid/Close	Chng. Prev. Month
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BUILDING

Alodex	OT	1% - 1/8
AVCO Community Devl.	PC	1% - 1/8
American Cont. Homes	OT	5% + 1 7/8
American Housing Systems	OT	2 1/2
American Urban Corp.	OT	3 - 3/8
Bramalea Cons. (Can.)	OT	4% + 3/8
Building Systems Inc.	OT	1% + 1/4
Campanelli Ind.	OT	4 1/4 - 3/8
(New America Ind.)		
Capital Divers. (Can.)	OT	.37 - .05
Centex Corp.	NY	11 1/4 + 3/4
Cenvill Communities	AM	10 3/4 + 1/2
Cheezem Dev. Corp.	OT	3 1/2 - 1/4
Christiana Cos.	AM	2 3/4 - 1/4
Cons. Bldg. (Can.)	TR	2.75 - 25
Dev. Corp. Amer.	AM	14 3/4 - 1/8
Dev. Int. Corp.	OT	5% -
Edwards Indus.	OT	6 1/4 - 7/8
First Builders Bancorp.	OT	2 1/2 - 1/4
First Hartford Corp.	AM	3 3/4 + 1/4
FPA Corp.	AM	8 3/8
Frouge Corp.	OT	5 1/4 + 1/4
General Builders	AM	1 1/2
Gil Development-d	OT	1/4
Hallcraft Homes	OT	3 1/4 - 1/8
Hoffman Rosner Corp.	OT	3 1/4 - 1/2
Homewood Corp.	OT	8 + 1 1/2
Hunt Building Corp.	OT	3 - 7/8
Kaufman & Broad	NY	23 1/2 + 4 1/4
Key Co.	AM	3% - 3/8
Leadership Housing	OT	4 1/2
(includes Behring Corp.)		
Leisure Technology	AM	7 1/4 + 1/8
Lennar Corp.	AM	8 1/2 - 1 3/4
McCarthy Co-d	AM	3% - 1/4
McKeen Const.	AM	3% - 1/8
H. Miller & Sons	AM	8 + 1/2
Mitchell Energy & Dev.	AM	17 3/8

Company	July 3 Bid/Close	Chng. Prev. Month
National Environment	OT	1 1/8 - 1/2
(Sprout Homes)		
L. B. Nelson Corp.	AM	5 - 7/8
Oriole Homes Corp.	AM	8% - 3 1/4
Prel. Corp.	AM	5 1/4 - 3/8
Presidential Realty-d	AM	10 1/4 - 3/4
Presley Development	AM	4 1/4 - 1 3/4
Pulte Home Corp.	AM	3 3/4 - 3/4
F. D. Rich Housing Corp.	OT	2 3/4 - 1/8
Robino-Ladd Co.	AM	6% - 1
Rossmoor Corp.	AM	4 1/4 - 1/4
Ryan Homes	AM	16 - 3/4
Ryland Group	OT	11 - 1 3/4
Shapell Industries	NY	12 1/4 + 1/2
Shelter Corp. of America	OT	2% + 3/8
Standard Pacific	AM	2 1/4
Universal House & Devel.	PC	2 1/4 - 3/4
U.S. Home Corp.	NY	8 1/4 - 2 1/4
Valley Forge Corp.	OT	4% - 1 1/4
Washington Homes	OT	3 1/4 + 1/4
Del. E. Webb	NY	4% + 1/4
Western Orbis	AM	7% - 1/8
Westchester Corp.	OT	4 1/2 + 1/4

SAVINGS & LOAN ASSNS.

American Fin. Corp.	OT	11 1/8 - 1 1/8
Calif. Fin.	NY	3 3/4 - 1/8
Empire Fin.	AM	7 1/4 - 7/8
Far West Fin.	NY	6 3/4 - 5/8
Fin. Corp. of Santa Barb.	AM	13 1/4 - 2 1/2
Fin. Fed.	NY	11 1/2 - 1 1/2
First Charter Fin.	NY	14 3/4 - 1 1/2
First Lincoln Fin.	OT	3 1/4 - 1/4
First S&L Shares	AM	12
First Surety	OT	3 3/4 - 1/8
First West Fin.	OT	1 3/4 - 1/8
Gibraltar Fin.	NY	14 1/4 - 1 1/4
Great West Fin.	NY	16 3/4 - 1 1/4
Hawthorne Fin.	OT	7% - 1/4
Imperial Corp.	NY	8 3/4 - 3/8
Trans World Fin.	NY	6 3/4 - 3/8
Union Fin.-d	AM	9 - 1 1/4
United Fin. Cal.	NY	7 1/4 - 7/8
Wesco Fin.	NY	11 - 1 3/4

MORTGAGING

Charter Co.	NY	19 1/4 + 5 3/8
CMI Investment Corp.	NY	30% + 1
Colwell-d	AM	18% - 2 1/8
Cont. Illinois Realty	NY	16% - 1/4
Excel Investment	AM	13% - 1 1/4
Fed. Nat. Mtg. Assn.	NY	15% + 1/2
Financial Resources Gp.	OT	2 1/4 - 1/8
(Globe Mortgage)		
First Mtg. Ins. Co.	OT	16 1/4 - 1 1/4
Lomas & Net. Fin.	NY	10 + 1 1/2
MGIC Inv. Corp.	NY	64% - 1/8
Midwestern Fin.	AM	10 1/4 - 4 7/8
Mtg. Associates	OT	11 1/4 - 2 1/2
Palomar Fin.	AM	4 1/4 - 1/8
So. Cal. Mort. & Loan Corp.	OT	2 1/2 - 3/8
UPI Corp.	AM	1 7/8
(United Imp. & Inv.)		

MORTGAGE INV. TRUSTS

Alison Mtg.	NY	27 1/4 + 2 7/8
American Century	AM	16 3/4 - 1 1/2
Arlen Property Invest.	OT	13 3/4 + 3/4
Atico Mtg.	NY	17 3/4 + 1 1/2
Baird & Warner	OT	17 3/4
Bank America Rlty.	OT	27 1/4 + 1
Barnett Mtg. Tr.	NY	26 1/2 + 3 3/4
Beneficial Standard Mtg.	AM	22 1/2 + 1 1/8
BT Mort. Investors	NY	28 1/4 + 1
Builders Investment Gp.	NY	27 + 1 1/2
Cameron Brown	NY	25 1/2 + 3/8
Capitol Mortgage SBI	OT	24 1/4 + 1 1/2
Chase Manhattan	NY	52 1/2 + 1/8
CI Mortgage Group	NY	17 3/4 - 1 1/8
Citizens Mtg.	AM	15 3/4 - 5/8
Citizens & So. Rlty.	NY	33 3/4 + 1 3/8
Cleve Trust Rlty. Investors	OT	19 3/4 + 5/8
Colwell Mtg. Trust	AM	29 1/4 + 1 1/8
Conn. General	NY	20 1/4 - 2 1/4
Cont. Mtg. Investors	NY	9 1/2 - 3/8
Cousins Mtg. & Eq. Inv.	NY	25 3/4 + 1 1/8
Diversified Mtg. Inv.	NY	23 3/4 + 3/4
Equitable Life	NY	24 3/4 + 2
Fidelity Growth Inv.	AM	32 3/4 + 1 1/4
Fidelity Mtg.	AM	30 3/4 + 2 1/4
First Memphis Rlty.	OT	21 1/4
First Mtg. Investors	NY	16 1/2 - 7/8
First of Denver	AM	20 1/2
First Pennsylvania	NY	19 3/4 + 3/8
Franklin Realty	AM	7 1/2 - 1 3/8
Fraser Mtg.	OT	17 1/2 + 1 1/2
Galbreath Mtg.	OT	23 1/2 + 1 1/2
Gould Investors	AM	9 3/4 + 1/4
Great Amer. Mtg. Inv.	NY	32 3/4 + 2 3/4
Guardian Mtg.	AM	37 3/4 - 1 1/2
Gulf Mtg. & Rlty.	AM	17 3/4 + 7/8
Hamilton Inv.	OT	17
Heitman Mtg. Investors	AM	11 1/2 - 1 1/8
Hubbard R. E. Investments		
ICM Realty	NY	19 1/4 - 3/8
Lincoln Mtg.	AM	18 3/4 + 3/4
Lincoln Mtg.	AM	22 1/2 - 1 3/4
Lincoln Mtg.	OT	7 + 1/2
Mass Mutual Mtg. & Realty		
Median Mtg. Investors	OT	9 3/4 - 1 1/8

Company	July 3 Bid/Close	Chng. Prev. Month
Mony Mtg. Inv.	NY	11 1/8 + 1/8
Mortgage Trust of Amer.	NY	16 3/4 + 1/2
National Mortgage Fund	OT	13 1/4
North Amer. Mtg. Inv.	NY	26 1/4 + 3
Northwest. Mut. Life Mtg. & Rlty.	NY	23 3/4 + 1/2
PNB Mtg. & Rlty. Investors	AM	21 3/4 + 1/4
Palomar Mtg. Inv.	AM	14 7/8
Penn. R. E. Inv. Tr.-d	AM	12 + 1/2
Property Capital	AM	15 - 1 1/4
Realty Income Tr.	AM	13 3/4 - 3/4
Republic Mtg.	AM	15 3/4 + 1 1/8
B. F. Saul, R.E.I.T.	OT	17 + 1 1/2
Security Mtg. Investors	AM	9 1/4 + 3/4
Stadium Realty Tr.	OT	5 3/4 - 1/4
State Mutual SBI	NY	23 3/4 + 1
Sutro Mtg.	AM	15 3/4 - 5/8
Union America Mtg. & Eq.	AM	21 3/4 + 1 1/8
U.S. Realty Inv.	AM	14 1/4 + 1/2
Wachovia Realty Inc.	NY	22 1/2 + 1 1/8
Wells Fargo Mtg.	NY	21 1/4 - 3/8

LAND DEVELOPERS

All-State Properties	OT	5% -
American Land-d	OT	.08 + .03
AMREP Corp.	NY	4 3/4 - 1/2
Arvida Corp.	OT	8% -
Atlantic Imp.	OT	3 3/4 + 1/4
Canaver Int.	AM	2 3/4 + 5/8
Cavanagh Communities	NY	2 3/4 - 1/4
Crawford Corp.	OT	5 1/4 - 1/4
Deltona Corp.	AM	10 7/8 - 1 1/2
Disc. Inc. of Amer.	OT	1% -
Fairfield Communities	OT	1 1/4 - 1/4
Gen. Development	NY	8% -
Getty Financial Corp.-d	OT	4 1/2
(Don the Beachcomber)		
Holly Corp.	AM	1 3/4 + 3/8
Horizon Corp.	NY	6 1/4 - 1 1/4
Landmark Land Co.	AM	2 1/4 + 1/4
(Gulf State Land)		
Land Resources	OT	2 1/4 - 1/8
Major Realty	OT	4 3/4 + 1/4
McCulloch Oil	AM	6
Southern Rlty. & Util.	AM	5

MOBILE HOMES & MODULES

Champion Home Bldrs.	AM	4% - 5/8
Commodore Corp.	AM	10% - 1/8
Conchoco	AM	10 1/2 - 3/4
De Fleet Industries	AM	2% + 3/8
Flowerwood	NY	9 + 1
Golden West Mobile Homes		
Moanco Corp.	OT	4 1/8 - 1/2
(formerly Mobil Americana)		
Mobile Home Ind.	AM	8 1/4 - 3/4
Monarch Inc.	OT	1 1/2 - 1/4
Redman Ind.	NY	7 1/2 + 1 1/4
Rex-Noreco	NY	2 3/4 - 1/8
Skyline	NY	16 1/4 + 2 3/8
Town & Country Mobile	AM	3 3/4 - 1/4
Triangle Mobile	OT	1 1/4 + 3/8
Zimmer Homes	AM	4 + 1/8

DIVERSIFIED COMPANIES

Amer. Cyanamid	NY	23 - 1/4
Amer. Standard	NY	11 1/4 + 1 1/8
Arlen Realty & Develop.	NY	4 3/4 + 3/8
AVCO Corp.	NY	8 1/2 - 1
Bethlehem Steel	NY	26 1/4 - 2 7/8
Boise Cascade	NY	9 1/4 - 1/8
Building & Land Tech-d	OT	6 1/2 - 1 1/4
CNA Financial (Larwin)	NY	13 3/4 + 1/2
Castle & Cooke	NY	13 3/4 + 1 1/8
(Oceanic Prop.)		
CBS (Klingbeil)	NY	33 3/4 - 1 1/8
Champion Int. Corp.	NY	15 1/4 - 1 1/8
(U.S. Plywood-Champion)		
Christiana Securities	OT	160 - 7
Citizens Financial	AM	4% - 3/8
City Investing	NY	11 3/4 + 5/8
(Sterling Forest)		
Corning Glass	NY	92 + 1/4
Cousins Properties	OT	15 1/2 - 1 1/2
Davos Inc.	OT	1
Dayco Corp.	NY	9 1/4 + 1/4
(Bert Smokler)		
Environmental Systems	OT	3 1/4 - 1 1/2
Evans Products	NY	13 1/4 + 1/4
Ferro Corp.	NY	33 1/4 - 3/4
First Gen. Resources	OT	3% - 1/4
Fischback & Moore	NY	43% + 2 1/8
Forest City Ent.	AM	8 3/4 + 1 1/8
Flagg Industries	AM	2 1/2 - 1/2
Frank Paxton Corp.	OT	9 1/2
(Builder Assistance Corp.)		

Company	July 3 Bid/Close	Chng. Prev. Month
Fruehauf Corp.	NY	24 3/4 - 3
Fuqua Corp.	NY	10 - 1 1/2
Georgia Pacific	NY	32 + 2
Glasscock Products	AM	4 7/8 + 3/4
Great Southwest Corp.	OT	1/2 - 1/4
Gulf Oil (Gulf West)	NY	22 3/4 - 5/8
INA Corp. (M. J. Brock)	NY	37 3/4 + 5 3/4
Inland Steel (Scholz)	NY	29 - 2 1/2
International Basic Econ.	OT	2 1/2 - 1/4
International Paper	NY	33 1/4 - 1 1/8
Internat. Tel. & Tel. (Levitt)	NY	30 1/4 - 3 3/4
Investors Funding	AM	4 3/4 + 3/4
Killearn Properties	AM	5 3/4 - 1 1/8
Leroy Corp.	OT	3 3/4 + 3/8
Ludlow Corp.	NY	12 3/4 - 1 3/4
Monogram Industries	NY	5 1/4
Monumental Corp.	OT	25 1/2 - 3 1/4
(Jos. Meyerhoff Org.)		
Mountain States Fin. Corp.		
National Homes	NY	4% - 7/8
Occidental Petroleum	NY	9 1/4 - 3/4
(Occ. Pet. Land & Dev.)		
Pacific Coast Prop.-d	AM	1% - 3/8
Perini Corp.	AM	4% - 1/4
Philip Morris	NY	119 1/2 + 4 1/2
Prosher Corp.	AM	1 3/4 + 1/8
Republic Housing Corp.	OT	4 1/4 - 1/2
Rouse Co.	OT	13 + 1 1/4
Santa Anita Consol	OT	14 1/4 - 1 1/4
(Robt. H. Grant Corp.)		
Sayre & Fisher	AM	3% + 1/8
Shareholders Capital Corp.	OT	7% + 1/4
(Shareholders R.E. Group)		
Temple Industries	NY	14 1/4 - 3/4
Tenneco Inc.	NY	21 3/4
(Tenneco Realty)		
Tishman Realty	OT	16 - 3/4
Titan Group Inc.	OT	1 1/4 - 1/8
UGI Corp.	NY	16 3/4
Unis Bldg.	NY	13 - 7/8
Weil-McLain	NY	10 - 1/4
Westinghouse	NY	34 - 1/8
(Coral Ridge Prop.)		
Weyerhaeuser	NY	60 + 3 1/2
(Weyer. Real Est. Co.)		
Whittaker (Vector Corp.)	NY	3 1/4 - 1/4
Wickes Corp.	NY	17 - 1/4

SUPPLIERS

Armstrong Cork	NY	22 - 2 1/2
Automated Building Comp.		
Bird & Son	AM	4 1/2 - 1/2
Black & Decker	NY	24 1/2 + 1 1/4
Carrier Corp.	NY	108 1/2 + 1 1/2
Certain-teed	NY	20 3/4 + 3/4
Crane	NY	16 + 3/4
Dexter	NY	14 - 1
Dover Corp.	NY	36 3/4 + 2 1/4
Emhart Electric	NY	83 - 1 3/8
Emhart Corp.	NY	18 - 7/8
Fedders	NY	14 1/4 - 3 3/4
Flintkote	NY	16 + 3/4
GAF Corp.	NY	10 3/4 - 1 1/4
General Electric	NY	56 1/2 - 3
Goodrich	NY	20 3/4 - 1 3/8
Hercules	NY	31 - 5 1/4
Hobart Manufacturing	NY	27 1/2 - 3/4
Int. Harvester	NY	27 3/4 + 1/4
Johns Manville	NY	20% - 1 1/8
Kaiser Aluminum	NY	13 3/4 - 3/4
Keene Corp.	NY	4 1/2 - 1/2
Leigh Products	AM	8 1/4 - 1 1/2
Masco Corp.	NY	46 3/4 + 1 3/8
Masonite Corp.	NY	26 1/2 + 1 1/2
Maytag	NY	27 1/2 + 1
Modern Maid	AM	9% + 1 3/8
National Gypsum	NY	13 1/4 - 3/4
Norris Industries	NY	20 - 4 1/8
Overhead Door	NY	13 + 1 1/8
Owens Corning Fibrgl.	NY	42 1/2 - 1 1/8
Pottatch Corp.	NY	

The copper "life safety" fire sprinkler system makes this landmark hotel one of the nation's safest.

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Friars Village, a luxurious new condominium development in San Diego, is heated entirely by Gold Bond Panelectric radiant heating panels, now extremely popular in the West.



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Resort condominiums in Mexico: The boom is on south of the border

Or perhaps boomlet is a more accurate word. It's concentrated mostly in one area (Acapulco); by U.S. standards the volume is infinitesimal (some 500 to 600 units per year); and one company (Playasol, SA) is doing the lion's share of the building. But boom or boomlet, the future looks rosy—particularly in light of these two important facts: first, the growing interest in Mexico as a vacation haven and second, an apparently enlightened attitude on the part of the Mexican government towards foreigners.

R&R below the border. The popularity of Mexico—and particularly Acapulco—as a vacation center is evident in the 2 million visitors that are anticipated for 1973. Last year, some 250,000 passengers flew directly into Acapulco itself—an increase of 100,000 persons over the previous year. And since the exchange rate (12.50 Mexican pesos per U.S. dollar) has not changed since the devaluation of the dollar, another increase is expected this year.

But North Americans aren't the only tourists: More and more charter flights are coming into Acapulco from Europe—particularly from West Germany. And West Germans are evincing great interest in Mexican condominiums—particularly in light of Mexico's new overtures to foreign interests.

Government action. These overtures have come in the form of revisions in regulations regarding rights of foreigners to use and benefit from real estate in areas that are closed to direct ownership by non-Mexicans.

It goes back to the Mexican constitution which—for security purposes designed to protect national sovereignty—forbids any foreigner to directly own land or waters within a zone of 100 kilometers (62.5 miles) from the country's international boundaries and 50 kilometers (31.3 miles) from the coasts.

Until 1971 there had been loosely held provisions allowing non-Mexicans to obtain holdings of land through ten-year trust agreements. However, many non-Mexicans had resorted to third-party purchases in order to obtain land rights. But these foreigners could not be sure of the firmness of their holdings.

A new approach. Five months after President Luis Echeverria took office in April 1971, the *Official Gazette* published a decree providing a legal mechanism by which non-Mexicans could obtain long-term control (but not ownership) of real estate in previously forbidden zones.

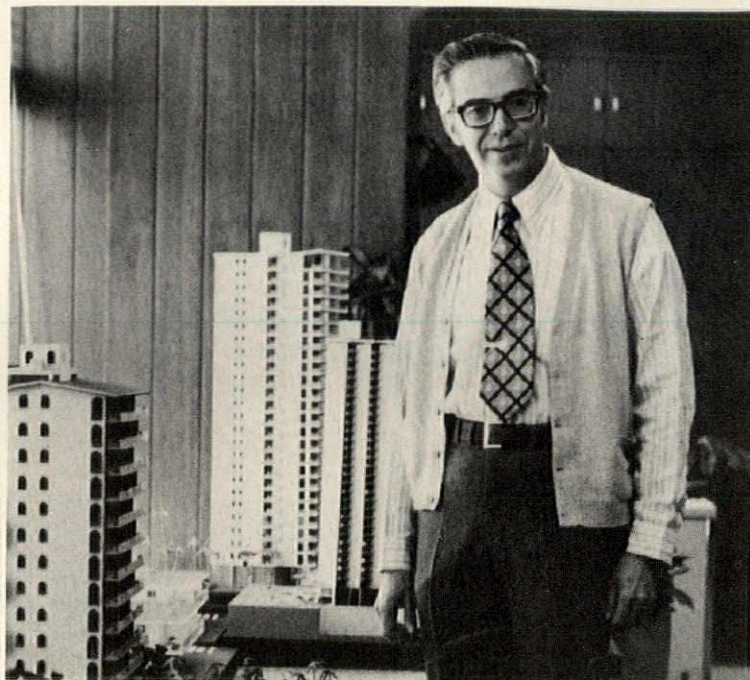
In effect the decree allows the Ministry of Foreign Relations to grant permission to national credit institutions to acquire, as trustees, ownership of real property along international boundaries and coasts for industrial or tourist purposes. In turn, these trust institutions can grant to beneficiaries (Mexicans as well as foreigners) "use and benefits therefrom" of these lands for periods up to 30 years without the need of direct ownership. These provisions were later incorporated into a law (effective May 9, 1973) designed to stimulate Mexican investments and regulate foreign investments.

So although the non-ownership provisions of the constitution still stand, the new provisions do provide legal stability for anyone acquiring property through this trust arrangement.

In effect, then, if a non-Mexican wants to acquire the right to use or profit from a specific piece of land, he instructs a Mexican banking institution (with a trust license) to purchase the property and hold it in trust for a period of up to 30 years. The beneficiary treats the property as his own with the exception that he does not hold title. The bank's trust department is the legal owner subject to the trust agreement which guarantees the beneficiary the right to use it, rent it or arrange for its sale—without restrictions of price.

All of which bodes well for the burgeoning condominium boomlet—a boomlet that has mainly been engendered by Playasol, SA.

How it all began. The story opens in 1964 when a well known residential architect, Hector Hinojosa Z. decided that he wanted a vacation hideaway in Acapulco—a not-impossible dream, but one which presented some problems since it meant either building a house or checking into one of the plush hotels being built around the center areas of Acapulco. Apartments were virtually non-existent.



Helmshman for Playasol, SA is General Manager Jose Riojas R. who handles administrative and promotional activities for the company's condominium development. Models in the background represent present and planned projects.

At the same time Hinojosa's brother-in-law, Jose Riojas R. was looking for new ventures, having decided to pull out of his father's electronics firm. And Riojas shared Hinojosa's enthusiasm about Acapulco. The brothers-in-law became scouts: Riojas for participants (he came up with a total of nine families) and Hinojosa for a location.

In searching out the Acapulco area Hinojosa discovered that most development had been concentrated in the northwest part of Acapulco Bay—close to downtown shopping and the more-popular beaches. There also was a sprinkling of new hotels planned for the southern area of the bay and an increasing number of luxury homes around the higher land-level areas close to the famous Las Brisas hotel complex. But more importantly, Hinojosa also discovered that a vacation development, Club Deportivo de Acapulco (Acapulco Sports Club), had sold some land facing the club along the beach area between less-used Condesa Beach and Icacos Naval Base. This was land that was easily accessible by road or air; it was located in the center of the bay area and so could dominate one of the best views of Acapulco Bay; it benefited from some of the best bay breezes; and it was available and free of holding ownership by communal farmers, known as ejidos. (Ejido land

within one kilometer of the coast is now being expropriated by the Mexican government for use in resort development.)

Hinojosa's idea: Let's pool our resources and build a common home without having to build a house—in other words a condominium apartment building.

Looking back. This was not the first time condominiums had been attempted in Mexico. As far back as 1945, the idea had been tried in Acapulco's early development stages. But it hadn't worked well: Costs had been way above estimates and maintenance had been both high and not too well organized. As a result, units were hard to sell.

Well aware of the previous problems, the brothers-in-law developed a program which called for a 25% advance by each of the nine families on the \$25,000 estimated cost per apartment. The balance was to be spread out over the construction period as needed.

In January 1966 the nine families moved into their fully paid for apartments.

Success story. But it was the interim period—between the start and completion of construction—that presaged the ultimate boomlet.

As the nine-family building progressed, passers-by continually inquired as to whether apartments would be available.

TO PAGE 34

Build in quality with our complements.



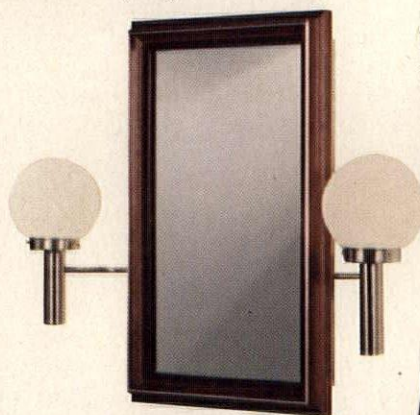
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FROM PAGE 32

Obviously, since the apartments already had owners, the answer was no. So another nine families asked Hinojosa to build a similar condominium for them—and while the second building was under construction, more inquiries were received.

It was obvious to the brothers-in-law that a strong condominium market existed. So in mid-1965 they set up a family enterprise, Impulsora de Inversiones e Inmuebles, SA (Investment and Real Estate Development Company), with an initial capital investment of only \$8,000. Hinojosa, as president, concentrated primarily on architectural and other technical details; Riojas, as general manager, supervised administrative and promotional activities. To capture the attention of prospects, an emblem representing the beach and sun (playasol) was adopted as an identifying trademark.

The success story continued. In 1965, even as the brothers-in-law were building their second nine-family building, the new company organized a group of 18 prospects and prepared plans for a larger building. Still more requests poured in and, says Riojas, "We decided to use our trademark as the company name."

In the intervening years Playasol has completed about 427 more condominiums. And late this year, a 32-story tower with 324 apartments is due for completion.

The history of this latest venture is additional evidence that the boomlet may be turning into a full-fledged boom.

The tower, known as La Torre, did not start off as a condominium. Playasol had been approached by Playboy Clubs to joint-venture the building; Playasol was to build the tower; Playboy would operate it as a rental project. And, publicly offered shares would cover holding and rental benefits. During negotiations, Playasol had second thoughts about joint-venturing; prospective share sales were good but return possibilities were no longer attractive because of unexpected new taxes.

So the joint-venture was dropped and Playasol began offering tower units on an apartment-hotel basis using the standard Playasol formula—25% down, the balance to be paid while construction progressed.

The building has been sold out.

Thus, very little capital is required by Playasol itself—an attraction for any investor.

Playasol and the trusts. It is obvious from ownership figures that Playasol owes much of its success to the 30-year trust provision discussed earlier. In general, condominiums in the company's buildings are split 50-50 between Mexicans and foreigners. And even many Mexicans have opted for the trust arrangement since by this means they can avoid paying expensive closing costs and tax-stamp fees.

Roughly, here's how the Playasol trust is structured. The company has entered a master trust agreement covering all condominiums it builds with the Banco Nacional de Mexico. And Playasol, as the trust beneficiary, is committed to transfer (as units are completed) its beneficial rights to persons who contract for them.

At the end of the 30-year trust period, the unit involved must be sold. Proceeds, less applicable taxes, expenses, etc., are delivered to the beneficiary or to the holder of the granting of rights contract. It is not necessary, however, for a beneficiary to keep his property the entire 30 years. He may order its sale to anyone—including a relative—any time during the term of the trust.

Early sales are not uncommon since the value of existing condominiums has almost doubled. For example, all told some \$26 million has been invested in Acapulco condominiums. Today, they are estimated to have a resale value of \$52 million. And in some cases resale gain is much more than double: In the first nine-family building, for example, apartments that originally cost \$25,000 to build, last year were considered to be worth \$80,000. And even in the new tower which has not been completed, units for which contracts were signed last year have risen 20% to 25% in value.

Investment opportunities. The new legislation has done more than spur interest in condominiums in heretofore closed zones. Many industries have been established along the U.S.-Mexican border—for example some 300 in-bond assembly plants with a combined production amounting to about \$500 million in 1971.

Unfinished articles brought

across the frontier for finishing or assembly by Mexican workers are returned to the United States with duty charged only on their added value.

There also has been a noticeable development of tourist facilities in previously closed areas—with heavy investments by the Mexican government and private investors in hotels and other tourist attractions.

Thus, the field for condominiums is even more attractive with the border and coastal zones now open to foreign participation.

For example, Hinojosa and Riojas have felt increasing interest on behalf of West Germans to invest in Acapulco condominiums. And they are negotiating a joint-venture arrangement with a Frankfurt firm which holds and operates condominiums in several German cities. Under the proposed arrangement the Frankfurt firm will have a sales office for Playasol and promote Acapulco interests among its German condominium owners.

Summed up, then, the outlook for a continuing boom in condominiums is extremely bright—and not only in Acapulco. Lured by the promise of good return on investment, the market is opening in Puerto Vallarta, Bahia Banderas, Manzanillo, Mazatlan, La Paz and other resort areas along Mexico's Pacific Ocean and Gulf of California coasts. And all signs point to the fact that potential tourist areas on the Gulf of Mexico and Caribbean coasts will soon be joining the condominium parade.

There's begun to be agitation for increasing the trust provision to 50 years or more. If this should happen, it's very likely that foreign investors would become interested in mortgages to replace the current everything-down situation. (As a matter of fact, some mortgages are presently available.)

Given this added incentive, observers feel the boom will really explode.

—Luis Moreno Verdin
McGraw-Hill World News
Mexico City

Playasol—how it's structured, what it plans

What started out as a small family operation has grown into a complex of inter-related companies identified by the suffix -sol added to whatever word describes the field of activity.

Playasol, SA is still the parent company. Devoted to developing and building condominiums in Acapulco, it also has begun to operate in Puerto Vallarta and on the Caribbean coast and is organizing in Manzanillo.

Supporting the development operation are: Contrusol, SA, which acts as general contractor; Decorsol, SA, which handles interior design for owners who want their condominiums furnished and which also builds furniture for outside sale; Rentasol, SA, which handles rentals for condominium owners who lease out their units (average daily rents are \$50, \$80 and \$100 for one-, two- and three-bedroom units respectively); and Servisol, SA, which maintain the units.

This complex of companies has an overall declared capital of about six million pesos

(\$500,000). "You have to remember," Riojas explains, "that we build condominiums with our clients' money plus good credit. We do not own condominiums."

Future plans. Looking to broaden its horizons, Playasol expects to expand condominium and apartment hotel operations into new areas.

The company's project in Puerto Vallarta—where three apartment hotels and six condominiums are planned—is the most advanced.

In Manzanillo there are tentative plans to joint-venture with Patino International Resorts to build condominiums and apartment hotels; and in Ixtapa on the Pacific coast and in Can-Cun, the company plans to enter trust agreements with the special fund of the Central Bank of Mexico, known as INFRATUR, which was set up by the government to develop tourist areas.

"Playasol is constantly scouting for new sites for new condominiums," says Jose Riojas. "And we will stick to our formula." —L. M. V.

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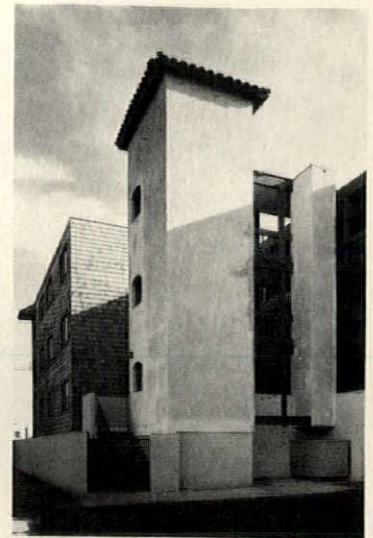
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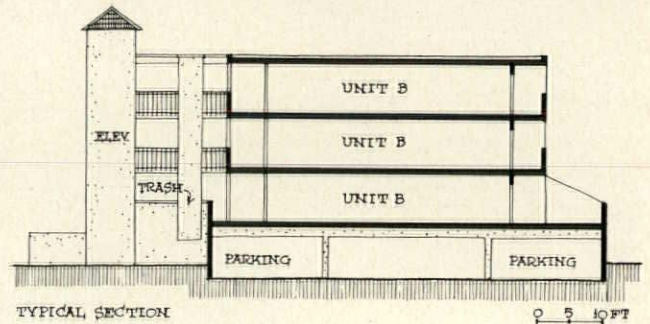
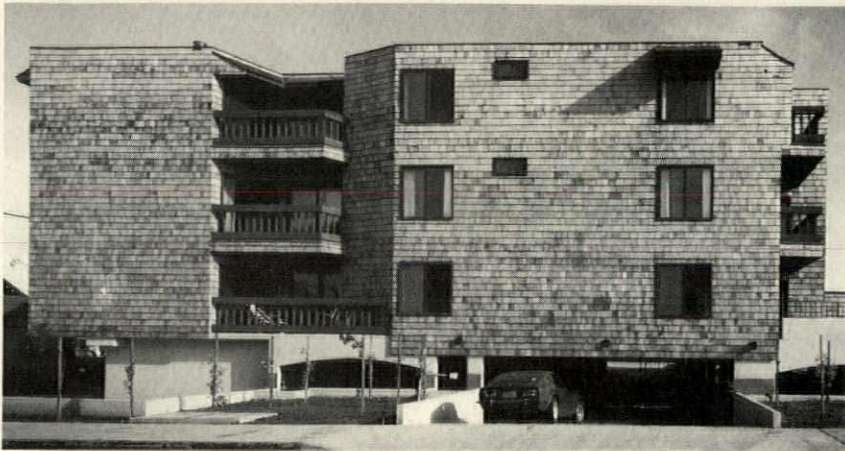
PHOTOS: RENE LAURSEN



Three-story condominium is built over garage, which can be entered from either end (see also garage plan, bottom). View above is from ocean.



Elevator tower (above) is linked to rear corridor by breezeways. Floor plans range from 1,125 to 1,335 sq. ft.



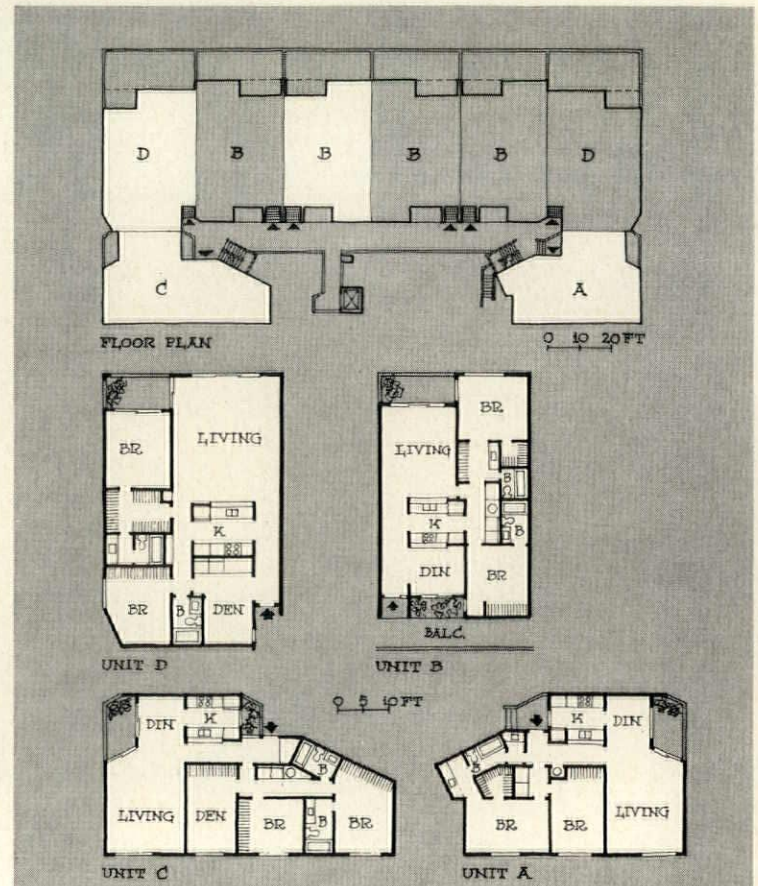
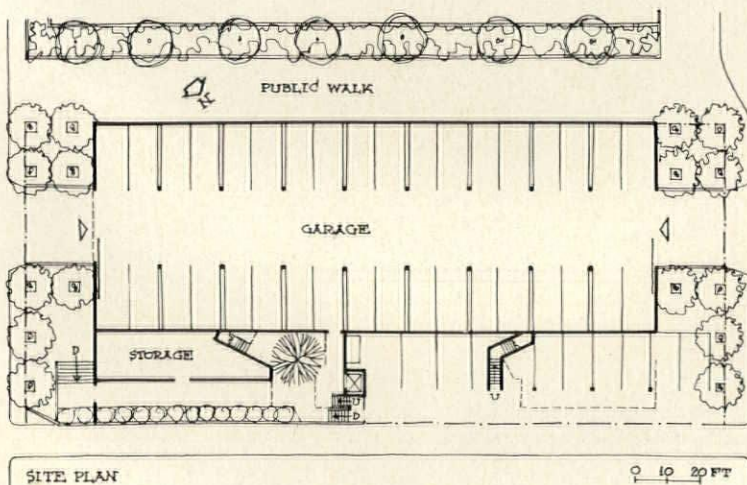
Tight squeeze: 24 units, plus parking, on less than half an acre

And the problem was compounded by a 35 ft. height limitation imposed by the city of Newport Beach, Calif.

The solution was a plan that put the parking under the building but only a few feet below grade. This arrangement kept the building within the height limit, held down excavating costs and made the first floor as

private as the upper two floors by raising it above eye level.

The oceanfront project, called Rendezvous Condominiums, was sold out before the building was framed. Buyers had a choice of four plans priced from \$28,450 to \$68,450. The architect was Rolly Pulaski & Associates Inc.; and the builder, JAK Construction Co.



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5

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As a new member, you will immediately receive an attractive binder containing 1,000 home designs illustrated with full color renderings and detailed floor plans.

With this complete library of a thousand buildable homes to select from, you and your clients will be pleased with the wide variety of homes available in all styles, types and sizes appropriate to local needs, tastes, and budgets.

These wide-ranging selections include:

Deluxe Small Homes—two and three bedroom

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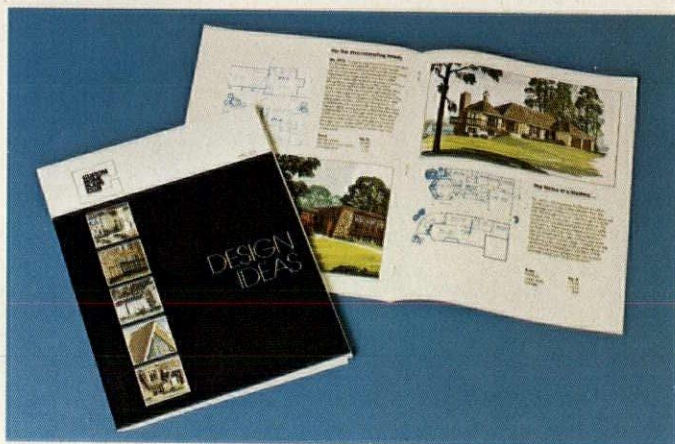
Multi-level and Hillside Homes—split level, split foyer, others

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As you guide clients to a commitment, you—as a member of the Custom Home Plans Club—will lose no time in coming up with a complete set of working drawings, which will be shipped postage-free from Club headquarters the same day your request is received.

And with your working drawings you will also receive a complete list of the building materials you will need—essential for accurate bids and reliable cost estimates.

With so much of the exacting, tedious, preparatory work already done, you will realize substantial savings in time, effort, and money and at the same time, a growing list of clients will realize that you're the one to come to for the right home at the right price.



plus 5 new home designs- of-the-month each month for the next 12 months

To supplement your library of 1,000 home designs, the Custom Home Plans Club will provide you with a steady flow of 5 new home design ideas each month for the next 12 months.

Illustrated in full color renderings—and complete with detailed floor plans—your five fresh designs-of-the-month can easily be added to your basic binder of 1,000 homes.

In this manner, the Custom Home Plans Club broadens the range of selections available to you and your clients, and keeps you current on home design trends beyond your immediate market.

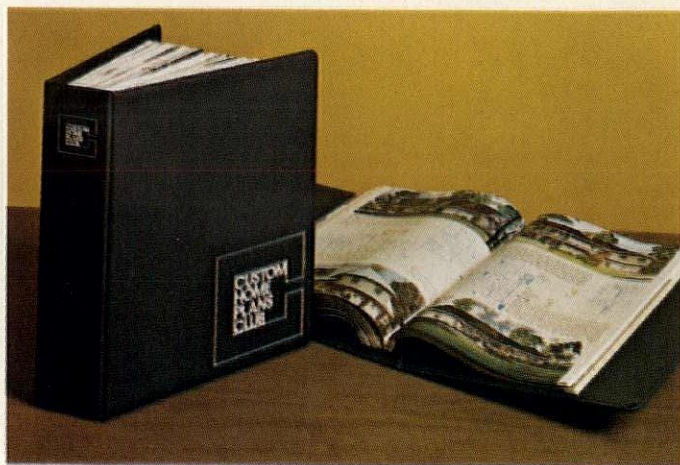
A full set of working drawings with collateral floor plans and a list of building materials will be available on both the original 1,000 home designs and the 60 new designs you will receive during the coming year.

plus 12 sets of professional working drawings for homes of your choice

Members of the Custom Home Plans Club are entitled to receive a total of 12 sets of professional working drawings without charge.

