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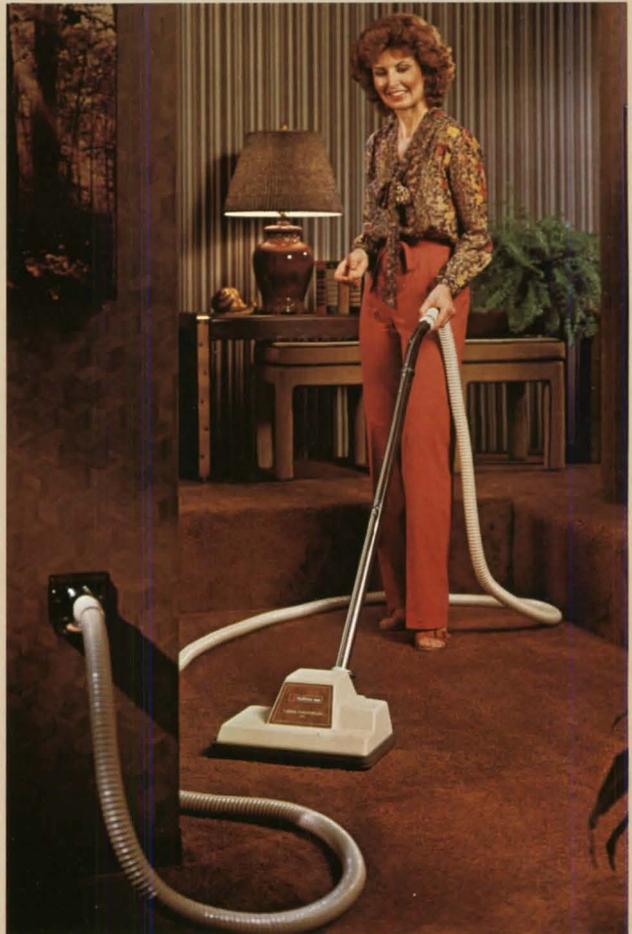
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housing

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1 QUADRA-PANE WINDOWS

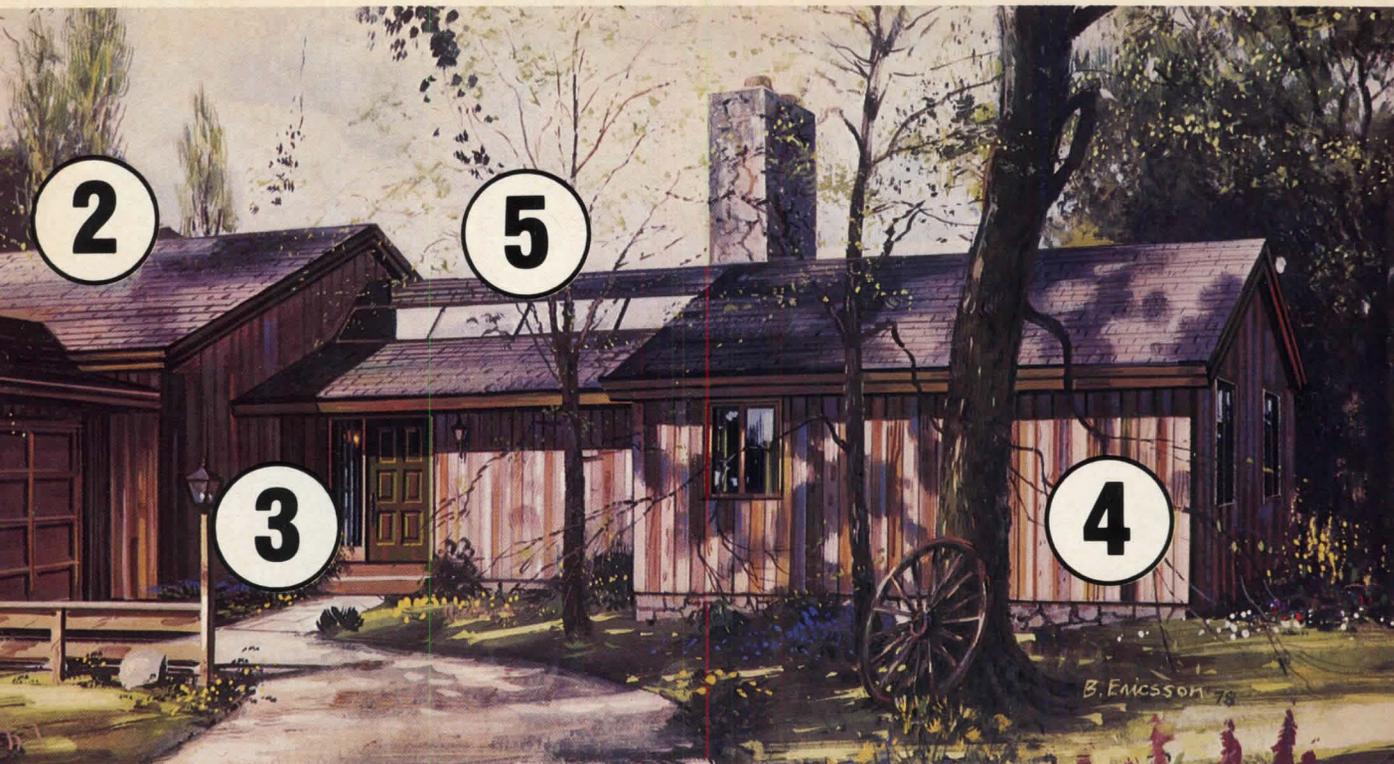
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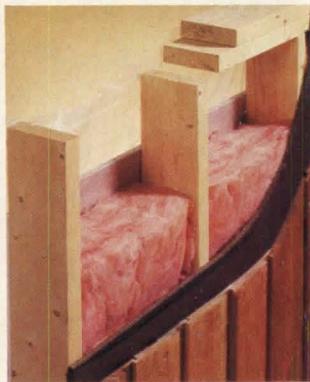