These building plans may be ordered in any combination desired: 12 sets of drawings for 12 different homes; 4 sets for 3 different homes; or any other way you prefer them.

Beyond the initial 12 sets available as part of the Club



and get 1,000 home designs now the next 12 months plus 12 sets for homes of your choice.

membership fee, members may obtain additional working drawings at a 35% discount off published prices which range from \$25 to \$50 for single sets and from \$50 to \$75 for four-set packages—depending largely on the square-footage of single-family homes and the number of units for multi-family dwellings.

Drawn to FHA and VA general standards, these blue line prints—size 36" x 20"—are easy to read on a white background. Depending on the size and complexity of the house design, plan sets may include as many as nine sheets. Notes and drawings indicate location and types of materials to be used. With complete freedom of choice, Club members may order their 12 sets of detailed working drawings at any time during the 12-month membership period.

Club working drawings include: (1) Floor Elevations, (2) Complete Framing Plans, (3) Wall Sections, (4) Floor Plans, (5) Basement/Foundation Plans, (6) Roof Plan, (7) Plot Plan, (8) Kitchen Cabinet Details, (9) Fireplace & Built-in Details, (10) Specification and Contract Booklet.

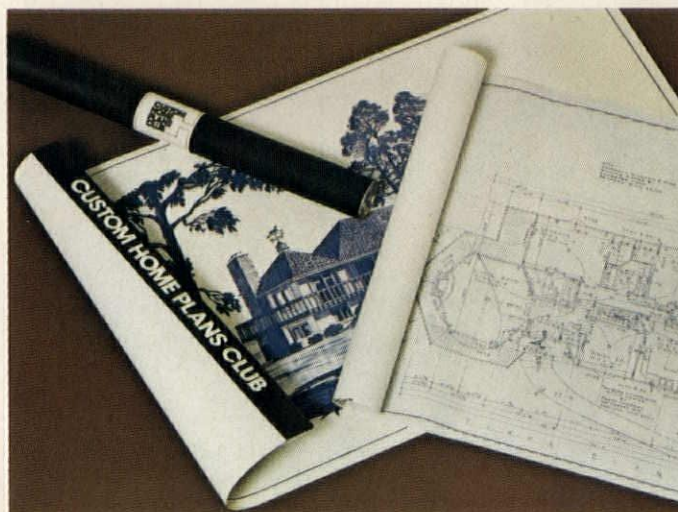
plus itemized lists of building materials for accurate bids and reliable cost estimates

To eliminate the time-consuming task of taking off material requirements from each set of plans ordered, the Custom Home Plans Club automatically provides members with item-

ized lists of building materials needed to obtain reliable bids, to make accurate cost estimates, and to order building materials from suppliers.

The lists include the size and quantity of all millwork such as doors, lumber and built-ins . . . framing lumber . . . roofing . . . flooring . . . wallboard . . . masonry . . . concrete . . . reinforcing . . . insulation . . . beams . . . finishing materials, and more.

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Enclosed is a check for \$240 for a full year of membership in the Custom Home Plans Club. For this I am to receive immediately a binder containing 1,000 home designs, plus a portfolio of 5 new designs each month for the next 12 months.

My membership also entitles me to a total of 12 sets of professional working drawings and a list of building materials for Club homes of my choice. These sets of working drawings may be ordered in any combination I desire: 12 sets for 12 different homes, 4 sets for 3 different

homes, or any other way I prefer them. Beyond these 12 sets included in my membership fee, I will be able to buy additional sets at a 35% discount off published prices during my membership period.

If after receiving my first set of working drawings I am less than completely satisfied, I am entitled to a refund in full—and no hassle—simply by returning the binder of 1,000 designs and the working drawings in good condition.

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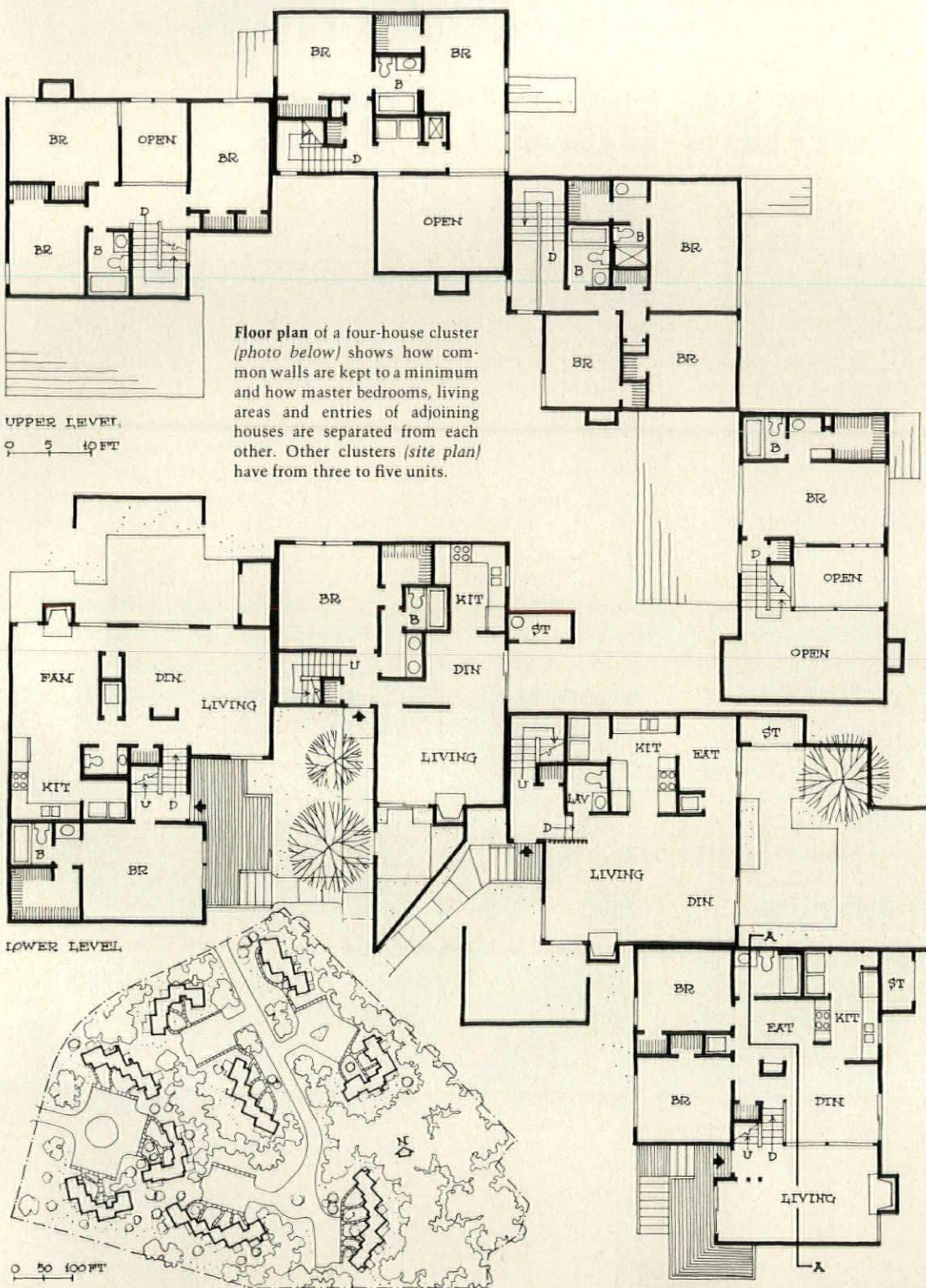
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occupation

- builder
- subcontractor
- retailer
- wholesaler
- architectural
- engineer
- realty
- finance
- government
- manufacturing

The California look—with a privacy bonus—goes over big in Charlotte, N.C.



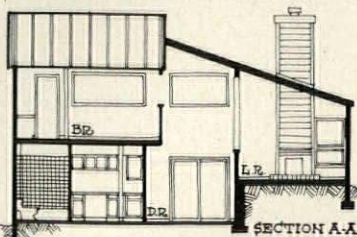
So big that these 37 patio houses were sold out last fall before the last ones were in the ground.

The developer, The Ervin Co., was quick to spot and exploit a big change taking place in Charlotte: The city's population has jumped more than 9% since the 1970 census, and many of the new arrivals are young (25 to 35) executives of companies moving to the city. Reasoning that these young people would not be tied down to the area's prevailing traditional architecture, Ervin tested the design in a nine-acre section of its 500-acre Village of Four Seasons project.

A prime selling point of the \$25,000-to-\$29,000 units is the privacy achieved by minimizing common walls and by separating living and sleeping areas of neighboring units.

A larger and more expensive version of the same design is planned as part of Ervin's Rain-tree project, also in Charlotte. Major changes will be the inclusion of a two-car garage for each unit and a return to a more traditional interior, since the developer now feels that this, with the California-style exterior, will find a wider market.

Architect was William G. Newman; landscape architect, Lee McLaren; and land planner, Robert Ballou, all of Ervin's staff.



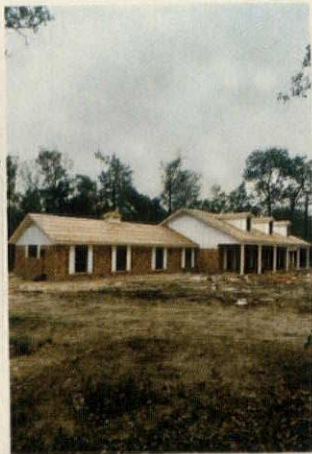
Open living room, shown in photo and in section above, is on split level of best-selling model (far right on plan).

Typical streetscape (left) shows variety of roof lines in a single cluster. Exterior siding is stained plywood.



Is Temple hardboard siding really better?

Judge for yourself.



Temple primed sidings eliminate half the painting job—the prime coat—as well as providing weather protection during construction.

And because Temple hardboard siding is made from 100 percent wood fibers, it can be worked much like wood—in many ways, better than wood.

For instance, Temple hardboard siding panels and lap siding don't split when cut, and there's no splitting during nailing. Nails can be driven flush without damaging the board surface.

Each panel is an identical match, so there's no hunting to match boards. Temple sidings are free from knot holes, are easy and quick to apply, and have no resins to bake out later in the sun.

Judge for yourself—against whatever siding you're using. Then check the prices at your Temple building materials dealer—against whatever siding you're using.



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DIBOLL, TEXAS 75941





"Selling the condominium concept may hinge on how your models are decorated . . . Make sure the interior design stimulates a feeling of ownership"

The exploding popularity of condominiums nationally poses new challenges to the builder and decorator alike.

First, from a marketing standpoint, you can't always merchandise a condominium the same way you do a single-family home. Not only are the demographics different, the interior design approach usually also must be different—more distinctive, more individual.

From the decorator's standpoint there are two problems to cope with. First, generally there is less space. But more importantly the nature of this type of shelter means greater pains must be taken to emphasize the feeling of ownership. For although the buyer of a single-family home not only owns the structure but the land his house sits on, this is not true in a condominium. And it's one of the biggest obstacles condominium builders are faced with in selling the concept.

So, once you aren't selling exterior ownership—land with your shelter—you've got to sell interior ownership. And your model decor has to make that sale.

In planning the interiors for a condominium program, it's extremely important,

therefore, that no two models bear even the slightest resemblance to each other. While I've long stressed that model homes be distinctive, it's critical that condominium models be completely different in color, furnishings—in short, personality.

There are many other considerations. For example, if you're building high-rise condominiums, your decorator must capture, not obstruct, the view. The view, after all, is a prime selling point and if the models have a closed-in feeling, your prospect will not experience the exhilaration of height, of looking out over the surrounding area.

Another example: Condominiums are usually attached so there are fewer windows than in a single-family dwelling. Depending on the architecture, it is normally the kitchen that is windowless. Add to this the fact that most condominium kitchens are smaller and it's easy to see how Mrs. Housewife can become claustrophobic when viewing condominium models.

There are several solutions to this dilemma. If the condominium kitchen is deprived of outside light, you can make up for that with bright colors, plenty of greenery

and wallpaper designs (geometrics and plaids) that visually expand the room.

Another determination builders should make is how to decorate extra bedrooms.

In lower-priced condominiums secondary bedrooms should be family oriented, and therefore children's rooms. In resort area projects the secondary bedrooms should be decorated as guest rooms or for college age children away at school.

Overall, the resort condominium should project a casual, informal ambience depicting people who have made it—who have the time and financial means to entertain frequently. Here, accessories play an important role in creating that atmosphere.

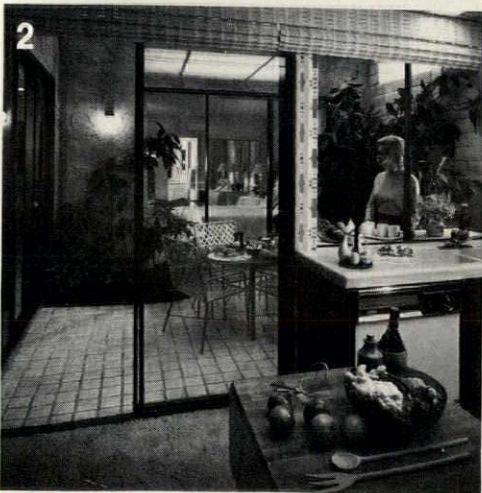
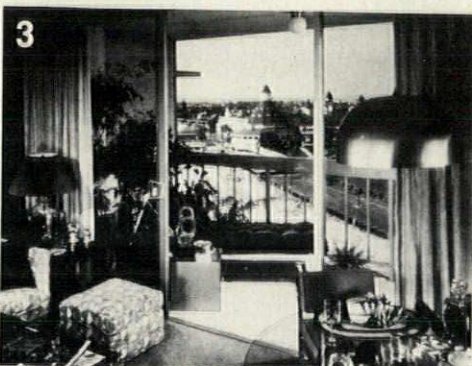
The dining room table, for instance, can be set buffet style with punch bowls or casually placed bottles filled with colored water that simulates premium liquor. Golf clubs, tennis rackets, sailing magazines (all randomly placed) help to reinforce the feeling that most resort condominium buyers are looking for—a place where they can either get away from the rat race on weekends or where they will enjoy an active retirement in pleasant surroundings.

But the resort condominium accounts for only 15% of all condominiums. The majority are in the low and moderate price range designed for families who find them a practical alternative to the often more expensive single-family home.

Single people are yet another market on which the condominium builder should focus his merchandising. A rapidly rising divorce rate plus the nationwide tendency for people to postpone marriage to a later age has created a market that I feel is being overlooked.

In designing condominium interiors for the single person, keep the following in mind: Not every single man is a swinging bachelor or every single girl, a partying play-girl. Those who fancy themselves as playboys and playgirls usually rent in the singles oriented apartment complexes. The serious single, particularly the divorced individual, wants a home in every sense of the word and responds positively to warm and inviting interior design.

In summary, condominium living has proven to be a viable concept to virtually all segments of the public. Attached housing does, however, have some drawbacks but they are mostly psychological. Shrewd merchandising designed to reinforce the ownership aspects can, I feel, erase any negatives the buyer may be harboring.



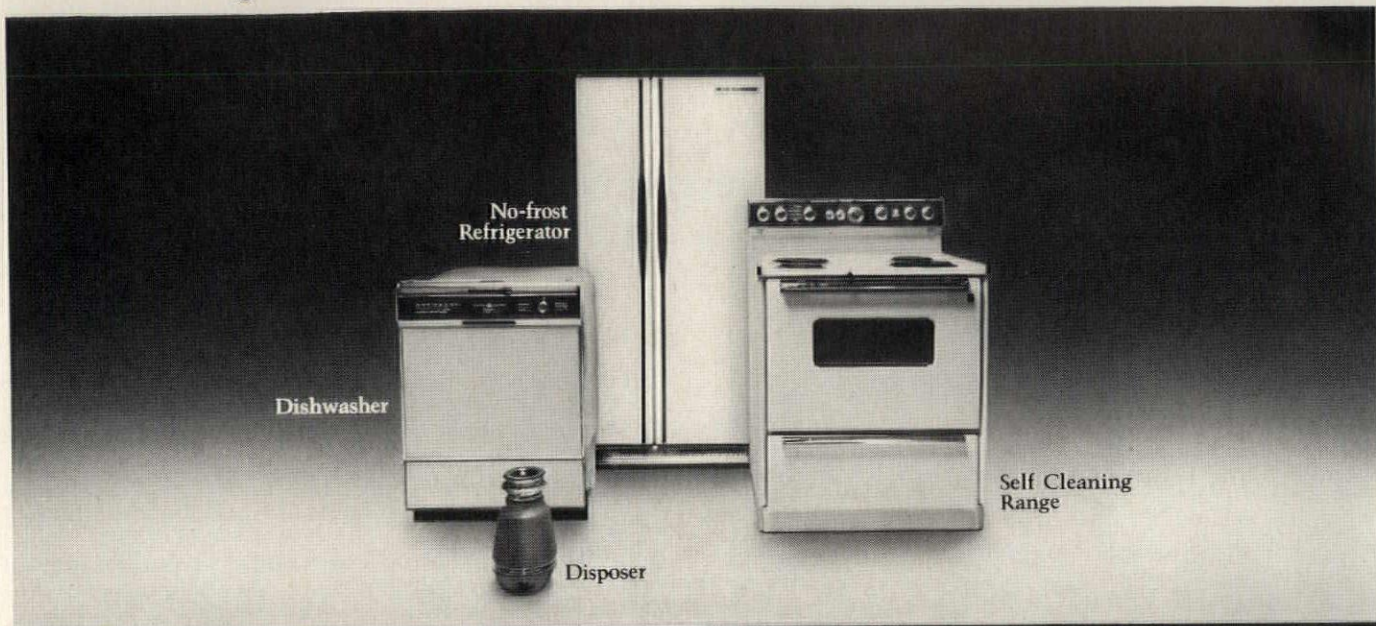
1. The importance of tailoring the furnishings to the prospect's pocketbook is shown in this living room of a Grant Corp. model. Coffee and end tables are comparatively inexpensive wood and glass. Meanwhile, the otherwise wasted space under the stairwell is used to house greenery that livens the entire room.

2. The bamboo and fabric drape treatment provides an unobstructed view from the kitchen through an enclosed atrium to master bedroom. Use of light colors in this desert locale provides a cool setting for a resort condominium.

3. Capturing the view is crucial in a high-rise condominium. Here, the historic Hotel Del Coronado is seen from the living room of this tenth floor condominium. Chrome and glass accent the contemporary design.

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**If you think these 4 General Electric appliances
make the most modern kitchen,
you've got another appliance coming.**



The GE trash compactor.



To impress a woman with your kitchen in today's market, you've got to show her something more than the appliances she's used to seeing in your competitor's kitchens.

That's why GE Trash Compactors can make a big difference in which apartment or home your prospect chooses.

Consider the advantages the GE Trash Compactors offer.

Kitchens are neater and cleaner—no unsightly trash containers. In fact, with reversible panels in GE colors the compactor can match the rest of the kitchen appliances.

Fewer trips are needed to put out trash—usually only once a week for a family of four. There are no messy trash cans or bins to mar an

otherwise attractive area. And no trash cans for animals to overturn.

This could mean fewer pick-ups, fewer dumpsters to rent and possibly more parking area.

The compactor is easy to install. It plugs into any adequate 115 volt outlet—no water lines, no drains, no vents, no bolting.

And remember, behind every GE appliance is General Electric Customer Care . . . Service Everywhere.™ Which means that wherever your project is in the U.S.A., there'll be a qualified GE serviceman nearby.

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LETTERS

Recreation

H&H: Swimming, tennis, golf and skiing [H&H, Feb.] are all great fun, but there is one area of recreation that practically all developers are overlooking—that of owning, managing and riding horses.

Most developers probably think there aren't enough horse enthusiasts to consider when planning their developments. Did you know that the latest estimate is that the United States contains about 6.2 million horses? And only a modest number of these is owned by people living in rural areas or operating breeding farms.

A few developers have built horse-oriented developments. One such development is just north of Oklahoma City near Edmond and is called The Trails. I understand that some have been built in California and one is located outside of Washington, D.C., in Maryland. But there should be more such developments—somewhere horses are included with the swimming pools, tennis courts, golf courses, etc., and somewhere there are backyard stables.

BEVERLY FEARNOW
Oklahoma City, Okla.

H&H: I enclose the first three issues of *The Western Paddler*, official publication of the recently formed Western Platform Tennis Association.

For years paddle, or platform, tennis [H&H, July] was strictly an eastern game played only at the most exclusive clubs. Its governing body, the American Platform Tennis Assn., with which the WPTA is affiliated, was of course more dedicated to the eastern game. Now the game is growing in the Midwest at a fantastic rate.

No longer is it strictly a country club activity as witnessed by the fact that we have installed courts in a state park in Kentucky, apartment complexes in Kansas City, Indianapolis and Detroit, swim clubs, YMCAs and colleges. We also have had inquiries from motels, hotels, trailer parks, etc. The main reason for the tremendous growth of the game is it offers a 12-month outdoor activity, is very exciting to play and no previous racquet experience is necessary. Ages of people who play are from 7 to 70.

THOMAS B. HOFFMAN,
general manager
Precision Courts Inc.
Cincinnati, Ohio

Waste treatment

H&H: You may remember Cromaglass Corp. as one of the prime manufacturers of single-home wastewater treatment systems and sewage treatment plants.

As far as we know, we were the first ones to bring to the attention of your

editorial department the home aerobic units back in 1968. As one extremely interested in the future of environmental controls, I became Chairman of the Technical Task Committee at the National Sanitation Foundation, which originated N.S.F. Standard 40 and the supplementary Seal of Approval testing program. We have also been instrumental with national associations such as NAHB and the Conference of State Sanitary Engineers in developing programs and policies by which products of our industry can be most efficiently and effectively used.

Upon reading your article on sewage treatment [H&H, June] we were disappointed to find some inaccuracies. For one thing, it was mentioned that Nayadic Sciences Inc. was the only manufacturer to gain the Standard 40 Seal of Approval since the program began in 1970. This is inaccurate since Flygt Corp. of Norwalk, Conn. received the Seal of Approval in late 1972, and two other companies—Cromaglass Corp. and Hitachi of Japan—received the Seal of Approval as of May 2, 1973. Realizing that your June issue overlapped this period, I still think it would have been advisable for your editors to indicate that Cromaglass and Hitachi were completing their testing programs.

Also, we note that you listed Bio-Pure Inc. under single-house plants. This is a great injustice to other manufacturers. The Seal of Approval program has not included Bio-Pure as an efficient single-home unit since they have designated it as requiring daily maintenance.

The Cromaglass system tested at N.S.F. completed the Seal of Approval program with data showing 95% reduction of both BOD and suspended solids; effluent BOD was 16.85 and effluent suspended solids 13.1; influent BOD was 247.20 and influent suspended solids was 250.1. No other home aerobic system approached this degree of treatment, and we are naturally very proud of our product.

Our company has factories and offices throughout the world, with approximately 5,000 installations in all areas, some of which are recycling wastewater for toilet flushing and gardening purposes. Our equipment has been specified by the federal government on FAA installations and Coast Guard stations, and is now being installed by NASA on Cape Kennedy. This makes it still harder to understand why we have been ig-
TO PAGE 48

Fits Glazing Functions Eight Ways



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POLARPANE® Insulating glass units with 20-year warranted moisture-free construction.

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SOUND CONTROL POLARPANE® Hermetically sealed units designed for maximum sound transmission loss.

SUN CONTROL POLARPANE® Hermetically sealed units with rotating venetian blind between glasses.

MISCO® Wired glass listed fire retardant by Underwriters' Laboratories, Inc. In seven popular patterns.

MISSISSIPPI® PATTERNED GLASS In wide variety of general purpose and decorative patterns.

See our Catalog in Sweet's 8.26/Ce when you want to refresh your memory and consider patterns, colors or specifications.

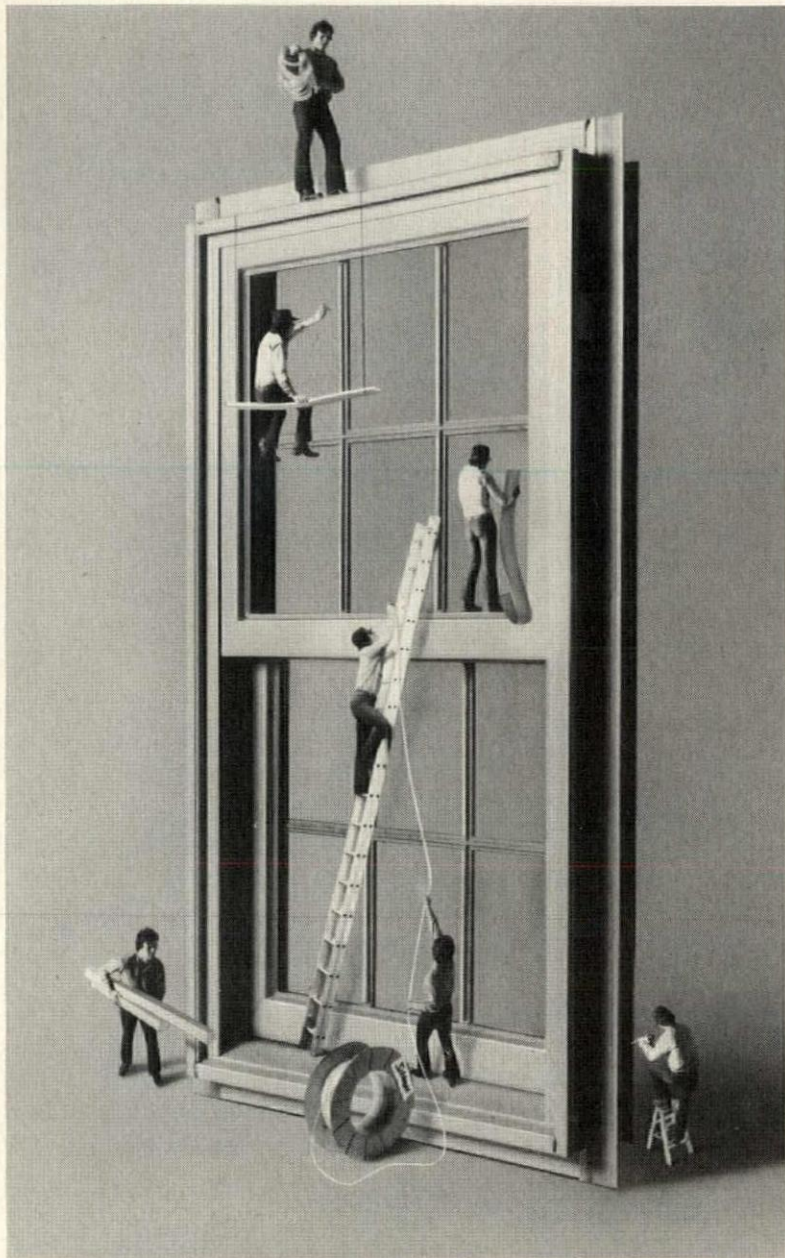
For additional catalogs or information contact your local C-E Glass representative or write C-E Glass, 825 Hylton Road, Pennsauken, N. J. 08110.



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LETTERS

FROM PAGE 44

nored. Is there anything you can do to help us gain our composure?

Alan N. Young Jr., president
Cromaglass Corp.
Williamsport, Pa.

According to Heinz B. Russelmann, NSF's director of wastewater technology, the Cromaglass units were awarded the foundation's seal under Standard 40 on July 5, 1973, not May 2, as reader Young states.

As of July 20, Russelmann said, the Hitachi units had passed NSF's performance tests, but full approval had been delayed pending NSF receipt of warranty data.

The Flygt Corp. was omitted from the list because the company has suspended production of the tested units. The status of the Bio-Pure plants was indicated by a footnote to the list of manufacturers—ED.

H&H: We have seen your roundup of information on sewage treatment facilities, and generally commend you for a useful service to builders and developers.

However, let me comment on several points you made vis-a-vis physical-chemical waste treatment. We may have misled you in trying to provide an all-too-brief synopsis, or you compositized interviews which yielded an unfair impression of physical-chemical treatment as we know it.

While regulatory agencies may indeed be slow in approving p-chem plants (as well as other types), the Environmental Protection Agency of the United States has several publications on this treatment technology, including one (*A New Process for Treating Wastewater*) which says in part:

"This is a representative listing giving an indication of the rapidly spreading acceptance of physical-chemical treatment. The list of municipalities planning this type of treatment system is expanding rapidly." One facility on the list is Niagara Falls, N.Y., planned to treat 60 million gallons of wastewater per day... hardly an experimental size.

That same publication also lists as one of the advantages "greater operational flexibility and control". That statement seems, on the face of it, to contradict your comment that more things can go wrong than with a less sophisticated biological system. Personnel who have operated AWT Systems' p-chem installations and who have also been intimately involved with conventional biological operations tend to believe that day-to-day operations of the p-chem installations are at least as reliable as conventional systems, and much more controllable. When one considers that the treatment yields a higher quality of treated water many

times faster than biological plants, you can understand our conviction that p-chem treatment is more dependable than biological treatment.

Capital cost—as is often the case—requires definition. When you include the installation, housing, incineration, personnel training, small acreage requirement and quality of the installation and quality of results, p-chem plants are competitive. Everything is relative. In smaller plants we produce higher quality effluent water at a somewhat higher cost than conventional plants, but we are very competitive and produce excellent quality water in larger systems.

Operating costs are another ingredient requiring definition. At our demonstration plant data are confused by the cost of on-going studies pursued there. An example, in which detailed estimates have been worked out for a plant treating sewage from 4,000 dwellings, shows operating costs would be under \$50 per year per home. Thus, large plants might well be conceived as operating profit centers, in which residents or tenants are charged for sewage treatment service at a rate above the cost of operation.

The National Sanitation Foundation, to which you allude, may well provide a service in its testing program. Our pilot setups are in continuous use, generating data to help improve results and lower costs of installations and operations, so we have not set aside a unit for this application.

Qualified scientists and engineers accrue and analyze data from our systems. We have experienced no challenges from public authorities on the integrity of data and conclusions, although they do often ask very cogent and penetrating questions. Sanitation authorities do sample and analyze effluent periodically. Therefore, we see little need in our case (at this time) to tie up human and material resources in an independent certifying program when we can provide acceptable data, and continue to run pilot studies.

I hope that this discussion helps to round out and clarify some impressions for your readers. Clearly, your article relates to an important area for builders and developers and they rely on you for much of their information.

Allen Baker, advertising
AWT Systems Inc.
Wilmington, Del.



This man just installed a good-looking, inexpensive, pre-painted metal bi-fold door in 15 minutes flat. No wonder he's smiling.

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Finally, our doors come in a variety of styles and colors, to cover anything from an 18" cubbyhole to a full room width.

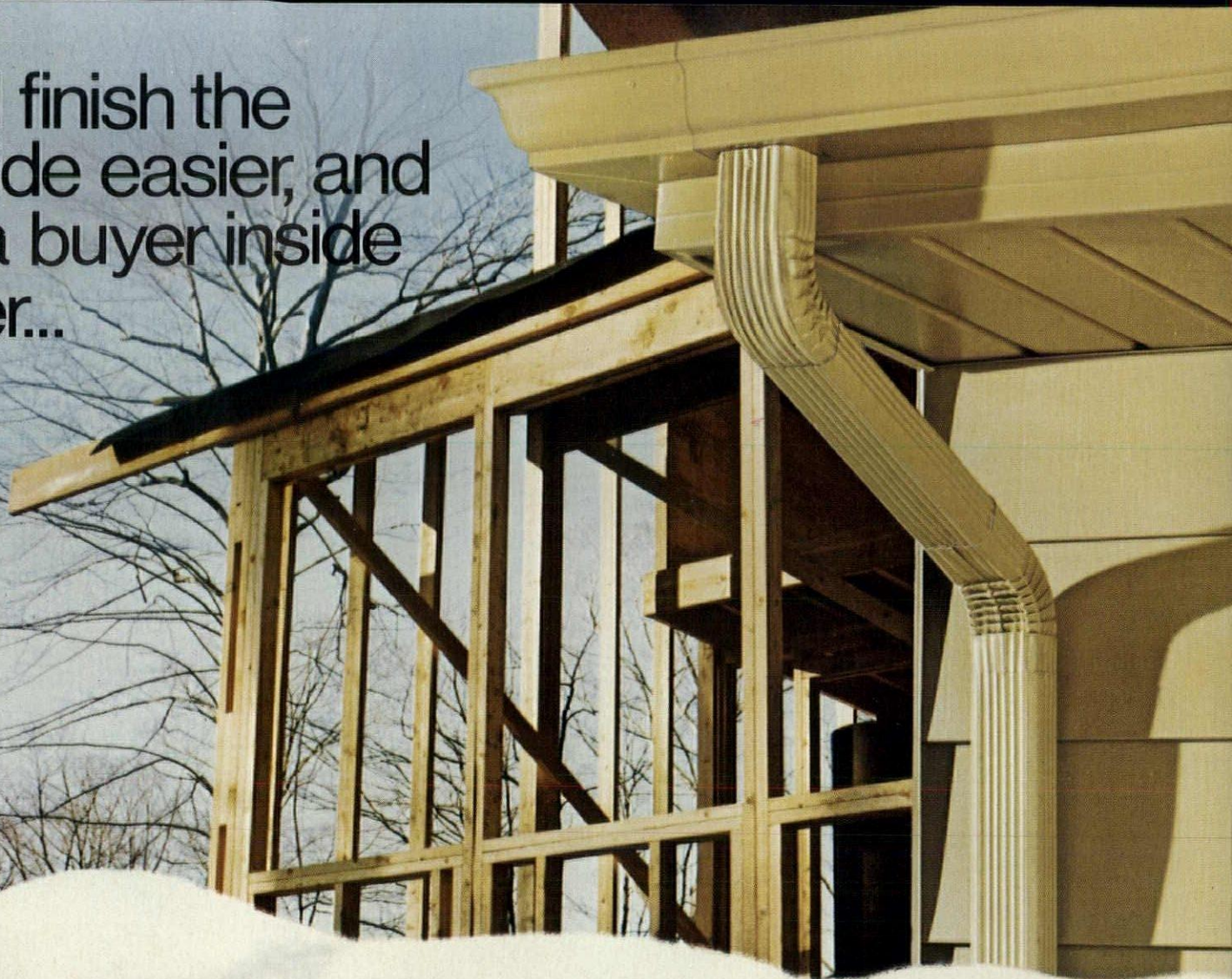
If you'd like to learn more happy facts about our money-saving metal bi-folds, call your local U.S. Plywood Branch Office.



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And you'll avoid costly delays, because 90 strategically located warehouses insure prompt, reliable delivery.

For another thing, prospective buyers like the crisp, colorful, clean-lined good looks that Weather-tite/Aristocrat soffit, fascia and rain-carrying equipment lend to any home exterior.

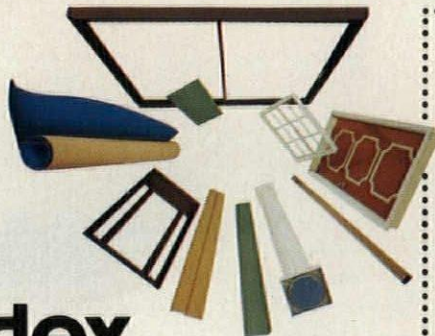
A selection of soft-toned decorator colors, borrowed from nature's own, let you match exterior accessories to

the home siding beautifully. Or provide a compatible and interesting accent to create eye-pleasing harmony in every quality home you build.

And it will stay that way. With baked on colors that won't chip, crack, peel, flake or blister. Year after year.

In short—Weather-tite/Aristocrat soffit, fascia, gutters and downspouts offer long-lasting beauty, dependability and carefree, low-cost maintenance. Plus an irresistible eye-appeal on the outside that helps sell your prospects inside.

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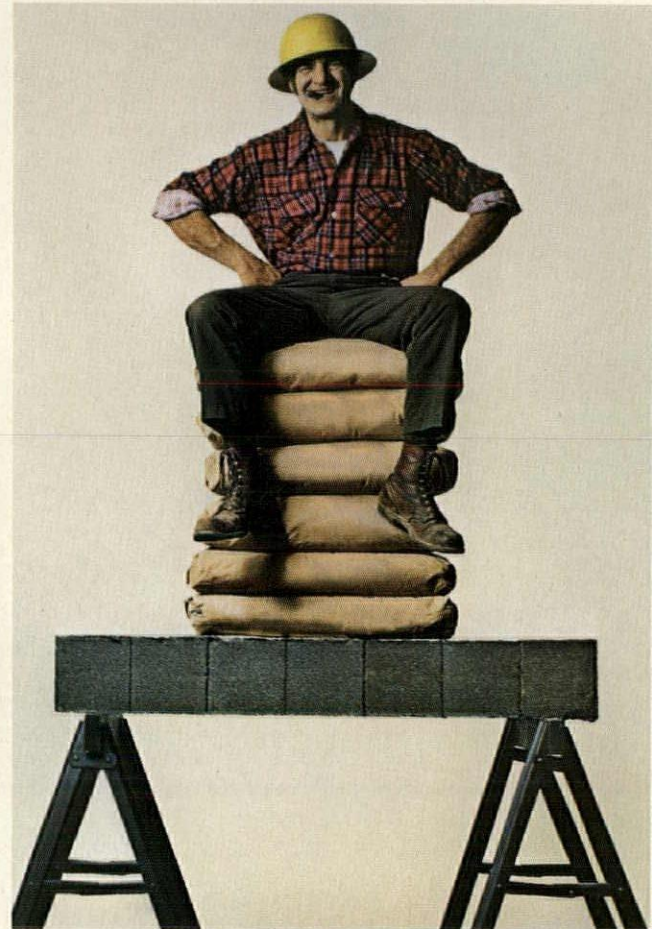
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BlocBond is more than 7 times stronger than concrete block and mortar construction in this horizontal beam test. And more than 2 times stronger in vertical walls.

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The village shopping center:

*how to make the right move
in the
right place
at the
right time*

Every developer dreams about putting a shopping center in his project. It's the thing that will skyrocket the value of part of his acreage, pour forth rental money and ultimately allow him to retire in comfort if not downright luxury.

Maybe.

A shopping center can indeed be profitable. It can also be very unprofitable, and the difference often lies in how realistic the developer is able to be in his original concept.

Take, for example, the scale of a village shopping center (which is sometimes called a neighborhood center). It will range in size from 20,000 to 75,000 sq. ft. of shop and office area, from roughly two to twenty acres of site area, and will have a supermarket as its pivotal tenant. This is all that even a big project can usually support, and attempting something more grandiose will probably end in disaster.

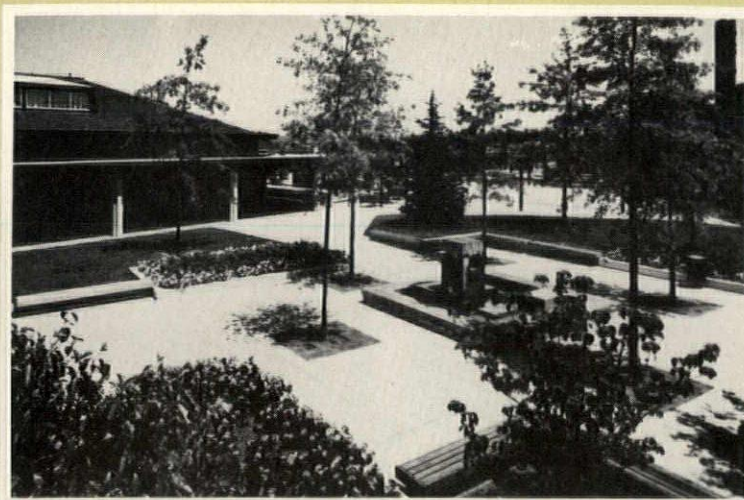
Or take the question of timing. It's great to have shops ready and waiting to attract the first buyers in a project. But who's going to subsidize the stores until there are enough buyers?

And finally, take the ultimate question: Is it economically feasible for you to build a shopping center at all?

These and other questions will be explored in the twelve pages that follow.

3 village centers
that answer
the key question . . .

...which
come
first—the
shops
or the
houses



PHOTOS: MORTON TADDER

Wilde Lake Village Center, Columbia, Md. . . .

. . . has been so successful that it is being expanded. But it ran into serious problems when it opened in 1967 (see page 59). Developer: The Rouse Co., Architects: Cohen, Haft & Associates.



PHOTOS: LAURSEN/MITCHELL, INC.

Monarch Bay Plaza, Laguna Niguel, Calif. . . .

. . . is a classic example of how a center learned to swim through a sea of red ink (see page 62). Developer: Cabot, Cabot & Forbes. Architects: Knowlton Fernald, Ricardo Nicol, Arthur Schiller.



PHOTOS: MORTON TADDER

The Village Square of Cross Keys, Baltimore, Md. . . .

. . . is a unique combination basic and specialty center. Ordinarily, the combination might not work. But some unusual circumstances led to a thriving center (see page 66). Developer: The Rouse Co. Architects: Murray and Fleiss.

Like the proverbial chicken-egg conundrum, the question of shops or houses first is vital to developers—particularly as they build farther and farther away from established metropolitan areas.

And like the chicken-egg puzzle, it's a tough question to answer. If there is a shopping center but no houses, how will the shops exist until the houses get built? On the other hand, if there are houses but no shops, how do you sell the houses?

A growing number of developers are leaning toward putting the shopping centers in first, or at least very early in the development process. They're finding that housing projects built beyond established commercial-retail-social centers must provide their own centers if the housing is to sell at a satisfactory rate.

So the main questions revolve around setting up the commercial centers themselves: whether they should be purely for shopping or whether they should include non-store space as well.

Here is where more controversy develops, although there seems to be a growing agreement that non-retail usage—usually offices for professionals and businessmen—should be included even when the village or neighborhood center has only 30,000 to 80,000 sq. ft. of space. The reason: To attract people into a sparsely settled area, a center needs more than the seven basic merchants (grocer, barber, beautician, druggist, cleaner, banker and liquor store). And even in well settled areas, it has been found that a mixed-use center will have broader appeal than a plain-vanilla strip center.

But the controversy is far from resolved. Many experienced shopping center professionals maintain that a small neighborhood center—the kind most likely to be built in conjunction with a residential project—does not attract non-retail tenants in sufficient numbers. "Doctors, lawyers and businessmen in general don't want their offices stuck away in a small commercial center," they say.

In addition, they point out that the builder needs more land, more front money and considerably more expertise to develop a mixed-use center.

And the bugaboo of adequate parking becomes much more complicated. Says shopping center consultant Robert Little of Prentiss/Little Inc., Farmington, Conn.:

"Because parking is the most difficult aspect of a mixed-use project, planning must be flexible. You can plan 5.5 parking spaces for each 1,000 sq. ft. of retail area and one space for each 300 sq. ft. of office area, but these figures are only a beginning. The best plan is one that includes land held in reserve to cope with probable future increased parking needs. Otherwise, you may have to go to above-grade decked parking at \$2,500 to \$3,000 a space, or below-grade parking at \$4,000 to \$8,000 a space. That's a lot more than the \$600 to \$1,000 that's required for regular parking areas.

"But you can't plan sufficient parking spaces for special times—the Christmas

rush, for example. If you do, you'll go bankrupt. The optimum number of spaces is what's needed on the usual busiest shopping days throughout the year."

Another drawback with the mixed-use center: Preleasing is more difficult. Not only do experienced and financially sound retail merchants have to be leased up, but an ill-defined assortment of non-store tenants must be found.

Nevertheless, says Little, it is these other tenants who can help make the center an extended-hours hub of the community.

"After all, we don't live our lives just from 8 a.m. to 6 p.m. And it's very important that residents in a new community have a feeling that there's somewhere to go and something to do at the end of the workday. And of course, 24-hour usage is also a good protection against vandalism."

Tenants who can extend the hours of a village center beyond normal retail periods include: a library, community center, indoor swimming pool, police station, city hall, fire house, hotel, lounge, taxi stand, movie theater, apartments over stores and late-hours restaurants.

Medical and general business offices as well as a nursery school also contribute to the feeling that the center is part of the total community—and not just a place to shop. "It's this added dimension in the shopping center," says Little, "that helps turn a housing development into a sought-after community. And it's the broader-based mixed-use center that's better able to withstand gyrations in the local economy and produce a greater overall return."

But whether or not a center is to contain offices and other usages as well as stores, the biggest problem is making it economically viable. Solving that problem is the subject of the three case studies that follow.

Pre-servicing: It's a painful but often necessary step

There's growing agreement that if a project is a long way from any existing commercial areas, it's essential to set up a shopping center before or at roughly the same time the housing goes on the market. The reason is obvious: Basic necessities of everyday life must be readily available if you're going to attract buyers and tenants.

In shopping center lingo, this procedure is called pre-servicing. And it's one of the toughest jobs a developer faces.

Obviously, most merchants who move into a center in a newly developing area are going to lose money for months—or even years—until the population is large enough to support their stores. Throughout this money-losing period, the merchants not only must pay rent, but they have to eke out a living for their own families. For the small merchant this is a tall order. For the developer who must entice these merchants into his shopping center, it means doing an extraordinary selling job—particularly if the

merchant must close up a presently profitable operation to move to the new center.

It's not easy as witness the numerous centers only partially occupied after being open for long periods of time. However, solutions do exist.

Case in point: Wilde Lake Village Center, a 47,811 sq. ft. enclave on 6.3 acres in the new town of Columbia, Md. (photos, pages 60-61). While the developer, The Rouse Co., was not 100% successful with its preleasing program, its partial success and its experience provide valuable guidelines.

When Rouse began to develop the rolling wooded hills of Howard County into a planned city for 100,000, there was little to show prospective merchants.

"Wilde Lake was a tough center to lease," recalls Douglas Godine, vice president and director of sales and marketing. "We desperately needed a service center to provide normal conveniences—a grocery, bank, dry cleaner, drug store, barber, beauty shop and liquor store. These would form the commercial hub of the first of seven villages in Columbia. So we embarked on a strong pre-servicing campaign.

"Even so, we still had many small stores vacant when construction began. And it was a year and a half after the center was opened before it was completely leased."

Vacancies notwithstanding, The Rouse Co. had one big thing going for it when construction started: a major tenant in the form of a chain supermarket which signed up for its own 20,000 sq. ft. building.

"In most small neighborhood shopping centers," says Godine, "you first try for a triple-A-rated supermarket, because it's the chains that provide the more financially sound tenants. The problem is that they often lack the friendliness and individuality of the mom-and-pop merchants. So for the rest of your space, you go after the local merchants with one or two stores. These are the people who are most likely to offer the small-town type of service that customers prefer. And these were the qualities we were looking for in Wilde Lake—along with good merchandising ability."

To attract this kind of tenant, the Rouse marketing group stressed these four areas:

The company's track record. Jim Rouse had built a number of successful residential and commercial developments in the area and had an excellent reputation for quality in construction and design.

Environmental quality. "We all had a vision that good architecture and careful land planning would make Columbia a very desirable place to live and work," says Godine. "We were able to transmit this feeling to some of the early merchants through words, an extensive brochure, site plans and renderings."

Visual sales aids. In June 1967 The Rouse Co. opened the Columbia Exhibit Center which showed—through models, films and displays—how the Columbia concept would be executed. And by this time the shopping center was almost complete so prospective merchants could see it for themselves. It opened in August with about 200 or 300

people living in the village, plus about 8,000 others living on scattered parcels of land already developed.

"These people were our primary market for a long time," says Godine. "We all felt that we were building something special, something worthwhile. The merchants, too, felt that their presence would help create an attractive place to live and work. The pioneering spirit was sort of infectious among Rouse people, merchants and customers alike."

The rosy future. Using an economic model that plotted the future growth of the village, the marketing men were able to project the center's sales volume and anticipated profits. Prices and sizes of the houses and apartments indicated the broad range of income levels and family size per dwelling unit. So a prospective commercial tenant saw that if he survived the initial lean period, he would later have an almost captive market.

"This fact was our most telling argument," says Godine. "We had to convince merchants that eventually they would make a lot of money. Well, today they are making a lot of money. They really have a lock on a population of more than 16,000.

The 18 current tenants reveal much about what a cross-section of moderate to upper-middle income Americans of all ages want and need in a shopping center.

There's the usual supermarket, liquor store, cleaners, bakery, drug store, bank, gift and card shop and florist.

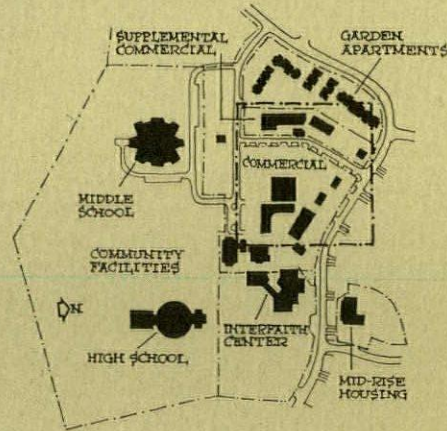
But not so standard are a butcher shop, well patronized because of its excellent quality meats; a cheese shop offering many varieties of gourmet items; an ice cream shop catering to the well established habit among residents of all ages to eat ice cream cones as they walk from place to place; a bicycle shop servicing a favorite form of transportation for both adults and youngsters; a dance studio for girls; a quality casual-furniture-and-shelf shop for the not-very-ambitious home decorator; a family-style informal restaurant and cocktail lounge offering dancing and entertainment; and a counseling center tending to marital rifts, generation gaps and other family problems.

"These are not all the original tenants," says Kemp Sullivan, marketing manager for Columbia Development Corp., a Rouse subsidiary. "About a half a dozen shops moved to our downtown mall when it opened. One of these was a small book shop that did well from its first month in Wilde Lake Village Center. It did, and still does carry a good selection of books, but it also happened to be the only bookstore in the county."

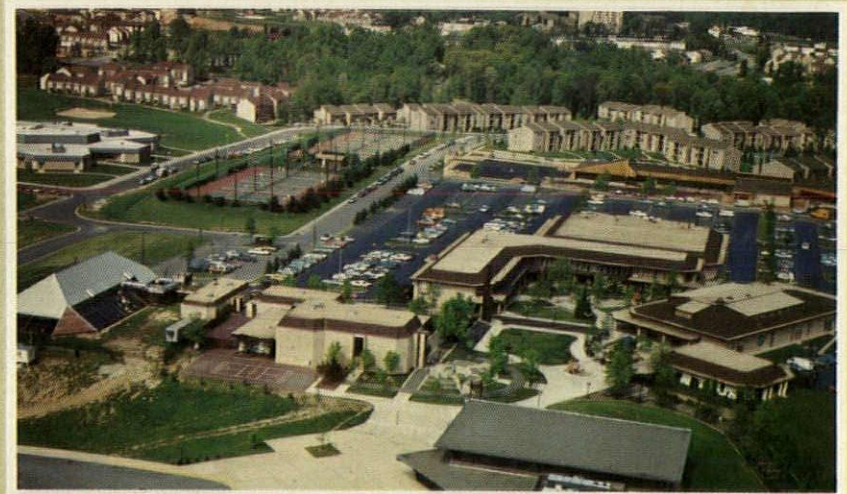
A few other merchants went bankrupt because of poor management, Sullivan believes. A recent example is a delicatessen owner who did not realize that her costs were more than 100% of her gross income. And then there was the restaurateur who insisted on presenting a formal, elegant ambiance to his informal, casual patrons.

However, the overall center has been so successful that The Rouse Co. decided the time was ripe for expansion. Some 20,000 sq. ft. of added retail space has been built on 2.6

Case in point 1: Wilde Lake Village Center

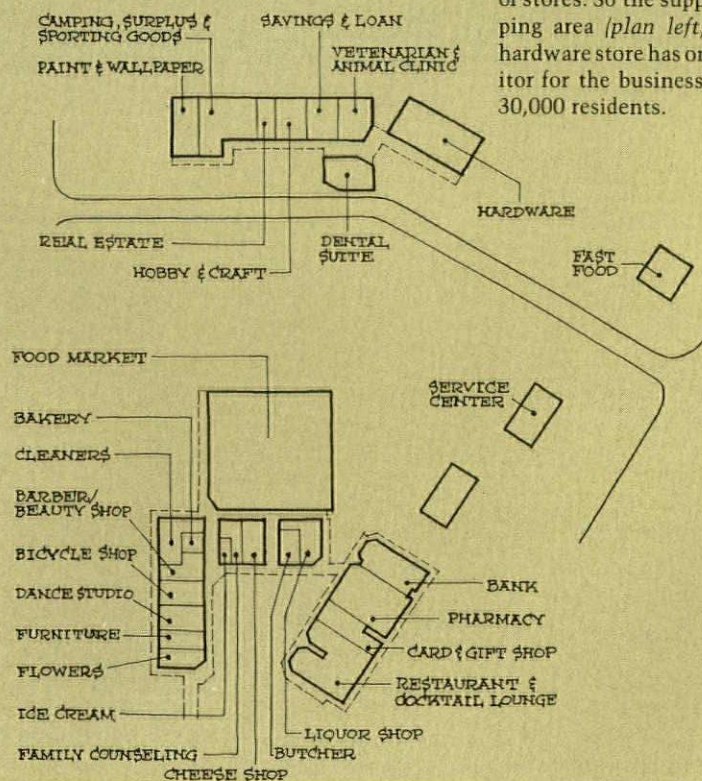


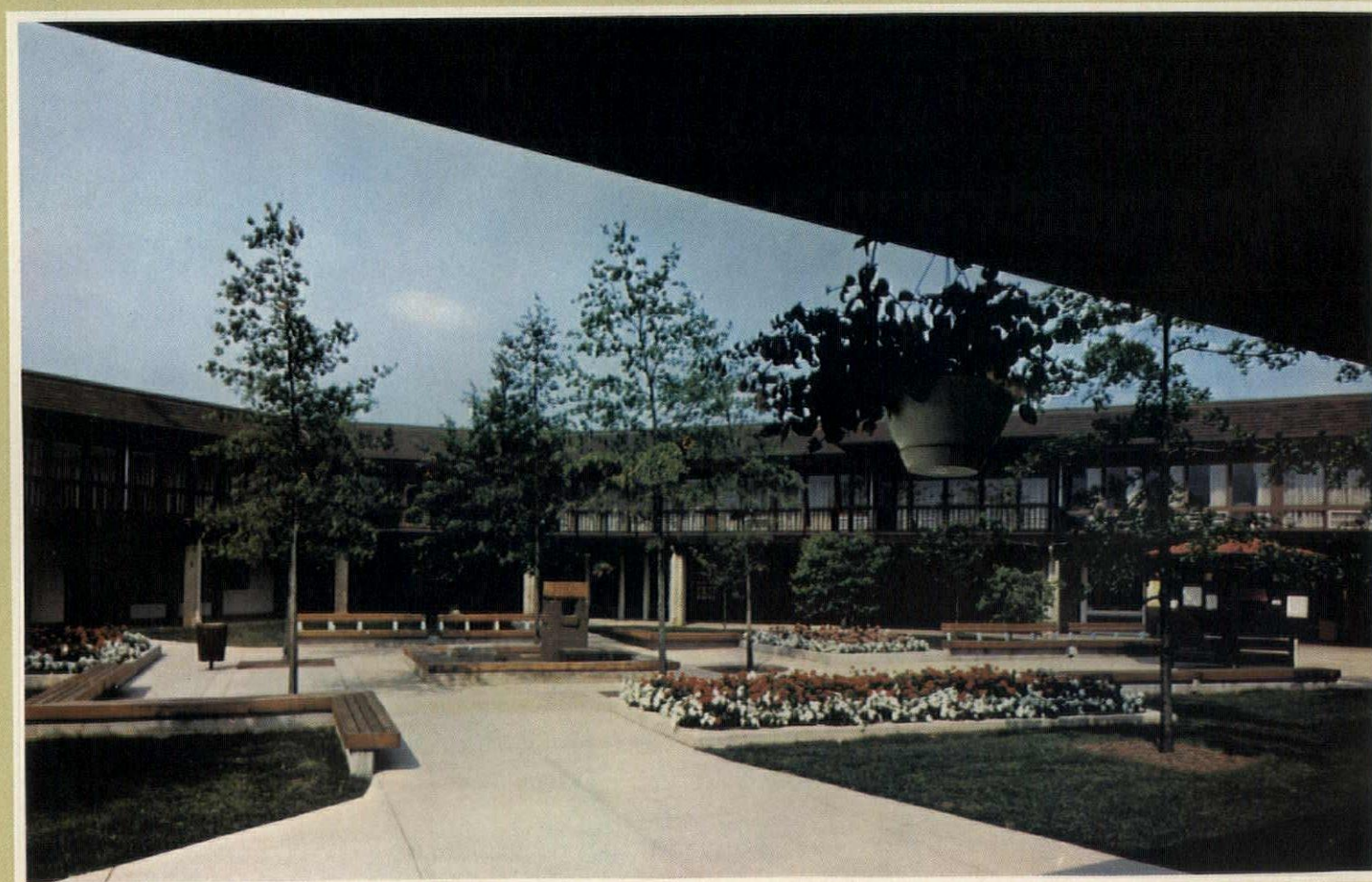
Shopping center courtyard (photos, facing page) is formed by two facing buildings—one L-shaped and the other straight. Office space is located above the ground-level shops. Site plan indicates the interrelationship of the shops and offices to the project's community facilities, shown in the aerial view below. They are, from right to left, the library, Interfaith Center, Community Building, indoor swimming pool and school. In the center of the photo is the 47,811 sq. ft. main shopping area; the new 20,000 sq. ft. supplemental center is behind it.



PHOTOS: MORTON TADDER

Basic shops—grocery, liquors, etc.—are located in the original shopping center (bottom in plan below) along with some specialty stores—cheese, bicycles, etc. As the village grew, demand developed for a broader mix of stores. So the supplemental shopping area (plan left) was built. Its hardware store has only one competitor for the business of Columbia's 30,000 residents.





acres which was being held for the time when a larger population could support a more varied mix of stores.

The new merchants again reflect the changing times of Columbia. A paint and wallpaper shop caters to the young couples who bought undecorated, stripped houses; a camping, surplus and sporting goods store serves the upsurge in outdoor family activities; a real estate office takes care of sales of new homes for small builders and re-sales of homes for families on the move; a hobby and craft shop offers its wares to youngsters and the elderly; a savings and loan complements the established bank; a veterinarian—Columbia's first—serves the ever-growing pet population. And there are two other free-standing buildings: a dental suite and the town's second hardware store.

Adjacent to the expanded center a nationwide fast-food chain bought land and erected its own building. "Business is booming for them," comments Sullivan, "primarily because people don't have to get out of their cars to order or eat. It's set up so that drive-in customers order through an intercom. Then they pick up their order and drive away. This generates much greater volume than an eat-in fast-food counter."

Wilde Lake's well established success is best shown in its original and current rent schedules. The first merchants in 1966 paid an average of about \$3 per sq. ft. against overages. New tenants generally pay more than \$5 per sq. ft. or overages.

A two-bay service station, a drive-in bank and 18,600 sq. ft. of offices over the stores also add to the center's income. The offices are fully occupied by businesses such as insurance agents and a taxi company.

Total parking for the nine-acre commercial site is 325 spaces. These spaces also serve people coming to the adjacent community facilities: an assembly hall, a bathhouse, a library and ten tennis courts.

The Interfaith Center is on a contiguous ten-acre site with 218 parking spaces. Also nearby are a high school and middle school.

Thus, within a one-quarter-mile radius, the residents of Wilde Lake have access to social, religious, commercial, cultural and educational facilities. Although everything is within walking distance, the convenience and habit of driving is very much in evidence.

Says an original resident: "I knew that the village center was going to be a success, when a year after it opened, I drove into the parking lot and couldn't find a space."

**Little or no profits:
It's something you may have
to live with for a few years**

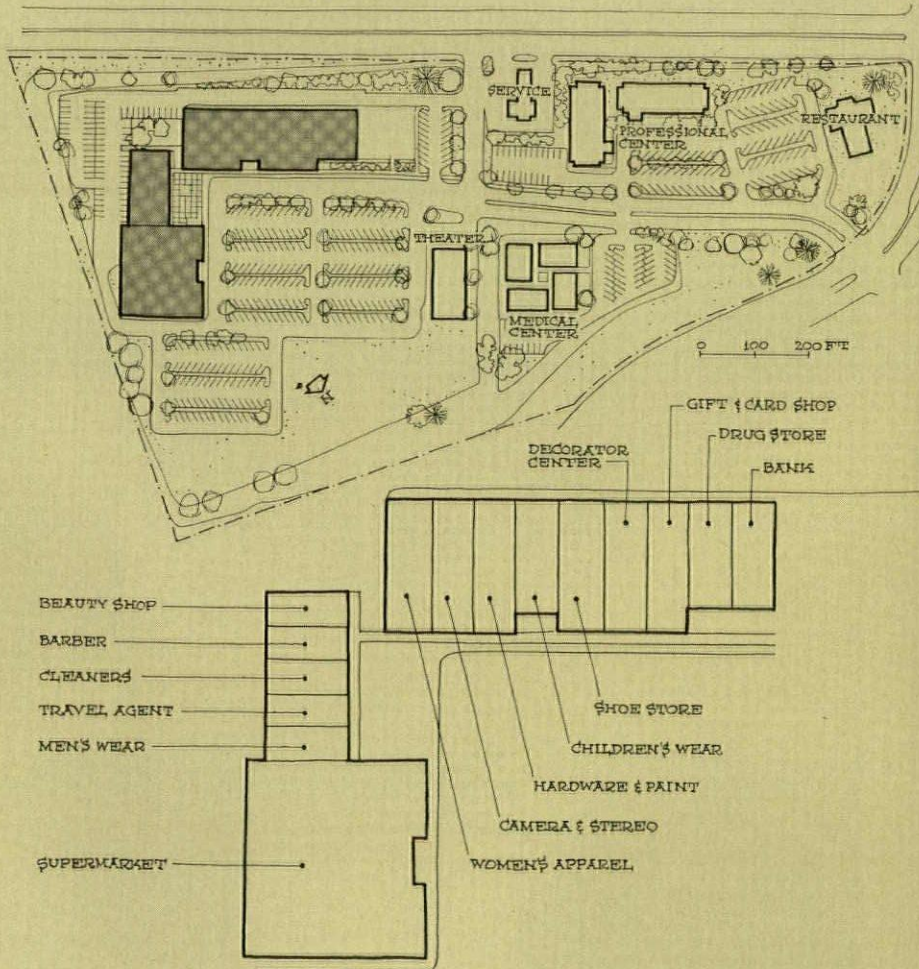
Case in point: Monarch Bay Plaza (photos, this page) which despite a good pre-leasing effort didn't show any profit for its first three years.

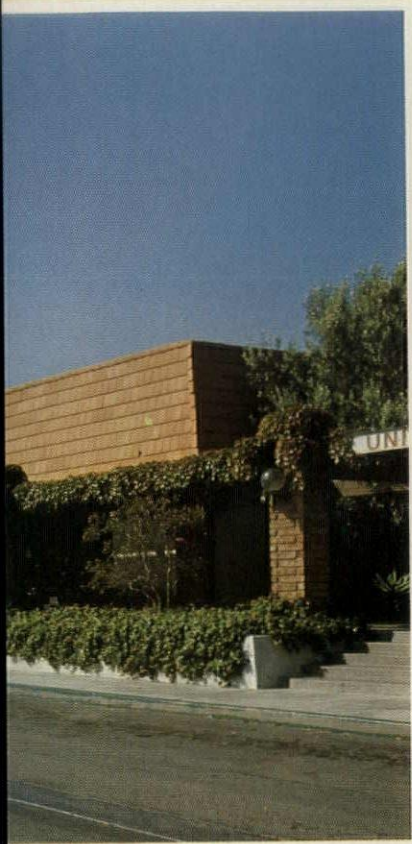
The shopping center was built to serve Laguna Niguel, a 7,000-acre planned coastal community located 55 miles south of Los Angeles. Its two Triple-A anchor tenants, a

PHOTOS: LAURSEN/MITCHELL INC.



Case in point 2: Monarch Bay Plaza





Entranceway to the shopping center bank (right) is at the end of a one-story L-shaped building containing 13 stores, which open out on the covered arcade (photos, above and below). At the other end of the L is a supermarket. These high traffic establishments encourage customers to walk past the specialty shops. Site plan, covering 21 acres, shows the variety of buildings that make the complex a mixed-use center. Counter to conventional practice, the rear of the center faces the main highway. This was done to shield patrons from strong winds.



bank and a supermarket, are located at each end of an L-shaped one-story building. In between are 13 retail shops.

In addition, there is a 500-seat movie theater, a 10,000-sq.-ft. medical building, 20,000 sq. ft. of office space and an 8,000 sq. ft. restaurant—all in free-standing buildings as shown on the site plan (*previous overleaf*).

"We had to build the shopping center to sell the houses," recalls Knowlton Fernald, vice president of Cabot, Cabot & Forbes, the firm that developed the center in 1966. "There was no decent shopping center for 10 or 12 miles, so we had to put in all the basic shops plus some specialty stores to cater to the affluent families settling in the area. The typical newcomer was 45 to 50 years old and making \$25,000 to \$40,000 a year."

Right from the beginning, Fernald says, the 30,000 sq. ft. supermarket did well because it was the best stocked grocery for miles. It also found favor because of a gourmet liquor section, complete bakery and a coffee shop that will cook steaks bought in the supermarket.

But some of the other shops didn't fare as well, Fernald says, because the surrounding population at the time was too small. And because the area was not yet established, well known and experienced merchants were reluctant to come into the center.

"It took more than two years to complete leasing," he said, "and for the first couple of years the shops were in and out of the red. One gift shop operated by an inexperienced man went under, as did a girl's clothing store. They were too specialized. The restaurant changed hands because food quality didn't measure up to the hefty prices."

Says Jeff Parks, assistant general manager of Avco Community Developers, which is currently developing Laguna Niguel: "The original merchants had to have good staying power. This is typical for all merchants in new shopping centers. The only thing that varies is the length of time they have to hang on."

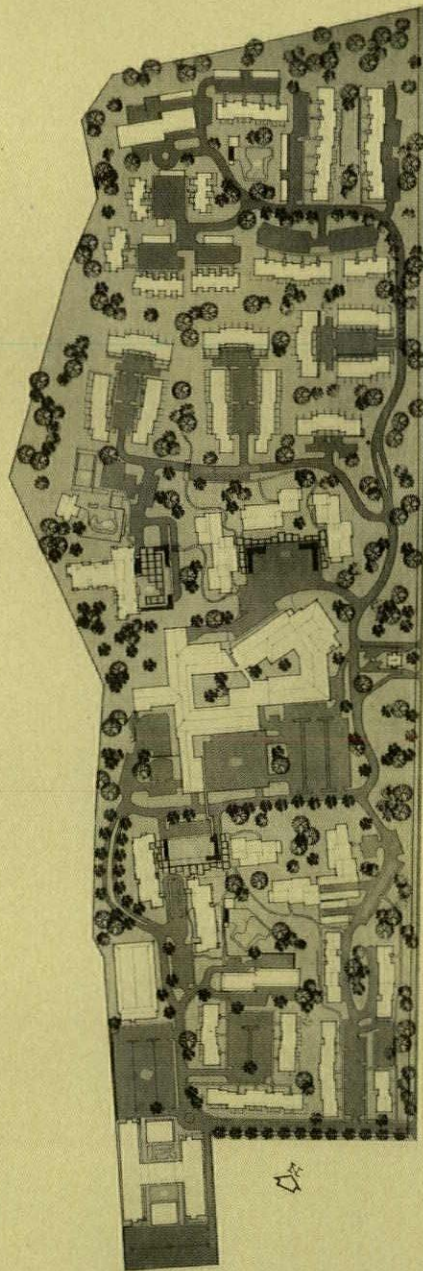
Some 82% of the center was pre-leased prior to construction: 60% of this was in 20-year leases to major tenants. Only 12,000 sq. ft. remained unrented during and after construction.

Despite the good pre-leasing effort, a combination of problems kept the center from making a profit for the first three years. To wit: some empty space, tenant turnover, postponed rents for failing tenants and low sales volume. However, in the original developer's view this was not serious inasmuch as the center's primary purpose was to help sell houses.

By 1969, population had built up to generate a sales volume sufficient for the center to move into the black. And today, with the continued influx of upper-middle- and upper-income families (who bought homes in the \$39,000 to \$150,000 range), the merchants are doing very well indeed. "Most of the rents are now far in excess of the minimum," says Parks. "The restaurant, particularly, is doing a land-office business."

Office rents average about \$5 per sq. ft. Retail rents range from \$3.60 to \$4.20 per sq.

Case in point 3: The Village Square at Cross Keys

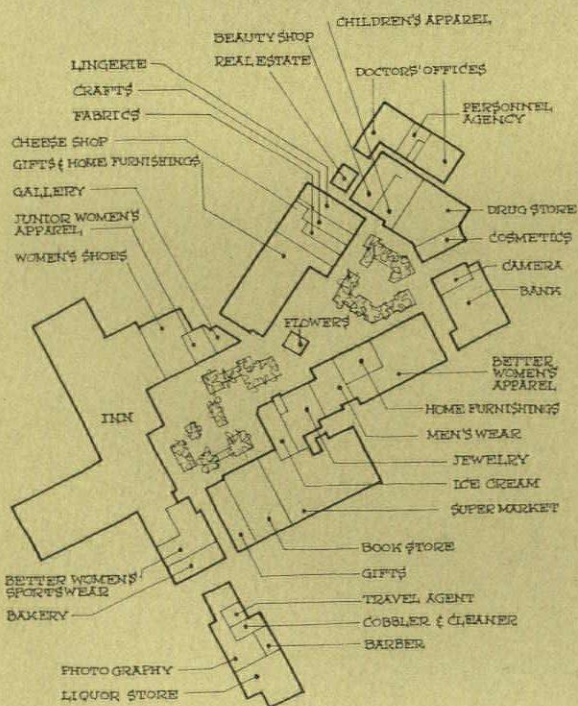


Shopping center, recently doubled in size to 60,000 sq. ft. of retail space, is the hub of the 72-acre PUD (*site plan*). Overall aerial view (*below*) indicates proximity of housing and good roads to the center. Inner court (*top photo, facing page*) is informal yet designed for prestige feeling. Expanded part of center (*middle of aerial view, facing page*) has two levels of decked parking built under the retail level, an office level and two hotel levels. There is also decked parking adjacent to the expanded center. Store plan (*facing page*) indicates wide variety of shops in the combined center.





PHOTOS: MORTON TADDER



ft. minimum or a graduated percentage of 5% to 10% of a merchant's gross volume—whichever is greater. So it's self-evident that the developer's greatest potential profits are to be found in the overages.

Obviously, timing the completion of a shopping center to coincide with the opening of a project's housing is very important. Which is another good reason for a pre-servicing program. Experienced shopping center developers agree that late leases can delay the construction schedule because of changes in areas like demising walls, the HVAC system, sprinklers, flooring loading, etc. As well as delaying construction, such changes increase costs to both tenant and developer.

Another thing, says Fernald: Spend your money where it shows. At Monarch Bay Plaza basic construction was as simple as possible—a one-story wood-frame shell. Most of the building's cost went into a tile facade and the center's arcade. Total cost for the 63,450 sq. ft. main building: \$780,730, the 6,150 sq. ft. theater: \$107,000, the 1,189 sq. ft. gas station: \$61,891.

Fernald estimates that these 1966 costs would be at least 50% to 100% higher today. Other outlays for the center: architecture and engineering—\$89,177; signs and graphics—\$16,000; site preparation, paving and parking (230,000 sq. ft. for 327 cars)—\$262,085; landscaping and lighting—\$106,476; leasing commissions—\$60,000; construction loan interest—\$70,000; legal fees—\$40,000; and 15 acres of land—\$750,000, not including the office site.

Current operation and maintenance is trouble-free, says Fred Barbour, a real estate professional who managed the center for a year. "In fact, everything runs so well that I bowed out of the picture. There really wasn't enough to keep me busy. A full-time gardener/maintenance man takes care of the extensive landscaping and minor exterior repairs. That's all the center needs now that it's fully leased up and a solid success for the merchants and the owner."

Is pre-servicing always painful? Not if your location is right

And at The Village Square just right meant 1) a well established and affluent surrounding neighborhood, 2) no competing center within four miles and 3) good access to two freeways.

The 30,000 sq. ft. center is part of the Village of Cross Keys, a 72-acre PUD in Baltimore which, when completed (it's about 75% done now), will house some 2,000 people in a variety of condominium and rental townhouses and garden, mid-rise and high-rise apartments.

"This wasn't the typical project site," says Douglas Godine, vice president of the Rouse Co. which is developing Cross Keys (as well as Wilde Lake Village in Columbia). "It's built on the site of a former country club, and there were 360,000 people with way-

above-average incomes living within a ten minute drive."

So the 30,000 sq. ft. retail center plus 38,000 sq. ft. of office space were started simultaneously with several hundred housing units. Rouse Co. planners had decided that 1) the nearby population base would ease much of the pre-servicing problems, and 2) that by including tenants who featured luxury prestige merchandise, the center would appeal even more to the nearby affluent community.

It worked. With seven basic merchants and eight specialty shops, the center was in the black by the second year. Notes John Seyffert, the project's development director: "This is remarkably fast for a new center."

Indeed, the original project has been so successful that the Rouse Co. has just built a 150-room inn and 36,700 sq. ft. more office space on top of 30,000 sq. ft. of new retail area. The retail space formally opens this month.

Right from the beginning the supermarket was in the black. Says Seyffert: "We had a drugstore, bank, bakery, barber, hair dresser, liquor store and specialty shops. The Cross Keys residents alone could not, and cannot today, support the center. It's residents from the surrounding area that make the difference."

"Getting the right mix of merchants in this location was certainly important," Godine says. "But just as important was bringing in specialty merchants who offered something new and different to the luxury market. We looked long and hard throughout the Baltimore area for local quality merchants who would fill gaps and satisfy an existing need." Examples: a gourmet cheese shop, a couturier salon, art gallery and top-of-the-line book store.

"These stores, and others, didn't have to directly compete with somebody down the road—and this is the heart of the center's long-term success," says Godine.

The key measure of that success: The original rents in 1965 averaged \$6 per sq. ft. against 5% to 10% of total gross volume. Today's average rent, which is well above the national average, is \$8.73 per sq. ft. against the same percentages.

The expanded center has 800 parking spaces, against only 280 in the original center. "The original ratio of parking space to retail space was too low because shoppers liked the center so much that they stayed longer than is usual in centers of comparable size," says John Prentiss, who worked on the Cross Keys' expansion and is now a partner in Prentiss/Little, shopping center consultants. "So we increased the ratio when we expanded."

To maintain open land area, two levels of parking have been built beneath the expanded center. In addition, one parking deck will provide spaces two levels below grade and one above. So, for the estimated 6,000 people who will pass through The Village Square each day, there is a total of 800 spaces. (There is additional parking for 1,100 full-time employees, most of whom work in the 180,000 sq. ft. of office space.

Will this be sufficient? "We sure think so," says Seyffert, "But we won't know for sure until the expanded retail area opens this month."

In retrospect, Prentiss recalls several tangential lessons from the Cross Keys expansion program that could prove valuable to any developer starting from scratch.

- Set up a realistic rent schedule that provides minimum, median and maximum base rents for each location. These amounts should be 50¢ to \$1 per sq. ft. above the break-even point so that the developer does not have to depend on percentage rents to make a profit. It probably will be necessary to adjust the schedule downward in the beginning to speed leasing. But as a center nears completion, rents should harden. The value of a flexible schedule: The developer can use a lower figure to lure a particularly prime tenant into the center. But there is one caveat. Under no circumstances, says Prentiss, should deals be made below the original schedule until it's certain that total average rents will cover financing costs.

- Have leases prepared by a lawyer who is well versed in the special requirements of shopping centers. A typical shopping center lease runs 40 to 60 pages. Says Prentiss, if you make any errors, you'll have to live with them a long time—perhaps 10, 15 or even 20 years. And if you expect to sell the center, prospective buyers will walk away from a deal if they find leases that strongly favor the tenants.

- Keep away from exclusives. There's no reason, says Prentiss, why a solid project can't support more than one tenant in similar businesses. And if you give out an exclusive early in your leasing program—say just to get the leasing program going—there's a good chance you'll lose out on an excellent tenant later on.

- Let one man ride herd on the whole program. Management by committee, says Prentiss, tends to increase costs and waste time since committee members usually wind up with overlapping responsibilities. So let one top executive oversee design, construction and leasing of the project. This also can help eliminate confusion among tenants, each of whom will have his own ideas on location, decor, lighting, parking spaces, etc.

- Don't skimp on costs when you're looking for prestige. Typical shopping center construction costs of \$25 to \$35 per sq. ft. can rise sharply when you add items like vaulted ceilings and immense expanses of polished wood, says Prentiss. But you'll recoup that extra money if you're in an area that can support the extra outlays required of a more-than-conventional center.

—MICHAEL J. ROBINSON

Should you have a shopping center in your project?

Here Alfred Gobar, marketing consultant and commercial development specialist, spells out the general guidelines for 1) making the go/no-go decision, and 2) implementing the center if the answer is go. The guidelines, Gobar says, can be expressed in the answers to four basic questions.

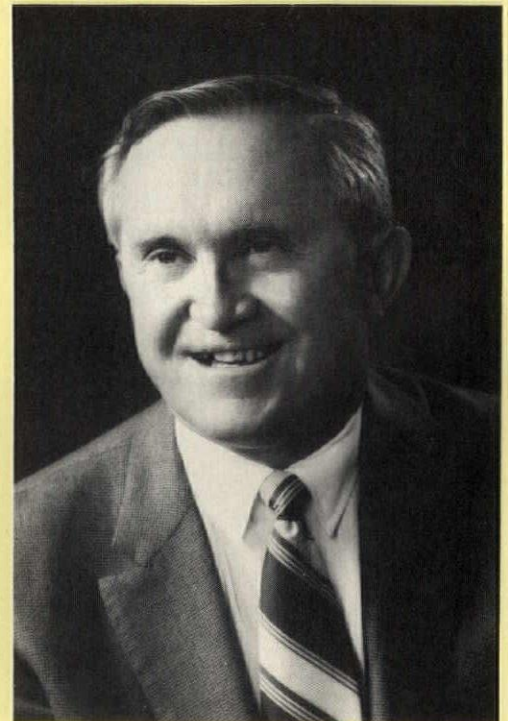
1. What population base can your center draw on?

If the answer is that you can count on 12,000 or more people either living in the project or within a two-mile radius of it, and if there are no competing centers already within that area, you'll probably be able to set up a successful center. For 12,000 is the magic number you need to support a supermarket, the prime store which anchors the center and draws traffic for other shops.

Actually, the number of shoppers required to support a supermarket of 20,000 sq. ft. or so is only about 4,000. But any supermarket will suffer from what is called market segmentation; that is, only about one shopper out of every three will want to shop at a particular chain—A&P, Finast, etc.—while the others will drive considerable distances to reach another kind of market. So you have to multiply the 4,000 shoppers by three to arrive at a realistic population base that a supermarket needs to operate profitably.

Two other terms are often used to describe market segmentation. One is leakage; the other is market penetration, which means the inverse of segmentation—i.e., the proportion of the market a store will capture.

Of course, 12,000 is not the magic number for all types of stores. Many need far fewer customers and also suffer from much less segmentation; a population base of 2,000 may be adequate for them. On the other



Alfred Gobar is president of Darley/Gobar Associates of Fullerton, Calif. His firm is a consultant in economics, real estate and marketing, and for many years has specialized in residential and commercial development.

hand, many stores—especially specialty shops—need as many as 60,000 people, or a small city, to support them.

2. Where should you locate your shopping center?

There are two basic choices, put it in the middle of the project, or out on the edge. There are advantages and drawbacks to each. Specifically:

Putting the center in the middle of the project gives it maximum accessibility from all parts of the project and goes a long way towards creating a captive market. If the project is a very big one which can supply an adequate population base by itself, this is often the best location. On the debit side, unless the center is built at the same time as the surrounding residential units, which creates the problems of pre-servicing, the noise and dirt of later construction may prove very disturbing to residents and hurt referral sales.

Putting the center on the edge of the project allows it to be built with less disturbance and also makes it more accessible to potential customers from outside the project. But this location will lose much of the captive-market advantages of the mid-project center.

And it will also make it harder for the center to borrow, so to speak, the environment of a well designed, well landscaped project.

There are other caveats for the edge location. Natural or artificial barriers such as waterways, freeways or railroads may cut off part of the potential outside market you're counting on. A competing center within the crucial two-mile radius will also cut down your market more than for an inside center. And you've got to have the right amount of traffic flow on the road fronting the site—roughly 30,000 cars in a 24-hour period. Much less won't bring in enough drive-by customers; much more will create traffic problems that could keep prospective shoppers from turning in.

3. How big should your shopping center site be?

Probably much smaller than you think. As a group, developers tend to overreach themselves both as to the size of the site and the number of shops relative to the population base.

In terms of area, the site size should not exceed two or three per cent of the project's total acreage unless there are 6,000 acres or more. And then it should cover only 5%.

In terms of capitalized value, the shopping center should represent no more than 11% of the total land value. (This can rise to 18% if the project has 6,000 acres or more.) Another method of measuring capitalized value is to determine the number of households (not residents) within the two-mile radius and multiply that figure by the amount of capital investment in retail facilities that each household can support (\$2,000 is a conservative figure). The result will be the total investment that should be made in the shopping center.

4. What stores and services should you put in your center?

This is a very iffy question. It depends on such factors as the population base, the degree of affluence of potential shoppers, the eventual size of your project, and the location vis-a-vis other centers.

But assuming that 1) the eventual population base, including both the project and surrounding households, is in excess of 12,000 people; 2) there are no other major shopping centers close by; and 3) the project's price or rental range can be classified as moderate, the rules of thumb listed below will be reasonably accurate.

Rules of thumb: Shops that will, might and won't work

These are the best bets for your shopping center.

Food stores are your no. 1 tenants. Their population threshold is relatively low, and while market segmentation is high, it's not as high as for many other kinds of stores.

Try to let the demand for a food store mature to the point where you can put in a good-sized one—a supermarket with at least 20,000 sq. ft. of space.

If you do have a supermarket, there are two additional aspects that you might consider:

1) The demand for specialty food shops—bakeries, delicatessens, etc.—is very high, particularly in upper-income projects. Such shops can either be sub-tenants of the supermarket or satellite stores to the supermarket.

2) In many new houses, particularly multifamily units, space for food freezers is likely to be inadequate or non-existent. So cold-storage lockers could prove a profitable shopping-center use.

It's important that the supermarket match the socio-demographic profile of your tenants or buyers. For example, don't go in with a super-discount store when the median income of the surrounding residents is \$20,000 and you're selling \$45,000 units.

Drug stores will do well. And if your center is large enough for a supermarket it's large enough for a drug store. They will compete

somewhat and battle a bit about who's going to do what, but they're really compatible.

Market penetration is very high in drug stores because people are primarily interested in convenience, and they won't go out of their way to use a particular pharmacist.

Liquor stores are so good that you should keep them for yourself. Market penetration is very high since all stores carry basically the same brands. And it doesn't take very many people to support a liquor store.

Restaurants and taverns can be very good prospects for a center. The location of a restaurant is somewhat irrelevant, because people will travel quite a long distance to eat really good food. So a really good restaurant can act as a magnet to draw people to your center, and to your project.

Laundries and dry cleaners should do very well if they are run halfway intelligently. They have a very low population threshold, very little market fragmentation and are very much a convenience operation.

Beauty and barber shops are also good services for your center. They will have somewhat more leakage than laundry and dry-cleaning shops because people are more selective as to their barbers or beauticians. But it doesn't take very many people to support

either a beauty or barber shop.

Repair shops are very good tenants—if you can get them. Everybody has a lot of appliances that keep going on the fritz—TV sets especially. The main problem is finding somebody to run a good repair service.

These could be good bets if your project is the right type.

Real-estate offices can be worth considering, partly to handle the resale market that every new project has, and partly for psychological reasons; people will be more apt to buy if they have this evidence that there really is a resale market.