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Post-election outlook: A 'fragile' recovery on its 'wobbly' way



By the time you read this, you'll know whether it will be Reagan or Carter for the next four years. What, you may ask, will be the effect on construction—and housing in particular—in 1981? The answer seems pretty clear: Not much.

It was a campaign of "economic me-too-ism" in the words of George A. Christie, chief economist of the McGraw-Hill Information Systems Company. "Both candidates are economic conservatives," Christie told the forty-first Building Products Executives Conference in Washington on October 23. "Both consider inflation the nation's top economic problem . . . promise a tight rein on federal spending . . . support monetary restraint . . . have a prominent seat on the reindustrialization bandwagon."

That point struck a chord with me. So did Christie's view of housing's prospects in the coming months. Herewith some Christie remarks that should interest everyone in homebuilding:

"The first thing that hits you," he said, "is that we've been there before—as recently as five years ago" (when housing came out of its last recession). "The second thing that *should* hit you is how different conditions are today."

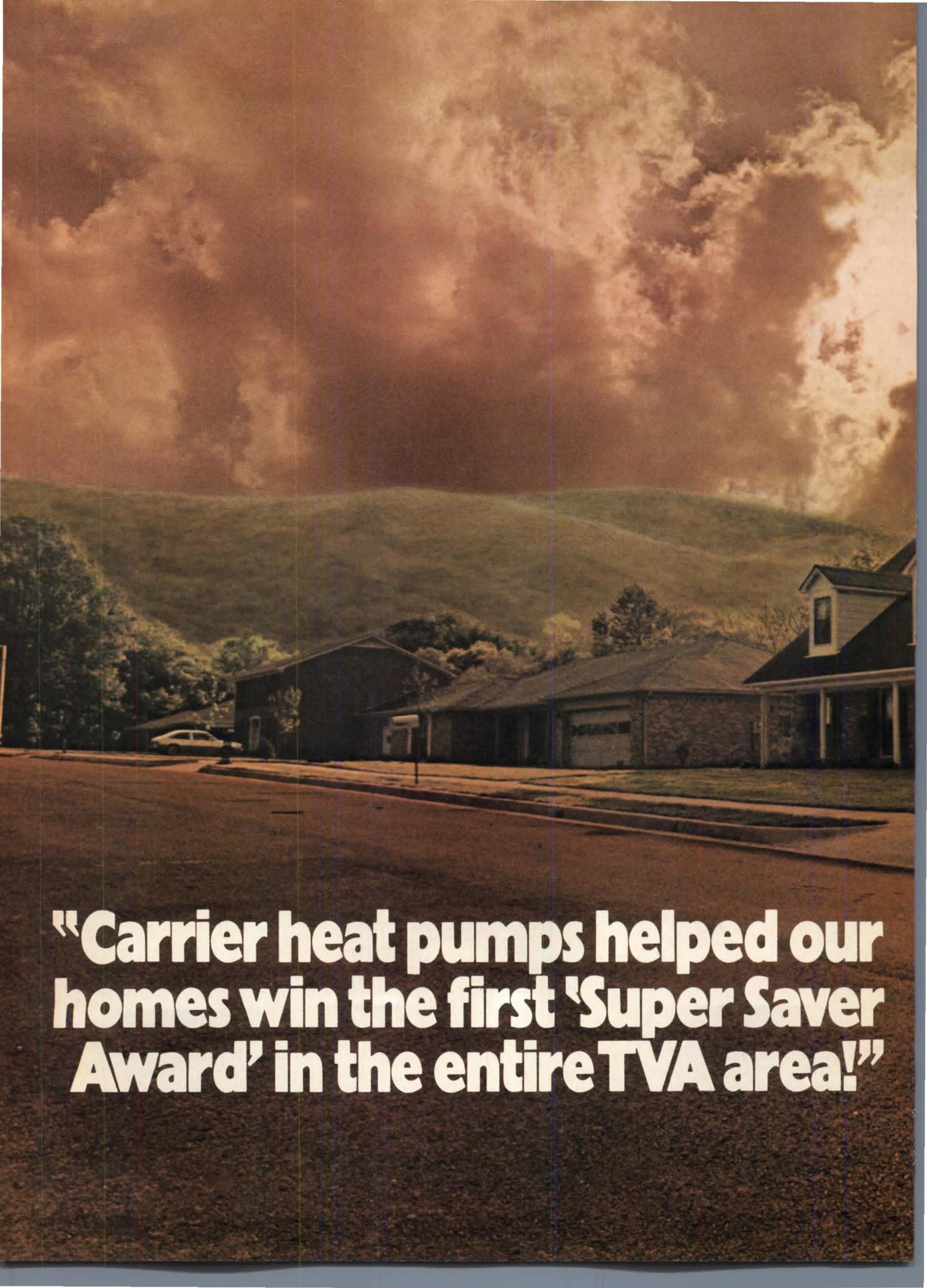
Housing demand is stronger, and supply is tighter. But, Christie warned, the current recovery is "fragile." It begins with inflation at 10%, not 6%; with mortgage rates averaging 13%, not 9%; with government policy that's restrictive, not stimulative.