Bank branches can be very good. Bankers are rapidly catching on to the value of convenience as a good marketing tool. So in states where branches are permitted, banks are on the lookout for new locations. Adult communities are especially good because older people tend to be heavy savers, and they like being able to look down the street to see where their money is.

Accounting offices are possibilities. Often a local resident has a nice little accounting practice but doesn't want to make a long trip to work every day. He does most of his work either by phone or in his clients' offices. So

there's no reason not to have an office within walking distance of his home.

Nurseries can sometimes make sense in fee-simple projects in the higher price range, because some people like to put a lot of money into landscaping. But in condominium projects where an association handles landscaping, nurseries wouldn't be a very safe bet.

Travel agencies can do well if the project is for retired or semi-retired and generally affluent buyers—the kind of people who travel a lot. Travel agencies operate on a pretty high margin, and there isn't very much market segmentation since they're all selling the same product.

These are almost sure to be bad bets.

Women's apparel stores are almost certain to go broke—again and again. Usually an apparel store is started by a woman who stocks and sells the kind of clothes she likes. The trouble is, almost no one else has the same taste. So she runs out of money and closes up. And another woman says, "Oh, I know what she did wrong," and takes the store over. Pretty soon she goes broke too. The problem is that no store can possibly carry a big enough inventory to appeal to a sufficiently broad segment of the market.

Sporting-goods stores tend to go broke just as fast as the apparel stores. The sporting-goods proprietor is usually a man who likes to hunt and fish. So he quits his job, mortgages his house and starts a sports shop. But he doesn't know what he's doing; the demand for sports equipment isn't very great, and what little there is is met by general merchandise stores. So he goes broke.

Book stores are probably losers, chiefly because the necessary population base is too high. But you might make some space available, because that woman who just went broke in the apparel store may want to try again as a bookseller.

Furniture and home-furnishing stores can't make it in most new projects, and you shouldn't let them try. Because they're big stores, and when they fail they leave a big gap which can hurt the image of both the center and the project.

The problem is that while there's fairly high demand for home furnishing as people move into the project, for the next few years the demand will be near zero. Then you may get an upswing, but by that time the store will have failed.

Moreover, market penetration is very low because people will travel considerable distances to find furniture styles they want.

Camera stores don't do well. The population

The numbers you need to know

Here is a summary of Gobar's shopping center studies. Population base refers to the number of actual customers each store or service requires for its support. Market penetration is each one's relative ability to withstand competition; a store with low penetration needs a greater number of residents in the area than one with the same population base and high penetration.

Store or service	Population base	Market penetration	Rental revenue potential	Typical size (square feet)
Food stores	4,000	low	low	20,000
Drug stores	9,000	high	medium	5,400
Liquor stores	3,100	high	high	2,000
Restaurants and taverns	varies	low	high	3,300
Laundries (coin-operated)	12,400 ¹	high	low	1,600
Dry cleaners	3,000	high	low	1,300
Beauty shops	2,100	high	medium	1,200
Barber shops	3,300	high	medium	750
TV repair	5,300	medium	low	1,400
Real-estate offices	n/a	high	high	1,000
Branch banks	4,500	low	high	4,000
Accounting offices	n/a	n/a	n/a	n/a
Nurseries	16,200	high	medium	1,300
Travel agencies	varies	high	high	800
Women's apparel stores	6,000	low	medium	2,500
Sporting-goods stores	18,000	medium	medium	n/a
Books and stationery	6,500	low	medium	2,000
Furniture and home furnishings stores	6,200	low	medium	10,200
Camera stores	55,100	medium	medium	2,000
Automotive service stations	2,800	low	high	varies
Hardware, paint and building supply stores	8,700	medium	medium	5,700
Convention hotels	2	varies	n/a	varies
Bowling alleys and billiard parlors	3	3	3	3
Doctors' offices	1,000	low	high	1,000
Legal offices	6,000	low	high	800
Stock-brokerage offices	15,000	low	high	800

n/a available

¹ Figure is very approximate, depending on whether residents have their own machines.

² Not applicable; does not depend on residential population.

³ Current figures not available—popularity is declining rapidly.

base to support them is much too high (it probably takes 55,000 people to support a full fledged camera store). Film processing can be done by the drug store, or you might consider a Fotomat-type of tenant.

Automotive service stations are difficult to justify. Market penetration is low because there are so many brands and so much brand loyalty. Also, people have almost as strong feelings about their auto repairman as they do about their doctors, so they won't necessarily go to the nearest shop.

If you do get a service station, insist that its decor blend in with the rest of the center. People don't need huge signs and flashing lights to tell them where the gas pumps are.

Hardware, paint and building-supply stores are usually marginal in any new community, and particularly so in condominium projects. Almost all the housing will be built at about the same time, so repairs and redecorating will be a peak-and-valley situation. And in a condominium project chances are the exterior maintenance will be handled by the condominium association.

Convention hotels are seldom good bets for new projects. They're very tempting because they give the project a good image; and if the project is a long way out of town, a hotel seems like a good place to put up people while you're persuading them to put down their money.

But there's seldom a real, logical reason for

having a hotel facility. Few people want to stay in a hotel in a residential area; about 30% of all travelers are business travelers, about 30% are conventioners, and they all want to be downtown where the action is. That leaves about 40% who are tourists. And unless you have a project with a strong resort and recreation orientation, the probabilities are that you won't have a successful hotel.

Bowling alleys and billiard parlors are becoming passé. You'd be much better off putting your money into some sort of recreational facility like tennis.

Doctors' offices probably won't work out. Doctors want their offices either near their homes or near the hospital, and the typical new project fulfills neither of these requirements. Also, it's important for doctors to be near other doctors and to clinics and labs.

The exceptions may be projects for older residents, where there is a sufficiently high concentration of potential patients to make it worth while for a doctor to have an office in the area.

Legal offices have similar drawbacks. The majority of lawyers want to work near the courthouse, which means downtown.

Stock-brokerage offices are very doubtful. It takes a great many people to support a broker, and most of the people who move into a new project will prefer to stay with the broker they have. This isn't difficult since most transactions are made by phone. ■

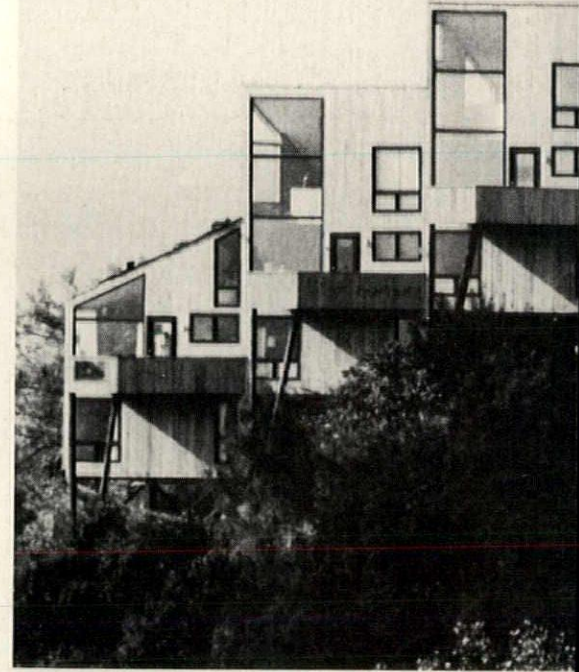


multifamily winners...

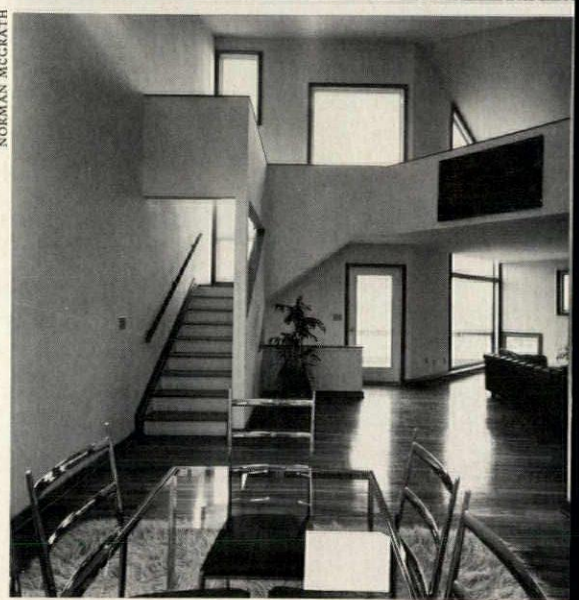
... in the 1973 Homes for Better Living Awards Program* represent the best of 175 entries in the program's multifamily category. Shown at right and on the following 12 pages, these winners include luxury and subsidy projects and primary and secondary housing. Geographically they represent both coasts as well as the mid-section of the country. Perhaps most interestingly, the only rental winners are two government-sponsored projects; the others are condominiums—a further indication of the continued growth in this segment of the multifamily market [H & H, April '72].

In selecting winners the following criteria were used: overall land use; siting of units, parking and common facilities; floor plans; use of materials. For subsidy entries economic strictures imposed by this type of housing also were considered.

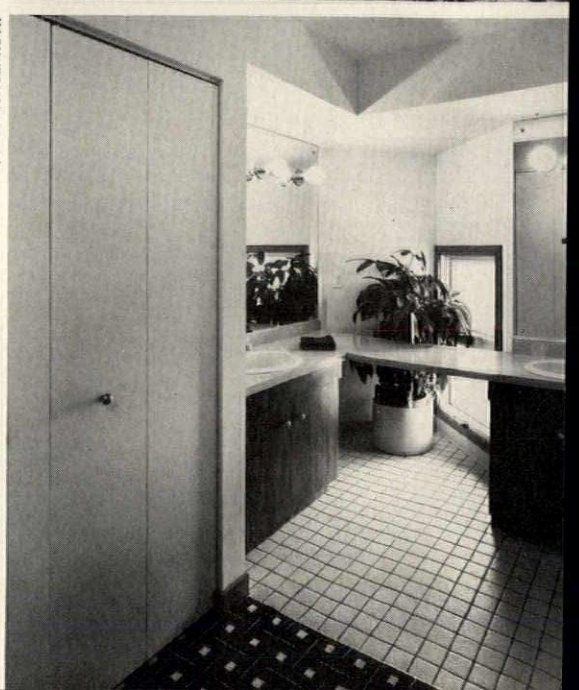
RON SHULLER



NORMAN MCCRATH



JERRY MORGENTHAU



Claude Oakland, AIA
Chairman
San Francisco, Calif.



PHOTOS: WILLIAM BEHR

Gerson Bakar
Builder
San Francisco, Calif.



June R. Vollman
Associate Editor
HOUSE & HOME



THE JURY



Barry L. Donaldson
Architectural student
University of Kentucky
Lexington, Ky.



Don L. Stull, AIA
Boston, Mass.



Stanley Tigerman, FAIA
Chicago, Ill.



Nick Pappas, AIA
Washington, D.C.

*Winners were chosen in a two-day session at the headquarters of the American Institute of Architects, which sponsors the program in cooperation with HOUSE & HOME and American Home magazines. For custom-house winners, see HOUSE & HOME, May 1972.



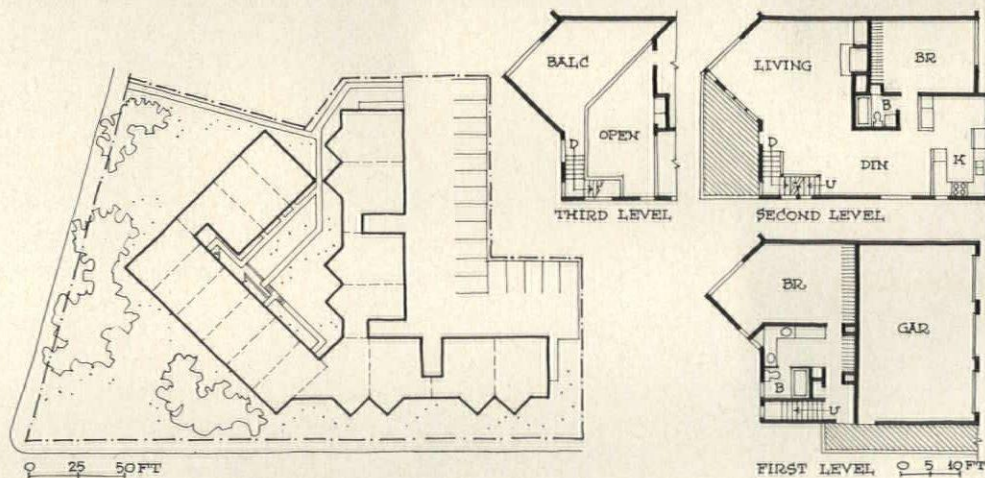
FIRST HONOR AWARD

ARCHITECT: *Hardy Holzman
Pfeiffer Associates*
 BUILDER: *Towne Properties*
 OWNER-DEVELOPER: *Towne Properties
& Irwin Management Co.*
 NAME: *The Cloisters*
 LOCATION: *Cincinnati, Ohio*

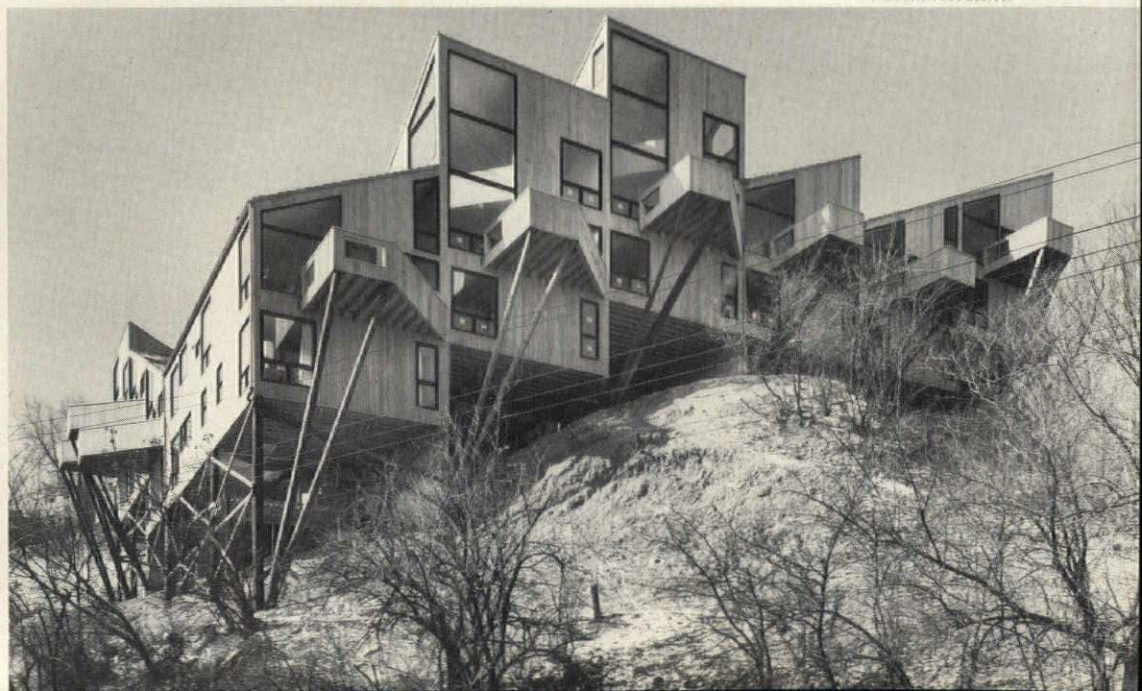
This 17-unit condominium was first cited by HOUSE & HOME in May 1971 as an example of how to handle a difficult site. Its location—a high-income area overlooking the Ohio River and Kentucky countryside—was ideal for an upper-income project. But the nature of the 1.4-acre site—precipitous, odd-shaped and constricted—posed obvious design problems. Here's how these were solved:

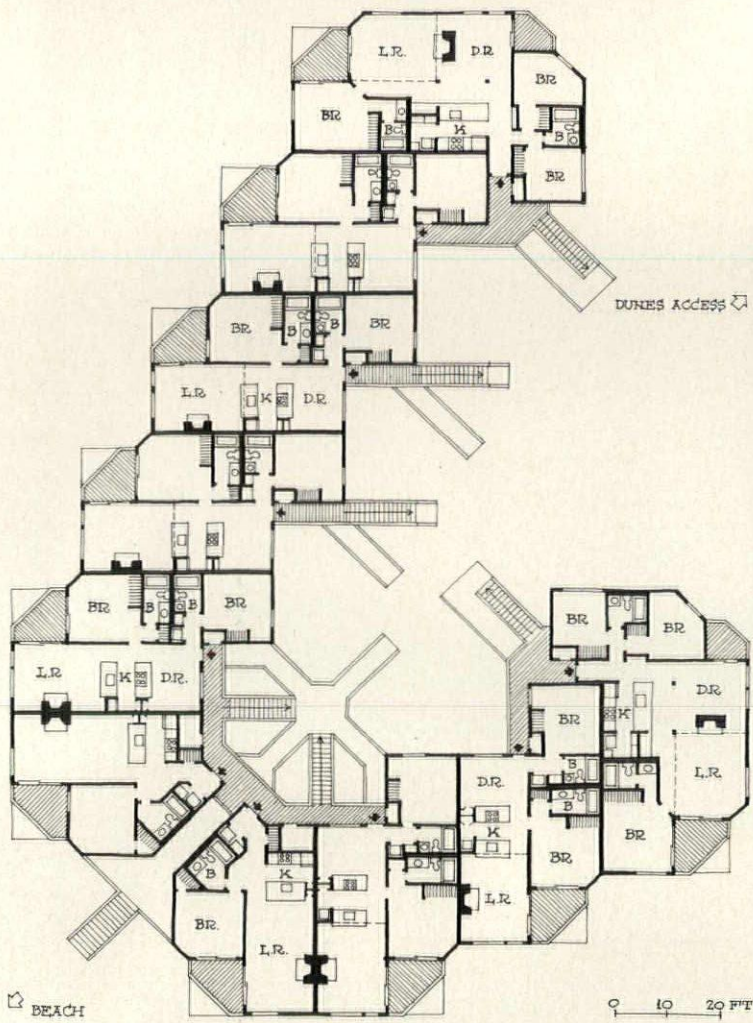
1. A foundation of concrete piers was sunk into limestone and tied together at the top with concrete grade beams. This rigid frame supports a pole structure built up to the floor levels of each unit (*photos above and right*).

2. Two basic townhouse layouts were created—A units (*plans at far right and photos at left*) for the site's flat area and B units (*not shown*) stepping down the hillside. In the latter, bedrooms are on the lower level and living areas are on the second level and there is a third-level balcony that looks down into the living area. Parking for B units, at the top level of the site, is reached via a glass-enclosed elevator. Average price for the 17 condominium units was \$64,000.



NORMAN MCGRATH







 **FIRST HONOR
AWARD**

ARCHITECT: *Frank L. Hope & Associates*
 BUILDER: *Williams & Burrows Inc.*
 OWNER-DEVELOPER: *Weyerhaeuser
 Venture Co. & Hare Brewer & Kelley Inc.*
 NAME: *Shorebirds Condominiums*
 LOCATION: *Watsonville, Calif.*

As the site plan at left shows, this oceanfront project exemplifies good cluster orientation, excellent siting, parking that works with the land and commendably low land coverage (20%).

For example: V-shaped building clusters occupy the dune-crested, oceanfront portion of the 47-acre site. They are oriented so that each of the 312 units looks out on the water and also has a view of an agricultural valley that stretches to the rear of the development.

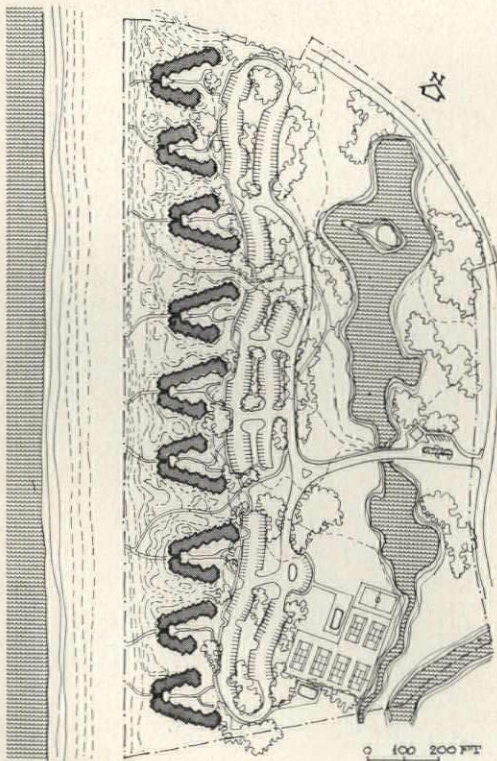
Parking areas on the flatter portion of the site are convenient to—but relatively isolated from—the units themselves; there is virtually no intrusion of vehicles into the

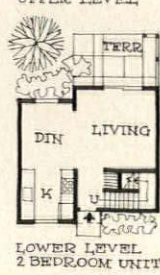
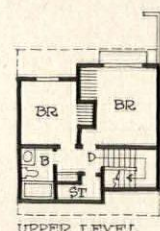
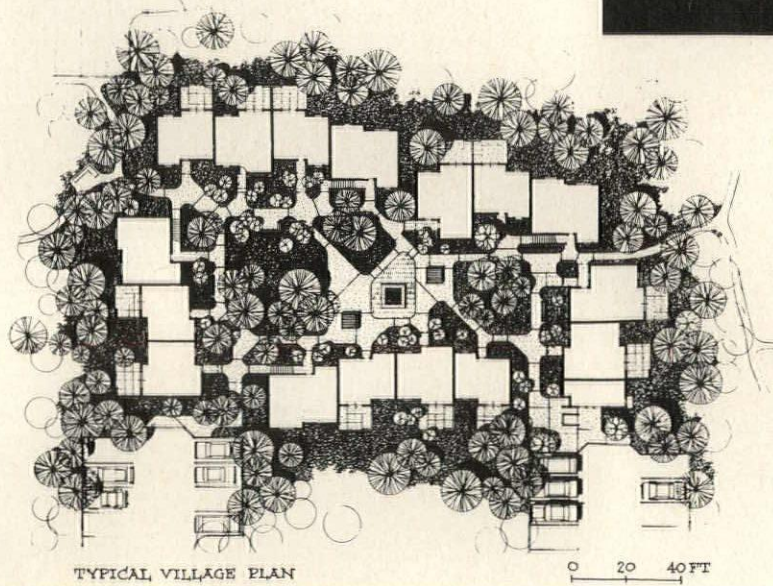
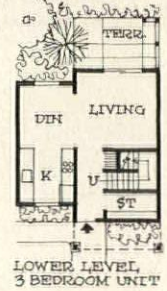
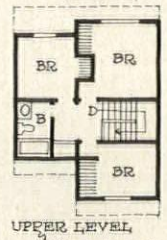
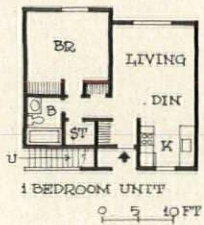
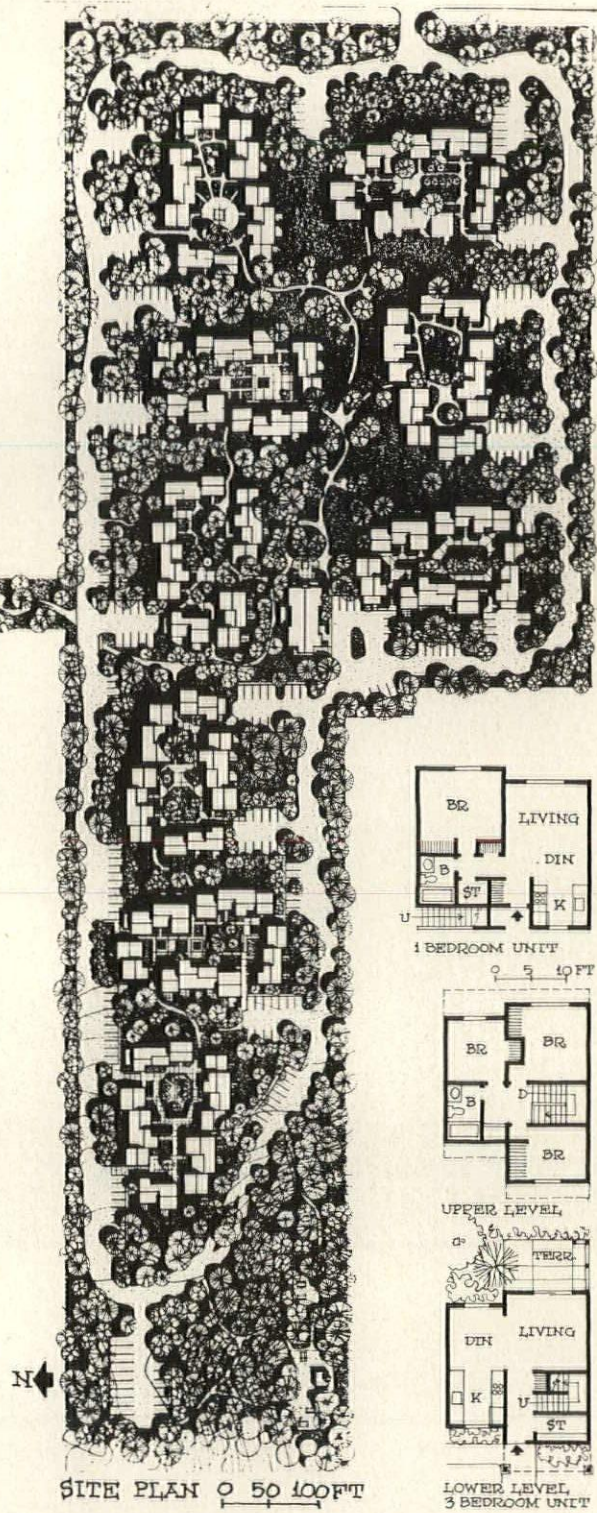
residential area. These parking areas also serve as a buffer zone between the units and the extensive recreation facilities that make up the balance of the second-home community.

These latter facilities were planned to appeal to a broad market. There are ten tennis courts, lawn-game areas, bicycle paths, a large lagoon for boating, a wild-life preserve and a community recreation building.

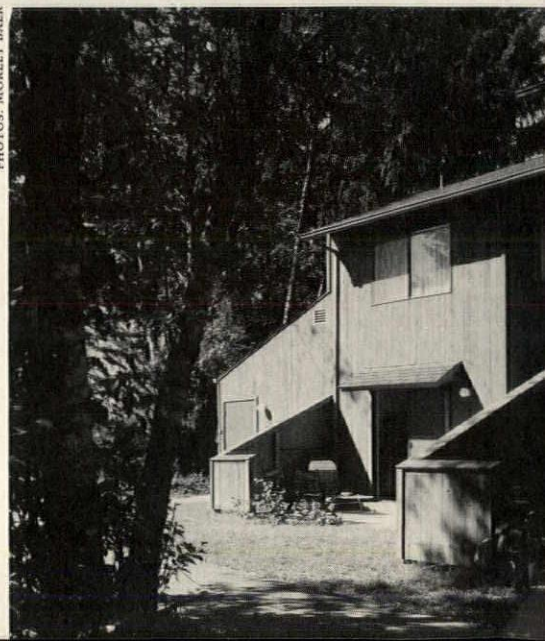
A series of boardwalks tie the beach, buildings and parking and recreation areas together. Other boardwalks, together with bridges and stairs, provide access to each unit (*photos, left*).

Unit mix consists of one-, two- and three-bedroom condominiums ranging in size from 900 to 1,400 sq. ft. Prices were \$39,500 to \$43,500.





PHOTOS: MORLEY BAER





FIRST HONOR AWARD

ARCHITECT: *Robert Billsbrough Price, FAIA*
BUILDER: *Contractors Inc.*
OWNER: *Conifer Co.*
NAME: *Evergreen Villages*
LOCATION: *Olympia, Wash.*

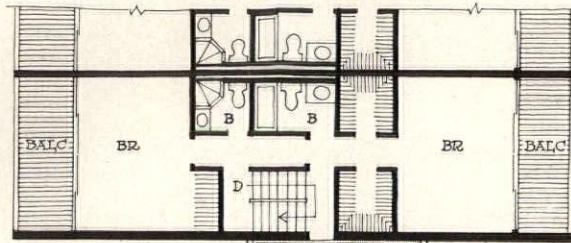
This FHA sec. 236 development is broken up into nine village-like communities. Each faces inward on planted and paved courts, the latter serving as play areas where the activities of pre-school children can be easily watched from inside the units. The result is

a series of small neighborhoods (*bottom site plan, facing page*) connected by a pedestrian pathway that runs throughout the 18-acre site (*upper plan*). Automobiles are confined to the periphery of the site and parking is grouped in small bays, hidden by the trees, but convenient to each group of units.

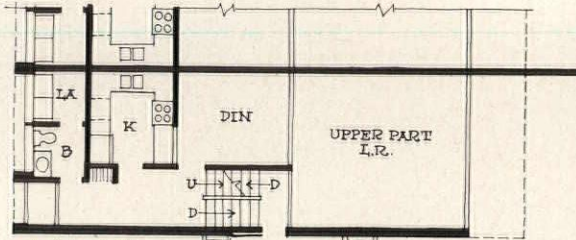
To create visual interest within the project, each interior court was designed in a different manner. And each of the nine villages, while identical as to unit mix, was altered to conform to existing terrain and trees so that there is a diversity of roof lines, offsets and general configuration throughout.

The 180-unit project contains one-, two-,

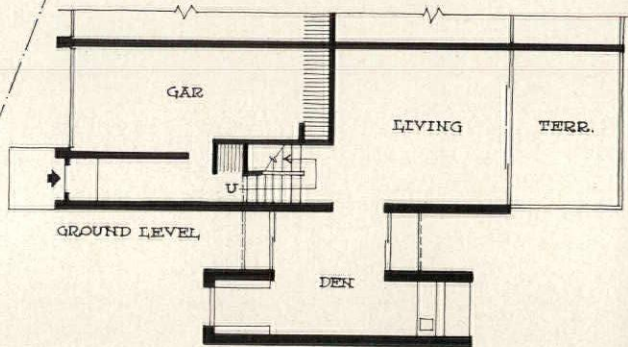
three- and four-bedroom apartments, all in two-story buildings. Square footage runs from 540 to 1,050 and rents range from \$98 to \$145. All units, other than those with one bedroom, have private, paved patios. Each cluster has its own laundry and service facility and there is a central community building for project-wide activities.



SECOND LEVEL

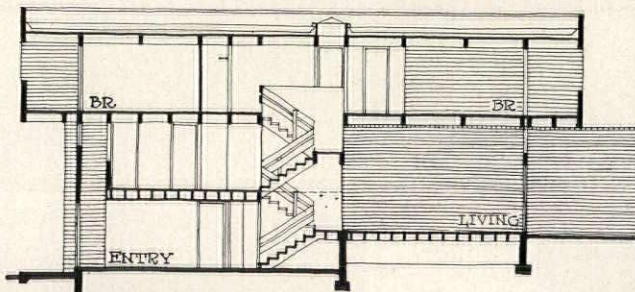


FIRST LEVEL

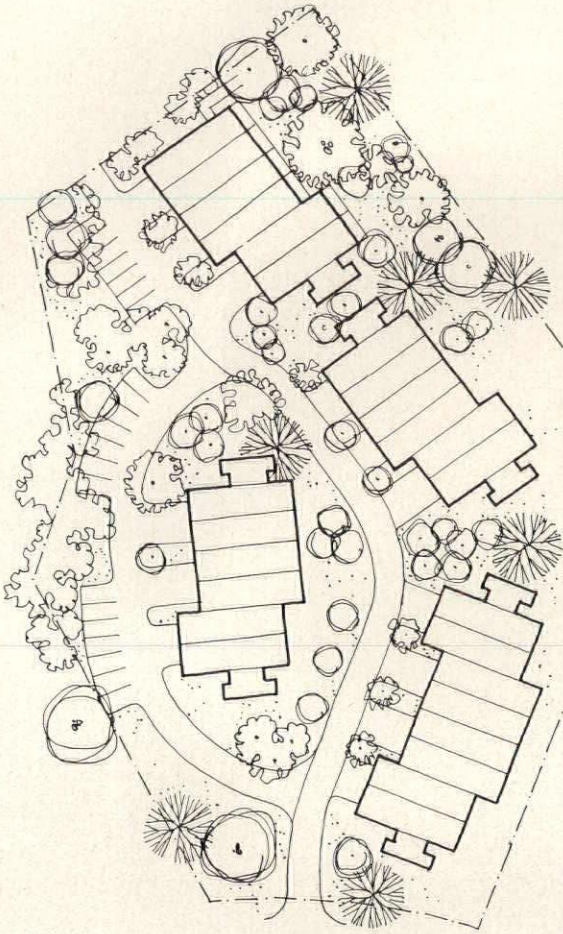


GROUND LEVEL

0 5 10 FT

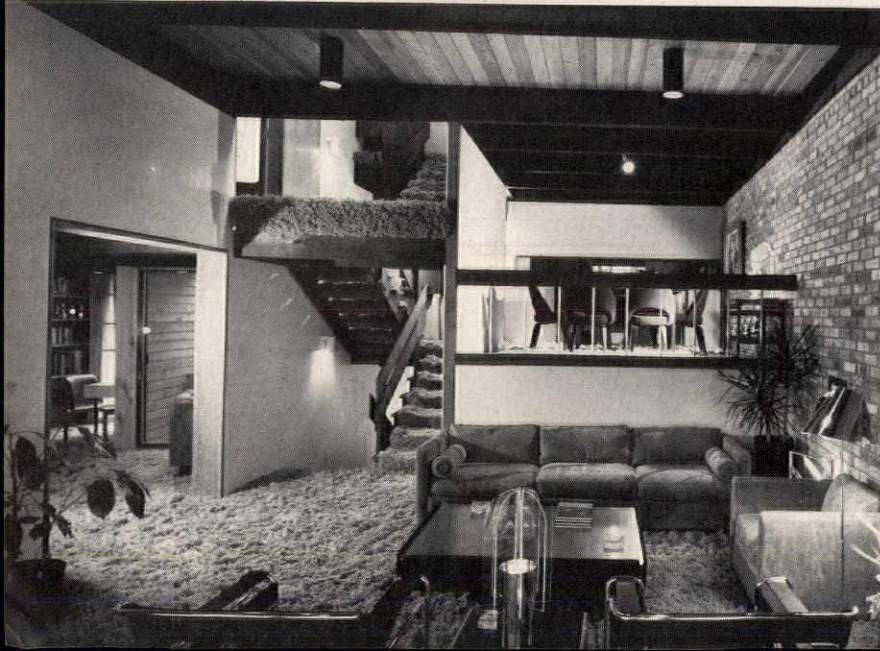


SECTION



SITE PLAN 0 20 40 FT

PHOTOS: JULIUS SHULMAN





AWARD OF MERIT

ARCHITECT: *Crites & McConnell*
BUILDER: *Connor-Crites Development Co.*
OWNER-DEVELOPER: *Connor-Crites
Development Co.*

NAME: *Blackbriar*
LOCATION: *Danville, Ill.*

Hiding behind the simple, straightforward facades of these condominiums is an exciting multi-level plan that lends itself to high-ceilinged living rooms and entry foyers and platform-like dining rooms (*photos and*

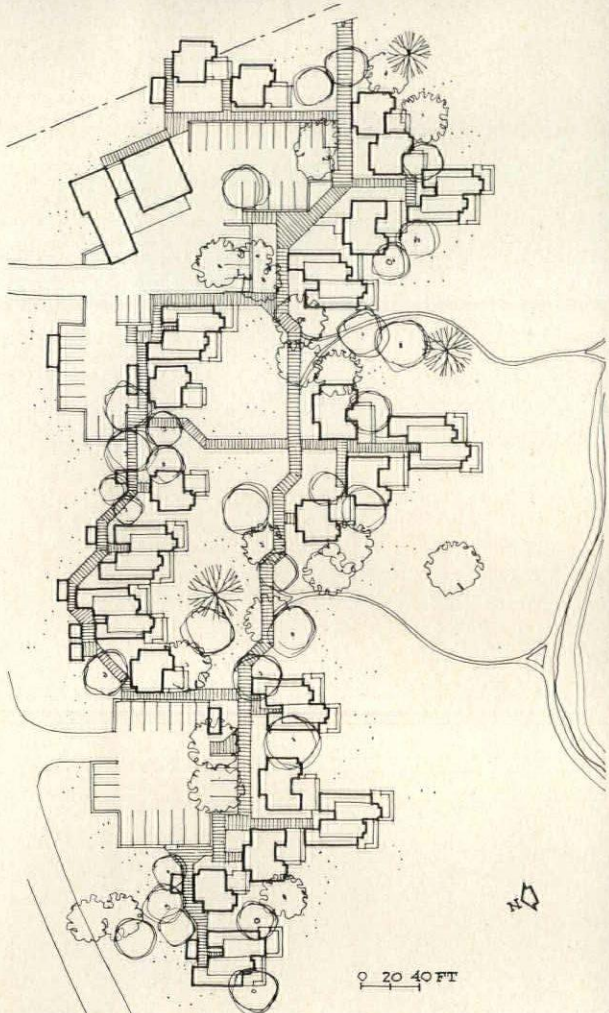
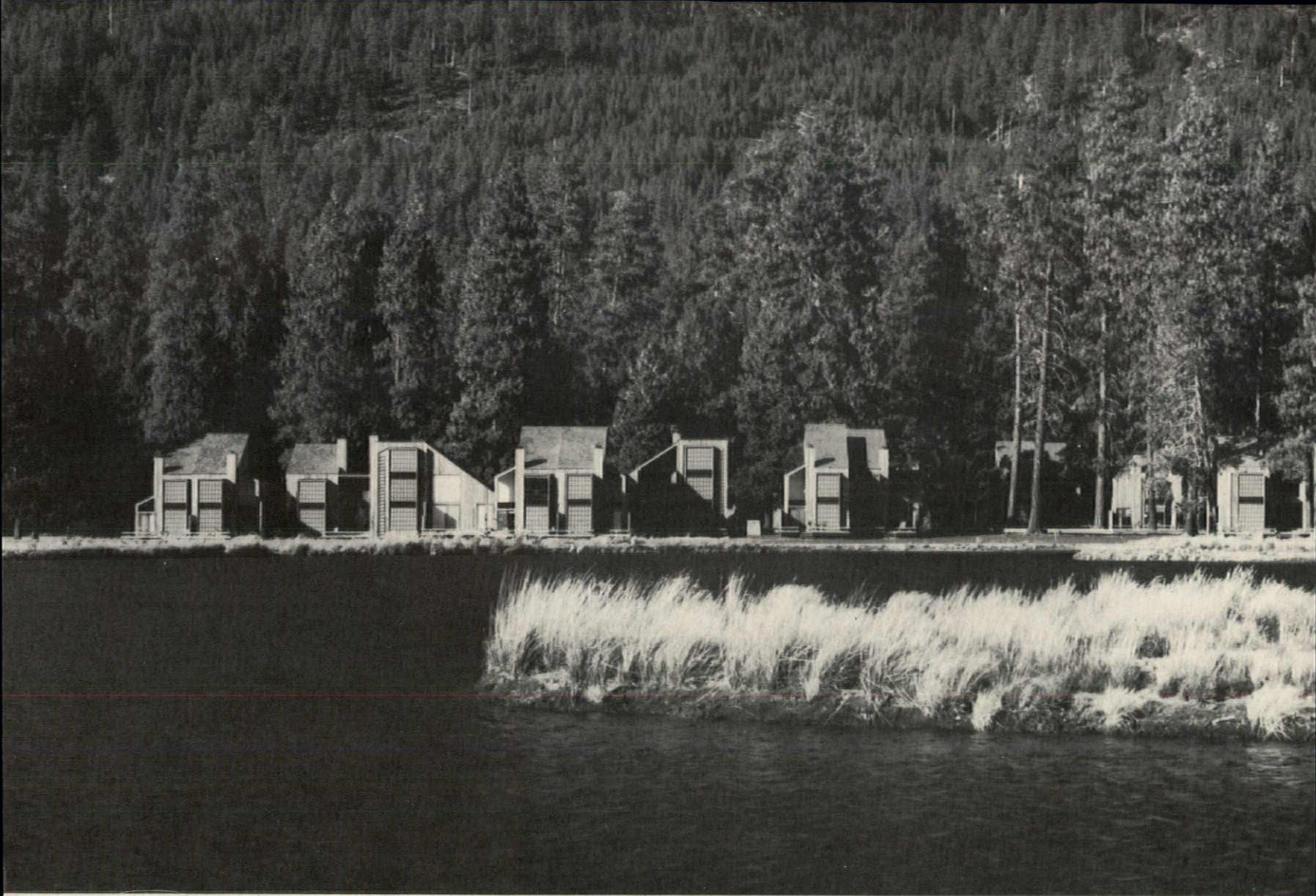
plans, opposite page). And it's also a plan that offers a maximum amount of view-oriented outdoor living.

The design evolved from two factors: first, the obvious marketing value of facing major living areas toward an adjacent country club's golf course; and second, from the gently rolling nature of the 2.5-acre wooded site, which allowed the garages and entries to be at the rear, or downside, of the units.

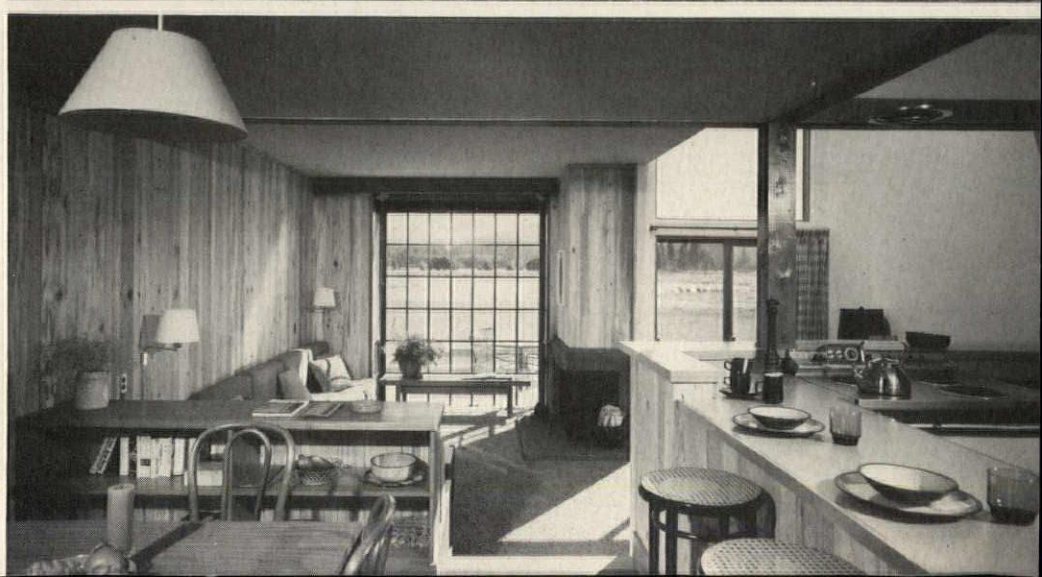
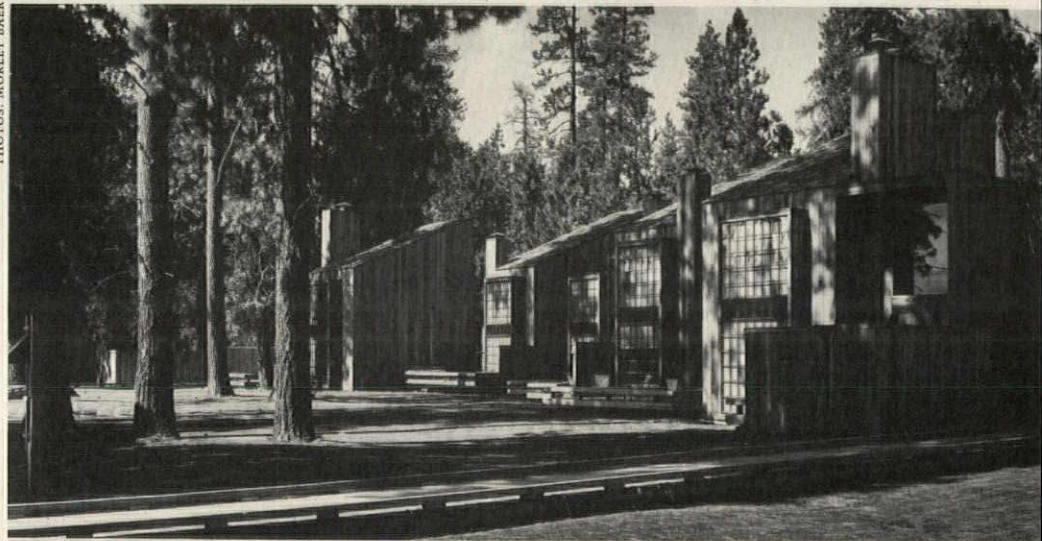
The plans and photos on these pages are of a three-bedroom-plus den apartment located at near end of the building shown in the site plan. The six apartments in this building comprise the first phase of the projected 26-unit project. In addition to the

three-bedroom plan, there are five two-bedroom apartments. In these the second-level den and fourth-level bedroom and half-bath are eliminated.


The overall building design provides a high degree of privacy between units. Ground-level patios are separated by extensions of brick walls in the living rooms, while upper-level balconies of abutting units are divided by wood walls. Two-bedroom units contain 1,800 sq. ft.; the three-bedroom plan has 2,400 sq. ft. Prices range from \$50,000 to \$72,000.



PHOTOS: MORLEY BAER





 **AWARD OF MERIT**

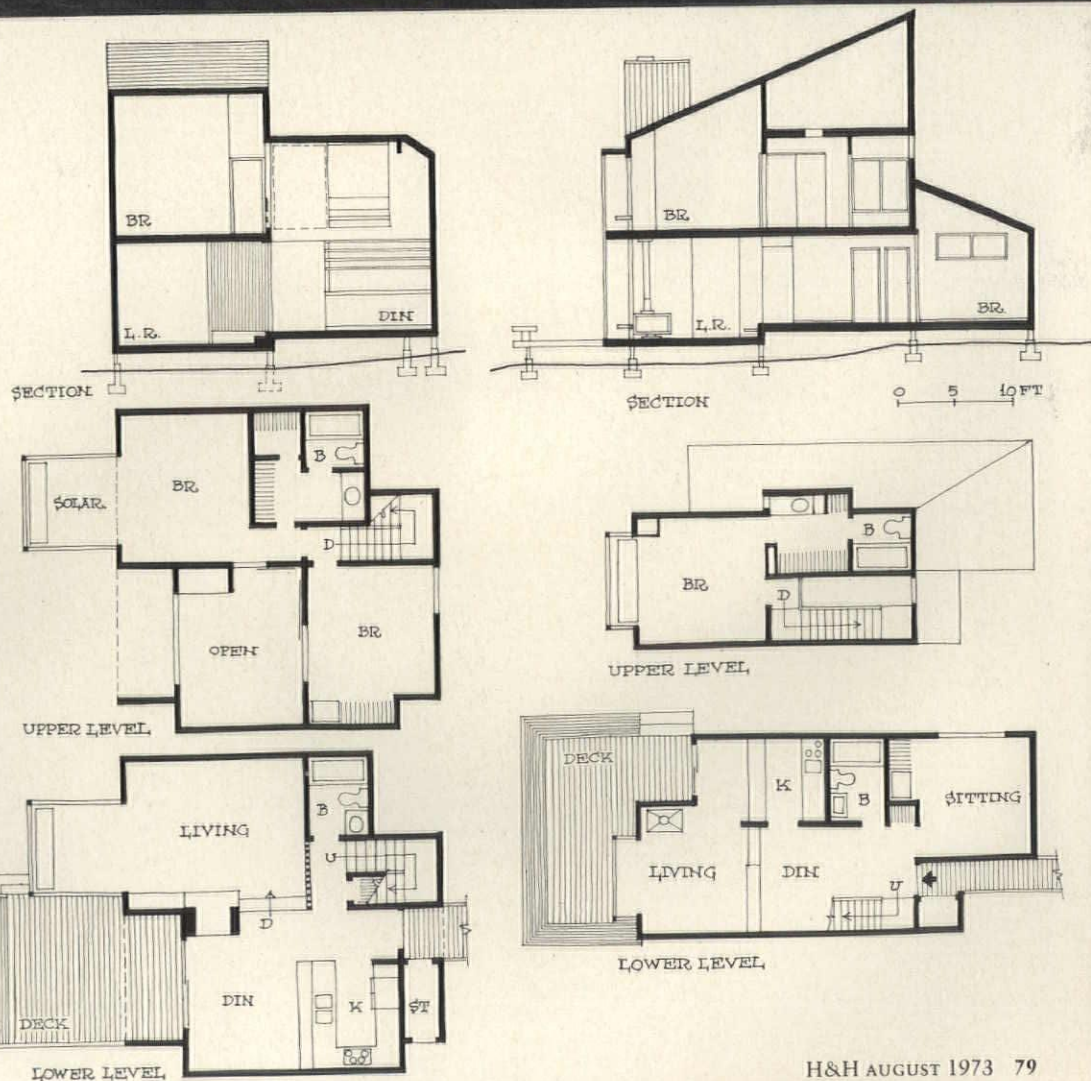
ARCHITECT: *Donald Goodhue*
 BUILDER: *Keeton-King General Contractors*
 OWNER-DEVELOPER: *Brooks Resources Corp.*
 NAME: *Country House Condominiums*
 LOCATION: *Sisters, Ore.*

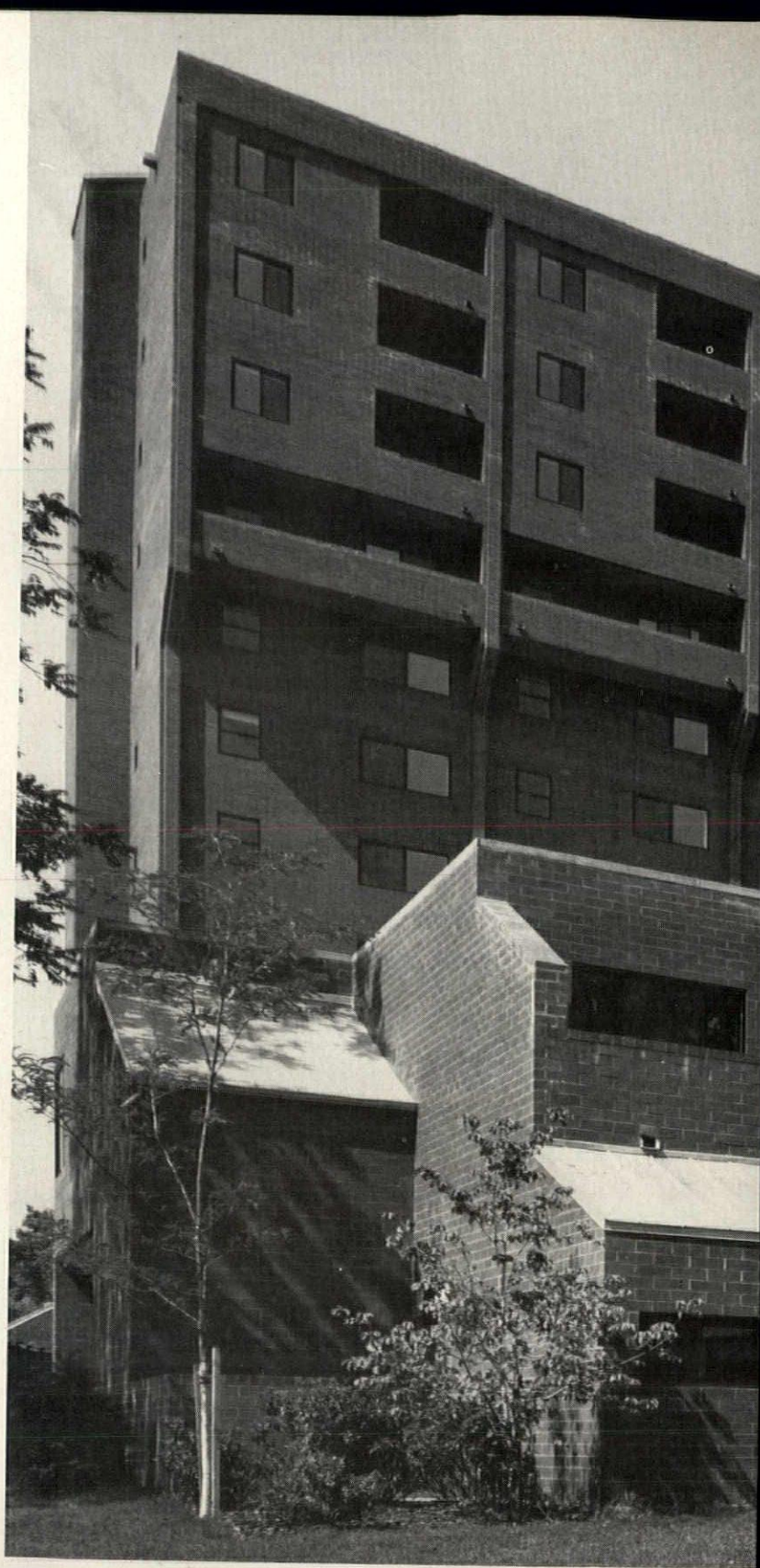
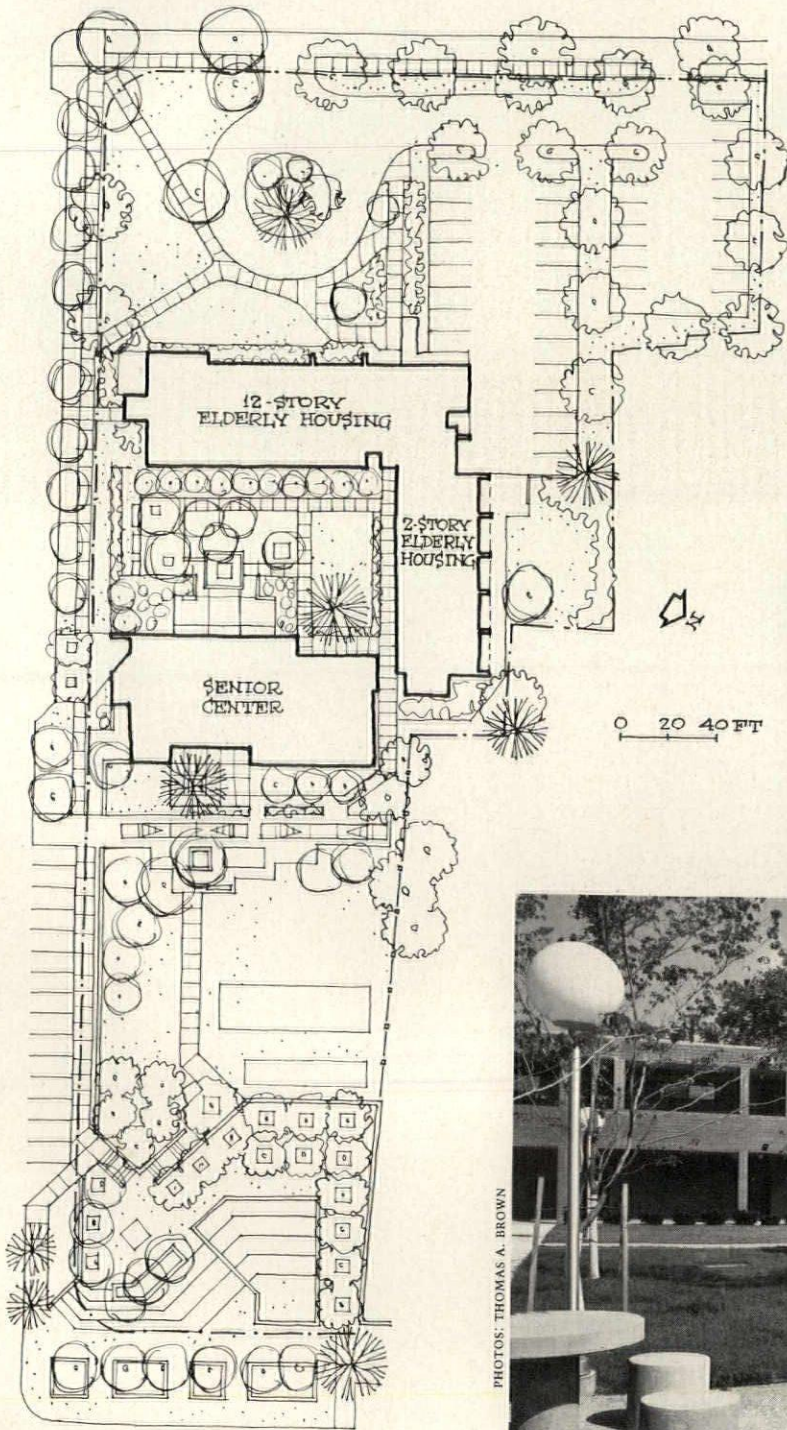
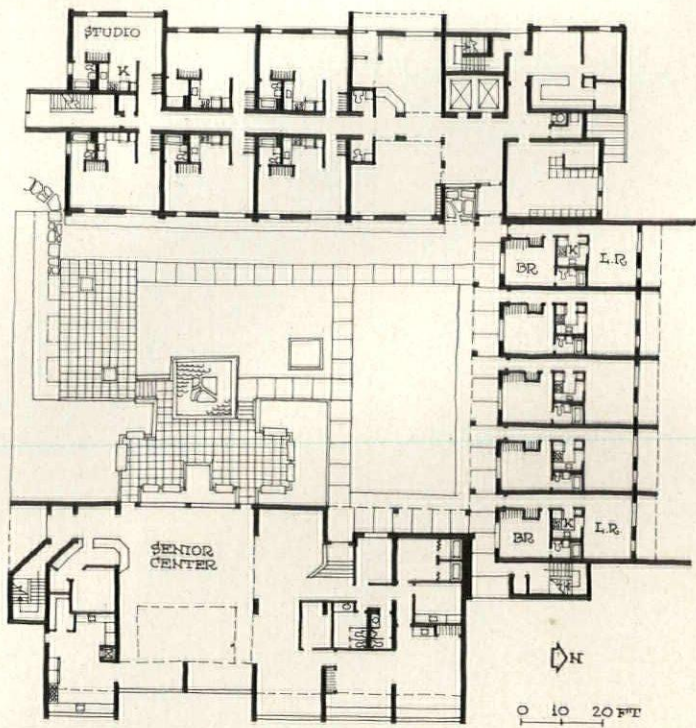
The colony-like siting of this project's units, parking and recreational buildings represents a deliberate attempt to create a sharp contrast with the openness of the surrounding area and with the spread-out housing that surrounds the four-acre project.

The condominium's village-like feeling is strengthened by the series of boardwalks (*site plan, opposite page*) that links the units to secluded parking bays and the common areas.


Privacy, for family members within the units as well as between adjoining units, was also a strong design criterion. The interior plans demarcate youth and adult spaces—openness and flexibility for the former, and the latter more formal and intimate. Outside, each unit has a completely private deck, and many of the units have patios that are enclosed on three sides.

The one-, two-, and three-bedroom plans contain from 898 to 1,804 sq. ft. Prices range from \$35,000 to \$55,000.







 **AWARD
OF MERIT**

ARCHITECT: *Gilbert Switzer & Associates*
BUILDER: *Giordano Construction Co. Inc.*
OWNER: *Middletown Housing Authority*
NAME: *Sbona Tower and Senior Center*
LOCATION: *Middletown, Conn.*

This HUD turnkey project for the elderly provides much more than basic shelter: There is a formal, central, landscaped court for quiet community gatherings (*photo, left*),

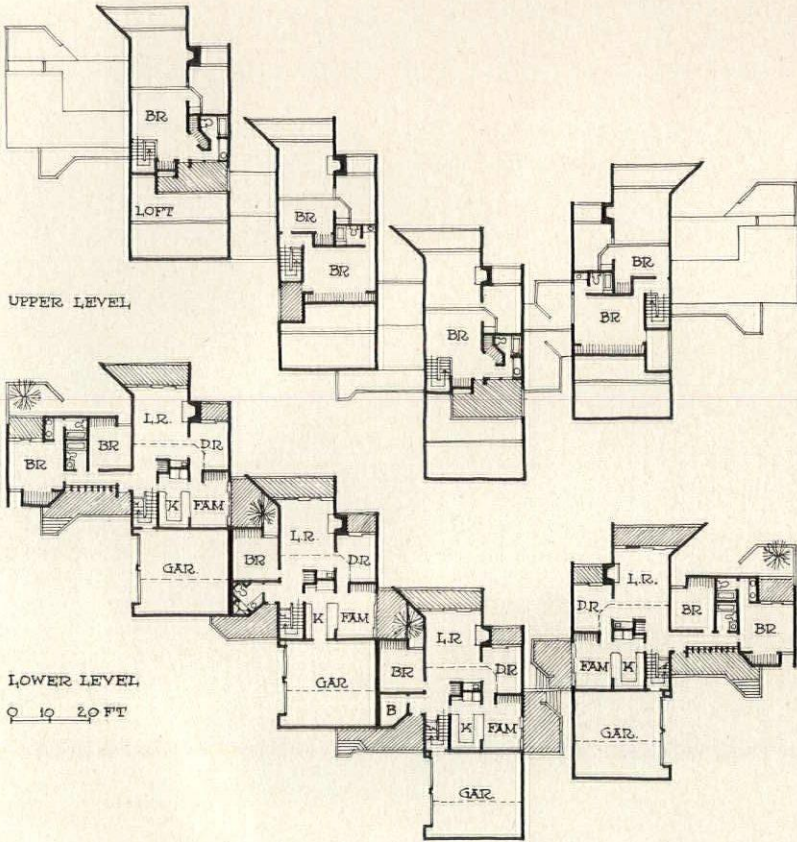
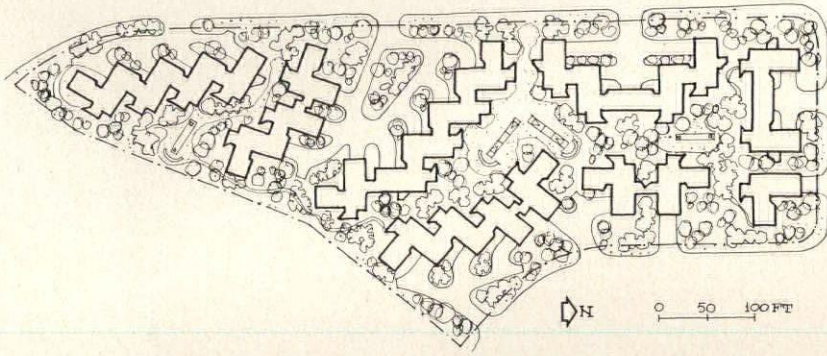
a separate area for outdoor games such as horseshoes and bocci, some private balconies and terraces, a community center and a choice of housing styles: low- or high-rise buildings.

There's also an overall plan that allowed the project to blend into the surrounding neighborhood through a gradual rise in scale. At the foot of the 2.5-acre site (which is bordered by low-rise buildings) is a terraced plaza developed by the city. The project continues up a hill to the two-story community center and step-back low-rise apartments. The 12-story tower forms a right angle to the

low-rise units (*site plan, facing page*).

The ground-level floor plan (*facing page, top*) shows typical low- and high-rise units. Tenants in the two-story buildings each have a private terrace or balcony as do some units on the upper floors of the high-rise (*photo, above*). There is a total of 129 apartments, which rent from \$50 to \$60 per month. Each unit has a complete masonry enclosure which is both fire- and soundproof.

PHOTOS: JAMES K. M. CHENG





**AWARD
OF MERIT**

ARCHITECT: *Mithun & Associates*
 BUILDER: *Swanson-Dean Corp.*
 OWNER-DEVELOPER: *Swanson-Dean Corp.*
 NAME: *Sahalee Village*
 LOCATION: *Redmond, Wash.*

Although this is a condominium project, it was planned to convey a decided single-family feeling. The reason: its location. The 25 units are part of a residential subdivision surrounding a golf course and are also adjacent to single-family neighborhoods.

So instead of conventional rows of similar units lined up around a large common open area, the project consists of a series of mini-colonies. Each is worked into the site's natural landscaping and joined together by a

meandering path that also leads to three small common recreational areas (*site plan, facing page*).

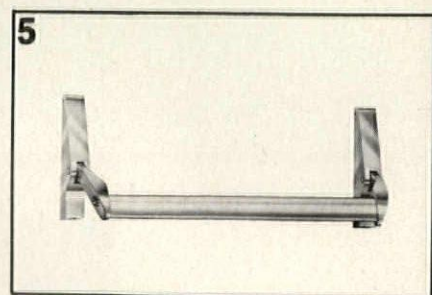
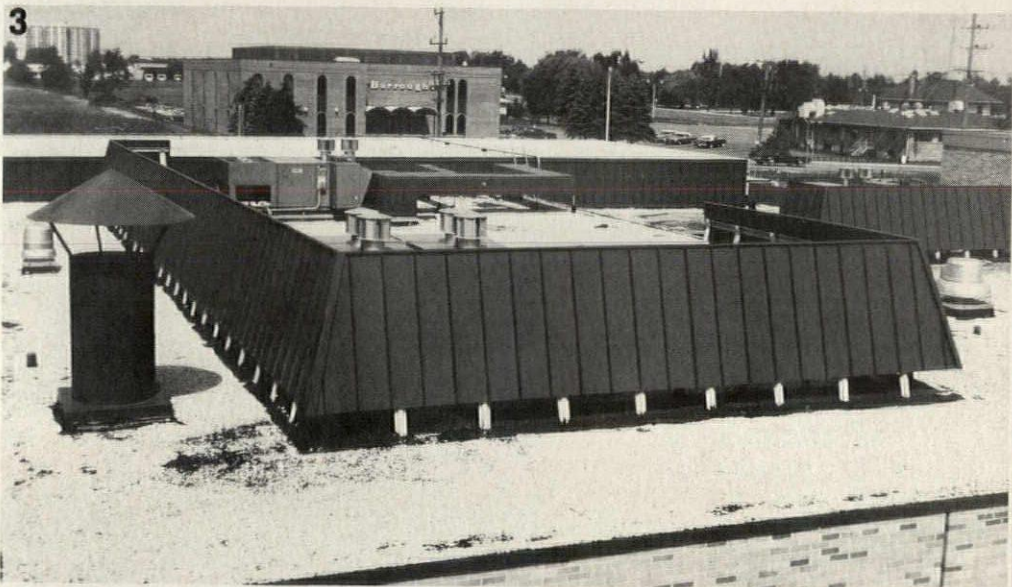
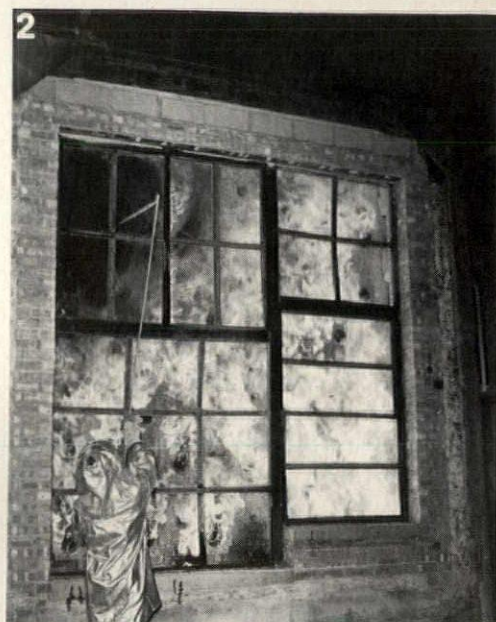
The units themselves have many of the attributes of single-family homes. They are spacious—1,650 to 1,950 sq. ft.; they provide a maximum amount of light, views and outdoor living areas; and by their staggered placement, they offer a great amount of individual privacy.

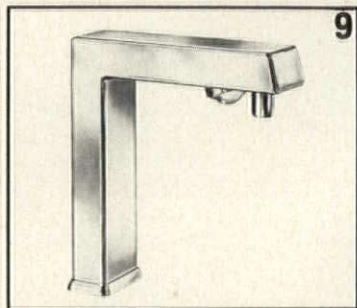
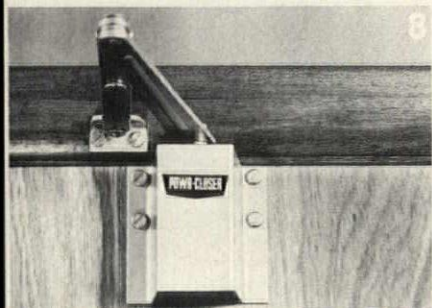
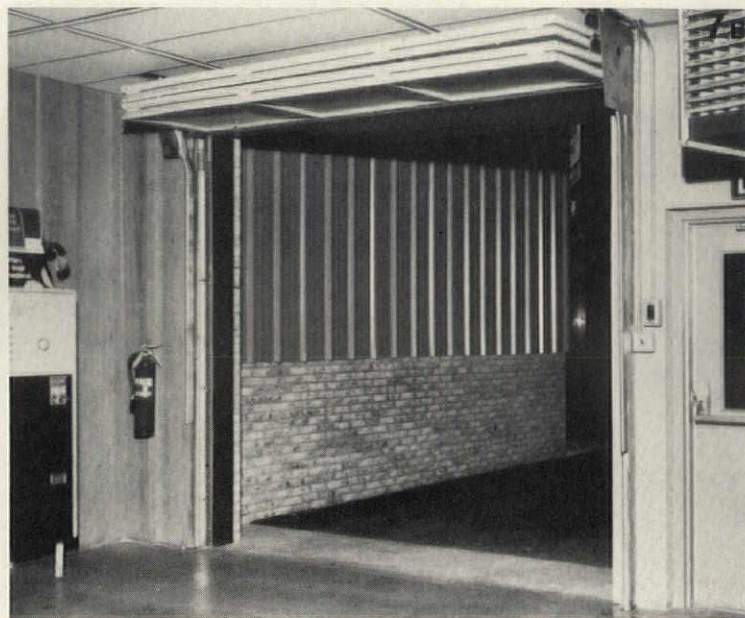
As shown in the floor plans on the facing page, there is actually one basic layout with variations to adjust for two- and four-bedroom requirements. Many rooms are two-levels high; and under-building parking relegates the car to the rear of each group of units. The condominiums sold for \$35,000 to \$44,000.

Products that meet specialized needs of the commercial market

As this issue of HOUSE & HOME points out, more and more new residential communities include shopping centers, offices, etc. Consequently, more and more residential builders and developers find themselves involved with construction that may be to some degree unfamiliar to them. Not the least of these are the special characteristics of products designed and engineered for commercial use, for example: integral safety features required for public-use buildings and long-wearing, low-maintenance qualities that withstand the rigors of heavy transient traffic.

On this and the following pages, HOUSE & HOME presents a round-up of such products—ranging from structural to decorative—geared to the commercial market.





Floor-to-ceiling windows (1) are fabricated of break-resistant solar-controlled Plexiglas® acrylic plastic. Installed in a college in the Southwest, the panels provide an open space environment while enhancing the architecture of the building. Rohm & Haas, Philadelphia, Pa.
CIRCLE 262 ON READER SERVICE CARD

Automatic-closing steel fire window, "Fyre-Tec" (2) is UL approved. Designed to prevent fire from spreading, the unit features a patented closing mechanism recessed within the window frame. The unit exerts a steady closing action on the horizontal slide when temperatures reach 160°. Rusco, Los Angeles.
CIRCLE 263 ON READER SERVICE CARD

Prefabricated equipment screen (3) encloses unsightly roof-top mechanical equipment. The all-steel unit is designed to withstand up to 45 psf wind load. Easy-to-install panels feature a guaranteed, factory-baked-on finish in a choice of colors. Childers Mfg., Houston, Tex.
CIRCLE 264 ON READER SERVICE CARD

Sliding window wall (4) is ideal for an enclosed mall. The track-and-guide system features a diverter that permits sections to slide open parallel or stack at 90° angles along the wall. A top-track floating pin compensates for out-of-level openings. Amarlite/Anaconda, Atlanta, Ga.
CIRCLE 265 ON READER SERVICE CARD

Concealed vertical-rod exit device (5) is suitable for installation in 1 3/4" aluminum or hollow metal doors. It is available in a satin-aluminum, brass or bronze finish. The actuator link can be placed on either side so that the device is non-handed. Jackson Exit Device, Los Angeles.
CIRCLE 266 ON READER SERVICE CARD

Safety-oriented entrance, "Safety-line" (6) is an aluminum-framed glass door that eliminates potential hand and finger injuries. Featured are an exclusive cylinder guard at the

pivot side and a flexible vinyl protector on the leading edge. Amarlite/Anaconda, Atlanta, Ga.
CIRCLE 267 ON READER SERVICE CARD

Stacking overhead door (7A) eliminates the need for a conventional track. Constructed of hinged aluminum sections, the door folds and stacks above (7B), saving space. Available in different styles and sizes, it can be motorized or manual. Bernardi Brothers, Harrisburg, Pa.
CIRCLE 268 ON READER SERVICE CARD

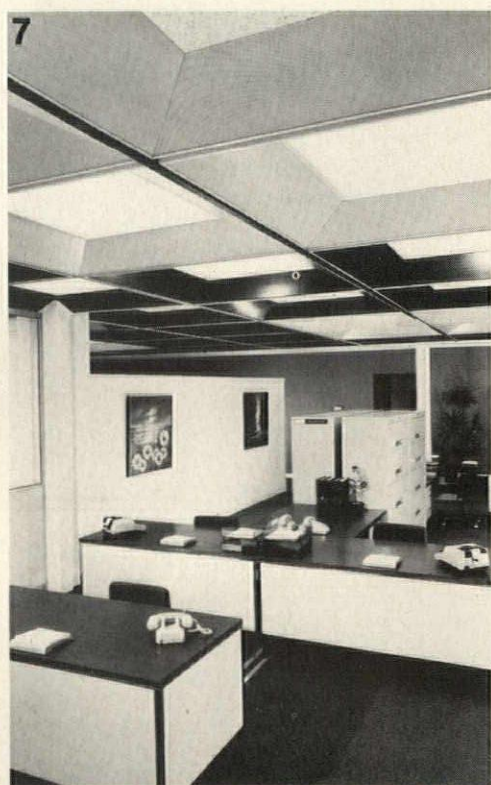
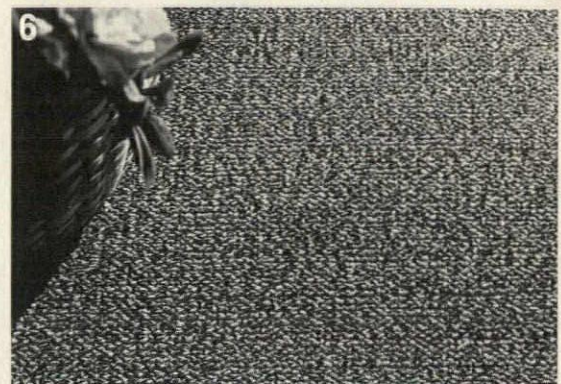
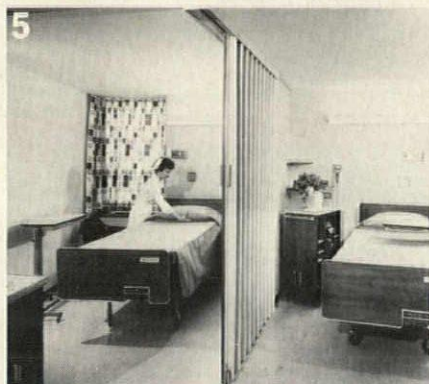
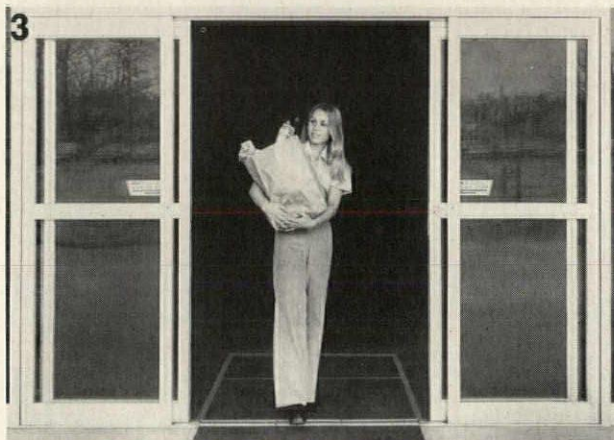
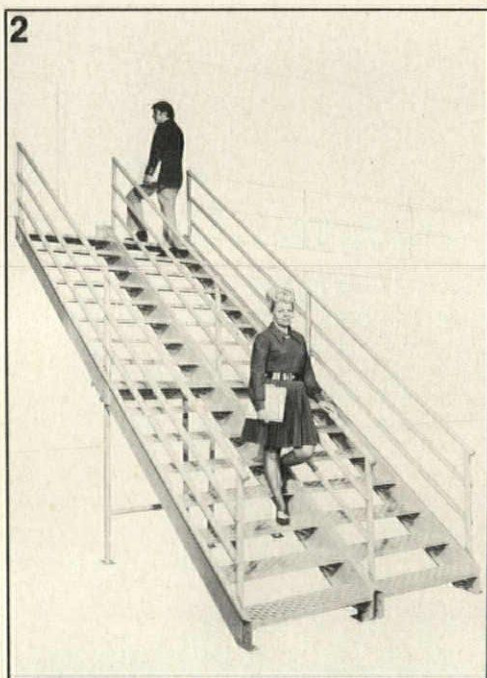
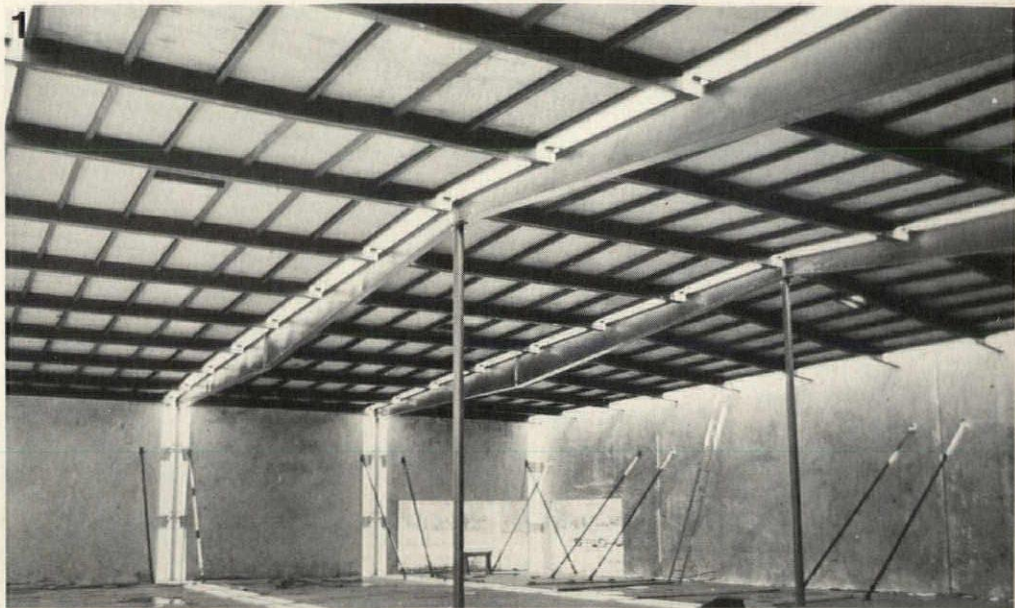
Hydraulic power door closer (8) is suitable for use on corridor doors. The surface-mounted, easy-to-install unit is designed for solid core wood or medium-weight metal doors up to 85 lbs. in weight. The sealed steel device comes in four standard finishes. Ives Div., Leigh, New Haven, Conn.
CIRCLE 269 ON READER SERVICE CARD

Faucet (9) utilizes a light source and photo-cell in the spout to actuate a flow of water. The light source directs a 3"-to-4" beam, known as the wash zone, into the sink. Hands placed within this zone reflect light onto the photo-cell's surface, turning on the water. Chicago Faucet, Des Plaines, Ill.
CIRCLE 270 ON READER SERVICE CARD

Fire-retardant cedar shingle roofs add to the natural rustic look of a contemporary office park (10). Designed to resemble residences, the buildings are combinations of brick, wood siding and wide glass expanses. Kopper, Pittsburgh, Pa.
CIRCLE 271 ON READER SERVICE CARD

"Planar" aluminum ceiling system (11) provides a low-maintenance interior ceiling/interior soffit. Easy-to-install aluminum panels in unlimited lengths and widths have a wear-resistant, baked-on enamel finish. Adaptable to any building, ceiling can be insulated for sound absorption. Alcan, Pittsburgh, Pa.
CIRCLE 272 ON READER SERVICE CARD

marketplace





9



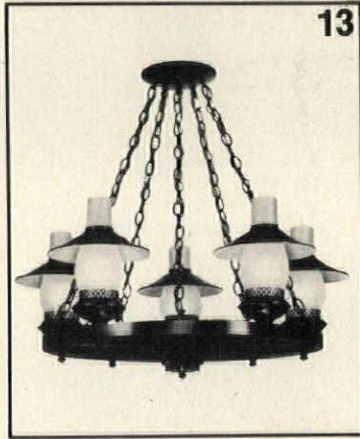
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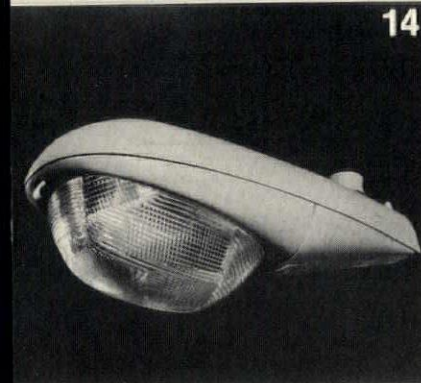
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12



13



14



15

Industrial roofing system (1) is made up of steel-framed seamless particleboard panels bolted at each corner to tapered steel support girders. The panels are fabricated of steel C-channel frames covered with high-strength particleboard. They can be produced in sheets 8' wide to 30' long. Kaiser Steel, El Monte, Calif.
CIRCLE 273 ON READER SERVICE CARD

Prefabricated steel double stairway (2) is suitable for all types of indoor/outdoor commercial applications. Dual units come in 5', 6' and 8' widths in any height. Easy-to-assemble stairways meet OSHA and Uniform Building Code safety requirements. Equipto, Aurora, Ill.
CIRCLE 274 ON READER SERVICE CARD

Automatic door package (3) performs well regardless of weather. System

consists of door operating equipment and an air compressor with a dryer mounted on it. The dryer removes moisture from the operating device to minimize maintenance and reduce freeze-ups. Stanley, New Britain, Conn.
CIRCLE 275 ON READER SERVICE CARD

Electric hand and hair dryers (4) for public rest- and locker rooms, are attractively styled in durable stainless steel. Units, which can be fully recessed or surface mounted, feature pushbuttons and air baffles in a vandalproof design. Electric-Aire, South Holland, Ill.
CIRCLE 276 ON READER SERVICE CARD

Flexible folding partitions (5), shown here in a hospital room, can change the size and character of a space. Constructed with a blanket of

"Pyro-Kure 615" insulation bonded to steel slats, the partitions provide excellent sound absorption. Holcomb and Hoke, Indianapolis, Ind.
CIRCLE 277 ON READER SERVICE CARD

Heather tweed carpet for heavy traffic areas (6) is of continuous filament, soil-hiding nylon. "Finish Line" is a level loop floorcovering with almost 13 tufts per inch. Yarn is locked into place with a latex coating to which a jute or high density foam rubber backing is applied. Armstrong, Lancaster, Pa.
CIRCLE 278 ON READER SERVICE CARD