"Our most immediate risk," said Christie, "is that the recent increase of interest rates will reverse the housing recovery. If it does, it could have a domino effect on many other building markets. You can't quarantine something like this."

In fact, Christie added, "housing and credit are already on a collision course, and it is probably too late to avoid a temporary homebuilding setback." But, he said, "it is *not* too late" to let rates subside in the coming months—and thus to avoid the domino effect and get housing back on the track.

With that expectation, Christie predicted that 1) construction will regain its momentum after a pause in the current quarter; 2) housing will lead the comeback; 3) housing starts will total 1.65 million in '81.

Despite all the qualifications . . . and no matter who sits in the White House—construction recovery, said Christie, "is on its wobbly way."
—JOHN GOLDSMITH



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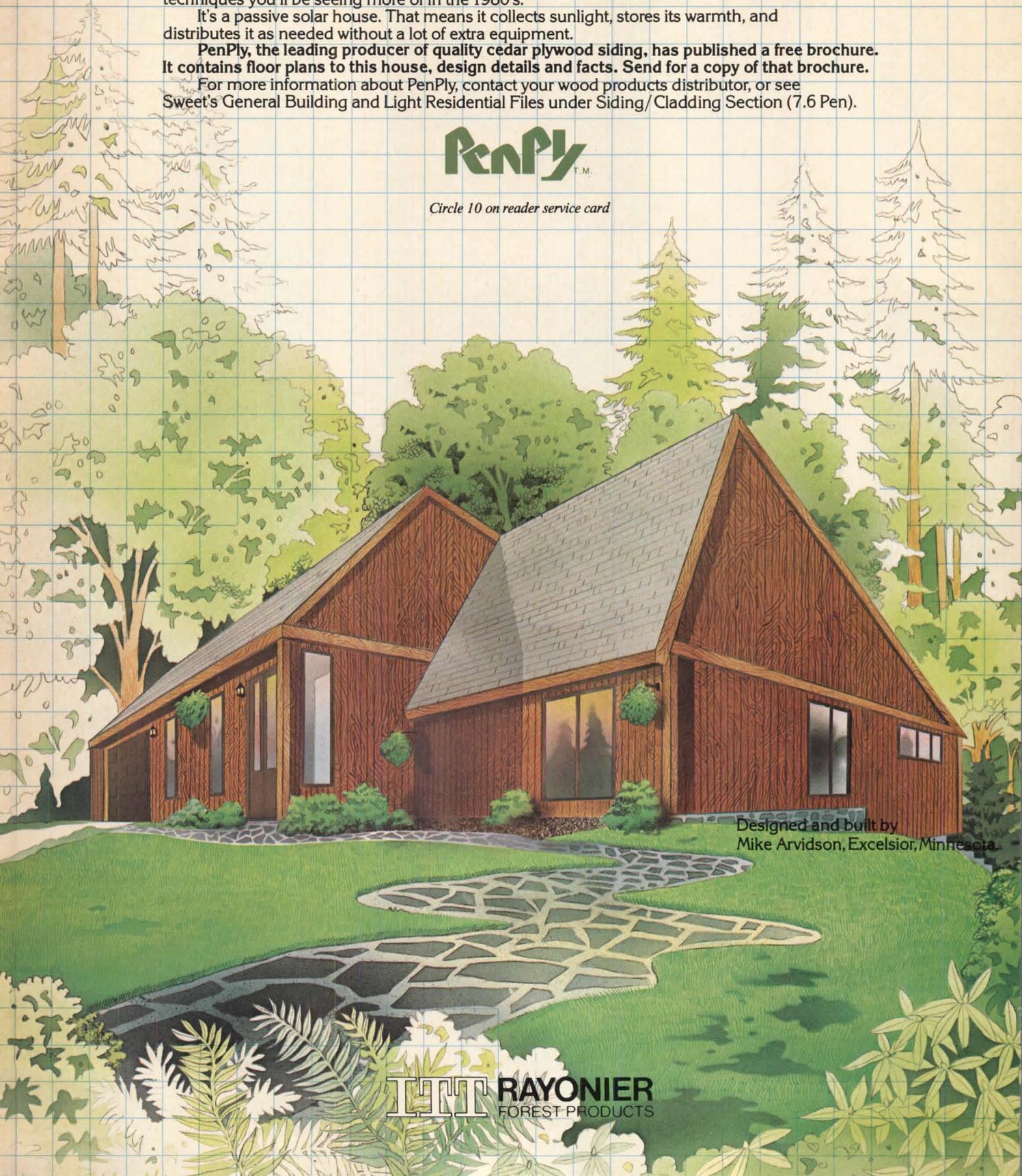
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Designed and built by
Mike Arvidson, Excelsior, Minnesota

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Unions increase investments in mortgages

Pension funds aim to hold loans targeted at lower-priced housing

A combination of pressures from unions, social activists and federal and state governments is likely to produce a large infusion of pension fund monies into the mortgage market over the next decade.

Much of this money—estimated to run into the billions of dollars—will come with strings attached: It will have to be used for “worker”—in other words, for low- and middle-income—housing.

‘Worker control.’ The reason for this new interest is a policy begun two years ago by unions, which wanted to use pension fund assets to further their social and political views.

The biggest push comes from the AFL-CIO and member unions. At first the Amalgamated Clothing and Textile Workers insisted on more control over joint labor-management trustee pension funds to keep its dollars from being invested in stocks of anti-union companies.

Now the movement has grown. At an AFL-CIO meeting August 21 in Chicago, first the industrial union department, and then the federation’s executive council, called for several steps to take charge of the funds, “to advance social purposes such as worker housing and health centers,” among other things.

One such step was to expand participation in the AFL-CIO Mortgage Investment Trust (MIT). Founded in 1964, the MIT is an investment company registered with the Securities and Exchange Commission. It recently applied to become an “open-ended” investment company, so that unions and their trust funds could put money in and take it out at will. But it is still awaiting clearance from the Internal Revenue Service before it goes out to seek additional funds.

The MIT’s loan portfolio has \$75.2 million in assets: \$46.8 million in FHA-insured construction loans, \$26 million in FHA multifamily mortgages, and \$2 million in FHA/VA single family mortgages. As projects are completed, the money is reinvested. In the quarter ended Sept. 30, the MIT put \$28 million into five projects in California and Ohio. Recent annual return on investment has been “in excess of 9%” to member-union participants, says the AFL-CIO.

Declaration. The AFL-CIO, in its declaration from the August 21 meeting says that affiliated unions of the AFL-CIO “should be encouraged to set aside” some pension funds for invest-

ment in housing and other social projects—assuming compliance with the Employment Retirement Income Act of 1974 (ERISA). ERISA requires pension administrators to give higher priority to safe and reasonable return on investment than to such considerations as job production or social betterment.

The Labor Dept. is studying the legal angles of this declaration, but Secretary Ray Marshall has made no secret of his sympathy to the union.

In the political arena, at least on the Democratic side, there are signs of support at both national and state levels. President Carter in August urged his newly formed Economic Revitalization Board to recommend an industrial development authority to channel resources—including pension assets—“to help revitalize American industry in areas most affected by economic dislocations or by industrial bottlenecks.”

Although Carter’s statement does not address itself directly to housing, residential revitalization would be part of any “area” revitalization.

States, notably California, are taking a new view of pension funds. Said Governor Brown at the Democratic National Convention in August, “It is time to redirect the vast pension funds of this nation to more socially respon-

sible objectives.” California is looking hard at new uses of the funds, and has a commission investigating using the funds in home mortgages and other areas of social betterment.

Brown and governors including New York’s Hugh Carey and Illinois’ James Thompson have made it clear to the Carter Administration and others that they intend to have a say in any “revitalization” or “reindustrialization” programs.

Pressures on politicians are being generated by social activists who see pension funds as an economic and political tool that has not been used for any other purpose than corporate finance for far too long.

This combination of pressures will most likely result in an increase in the amount of pension funds used deliberately for purposes other than strictly high yields for fund managers and beneficiaries.