Modular ceiling (7) is designed to enhance interiors while providing all the necessary functions. "Five plus Five" ceiling utilizes a pattern of 60" x 60" modules with built-in acoustical panels and light sources. An air bar permits ventilation through the grid without disrupting ceiling appearance. Conwed, St. Paul, Minn.
CIRCLE 279 ON READER SERVICE CARD

Level loop tweed carpet, "Jubilee," (8) is tufted of Du Pont Antron nylon with Brunslon added for static reduction. The tight gauge carpet with high density rubber backing is shown installed in public areas of a mall in North Dartmouth, Mass. Commercial Carpet, New York City.
CIRCLE 280 ON READER SERVICE CARD

Patterned carpet, "Omnibus-Flourish," (9) is a tufted design that combines solid and three-ply color Herculon® Olefin in a Wilton look. The dense carpet, shown in a men's store, is suitable for residential or commercial use and comes in six colorways. Mohawk, Amsterdam, N.Y.
CIRCLE 281 ON READER SERVICE CARD

Oriental-inspired carpet "Bachara" (10) is shown here in an office reception area. Tufted of Anso® soil-hiding nylon by Allied Chemical, the carpet is available in six colorations. The easy-to-maintain level loop, printed fabric comes in 12' widths with a

latex foam-rubber backing. Viking Carpet, New York City.
CIRCLE 282 ON READER SERVICE CARD

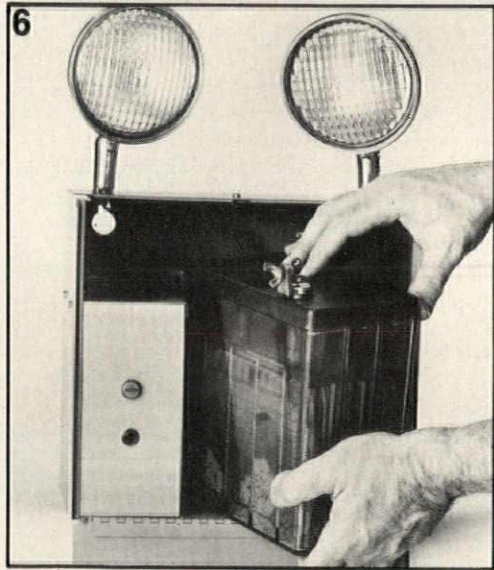
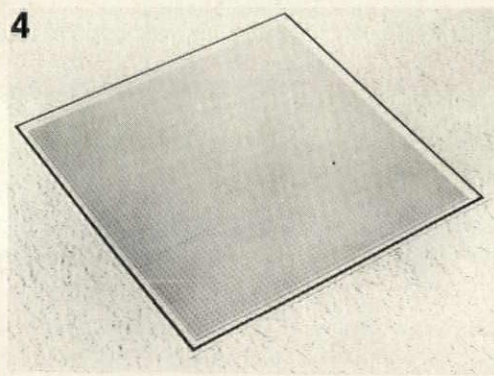
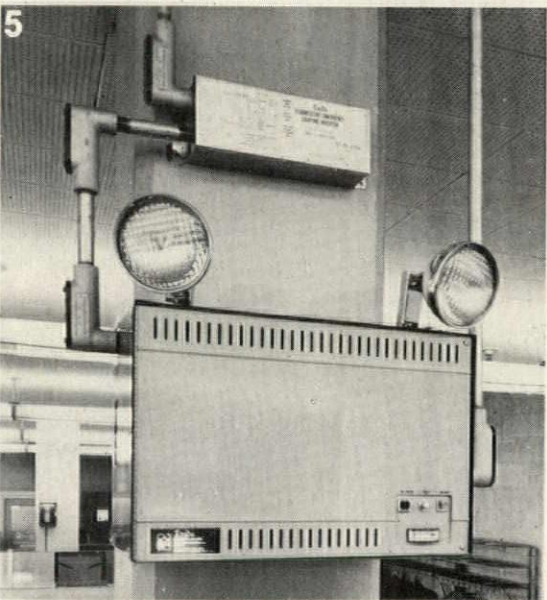
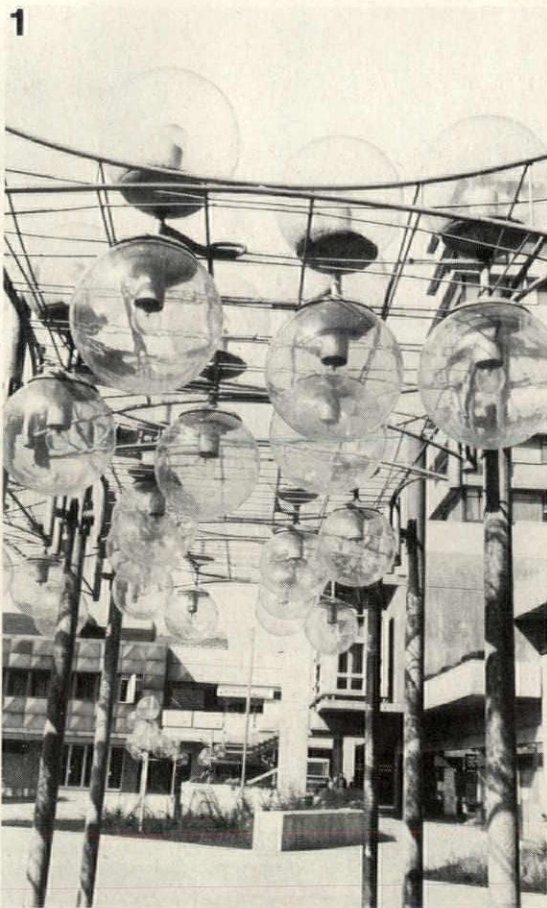
Heavy weight carpet, "Graduate," (11) tufted of DuPont Antron nylon, covers the public areas of the University Mall, Orem, Utah. The carpet, glued directly to the subfloor without padding, is made extra thick to maintain a feeling of comfort underfoot. Wellco, Calhoun, Ga.
CIRCLE 283 ON READER SERVICE CARD

Traditional floral print carpet, (12) "Royal Court," captures an old world tapestry look. A level loop construction, the fabric is tufted of Allied Chemical continuous filament nylon. Available in six colorations with a jute backing, the carpet is easy to maintain. Trend, Champion International, New York City.
CIRCLE 284 ON READER SERVICE CARD

Wagon wheel lighting fixture (13) with a Western look is ideal for any wide open space. The dark-stained oak wheel is topped by five chains and glass lanterns. Copper-plated shades have white baked enamel undersides to direct the light. Virden, Cleveland, Ohio.
CIRCLE 285 ON READER SERVICE CARD

Outdoor luminaire (14), "TDA," is designed for lighting large areas. The heavy duty unit features twin-door assembly for swift servicing of the integral ballast and the light source. The factory-wired fixture can be used with mercury, metal-arc or high pressure sodium lamps. GTE Sylvania, New York City.
CIRCLE 286 ON READER SERVICE CARD

"Lawnaire" luminaire (15), for walkways, outdoor malls and small parking areas, offers both symmetrical and asymmetrical lighting patterns. The unit, equipped with special refractors, is constructed of spun and cast aluminum. All electrical components are concealed. McGraw-Edison, Racine, Wis.
CIRCLE 287 ON READER SERVICE CARD



Clusters of spherical lights (1), for illuminating pedestrian walkways and parks, add architectural interest. Vandalproof acrylic plastic globes come in a variety of sizes in clear or opal. Siemens, Iselin, N.J.
CIRCLE 288 ON READER SERVICE CARD

Mercury vapor lantern (2), for outdoor use, incorporates luminaire and ballast. The vandalproof, traditionally styled fixture is constructed of cast aluminum with polycarbonate panels. Artolier, Garfield, N.J.
CIRCLE 289 ON READER SERVICE CARD

High intensity discharge luminaires (3), available in closed or open models, can use mercury vapor, metal halide or high pressure sodium lamps. Three different reflector sizes are offered. Day-Brite, St. Louis, Mo.
CIRCLE 290 ON READER SERVICE CARD

Commercial lighting (4) permits the use of mercury vapor and metal halide lamps in fluorescent configurations. The 2' x 2' troffers are available for all types of ceilings. Smithcraft, Keene, Wilmington, Mass.
CIRCLE 291 ON READER SERVICE CARD

Emergency lighting system (5) blends batteries and fluorescents. A small inverter changes battery power from DC to AC making it compatible with a fluorescent lamp. As many as eight inverters can be linked into one system. Exide, Philadelphia, Pa.
CIRCLE 292 ON READER SERVICE CARD

Battery-powered emergency lighting (6) is maintenance free. Batteries are always at full charge and never need refilling. Operational checks can be made using an exterior test switch. Tork Time, Mt. Vernon, N.Y.
CIRCLE 293 ON READER SERVICE CARD

Hospital lighting fixture (7) is designed for psychological security, easy maintenance and peak efficiency. The unit offers general room and down light illumination. Benjamin, Thomas, Louisville, Ky.
CIRCLE 294 ON READER SERVICE CARD

Builder Raymond Diehl doesn't horse around when it comes to dishwashers.

His hobby is Tennessee walking horses.

But he makes his living building houses on spec in suburban communities near Harrisburg, Pa.

While the homes range in price from \$28,000 to \$38,000, Ray insists that everything that goes into them be of the highest possible value and quality.

In his continuous search for products that meet his high standards, he decided early in '72 to use KitchenAid dishwashers.

Asked why, he said, "It is a much better dishwasher. People know about KitchenAid and

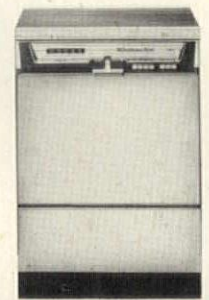
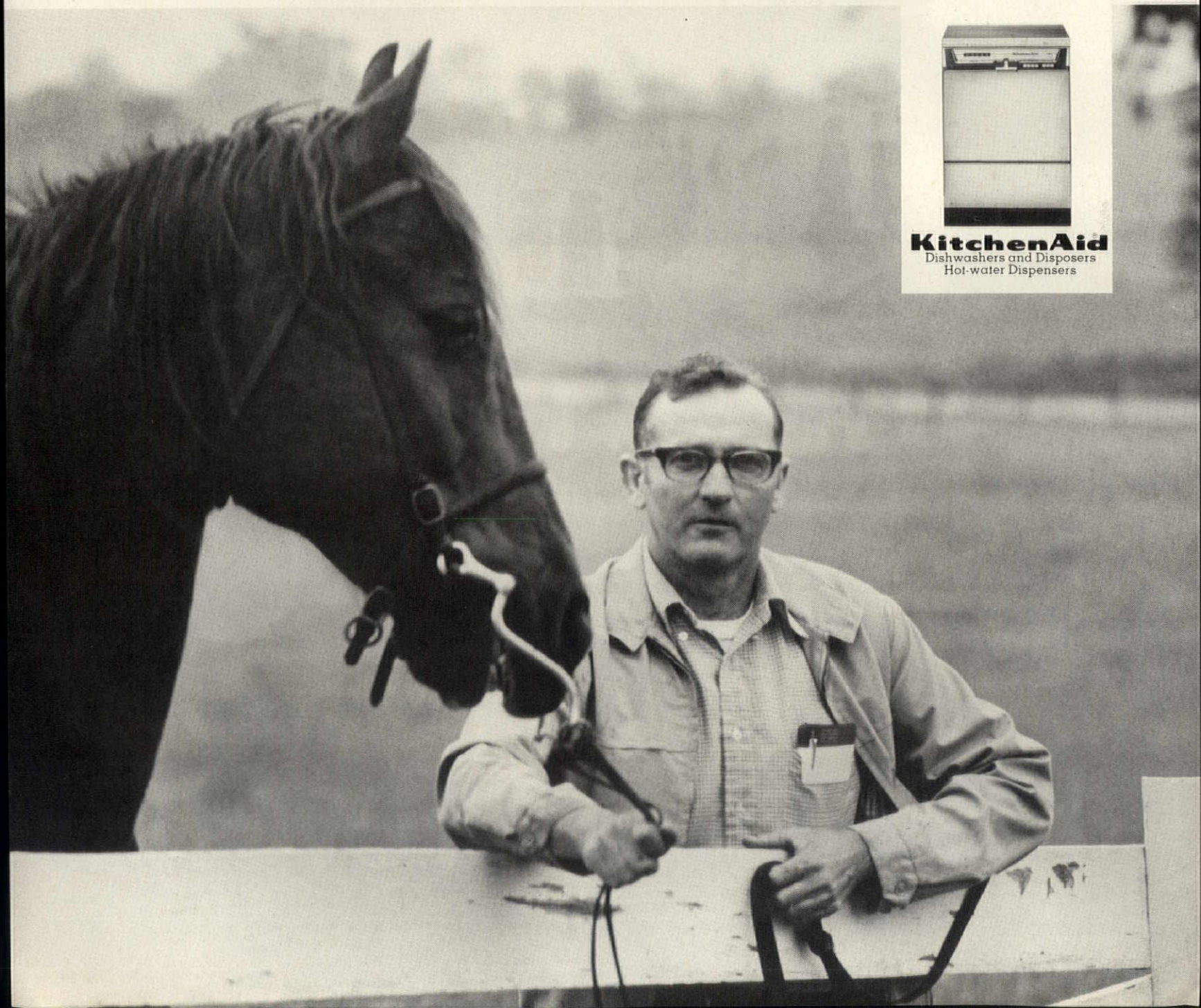
recognize it as the best dishwasher on the market. I believe that KitchenAid dishwashers help sell my homes."

"Also," he added, "KitchenAid dishwashers don't give me any problems. Callbacks have been virtually nonexistent."

KitchenAid can give the homes you build a special quality, too. Check our catalog in Sweet's Light Construction File or call your KitchenAid distributor about his builder plan.

KitchenAid Division, Dept. 3DS-8, The Hobart Manufacturing Company, Troy, Ohio 45374.

KitchenAid. Built better. Not cheaper. CIRCLE 89 ON READER SERVICE CARD

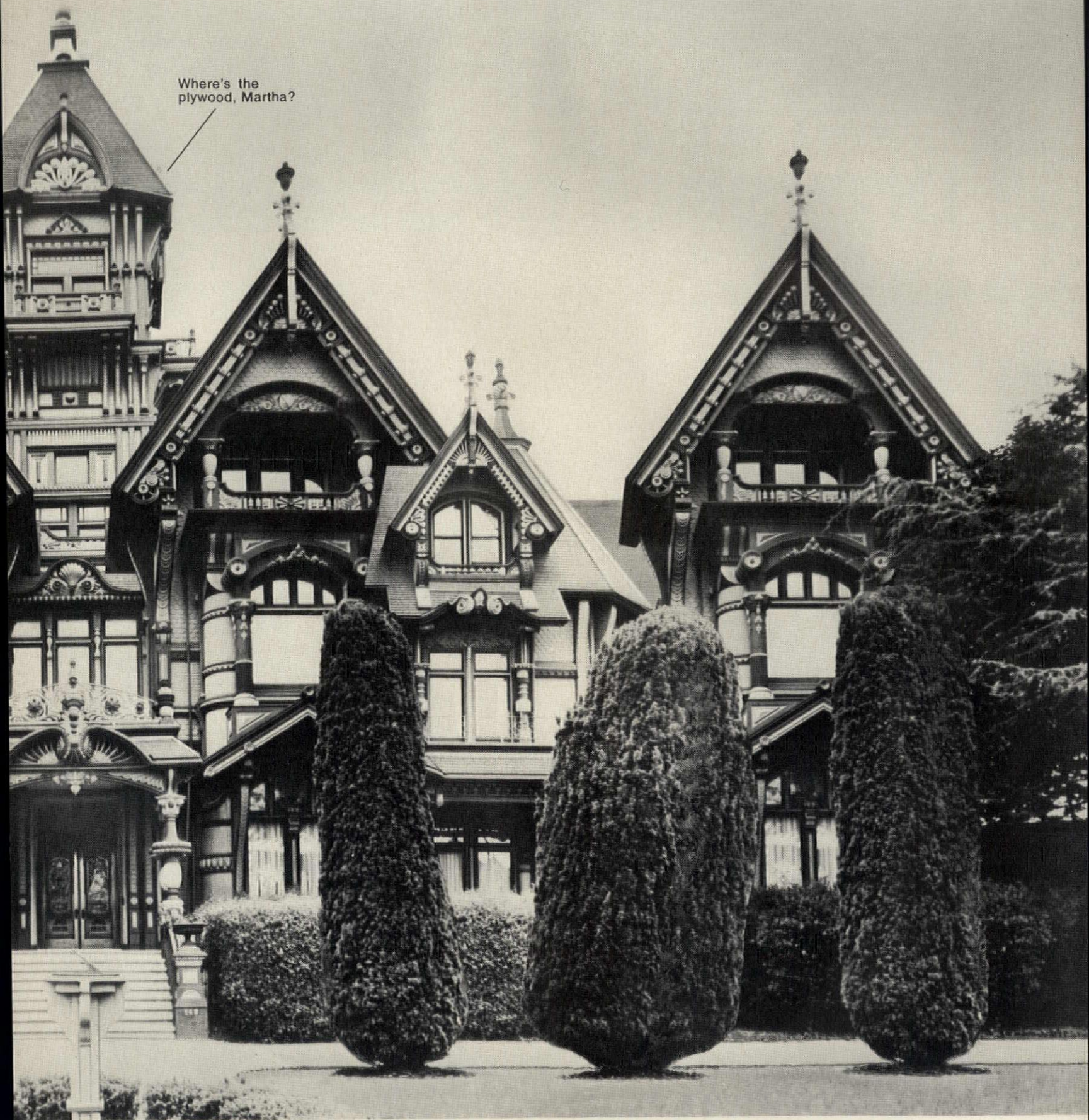


KitchenAid
Dishwashers and Disposers
Hot-water Dispensers



Plywood prevents

Where's the
plywood, Martha?

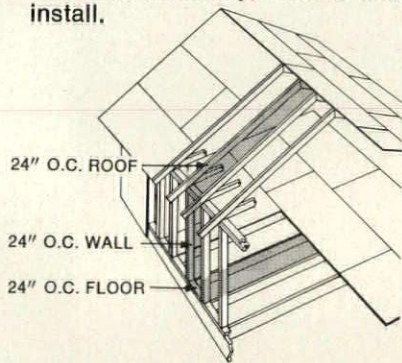


overdesign.

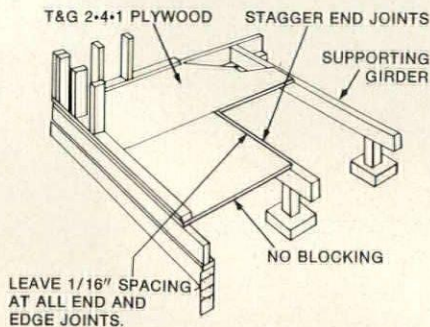
You can help.
The American Plywood Association has nine suggestions on how to build homes with fewer pieces, less labor and less money than ever before. Read the next page.

How plywood prevents overdesign:

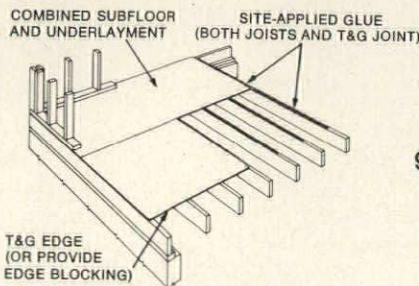
1. Plywood over lumber framing spaced on a 24-inch module (Mod 24) saves about \$200 a house, according to a time and methods study by the NAHB Research Foundation. Less lumber is needed because all framing for floors and walls as well as roofs is spaced 24 inches on center. Less labor is required because there are fewer pieces to order, inventory, handle and install.



2. The 2·4·1 Single Floor is still one of the fastest, simplest floor systems ever invented. One layer of extra thick 1½-inch plywood usually over 4-inch joists at 48 inches. Makes a smooth, solid surface for resilient floorings, carpeting and other nonstructural finish flooring. Nice basement ceiling, too.

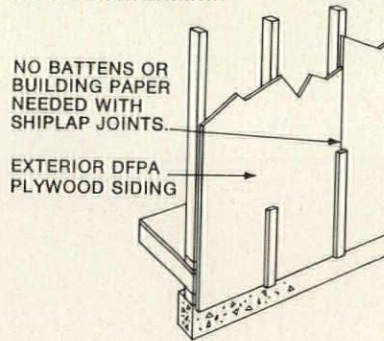


3. Cross bridging between floor joists is just a lot of extra work. Plywood distributes loads between joists, eliminating any need for bridging.



4. APA® Glued Floor system combines subflooring and underlayment into a single-layer floor. The plywood is glued to wood joists. Many contractors are using 1/3 fewer joists. And some are getting stiff enough floors with plywood glued to 2x8 joists instead of 2x10's.

5. APA® Single Wall Construction eliminates the entire sheathing process. Nail the plywood siding right on the 2x4's. And cut costs 30-40% compared to double-wall construction.



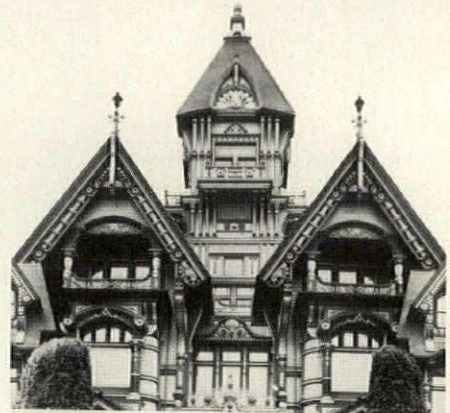
6. Plywood corner bracing cuts labor costs compared to 1x4 let-in corner bracing commonly used with some of the other sheathing materials.

7. Plywood lintels or headers over doors and windows is a lower cost system compared to conventional lumber headers.

8. About roof sheathing. All major model codes will okay 3/8-inch

plywood sheathing as long as the identification index reads 24/0. Builders using 1/2-inch sheathing with an identification index of 32/16 are overbuilding.

9. Plywood componentized construction cuts time and labor to the bone. Plywood is lightweight, strong and easy to work. No big tool-up costs or conversion investment. And components are growing. Fifty-three percent of both single and multifamily units built last year were put together with prefab components. That's a lot of plywood preventing overdesign.



**American Plywood Association
Department H-083
Tacoma, Washington 98401**

Please send me the following booklets so I can prevent overdesign.

- Mod 24 Building Guide
- Plywood Sheathing for Walls and Roofs
- Plywood for Floors
- Plywood Single-Wall Construction

Please have a field man call.

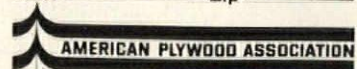
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Firm _____

Address _____

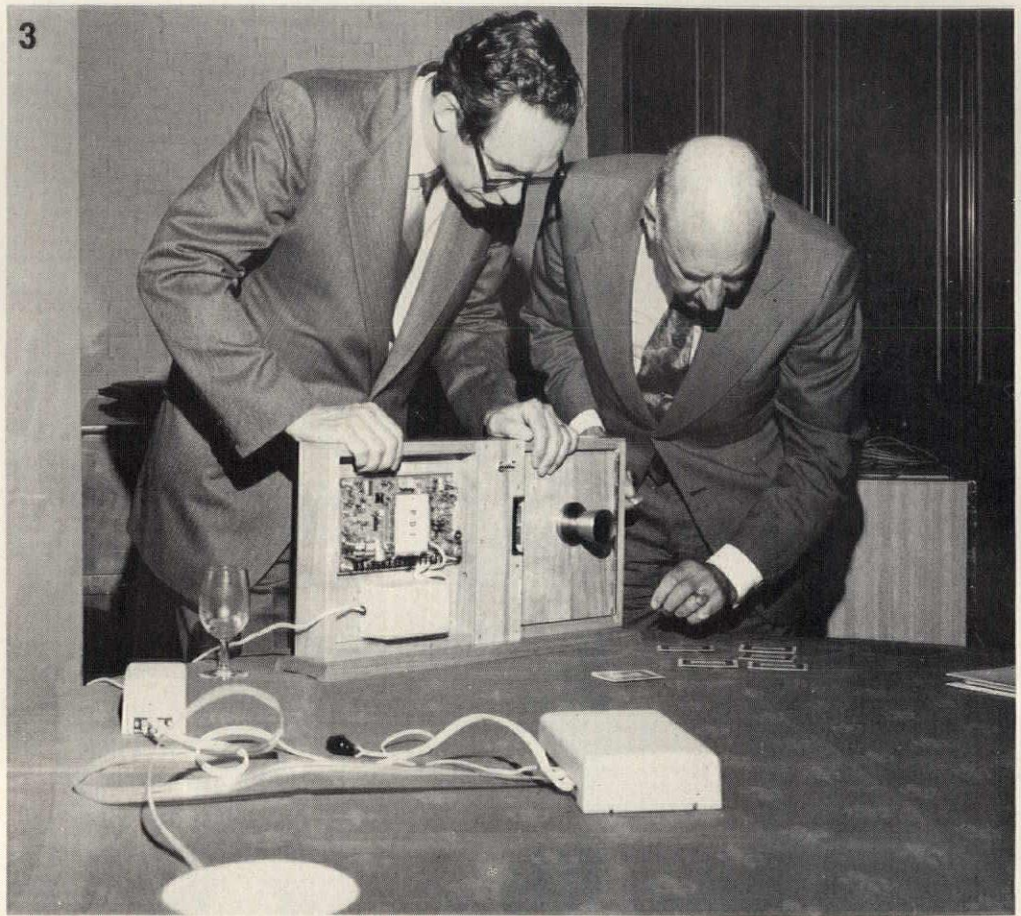
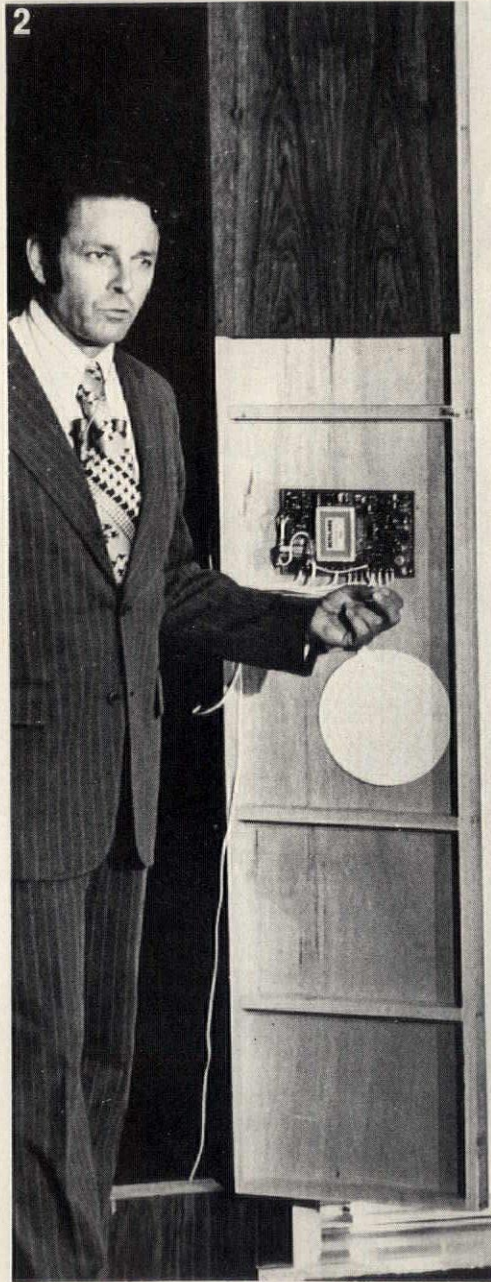
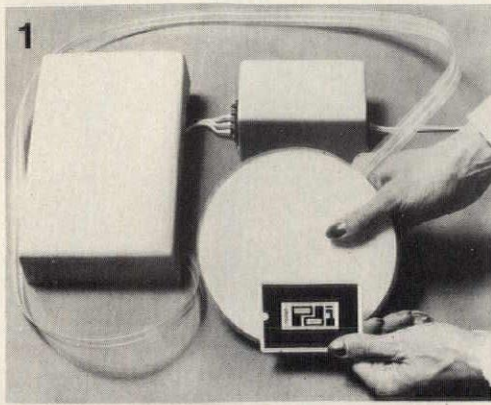
City _____

State _____ Zip _____



Plywood quality-tested by the Division For Product Approval.





Electronic security system makes keyholes obsolete

The Proximity Device security system (PDI) provides extraordinary protection against break-in by totally eliminating visible external points of attack. There are no vulnerable keyholes, card slots or lock tumblers. The location of the release mechanism does not effect the exterior appearance of the door. The system consists of four components (1) a central control unit (left) housing circuitry and a master reference key, a transformer (top right), a sensor (center right) and an electroni-

cally coded key (lower right). The sensor and central control—shown on a swing-away mock-up (2) as they would look installed—are located in proximity to the door at a point known only to keyholders. When the key enters the field of the sensor, the electronic unit reads the code and compares it with the reference key. If codes match, the door is released. If not, the door remains locked and an alarm circuit is activated. A demonstration unit (3) is used to show how easily the lock code

can be changed by simply inserting a different reference key. A plastic wall box, seen in the foreground, is used to conceal master key and wiring. The system, which can be linked to intrusion alarm devices, is available with stand-by power sources for emergency use. In addition to the extra security provided, the PDI makes opening the door easy (4) by eliminating the need to fumble with conventional keys. Schlage, San Francisco. CIRCLE 200 ON READER SERVICE CARD



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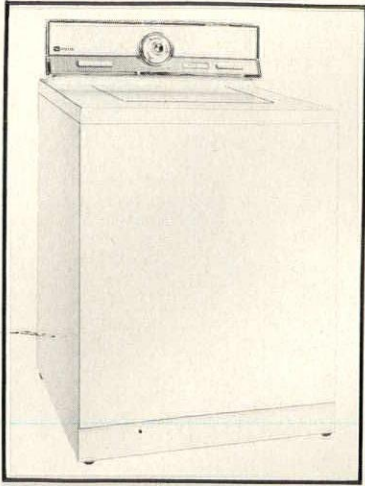
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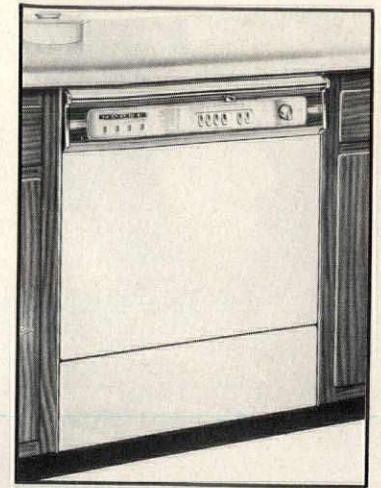


Economy-priced one-speed washer, Highlander® Fabric-matic™, features three separate washing programs: delicate, permanent press and regular. The delicate cycle is achieved by interspersing short periods of regular agitation with long periods of soak. Dryers are also offered. Maytag, Newton, Iowa.

CIRCLE 201 ON READER SERVICE CARD

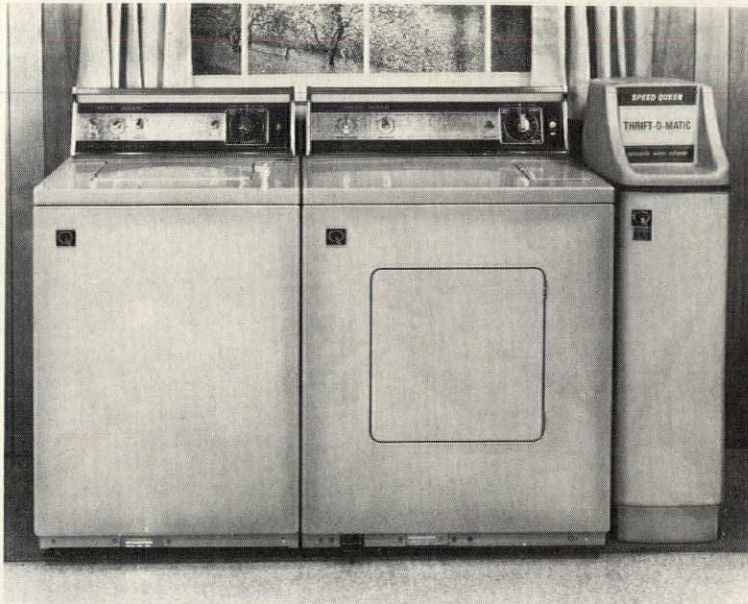


Electric cooking surface section features plug-in Calrod® units, a Teflon-coated griddle and a barbecue grill. The 36"-wide, brushed-chrome unit installs between countertop sections, eliminating costly cut-outs. A back-splash adjusts to 24"-25" countertop depths. Vented and non-vented hoods are available. Hotpoint, Louisville, Ky.



Built-in undercounter dishwasher offers quiet operation. The top-of-the-line unit, with ten programmed cycles, features a stainless steel liner, three-level cleaning action with two counter-rotating spray arms and a hi-wash diffuser arm, four indicator lights and a triple detergent dispenser. Norge, Fedders, Edison, N.J.

CIRCLE 203 ON READER SERVICE CARD



Automatic water softener is designed to boost laundry cleaning power in hard water areas. "Thrift-O-Matic", offered in three sizes to coordinate with washer-dryer sets, carries a three-year warranty on controls. Easily installed with a quick-connect kit, the appliance features a rust-free fiber glass resin tank. Speed-Queen, Ripon, Wis.

CIRCLE 204 ON READER SERVICE CARD



Gas double wall-oven is equipped with a "Compu-timer" oven control that provides perfect cooking results every time. Both continuous cleaning, 19" ovens operate independently and can be simultaneously set at different cooking temperatures. Unit has an Infra Ray® broil burner and rotisserie in the upper oven. Modern Maid, Chattanooga, Tenn.

CIRCLE 205 ON READER SERVICE CARD

Under-the-sink water filter, "Aqua-Pure", consists of a compact filter housing and two-stage filter cartridge. A cellulose stage traps dirt and rust and a second activated charcoal segment removes tastes and odors. AMF Cuno, Meriden, Conn.

CIRCLE 206 ON READER SERVICE CARD



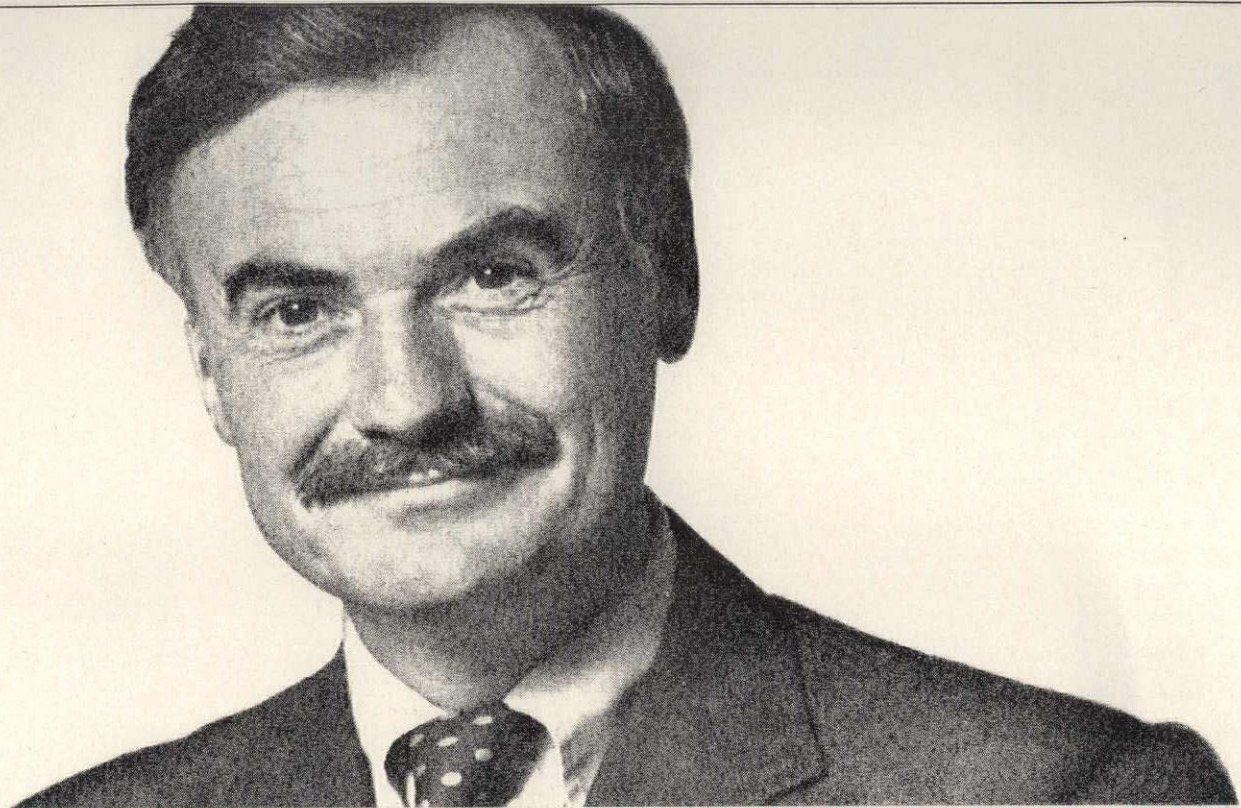
Popularly priced oak cabinet line, Mark XIV, features a soft luster fruitwood finish. Bold-grained, raised, beveled panels are removable

to permit customized decorative treatment. Designed to blend with any kitchen decor, the line features a three-coat baked-on finish, dove-

tailed sides, adjustable plastic-edged shelves and self-closing adjustable hinges. Excel, Lakewood, N.J.

CIRCLE 207 ON READER SERVICE CARD

The big boys go with the leader!

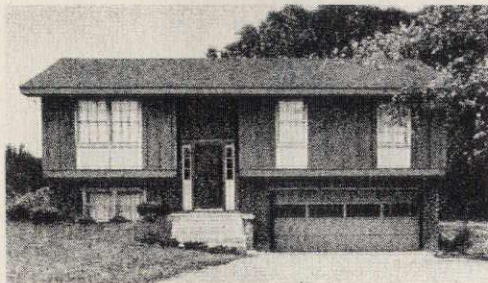


John Odegaard, v.p. of Mayhill Homes in Georgia says, "Ninety-eight percent of the builders who buy built-in tubs and showers specify fiberglass. And for our panelized homes, we specify U/R.

"We know if we use U/R fiberglass, we'll never have quality problems. And the U/R fixtures show such thoughtful design, they actually help sell homes to consumers. In fact, we now design U/R fiberglass showers into many of our new models."

Builders all over the country agree with Odegaard. They know they can count on U/R for the newest product designs.

Rigid structural checks and impartial load and impact tests. They also like the light weight, chip-resistant and leakproof features of U/R tubs



and showers. Plus the seamless construction that eliminates tiles and grouting. And on-time delivery from a nationwide network of plants and field representatives.

And now we've added a new fire-retardant fiberglass process that meets even the toughest building ordinances.* The FRP label on all U/R fiberglass fixtures guarantees it.

No wonder the biggest builders in the country go with the leader.

See what U/R fiberglass can do for you. Write for our new booklet, "Facts you want to know about Universal-Rundle fiberglass bathtubs and showers." Bob Sieger, Universal-Rundle Corporation, 217 N. Mill Street, New Castle, Pa. 16103.

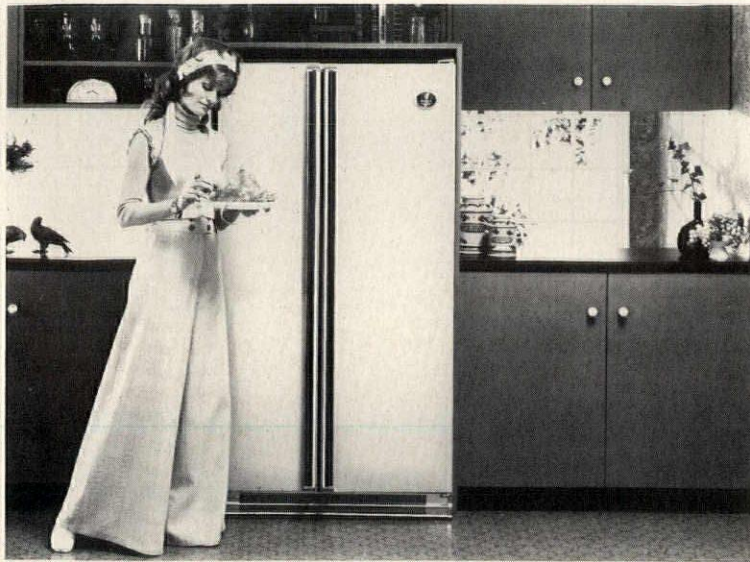
*Results of tests conducted by independent laboratories available on request.

 **Universal-Rundle**
First in the bathroom with fiberglass fixtures

T.M.