—PETER GALL
McGraw-Hill World News, Washington

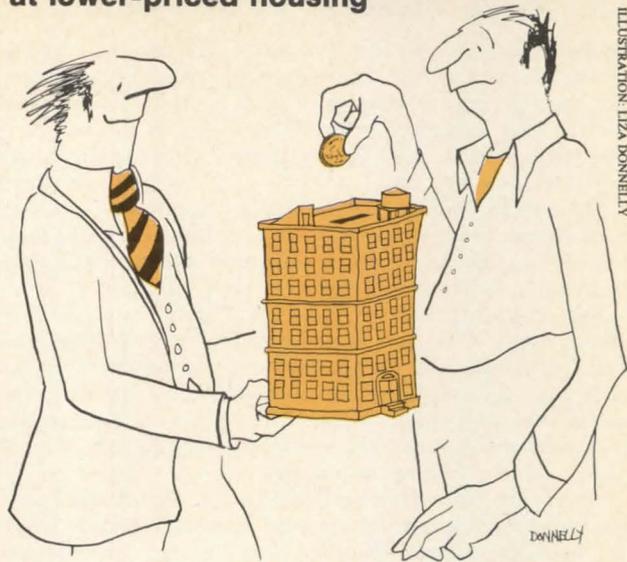


ILLUSTRATION: LIZA DONNELLY

Pension lending: how many dollars?

How much money do pensions hold? Estimates vary. The AFL-CIO uses the total figure of \$565 billion for all private and public pension funds. California Governor Jerry Brown cited \$650 billion in a speech last summer at the Democratic Convention, where he called pension assets “the single most important source of investment capital” for this decade.

Building trades unions are a sure bet for mortgage investment, be-

cause of the self-interest in creating and sustaining jobs for construction-worker members. One union estimates their total assets in pension funds at \$60 billion.

Using a widely discussed 5%-to-10% range for mortgage investment, this could mean from \$3 billion to \$6 billion in new mortgage money—from the building trades alone. Billions more are possible from interested industrial and service unions.

—P.G.

A shared-equity mortgage gets a warm welcome

Shared equity mortgages for home benefits are now off the drawing board and in the marketplace [HOUSING, Sept.]. And consumer response has been phenomenal, says Detroit-based Advance Mortgage Corp.

Meanwhile, the Federal Home Loan Bank Board, which regulates S&Ls, has proposed a shared equity mortgage that S&Ls could issue.

The announcement of Advance's shared equity mortgage generated 3,000 to 4,000 calls from consumers and 200 calls from homebuilders nationwide, says Advance Vice President Richard Bondie. The mortgage banker—one of the nation's largest—is testing \$10 million in so-called "Appreciation Participation Mortgages" in five markets: Atlanta, Phoenix, Denver, Sarasota, Fla. and Washington, D.C.

Shared profits. Advance's shared equity loan has features similar to the "equity kicker" that insurance companies and other lenders demand when making loans to commercial developers in tight-money times.

The new Advance mortgage trades a lower interest rate for a piece of the equity gain at time of sale or thirty years after loan origination—which ever comes first.

Advance is using funds from Coast Federal S&L of Sarasota. One-quarter of the funds—\$2.5 million—is budgeted for the Sarasota market.

One-third less. William Thompson, a consultant to Coast Federal, says its mortgage features:

- A one-third reduction in the interest rate, and
- A promise to the lender of one-third of equity gained after loan closing.

For example, says Thompson, the market mortgage rate on August 22, was close to 12% in Sarasota. The \$2.5 million in mortgages were offered at 8%, a one-third rate reduction. In

return the homebuyer had to pledge one-third of future gains in equity to the S&L. Thompson says all loans were taken by the end of the business day after the announcement was made.

What if the buyer tried to resell the house at a price the S&L thought was below market, thus yielding an unrealistically low appreciation?

Thompson says that Coast maintains a right of first refusal on the house. If it feels a proposed sale price is too low, then the S&L may buy the house itself at a price set by appraisers—and keep one-third of the larger equity gain. It would then try to resell the house at the appraised price.

Proposal. The Federal Home Loan Bank Board's proposal differs from the Coast-Advance plan in one important way: the lender receives its share of equity gain by the end of 10 years, whether or not the owner wishes to sell the house.

This difference is important because homeowners would either have to pay a sizeable lump-sum share of equity gain to the lender after ten years, or refinance. Many borrowers could be scared off by this requirement, even though the average life of a mortgage is only seven to eight years (because of moves by homeowners).

Drawback. An analysis by Bank Board staff notes this "potential drawback" shoots up monthly costs dramatically to the buyer who stays more than ten years. In one example, assuming a 10% appreciation rate, a \$62,500 house is worth \$162,109 ten years later. The owner would have to refinance about \$45,000 of the remaining unpaid principal—plus another \$33,000, which is the lender's share of the \$100,000 in appreciation.

The Bank Board proposal limits lender participation to 40% of the house's appreciation. The proposal is subject to a 60-day comment period through early December. —D.O.L.

Many don't know of solar tax credits

Fifty percent of the American public has never seen either a solar water or solar space heater. And 52% is unaware of federal and state solar energy credits.

Those are the findings of a recent survey by Opinion Research Corp, a subsidiary of Arthur D. Little, Inc.

One implication: the tax incentives which could be a major boost to the solar industry are not effective—simp-

ly because people don't know about them.

If more people were aware of the credits, more would buy solar, the study indicated. People were asked if the existence of a significant tax credit would make them more likely to buy a solar system. Answering "yes" were 60% of the homeowners polled, and 45% of potential commercial users. (See related story on page 62.)

Housing starts rose 9% in September from August to a seasonally adjusted 1.5 million annual rate, the Commerce Dept. reported. Single family starts inched up to just over 1 million. Existing sales in September rose 10% to an annualized 3.3 million, reported the National Association of Realtors.

New home sales fell 4.9% in August, to an annual rate of 623,000, from 655,000 in July, Commerce also reported. Actual August sales of 58,000 homes exceeded July's 55,000 sales, but the annualized rate was lower because of seasonal adjustment.

New construction contracts rose 6% in August to \$1.51 billion from the same month last year, McGraw-Hill's F. W. Dodge division reported. Residential contracts were "within 17% of the year-ago total," Dodge said. As recently as May, residential was 50% off the year-earlier contract total.

The FHA/VA ceiling on federally insured single family mortgages was raised to 13% from 12% in late September. One reason the FHA trailed the market this time was political: the lower rate in effect before the rise was used to compute the October Consumer Price Index—the last one released before the election.

Energy retrofits in existing homes could save homeowners up to \$42.2 billion in energy bills the next decade, if homeowners made home improvements averaging \$1,900 reported the Mellon Institute's Energy Productivity Center in Washington. But more probable savings will be about \$9.4 billion in the '80s said the report, blaming ineffective government programs and a home improvement industry not well equipped to offer adequate retrofits.

Property taxes in Florida will fall following a package of five constitutional amendments passed by voters last month. Voters approved four tax cut amendments by huge margins, and narrowly approved an initiative to create a housing finance company.

Real estate executive demand in the job marketplace in the third quarter fell two percentage points from the second quarter to 7% of the total national executive demand, says Korn-Ferry International, a New York- and Los Angeles-based executive search firm. Reason for the drop: the building slowdown. The drop from last year's third quarter figure of 13% was even more substantial, at six points.

The best place to look for top quality garage doors...