CIRCLE 97 ON READER SERVICE CARD

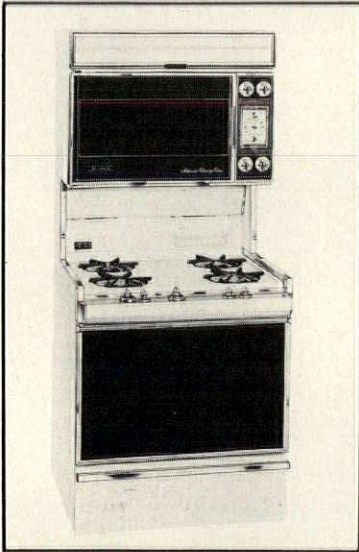
H&H AUGUST 1973 97



Side-by-side refrigerator/freezer, with full length door handles, has interior colors of celery and olive. Among the special features in the unit are a sealed seven-day meat compartment, a chill compartment that cools warm food and beverage quickly without freezing and a convenient automatic icemaker. Westinghouse Electric, Pittsburgh, Pa. CIRCLE 208 ON READER SERVICE CARD



Modular cabinet line, "Brittany," features doors of a polyester laminate with a finish harder than vinyl. The scratch-, mar- and chemical-resistant surface permanently retains its natural-looking wood color and grain. Easy-to-assemble cabinets have interchangeable doors for left or right opening. Noblecraft, Hillsboro, Ore. CIRCLE 211 ON READER SERVICE CARD



Complete cooking center features two ovens that automatically cook and self-clean at the same time. The 30" wide "Charmette" is equipped with a waist-high broiler, a powered rotisserie and Cook & Keep feature in the lower oven and Tem-trol automatic top burners. Unit comes in four colors. Roper, Kankakee, Ill. CIRCLE 209 ON READER SERVICE CARD

Drop-in electric range features a self-cleaning oven with a built-in smoke eliminator. The 30"-wide unit, offered with or without a backguard, is equipped with an easy-to-clean lift-up cook top. Available in a choice of popular colors, the range has an automatic oven cooking control. Magic Chef, Cleveland, Tenn. CIRCLE 210 ON READER SERVICE CARD

Low-cost kitchen cabinets are attractively styled to blend with any decor. Deeply paneled, simulated woodgrained doors and drawers are of molded plastic construction. Interiors feature a fully washable finish. A choice of golden oak or mission oak exterior is offered. Welsh Kitchens, Martinsville, Ind. CIRCLE 212 ON READER SERVICE CARD

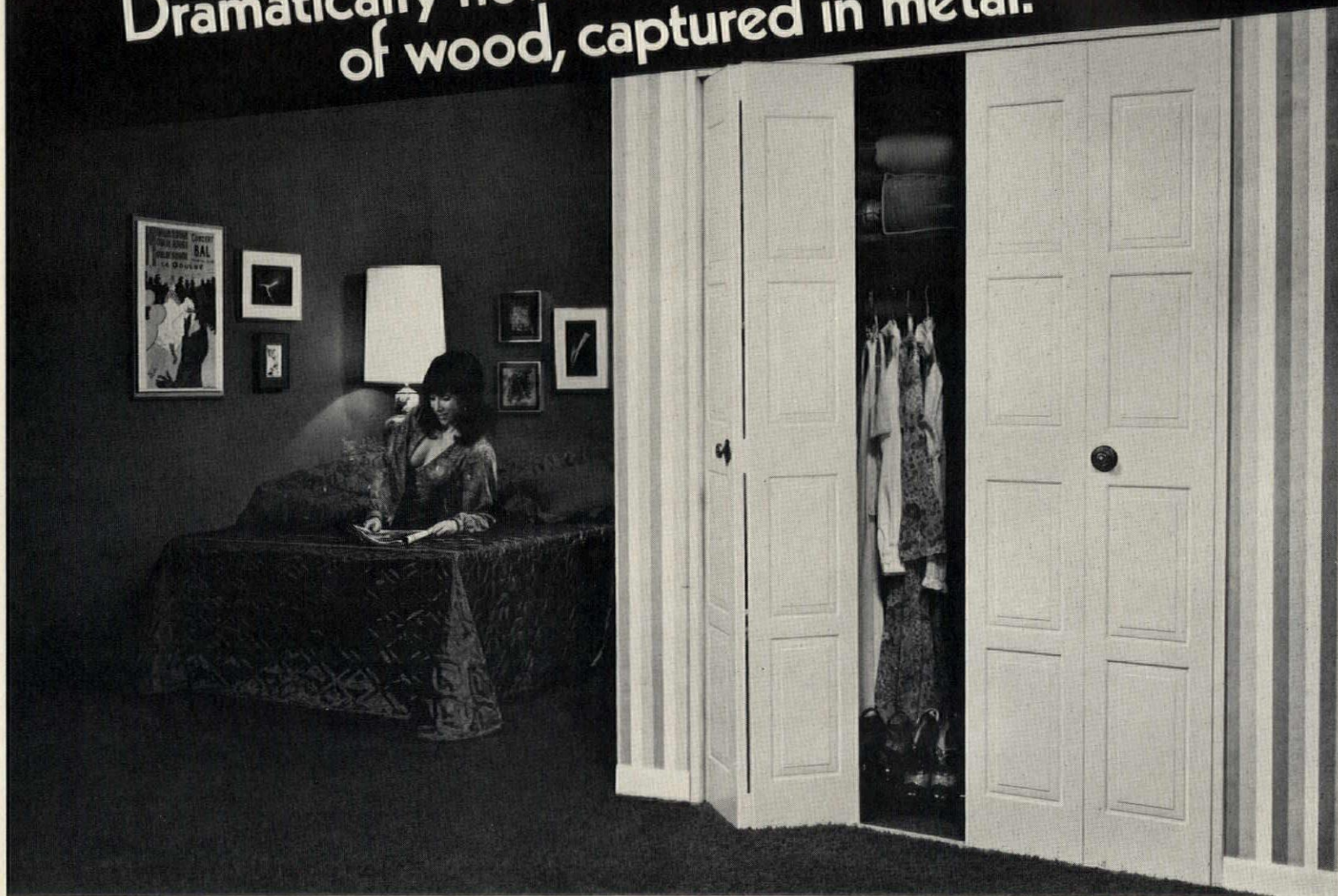


No-frost refrigerator/freezer in a small, low-cost model offers 9.94 cu. ft. capacity in the refrigerator section and a 2.49 cu. ft. freezer compartment. The two-door unit features two slideout crispers, two fixed shelves and in-the-door deep shelves, egg storage and butter chest. Kelvinator, Grand Rapids, Mich. CIRCLE 213 ON READER SERVICE CARD



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Company

Address

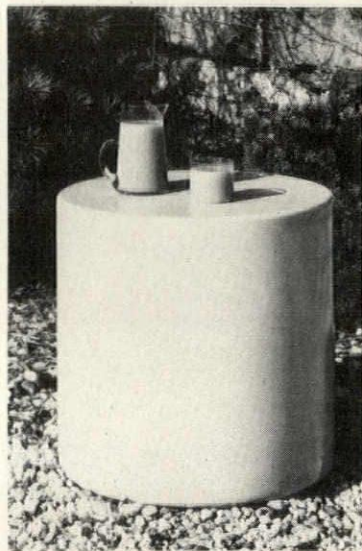
City State Zip



Contemporary-styled dining ensemble consists of a pedestal-base round table, six chairs and a coordinated buffet-server. All pieces are constructed of white plastic and the table and server feature white arbolite tops. The buffet provides counter space as well as drawer and cabinet storage. Treco, St. Romuald, Quebec, Canada. CIRCLE 214 ON READER SERVICE CARD



Contemporary wrought-iron patio set, "Christina," includes a 42"-diameter umbrella table and four arm chairs. The series features another group that consists of a loveseat, two arm chairs and a coffee table. Frames, offered in eight colors, have a specially developed corrosion- and rust-resistant finish. Plantation Patterns, Birmingham, Ala. CIRCLE 217 ON READER SERVICE CARD

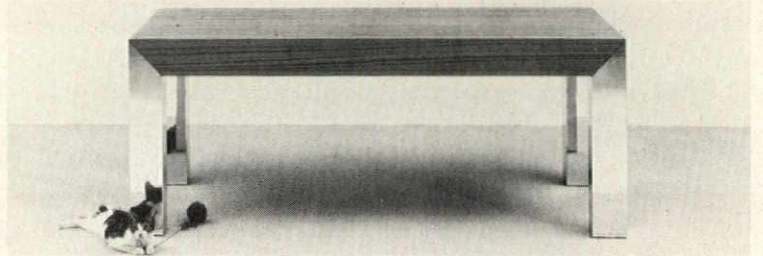
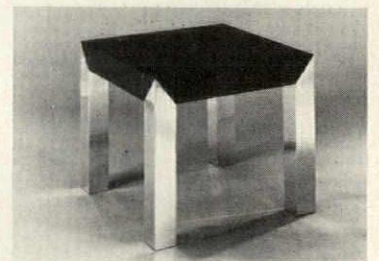


Porcelain enamel drum table, for indoor and outdoor use, is easy to maintain. The drum surface, much like that of a porcelain sink, has a high sheen and is unscratchable and heat resistant. Available 18" diameter by 18" high and 22" diameter by 22" high, the tables come white, red and black. Habitat, New York City. CIRCLE 215 ON READER SERVICE CARD

Upholstered seating collection, shown here in an L-shaped arrangement, is made of molded polyurethane foam with an integral steel frame. Pictured are two- and three-seater single-arm sofas covered in a herringbone wool. A "Kill" lounge chair completes the setting. Harvey Probbler, Fall River, Mass. CIRCLE 216 ON READER SERVICE CARD



Tables with mitered, square, chrome legs are offered with a variety of top surfaces. Five standard woods and five lacquered colors are available, as well as a plastic finish, "Sidetoskin." Tables come in a full range of sizes. Shown are an occasional table (right) and a coffee table (below). Intrex, New York City. CIRCLE 218 ON READER SERVICE CARD



Classic leather lounge chair is designed by Paul Tuttle for the Straesse International Collection. The gracefully curved base, made of bar stock steel with highly polished chrome plating, serves as a natural spring. Thonet, York, Pa. CIRCLE 219 ON READER SERVICE CARD



Round butcher block table features seamless sides and 2½" flush legs and aprons. A variety of Formica and colorful plastic finishes are available. The table comes in the 24" diameter shown or in a larger 42" dining size. Danielle, Philadelphia, Pa. CIRCLE 220 ON READER SERVICE CARD

HORRORS.



A HOUSE THAT JUST SITS THERE MAY BE SCREAMING FOR THERMOPANE®

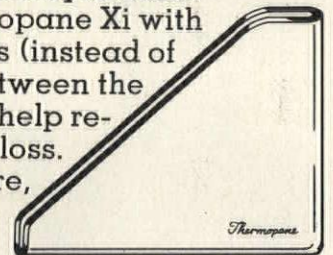
Home buyers are getting more particular all the time. They want sound construction, insulation in the walls, in the roof and in the windows.

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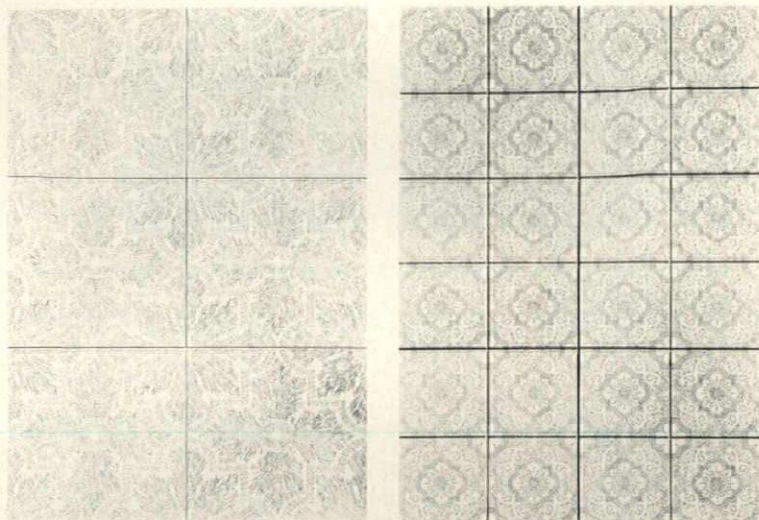
With today's energy shortages suggesting high heating costs in some parts of the country, Thermopane Xi™ is becoming more important to more people—builder and buyer alike.

Thermopane Xi with its inert gas (instead of dry air) between the panes can help reduce heat loss. What's more, it can increase indoor comfort and humidity with less chance of window fogging. Thermopane Xi is available to you in many standard sizes, for a lot of popular styles of windows.

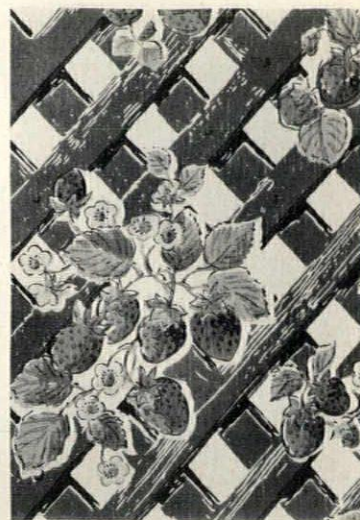
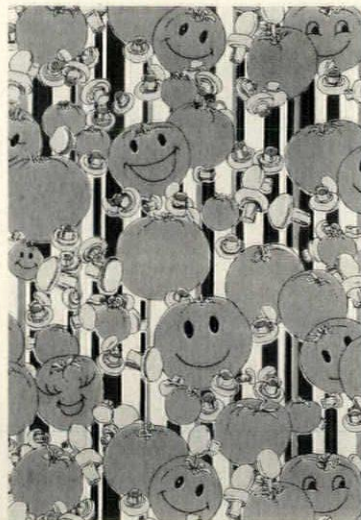
To help, we'd be glad to send you more details on Thermopane Xi. They're in a brochure entitled "How to Brighten Your Outlook." Simply write Libbey-Owens-Ford Company, Dept. G-873, 811 Madison Ave., Toledo, Ohio 43695.



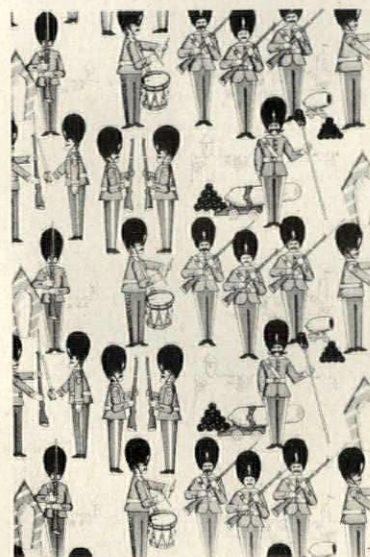
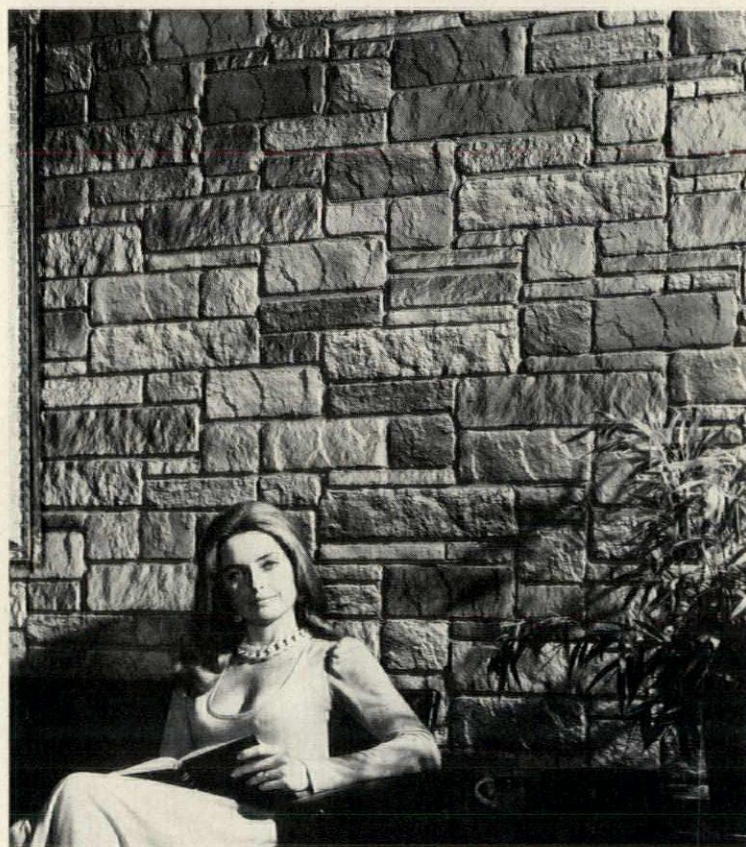
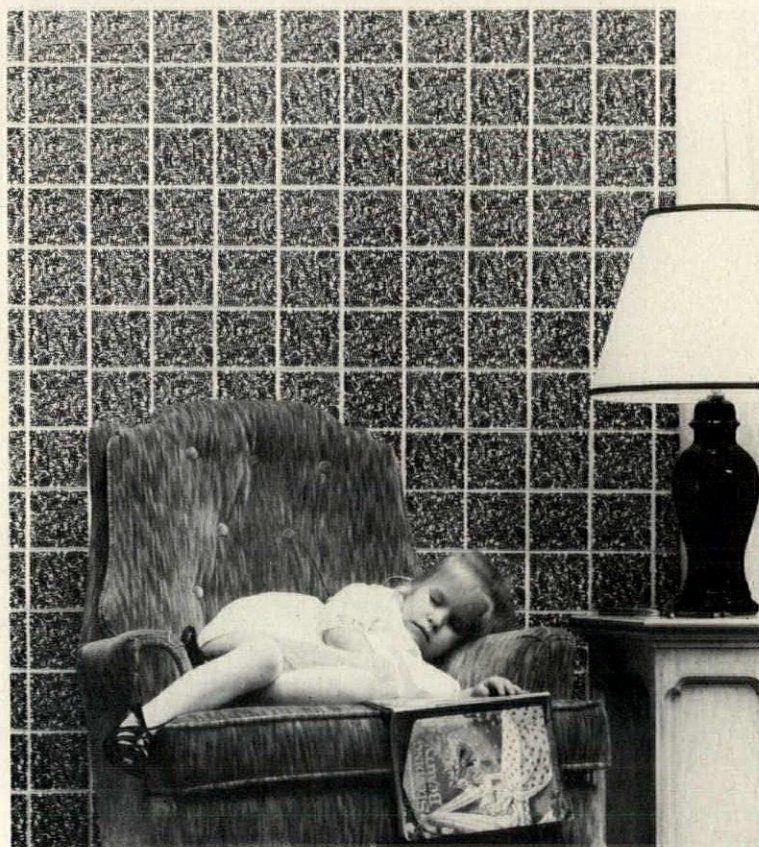
LOF



Two ceiling tiles reflect Far Eastern design influence. "Seraglio" (left) features a delicate tracery of gold in an intricate pattern. Butted tiles form their own design creating a monolithic appearance. "Arabesque" (right) is a 6"x6" Moorish pattern imprinted on a white background. Tiles have washable finishes. Simpson Timber, Seattle, Wash. CIRCLE 221 ON READER SERVICE CARD



Two colorful wallcoverings, "Good Looking Tomato" (left) and "Strawberry Lattice" (right), are designed with the kitchen in mind. Both scrubbable patterns are heavily coated in vinyl to resist dirt and grease. The prepasted materials are strippable as well so that they can be easily applied and removed. United-Desoto, Chicago. CIRCLE 224 ON READER SERVICE CARD

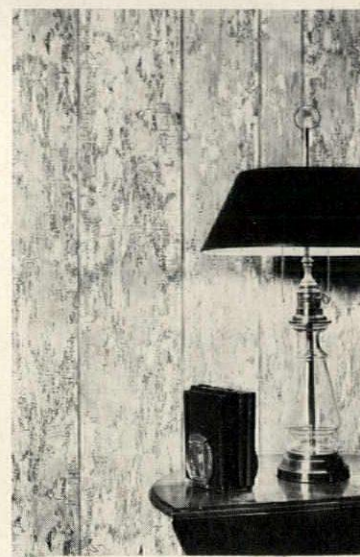


Ceramic wall-tile line consists of five patterns. Designs in the Romany Flair™ series range from contemporary—such as "Graphic" shown—to traditional. Each pattern is fired-in so that the design surface resists marring from abrasive cleaning agents and chemicals. U.S. Ceramic Tile, Canton, Ohio. CIRCLE 222 ON READER SERVICE CARD

Colorful wall paneling for a boy's room, "I'll Be A Drummer" is a vinyl pattern laminated to a lauan substrate. Designed for quick, easy installation, the panel can be nailed to existing studs or attached to a flat surface with adhesive. The easy-to-maintain surface is tough and durable. Panel Products, Lithonia, Ga. CIRCLE 223 ON READER SERVICE CARD

Simulated replicas of cut stone, "Stone-Craft," are molded of high impact polystyrene. Proportioned for indoor use, the rough-textured stones of various shapes and sizes come in natural beige or gray. Installation is simple with the special "Applicon" adhesive application system. Decro-Wall, Elmsford, N.Y. CIRCLE 225 ON READER SERVICE CARD

Weathered-look vinyl material for prefinished wall panels, "Barn Door," can be laminated to lauan, plywood or other rigid substrates. The flexible, washable and abrasion-resistant vinyl provides the aesthetics of a woodgrained panel without the maintenance problems of natural boards. Stauffer, Westport, Conn. CIRCLE 226 ON READER SERVICE CARD

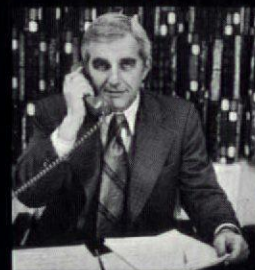


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massive study of 584,874 sales leads from House & Home readers confirms that sales action in housing & light construction comes from every segment of the industry

To identify all the important people in housing and light construction who are active in the selection of building products, materials, and equipment, House & Home followed up 584,874 advertising inquiries from its reader service cards and received a 33% return involving 195,200 inquiries.

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

For the purpose of this study, "sales actions"—that is, those actions bringing products and prospects closer to a sale—have been defined as *specifying, recommending, approving, pur-*

chasing, and still investigating further.

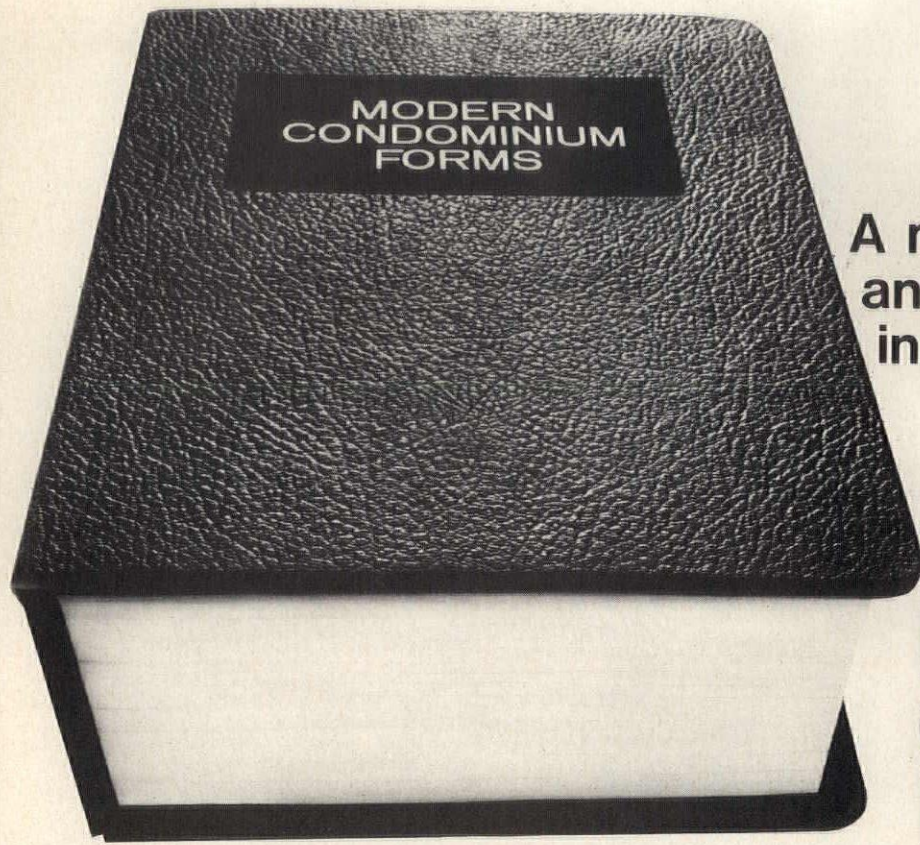
For each sales action, of course, the unknown multiplier is the number of residential or other units for which the sales action was taken. For example, a single *purchase* mention could involve a 10-house development, a 280-unit apartment complex, or anything in-between.

As shown in the table below, results indicate in the clearest possible manner that sales action comes from every segment of the industry and only House & Home—with its industry-wide circulation—offers all the sales action in the market.

SALES ACTIONS TRIGGERED BY 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	117,716	43,545	37,942	5,442	6,351	3,834	996	9,447	26,070	68.7%
Builders & Contractors	248,906	77,961	66,624	5,489	7,666	7,057	7,227	22,890	50,329	75.5%
Commercial/Industrial	15,005	4,761	4,024	281	477	209	209	1,361	2,537	63.0%
Engineers	15,321	6,067	5,340	391	599	329	229	1,862	3,410	63.9%
Financial	11,280	4,394	3,832	206	402	276	182	1,351	2,417	63.1%
Government	12,521	5,717	4,977	308	537	355	219	1,641	3,060	61.5%
Realty	22,803	7,521	6,633	392	679	609	381	2,569	4,630	69.8%
Retail Dealers	11,502	3,447	2,835	241	318	233	236	1,027	2,055	72.5%
Subcontractors	20,952	6,010	5,243	351	644	604	515	1,665	3,779	72.1%
Wholesale Distributors	6,821	2,284	1,963	141	248	124	130	696	1,339	68.2%
Others not identifying self	102,047	33,493	28,983	1,883	2,766	2,052	1,296	8,713	16,710	57.7%
TOTAL	584,874	195,200	168,396	15,125	20,687	15,682	11,620	53,222	116,336	69.1%

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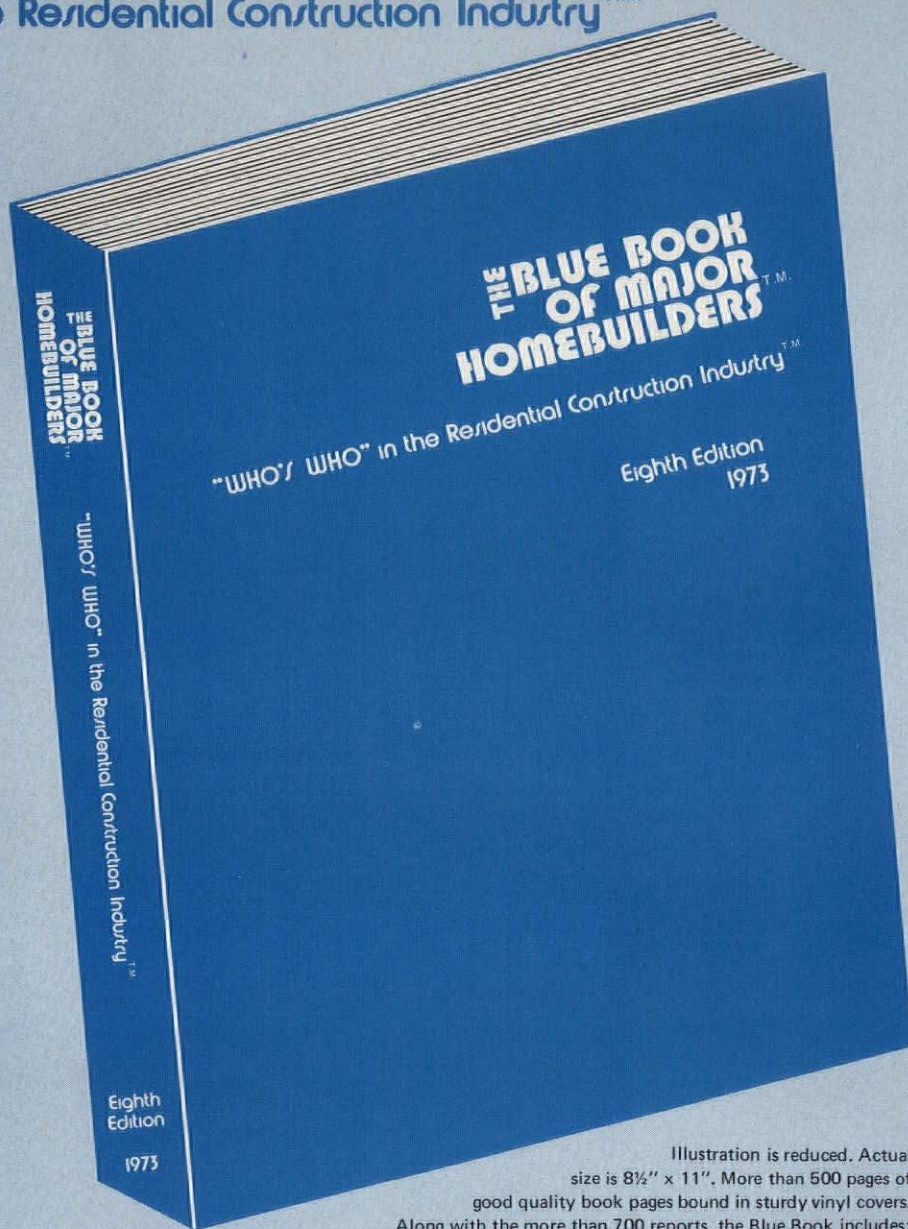


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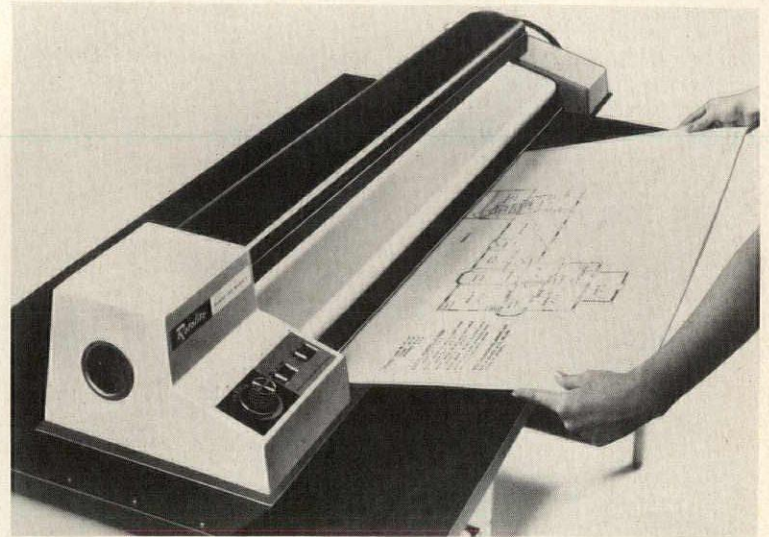
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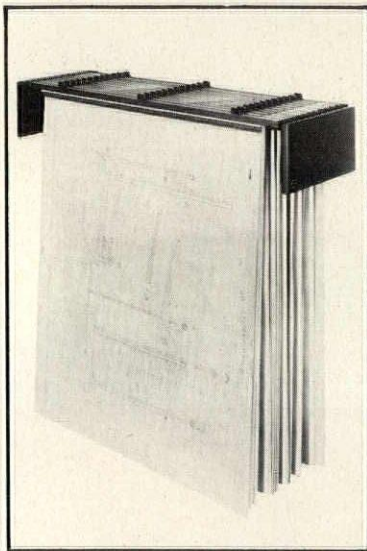
"Duo-Row" shelving system makes the most of filing or storage space. A front row of mobile stack units is attached by an overhead channel to rear stationary stacks. The front row is always one stack shorter than the back to permit easy access to rear units. Front row is on ball bearing wheels. Dolin Metal, Brooklyn, N.Y. CIRCLE 232 ON READER SERVICE CARD

Optical tape measure accurately indicates distance by sighting through a viewfinder. A knob on the device is turned until the object or spot being viewed is a sharp image. The distance indicator provides an instantaneous reading in feet and inches. Unit has rugged Cyclocac® case. Ranging, Rochester, N.Y.

CIRCLE 235 ON READER SERVICE CARD



Self-contained printer and developer, "Diazo-Jet Mark II," incorporates the latest roller assembly that eliminates the few studs that were subject to failure. The whiteprinter/blueprinter can make copies of tracings, drawings, plans and other originals to 42" wide by any length at dramatic speeds. Teledyne, Rotolite, Stirling, N.J. CIRCLE 236 ON READER SERVICE CARD

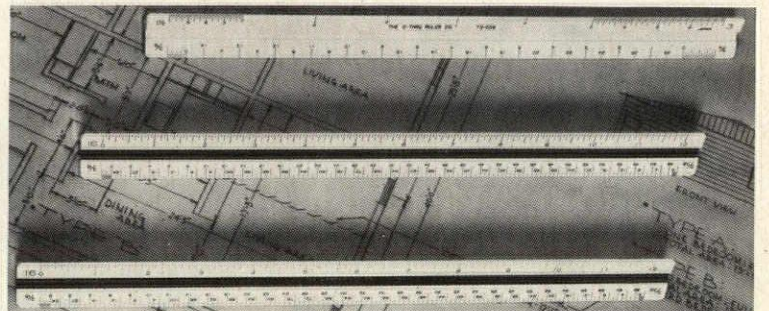


Print clamp wall racks are designed for use in areas where filing space is at a premium. Available in parallel and perpendicular mounting models, the units hold up to 12,000 sheets in sizes up to 48" wide by any length. Racks are equipped with 12 clamps in an exclusive suspension system that permits each clamp to be slipped in and out without disturbing others. Stacor, Newark, N.J.

CIRCLE 233 ON READER SERVICE CARD

Central heating system calculator determines heat loss from a range of factors, total air change in cu. ft. per hour, radiator size, pipe sizes, boiler size and circulating pump size. Device comes with instructions. Industrial Scientific, Rouses Point, N.Y.

CIRCLE 234 ON READER SERVICE CARD

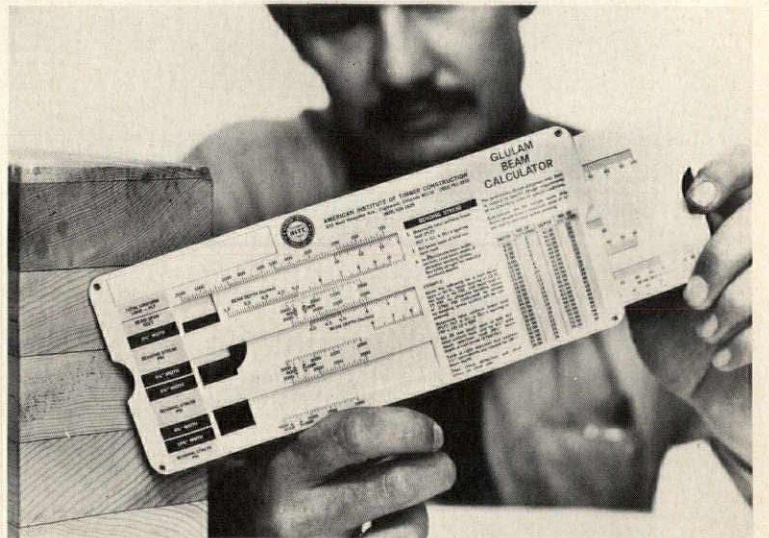
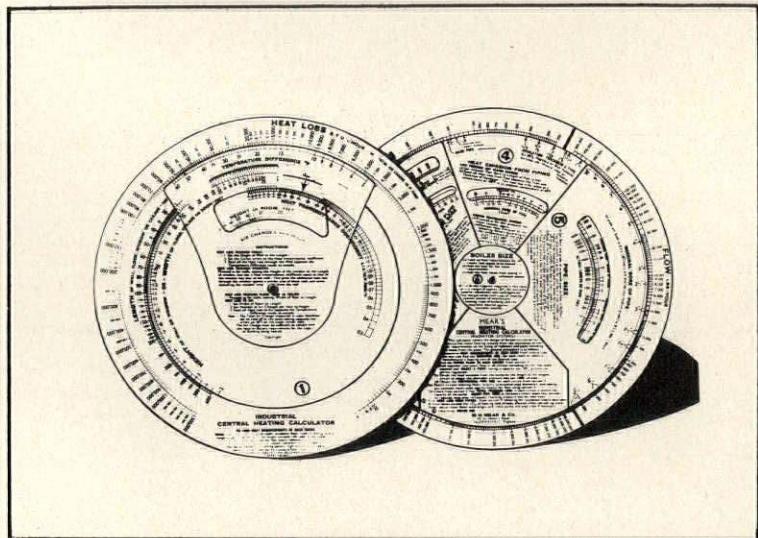


Three triangular scales for architectural use provide a full range of calibrations on one instrument. Each is 12" long with a variety of open divided graduations and a scale divided 16 parts to the inch. C-Thru Ruler, Bloomfield, Conn.

CIRCLE 237 ON READER SERVICE CARD

A handy slide calculator is designed to assist in determining preliminary sizes of glu-lam beams. The device includes deflection and shear stress checks of the beam selection as determined for bending requirements. AITC, Englewood, Colo.

CIRCLE 238 ON READER SERVICE CARD

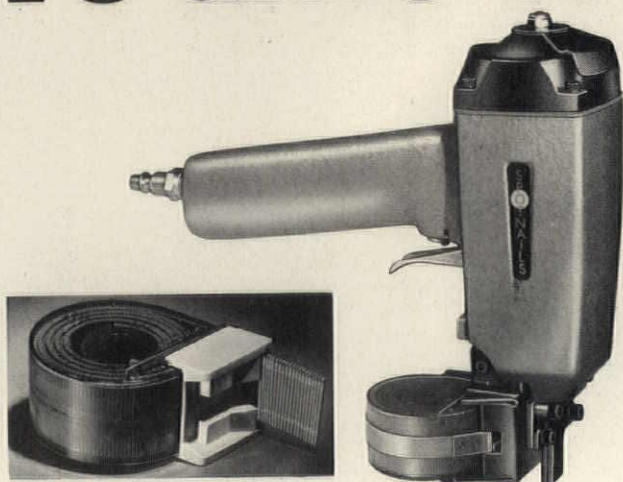




Keep production moving with the Spotnails TL Series Spotbradder.™ Quick loading coil cartridges get you in and out of the "pit" fast. Fewer stops, too, because it carries a load of 925 Spotbrads™ —largest in the industry. Weighing in at just 3 lbs., the TL Series drives 18-gauge Spotbrads™ 3/4" to 1". Also 18-gauge Spotpins™ 3/4" to 1 1/8" in loads of 1500 pins per cartridge. The ideal tool for decorative moldings, paneling, trimwork and cabinetry. Start your next production race with the fast finisher —the TL Series from Spotnails.