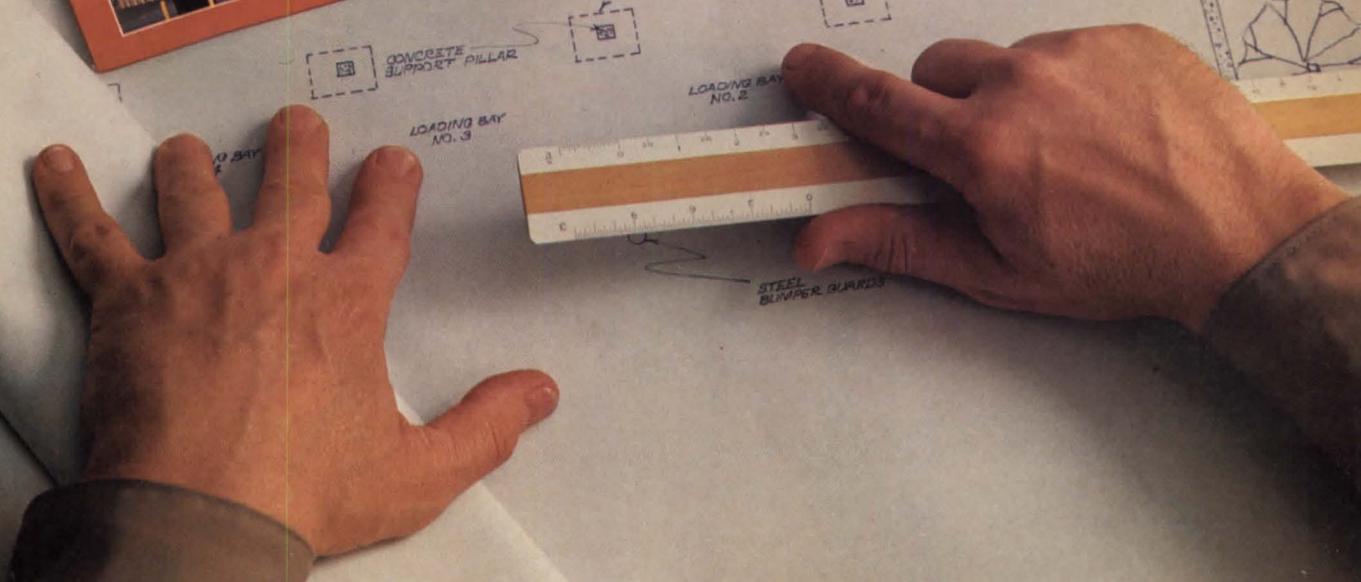
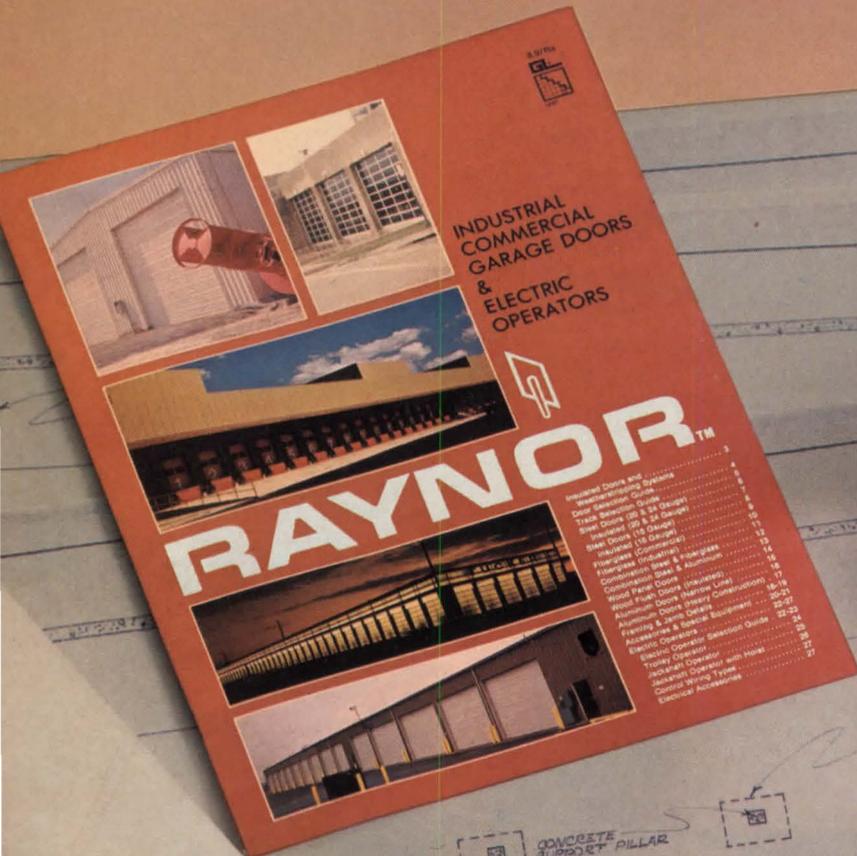
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weather-stripping. And Service...like undamaged delivery by our own truck fleet. Plus professional installation by our factory-trained distributors located throughout the country. They pledge prompt follow-up service for parts and repairs if ever needed. In the end, the best place to look for top quality doors and expect satisfaction...is Raynor. Preliminary specifications can be found by referring to Sweets Catalog, Section No. 8.9 Ra. For a copy of our catalog write Raynor Manufacturing Company, Dixon, IL 61021. Or call a Raynor distributor near you. You'll find his number in the Yellow Pages under "Doors".



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GARAGE DOORS

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“When you’re offering the only luxury oceanfront condominiums on the Maine Coast, you want to be sure the cabinets are as good as the location. That’s why we picked Scheirich.”

Robert Marier, President
Land Design, Inc.

“When we decided to build these luxury condominiums on one of the best pieces of land in the state of Maine, probably the easiest decision we faced was the cabinets.

“We’ve been using Scheirich cabinets for the last five years in our other developments and we know the effect that hand-finished cabinetry has on our prospects.

“When they see that these Queenswood cabinets are made with the same care as their own family heirlooms, it makes our selling job a whole lot easier.

“And on top of that, through Scheirich’s local distributor, Indisco, we’re able to give our buyers a choice of the exact styling and hardware they want. So they not only get the quality they’re accustomed to, but the look they like as well.

“Indisco gives us more than just selection though. They also make sure we’ll have delivery on-site exactly when we need it. We’ve never had a problem with them, and with the kind of quality Scheirich offers, we don’t expect to.”

If you’re looking for the kind of cabinets that can help you sell a development, look up your Scheirich distributor in the Yellow Pages. Or write H. J. Scheirich Co., P. O. Box 21037, Louisville, Kentucky 40221.

SCHEIRICH CABINETRY
FINE FURNITURE FOR THE KITCHEN AND BATH



Land Design, Inc. specializes in uniquely-designed luxury condominiums on breathtaking waterfront and woodland sites in the Portland, Maine area. Appealing to quality-conscious professionals and “empty nesters,” these units range in price from \$75,000 to \$180,000 and embody president Robert Marier’s concern for imaginative floor plans, sensitive landscaping and distinctive architecture. The most recent development, Stage Neck Colony in York Harbor, features 40 units of up to 2,400 sq. ft. each with a spectacular view of either the rugged Maine coast or the village’s picturesque harbor.