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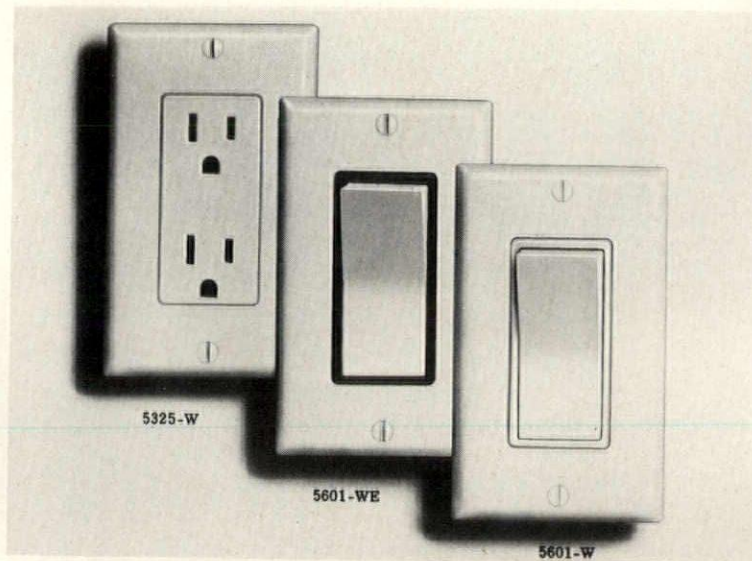
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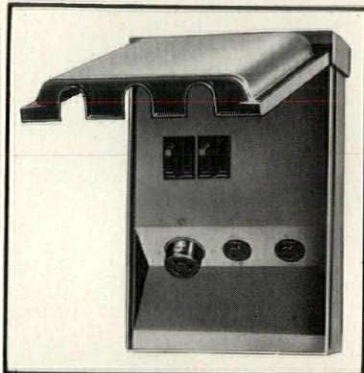
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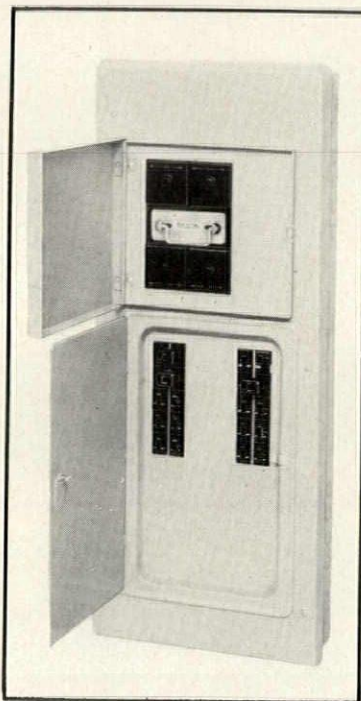
Designer line of rocker switches, receptacles and wall plates is available in decorative colors with matching or contrasting borders. Quiet-type switches feature an exclusive frame that insures proper wall-plate fit and shields against dust. Matching grounded receptacles come in single or duplex configuration. Leviton, Brooklyn, N.Y. CIRCLE 239 ON READER SERVICE CARD



Adhesive marker strips are for identification of electric cables, multi-wire circuits, conduit, pipe and tubing up to 1" in diameter. The pressure-sensitive strips, available in numerals 0 through 9 in eight NEMA colors, are printed for legibility and coated for smear resistance. Backing card prevents adhesive from drying up. AMP, Paoli, Pa. CIRCLE 243 ON READER SERVICE CARD



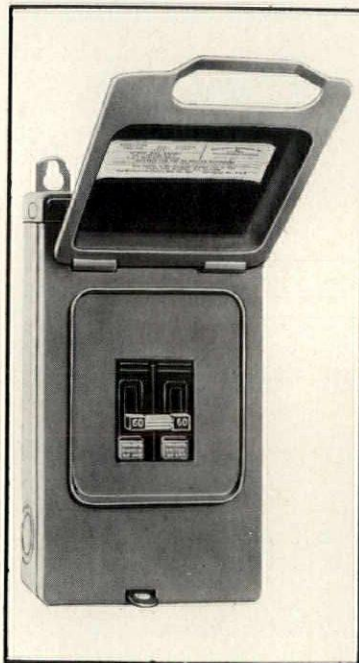
Weatherproof power outlets are prewired for easy installation. Units are available with standard or corrosion-resistant receptacles or with the latter plus a corrosion-resistant Cavalon finish on enclosures. A slanted front panel allows the cover to be closed while outlet is in use. GFI circuit breakers and junction mounting posts are optional. Midwest Electric, Mankato, Minn. CIRCLE 240 ON READER SERVICE CARD



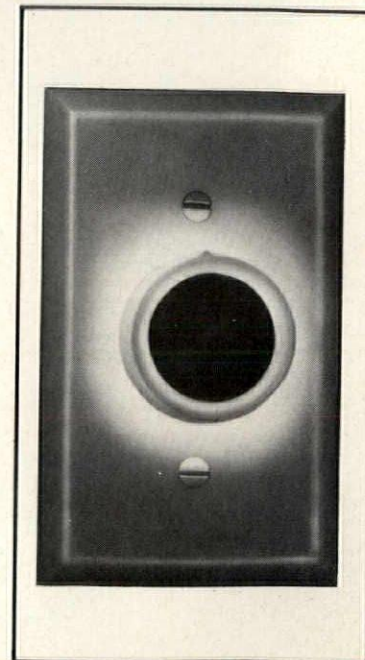
Load center combines a fusible main in a 10,000 amp interrupting capacity with branch circuit breakers. The branch breakers are available in capacities of 5,000 or 10,000 amp. Unit comes in one model with a 100 amp main that can accommodate 20 branch circuits and another version with a 200 amp main that services 40 branch breakers. I-T-E Imperial, Spring House, Pa. CIRCLE 241 ON READER SERVICE CARD



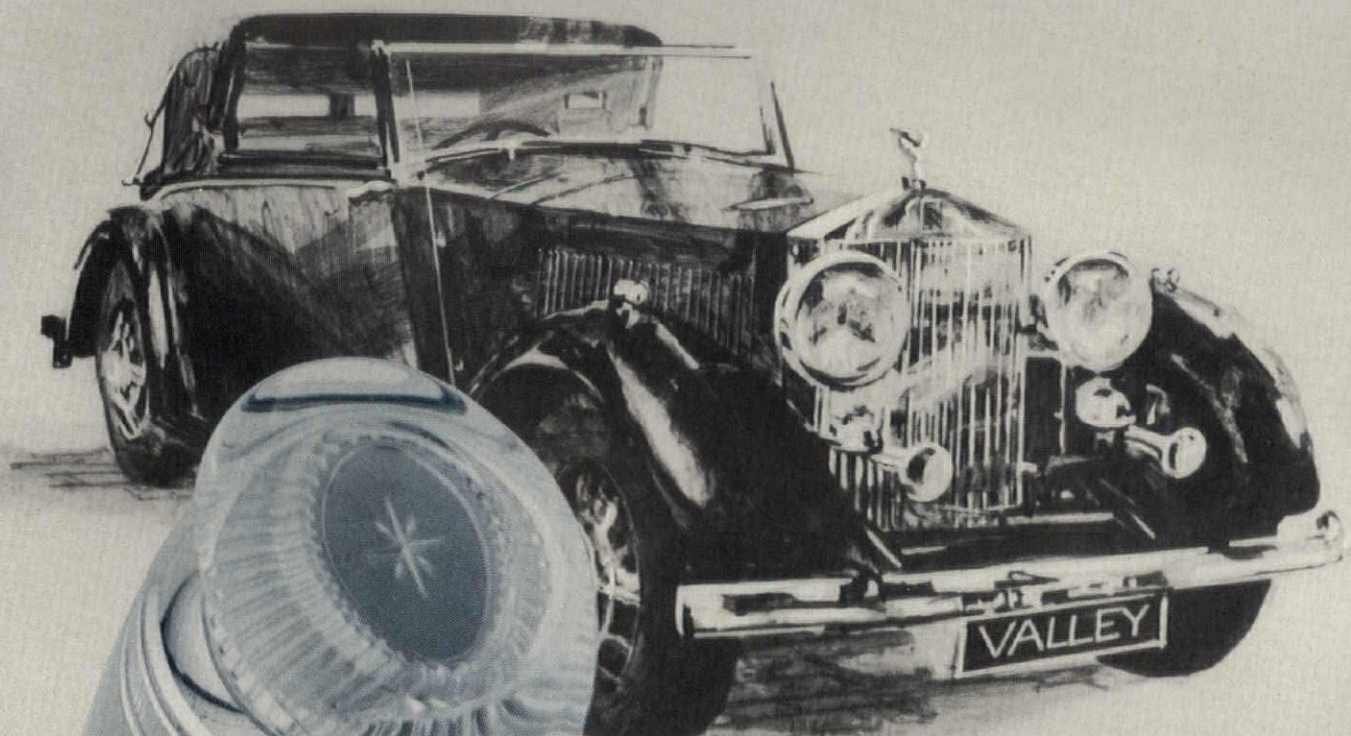
Insulated-case circuit breakers are available in interrupting capacities up to 4,000 amps. The Power-Break™ features the highest interrupting capacity available without fuse assistance. The breaker can be front or rear connected. UL listed units, for manual or electric operation, feature dual-magnetic, non-ambient sensitive trips. General Electric, Plainville, Conn. CIRCLE 244 ON READER SERVICE CARD



Raintight disconnect switch is designed for air conditioners and in areas where the National Electrical Code requires an H.P.-rated disconnect means within sight of the motor (N.E.C. 430-86). Device is factory installed in zinc-coated gray steel cabinets. Boxes with hinged doors at the top can be sealed or locked and are designed for easy mounting. Wadsworth, Covington, Ky. CIRCLE 242 ON READER SERVICE CARD



Light dimmer features a knob that glows in the dark. Dim-N-Glow™, a solid-state unit, is designed to be easy to find. A halo of light provides a sure path to the switch. A neon light behind the knob glows when the switch is off or at low light levels. Dimmers are rated at 600W, incandescent. Single pole or three-way models are offered in rotary or push switches. Lutron, Coopersburg, Pa. CIRCLE 245 ON READER SERVICE CARD



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We'll be around a long, long time

A classic doesn't come along too often. But when it does, it sets the pace for years to come. Rolls did it with their Classic 33. And Valley's new Starburst Series has done it, too.

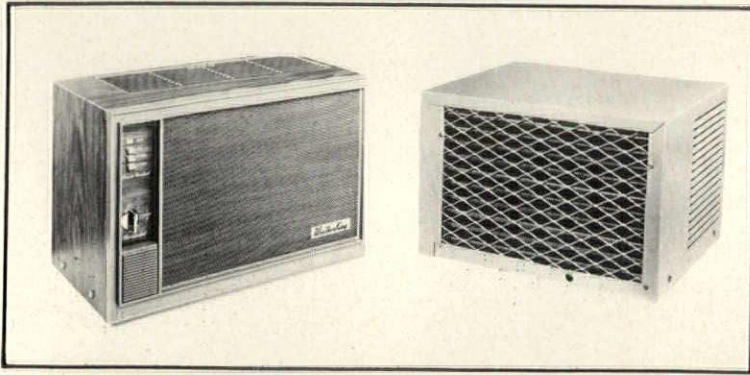
Clean, simple lines that spell its elegance; "hydroseal" leak-proof, worry-proof action; feather-touch control and mirror-like "triplate" finish give every Valley faucet the quality, appearance and dependability that will last a long, long time.

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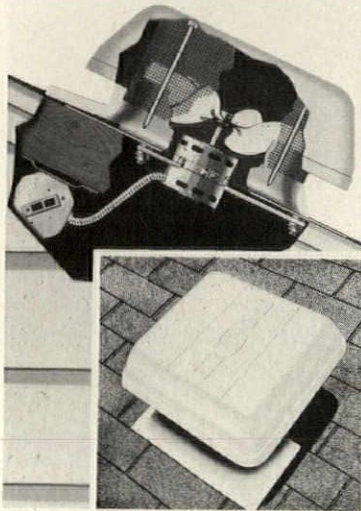
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Split system area air conditioner provides clean, quiet cooling. An indoor, wall-hung evaporator contains a two-speed blower fan that discharges cool air. It is connected to an outdoor unit that houses a compressor, a condenser and a condenser fan. Operating noises are isolated outside. Addison, Addison, Mich.

CIRCLE 246 ON READER SERVICE CARD

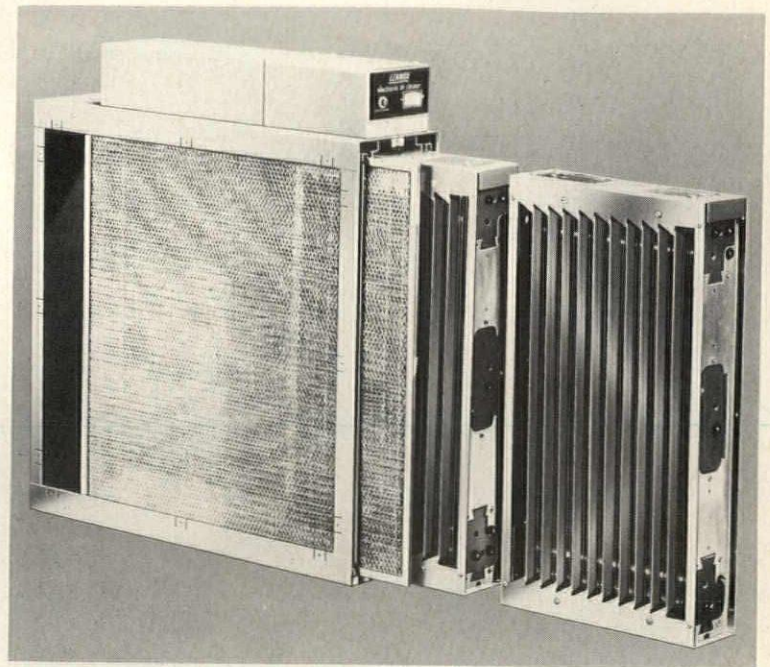
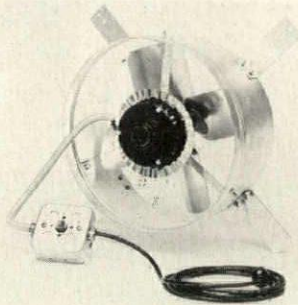


Automatic power attic ventilator features an adjustable thermostat. The automatic exhaust unit, which is designed for areas up to 1,200 sq. ft., is quick and easy to install. An optional human-hair-element adjustable humidistat draws out potentially damaging moisture-laden air. Kool-O-Matic, Niles, Mich.

CIRCLE 247 ON READER SERVICE CARD

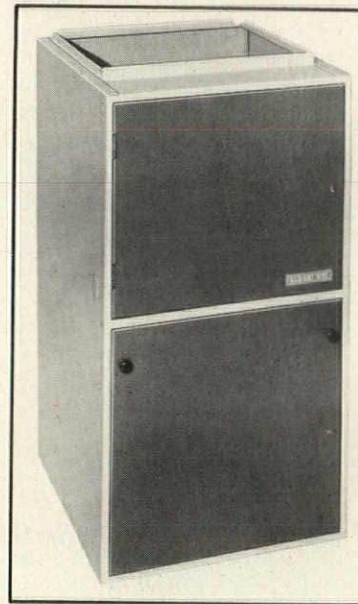
Power attic ventilator automatically exhausts superheated air from attics or crawl spaces. By removing this heat-load, an entire structure stays cooler and the regular air conditioning system operates more efficiently. The unit is designed for installation behind existing gable louvers or under roof vents. It is controlled by an adjustable thermostat. Butler Engineering, Mineral Wells, Tex.

CIRCLE 248 ON READER SERVICE CARD



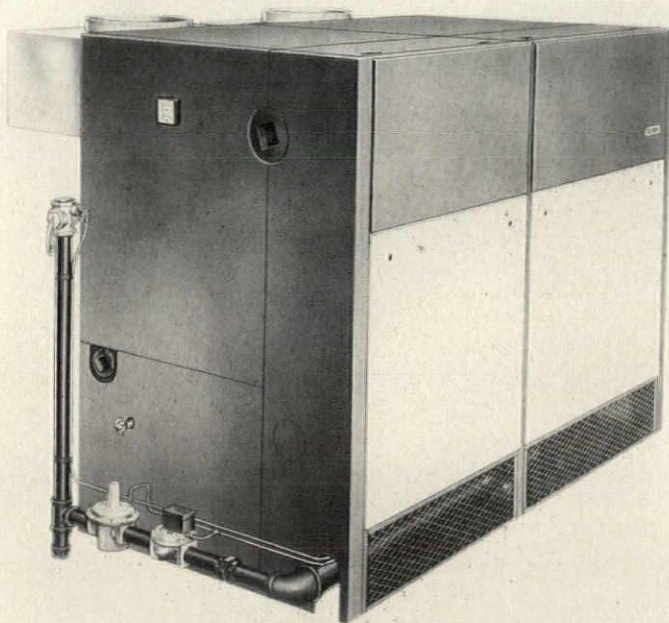
Blower coil units come in 1½, 2 and 2½ ton nominal cooling capacities with a wide range of heating options available. Units, which can be installed either vertically or horizontally, feature balanced, three-speed, twin direct-drive blowers. Valve-free Refrigerant Flow Control™ is standard. Lennox, Marshalltown, Iowa.

CIRCLE 250 ON READER SERVICE CARD

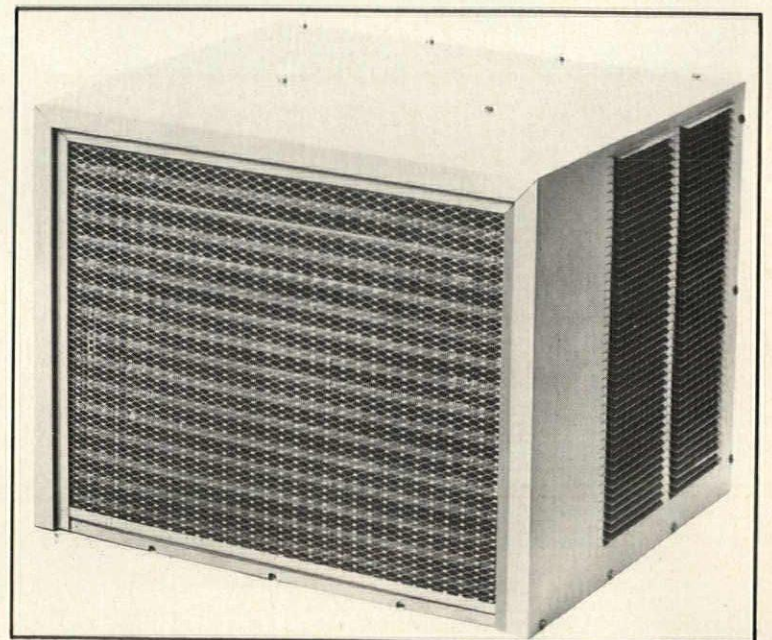


Compact forced-air electric furnace with an unusually low silhouette is adaptable to practically any installation. Units, ranging from 34,150 to 119,550 BTUH, can be installed upflow, downflow or horizontal without alteration. Units feature element sequencers, fusible links that can be replaced without removing the elements and a slide-out blower. Radiant-Aire, Quincy, Ill.

CIRCLE 251 ON READER SERVICE CARD

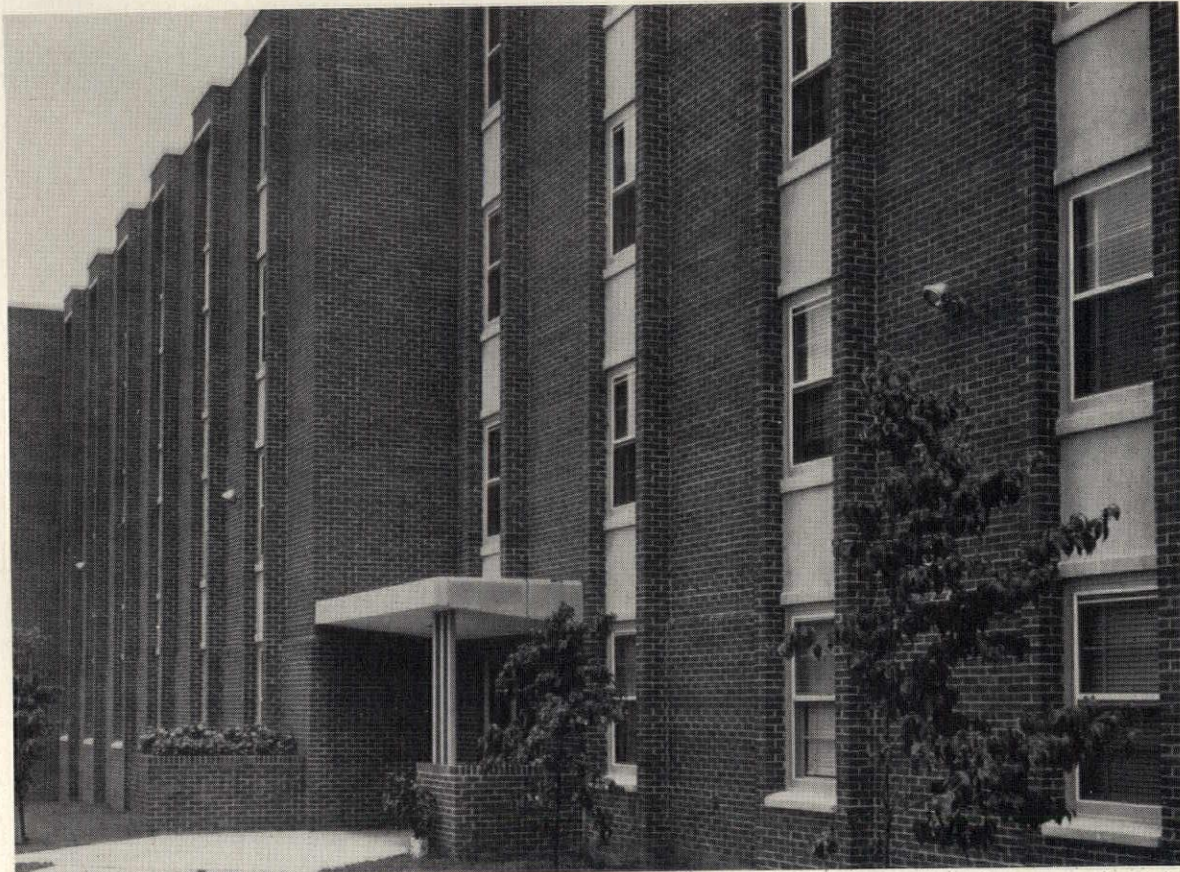


Flexible cast-iron gas-fired boiler, available in 29 sizes, is for water and steam applications. Designed for the multifamily and commercial market, the boiler allows for a choice of piping and flue arrangements. A steel jacket with a beige and brown finish is lined with fiber glass insulation. American Standard, New Brunswick, N.J. CIRCLE 249 ON READER SERVICE CARD



Series of condensers is engineered for use with 1, 1½ and 2 ton central air conditioning systems. Units feature an externally accessible wiring compartment. Refrigerant lines are equipped with quick disconnect fittings for easy installation. A balanced fan-motor combination provides quiet operation. Fasco Industries, Fayetteville, N.C. CIRCLE 252 ON READER SERVICE CARD

“Living Proof” of Lasting Window Quality



Bassett Hall, Ferrum College, Ferrum, Virginia

Cost Conscious?

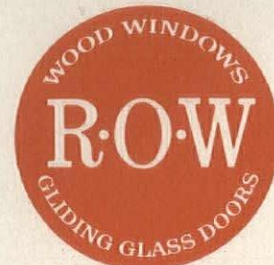
R•O•W removable wood windows are priced to compete with other top quality wood windows. But no other window can match the ready-removability and exclusive operational advantages of R•O•Ws. Save on maintenance, heating and cooling, too.

Comfort Conscious?

The same springs which permit quick removal of sashes for cleaning, painting or glazing also assure snug fit of sash guides for year-around positive weather protection and easy operation.

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1393 Academy, Ferndale, Michigan 48220

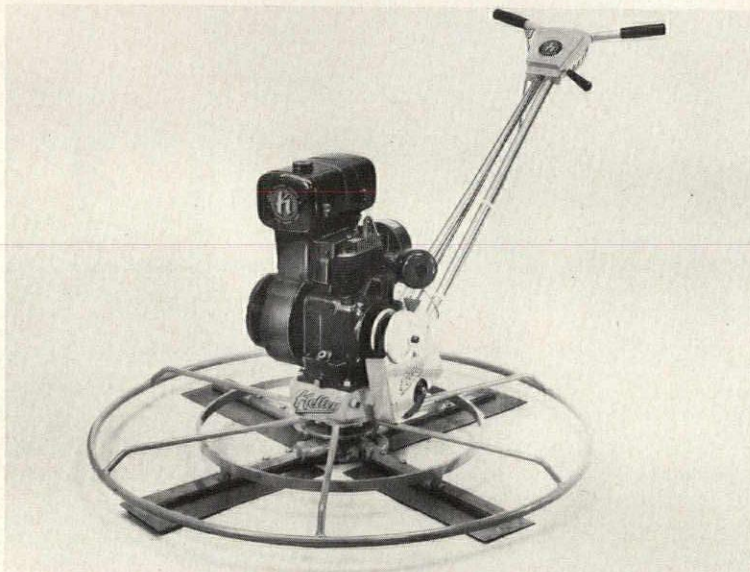




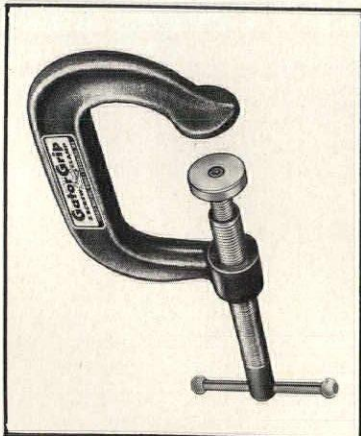
Lightweight emergency power handsaw cuts every construction material including masonry, brick, block, stone, concrete, tile, metals and wood. The unit is offered in a 4½ hp model with a 12" blade capacity and a 6½ hp version with a 14" blade capacity. An all-steel safety blade guard is featured. Cardinal, Conshohocken, Pa. CIRCLE 253 ON READER SERVICE CARD



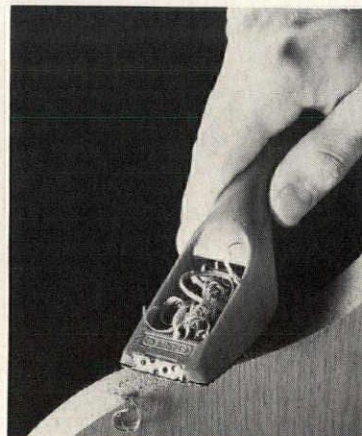
Cordless electric hedge trimmer, to maintain large areas, features an interchangeable battery pack. The tool will deliver 2,200 strokes per minute with its double-edged blade, for up to 45 minutes on a single battery charge. Freshly charged batteries may be inserted on the spot for additional trim time. Disston, Pittsburgh, Pa. CIRCLE 257 ON READER SERVICE CARD.



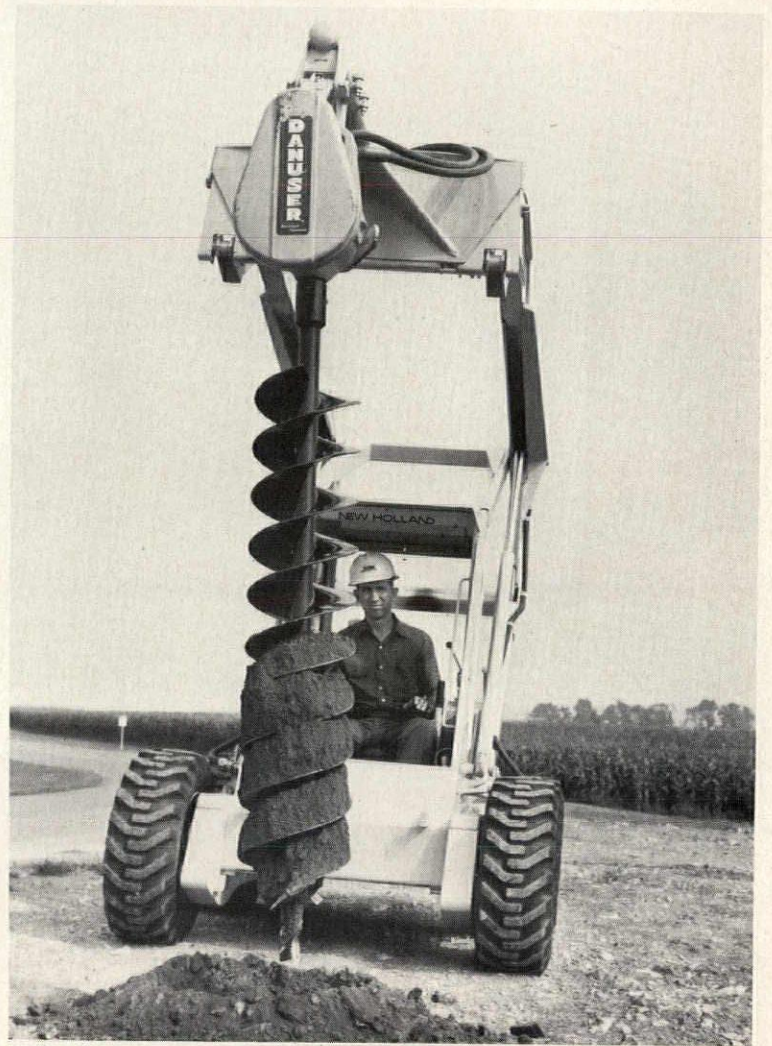
Heavy-duty power trowels are available in 42" and 46" diameters. Units feature strong spider legs and stabilizer rings to assure a smooth finish. "Posi-loc" blade pitch controls, located on the handle assembly, provide seven positions. Machines are equipped with safety features to meet federal requirements. Kelley, Buffalo, N.Y. CIRCLE 256 ON READER SERVICE CARD



Clamper device, with a patented design, produces ten times as much grip when tightened by hand as a standard C-clamp tightened with a wrench. The pressure is achieved by a differential screw—an insert screw within the rustproof spindle. "Gator-Grip" holds any shape object. Cosner Machine, Strasburg, Mo. CIRCLE 254 ON READER SERVICE CARD

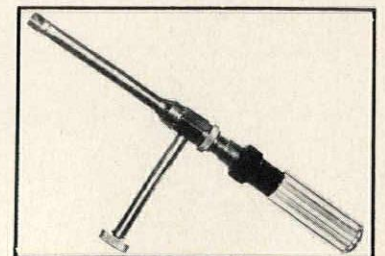


Shaver tool features a convex click-on blade for good cutting action on flat, convex or concave surfaces. A pull shaving direction assures good control and easy handling. The 7"-long, molded plastic tool can be used to smooth, shape, file or rasp a variety of building and decorative materials. Stanley Tools, New Britain, Conn. CIRCLE 255 ON READER SERVICE CARD

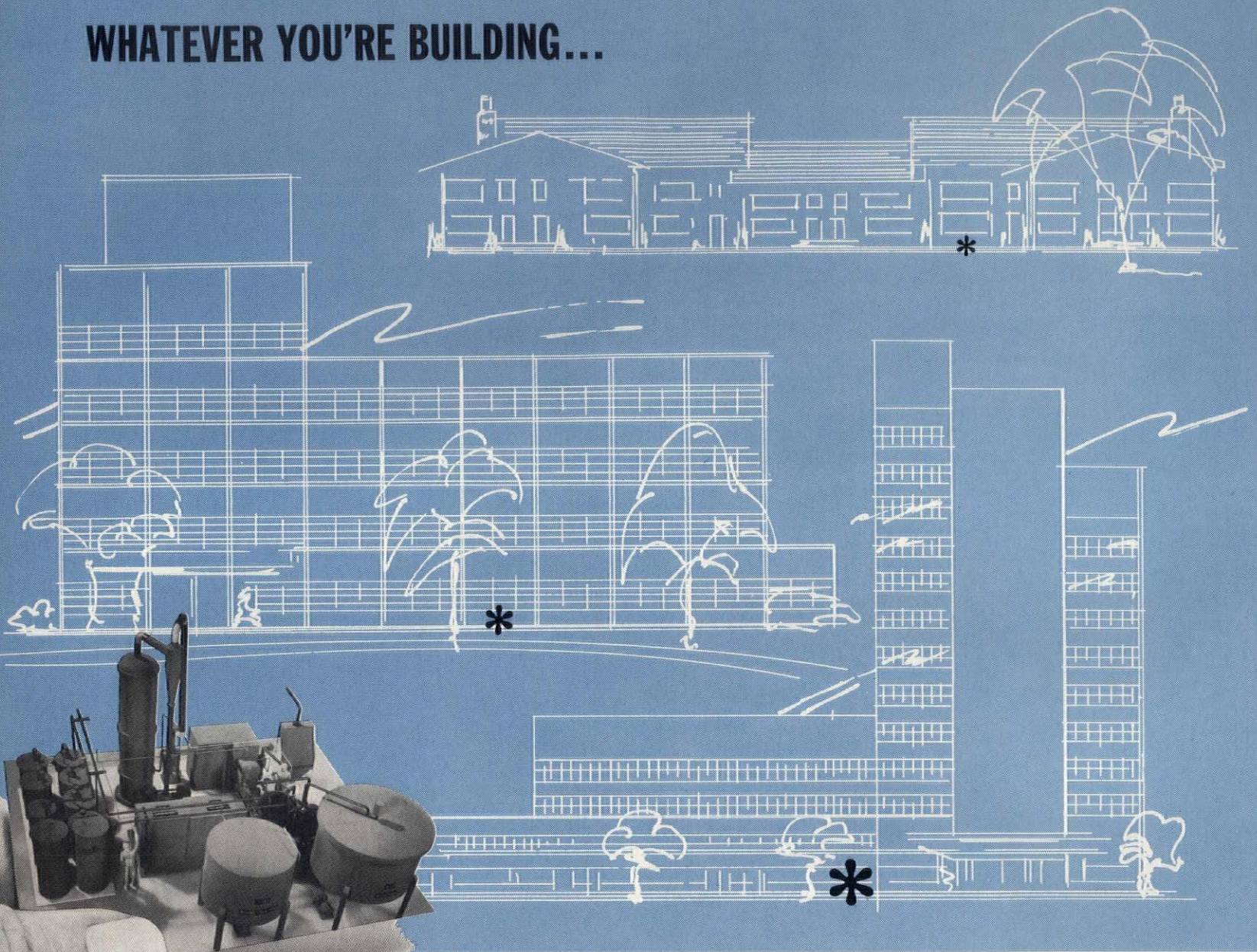


Utility loader features an earth drill attachment for installing fences, power-poles, guard-rails or foundations. The hydraulic, motor-driven drill attaches to the loader in about one minute. The loader, with a patented boom action, directs the attachment straight down into the ground without realignment. New Holland, New Holland, Pa. CIRCLE 259 ON READER SERVICE CARD

High-torque wrench screw-driver easily inserts or removes screws, bolts and nuts in corners or other hard-to-reach areas. When not in use a power arm, which can be inserted in the socket of the tool to provide extra leverage, is stored in the hollow shock- and breakproof handles. G.C.A. Mfg., Pittsfield, Mass. CIRCLE 258 ON READER SERVICE CARD



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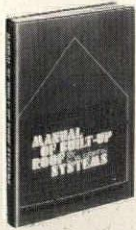
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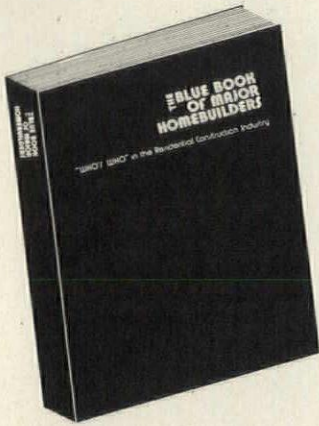
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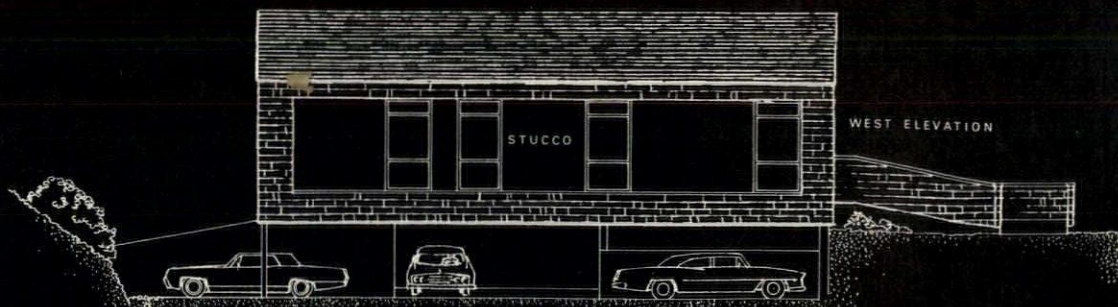
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Carpet maintenance for manmade fabrics is discussed nontechnically in four sections: appearance retention, routine maintenance, major cleaning (both do-it-yourself and professional) and static and repairs. DuPont, Wilmington, Del. CIRCLE 306 ON READER SERVICE CARD

Range hoods and ventilating fans and accessories are cataloged. The binder-hole-punched, color brochure contains diagrams of products and brief text descriptions. Specifications are included. Leigh, Coopersville, Mich. CIRCLE 304 ON READER SERVICE CARD

Steel landscape edging bulletin gives types, costs, specifications and availability data. The rust-resistant edging, for use as borders for paths, drives, walkways, flower beds, parking areas, etc., is shown in black and white photographs of applications. Ryerson, Chicago. CIRCLE 303 ON READER SERVICE CARD

Landscape designs catalog in full color presents ideas in interior and exterior landscaping with artificial trees and shrubs. Illustrations show topiary trees and hedges, evergreens and regular hedges. Installation is briefly discussed. Specifications and price list are included. Pouliot Designs, Savage, Mich. CIRCLE 316 ON READER SERVICE CARD

Aluminum scaffolds and workstands, for maintenance work and light construction jobs, are described in text and shown in photographs and illustrations. Product attributes are discussed. Technical data are included. Patent Scaffolding, Long Island City, N.Y. CIRCLE 301 ON READER SERVICE CARD

Solid vinyl siding for residential use is featured in full color. The eight-page brochure discusses the benefits of using vinyl siding for outside beauty and durability and inside quiet and temperature control. Illustrated with photographs and sketches. Mastic, South Bend, Ind. CIRCLE 302 ON READER SERVICE CARD

Bifold and bi-pass closet doors, custom-made to builder specifications, are shown in full color photographs of installations. Standard sizes are listed along with specifications. Leigh, Coopersville, Mich. CIRCLE 305 ON READER SERVICE CARD

Fastening methods, recommended

for storm-resistant construction, are presented in this six-page folder. Detailed diagrams help explain how wood-frame buildings can be anchored and tied together more securely than is generally possible by the use of special fastening devices. TECO, Washington, D.C. CIRCLE 308 ON READER SERVICE CARD

Line of wall plates, in several different styles, sizes, colors and configurations, is presented with text, illustrations and charts. The binder-hole-punched, full-color catalog includes detailed specifications. Leviton, Brooklyn, N.Y. CIRCLE 309 ON READER SERVICE CARD

Copper alloys, for roll-formed shapes in windows, doors, rail sections and curtainwalls, are discussed. Benefits and limitations of roll forming—as well as principal alloys suitable for its use—are listed. Booklet includes diagrams and photographs. Copper Development Assn., New York City. CIRCLE 310 ON READER SERVICE CARD

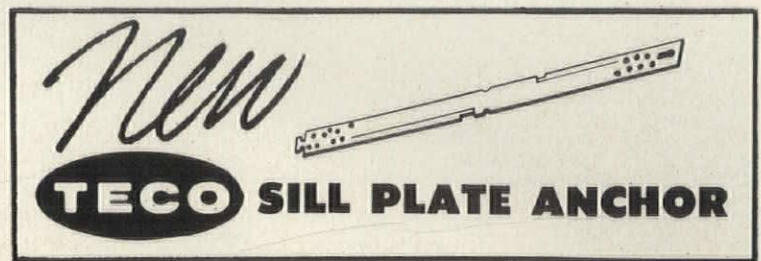
Noise Control in Residential Construction is concerned mainly with the use of Fiberglas insulation in limiting sound transmission. Charts compare effectiveness of various construction systems such as metal wall studs with Fiberglas and double-wood-stud walls without insulation. Wall systems and floor/ceiling system cross-sections are included. Owens/Corning, Toledo, Ohio. CIRCLE 315 ON READER SERVICE CARD

Indoor/outdoor sheet vinyl flooring is shown in a full-color, two-fold brochure. Actual flooring installations are shown as well as reproductions of available colors and patterns. Installation techniques are discussed. National Floor Products, Florence, Ala. CIRCLE 312 ON READER SERVICE CARD

Penny-to-inch nail converter is a pocket size chart. The guide also breaks down nail gauges into decimal equivalents and nearest sizes. A seven-inch measuring guide is printed on the margin. Maze Nails, Peru, Ill. CIRCLE 311 ON READER SERVICE CARD

Acoustical grid suspension systems are shown in color photographs of actual installations in shopping centers. Seven projects shown include malls and single stores, theaters and parking garages. Text descriptions of each photograph include names of contractor and architect and type of ceiling shown. Eastern Products, Columbia, Md. CIRCLE 313 ON READER SERVICE CARD

Vertical solid waste compactors are described. Product versatility, safety and ease of use are discussed. Specifications are included. G & W Auto Pak, Red Lion, Pa. CIRCLE 314 ON READER SERVICE CARD



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Air Conditioning & Refrigeration Inst. 17
Henry J. Kaufman & Assoc.
Aluminum Company of America 10, 11
Fuller & Smith & Ross, Inc.
A-I-L American Plywood Assn. 90-92
Cole & Weber, Inc.
A-I-L-D Armstrong Cork Co. Cov. III
Batten, Barton, Durstine & Osborn, Inc.
AWT Systems Inc. (Hercules, Inc.) .. 119
Dialog Inc.
- B**
B.F. Goodrich Chemical Co. 18
Griswold-Eshleman Co.
Blue Book 111, 121
Francis J. Litz
Boise Cascade Corp. 22, 23
Young & Roehr, Inc.
A-I Bradley Corp. 13
Hoffman-York-Baker & Johnson
Bruce Flooring 102C-D, E-F
John Malmo Adv. Inc.
- C**
Cameron Brown Co. 102A
Cargill, Wilson & Acree, Inc.
A C-E Glass 46, 47
Batz•Hodgson•Neuwoehner, Inc.
Condominiums 106C-F
Copper Development Assn. 29
Ross Roy of New York, Inc.
Custom Home Plans Club 38, 39
- D**
A-L-D Delta Faucet Co. 21
Griswold-Eshleman Co.
Dexter Lock 6, 7
The Jaqua Co.
- E**
Electric Energy Assn. 51-54
Charles E. Root Inc.
- F**
First Mortgage Corp. 102A
Webb and Co.
First Mortgage Investors 94, 95
Greenman Associates, Inc.
Float-Away Door Co. 99
Sperry-Boom, Inc.
- G**
General Electric Co. 43
Young & Rubicam International
General Environmental Equip. Inc. ... 102A
William Cook Adv. Inc.
A-I-L-D Georgia-Pacific Corp. 37
McCann-Erickson, Inc.
- H**
House & Home 102B, D; 106B
Housing Bookcenter 109
- I**
In-Sink-Erator Div. (Emerson Electric Co.) 55
D'Arcy-MacManus & Masius
- K**
KitchenAid Div. (Hobart Mfg. Co.) ... 89
Griswold-Eshleman Co.
Kwikset (Div. of Emhart Corp.) 19
Coltrane & Co.
- L**
A-I-L Libbey•Owens•Ford Co. 101
Campbell-Ewald Co.
A Lightcraft of Calif. Div. NuTone /Scovill Cov. IV
The Media Group
- Mc**
McGraw-Hill Book Co. 120
- M**
Martin Stamping & Stove Co. 110
Eric Ericson & Assoc. Adv.
Maytag Co., The 26, 27
Leo Burnett Co., Inc.
A-L Miami-Carey Co. 33
Lord, Sullivan & Yoder
Mortgage Guaranty Insurance Corp. ... 25
Hoffman, York, Baker & Johnson Inc.
- N**
National Assn. of Coin Laundry Equip. Operators 106A
The Harpham Co.
A-I-L-D National Gypsum Co. 30, 31
Fuller & Smith & Ross, Inc.
Norandex 50
Hesselbart & Mitten Inc.
A NuTone Div. of Scovill 1, 2
The Media Group, Inc.
- O**
A-I-L-D Owens Corning Fiberglas 35, 56
Ogilvy & Mather Inc.
- P**
Plumbingware A Norris Ind. Co. ... 102A
Enyart & Rose Adv., Inc.
- R**
Raynor Mfg. Co. 44
The Fanning Adv., Agency
Recreation 103-106
A-L Red Cedar Shingle & Handsplit Shake Bureau 122
N.W. Ayer-F.E. Baker Adv.
R.O.W. Sales Co. 117
Rolfe C. Spinning, Inc.
Rush-Hampton Ind. 102B, D
Luckie & Forney Inc.
- S**
Schlegel Mfg. Co. 48
Davin/Jorgensen Adv.
Southern California Gas Co. 102C
Doyle Dane Bernbach, Inc.
Spotnails, Inc. 113
Raedel-Kieffer, Inc.
- T**
Tappan Co. 9
Howard Swink Adv., Inc.
TECO (Timber Eng. Co.) 123
George Lohr Studios/Agency
Temple Industries 41
Ritchie Hopson & Associates
A Tile Council of America, Inc. ... Cov. II
McKinney & Silver
A TubMaster Corp. 55
TM Adv. Co.
- U**
A-L-D U.S. Plywood 49
Young & Rubicam International Inc.
A United States Gypsum Co. 14, 15, 45
Needham, Harper and Steers, Inc.
A-L Universal Rundle Corp. 97
Lando, Inc.
- V**
A Valley Faucet Div. (U.S. Brass Corp.) 115
Carpenters & Associates
- W**
A Wing Ind., Inc. 5
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