Housing bill: on balance, builders gain

Homebuilders will find lots to cheer about—and little to dislike—in the 1980 Housing and Community Development Act.

President Carter signed the bill October 8, and announced he had formed two panels to look into the nation's housing and credit problems. One panel is expected to issue a report next June 30.

In the new bill, Congress:

- Raised the ceiling on FHA insurance for site-built and factory-built homes.

- Helped developers cut red tape in "historic preservation" areas.

- Put off the effective date of the Building Energy Performance Standards (BEPS).

- Kept new thermal standards from applying to masonry construction.

- Kept alive the Home Mortgage Disclosure Act, a law intended to combat redlining.

- Stayed away from regulating condominium conversions, leaving this politically sensitive area to state and local governments.

The biggest disappointment: middle-income rental subsidies. Senate opposition blocked this program in the conference committee. It would have subsidized the construction of 40,000 apartments for middle-income families. One reason for opposition: subsidies would have gone to some families with incomes greater than \$40,000 a year.

Iffy expansion. Although the bill expands a subsidy program for homebuyers under Sec. 235, there's a question about whether the \$135 million of funding will be available in the budget to put the program in gear. If the funds are available, families with incomes up to 130% of the median for the area will be eligible for the program, which would bring their mortgage rate down to 9½%. Up to 20% of the units involved could be mobiles.

Reason for the doubt: most government budget experts—including some in HUD—hold that Congress must reappropriate the needed funds. If Congress doesn't give HUD the green light by year-end, it's unlikely that the program could be launched before its authorization expires next June 30.

In another program, the bill gives long-awaited flexibility to FHA mortgage insurance. The ceiling is kept at a base \$67,500, but may be raised by up to one-third in high cost areas, maximum \$90,000. For mobiles, the maximum for a double-wide could be \$43,000 in a pricey house market.

FHA rate. A new flexibility on FHA-

insured mortgages is allowed for interest rates, under the bill. Lenders and borrowers may "negotiate" the rate on up to 50,000 mortgages. Discount points would still be allowed, but must be specified in the loan commitment.

On BEPS: the implementation deadline is postponed to April 1, 1983. The Department of Energy (DOE) must publish interim regulations by August, 1981. These standards must be tested in both residential and commercial buildings in different U. S. climates. Afterward DOE will report to Congress on test results. One specified requirement: HUD must make an analysis of the impact of the standards on builders, "particularly small builders," and on construction costs.

Masonry construction is given a reprieve from new thermal requirements under HUD Minimum Property Standards (MPS). The new bill states that any local exemptions from MPS thermal requirements that were in effect on May 31, 1979, won't be changed. HUD must report to Congress by August, 1981, on whether this exemption is justified.

Preservation. Areas designated for historic preservation have often been an obstacle to builders, and the new bill makes it easier for some. Builders who had been awarded Urban Development Action Grants for projects in these areas won a battle to speed up rulings from the officials who carry out preservation laws.

State and federal officials get a maximum of 45 days to rule for or against a project that would change a historic building or an historic neighborhood. Up to now, they could delay nearly forever, critics charged.

HUD's final budget has not been approved. Although the authorization bill was completed before Congress quit for the fall campaigning, the HUD appropriation bill for the year beginning Oct. 1, 1980, has not yet been passed, and will be taken up in a post-election session. In the interim, HUD programs will continue to be funded under a "continuing resolution" that allows the agency to continue to commit funds at recent rates of spending.

—DONALD O. LOOMIS

McGraw-Hill World News, Washington

HOW program: higher rates are likely

Builders may have to pay to revamp the five-year-old Home Owners Warranty (HOW) program come January 1, 1981. Reason for the revamp: serious financial problems in the program as it now stands.

Claims for defects in newly built houses have soared beyond initial projections. And says Dave Fox, HOW chairman, "Too many builders have been walking away from their responsibilities and going scot-free."

Proposed changes:

- Raising the basic premium of \$2 per \$1000-of-price and charging higher rates in 'high-risk' areas such as Dallas, Ft. Worth and Denver.

- Giving a 'quantity volume discount' to large builders.

- Imposing a 'deductible' fee on the consumer to fend off small claims. One proposal: a consumer deductible of 1% of the selling price on claims of struc-

tural defects during years three through ten.

- Adding a surcharge to the premiums of builders with poor records on customer claims.

At press time, the exact amount of the higher premiums was still being negotiated.

Says Fox "HOW was underpriced from the beginning. There was no way to predict that 2,270 warranty claims and 1,800 major structural defects would hit us by June, 1980."

How now. To help, HOW is taking more responsibility for many parts of the program. Examples:

- HOW will implement a system to speed up the arbitration process.

- It is taking over claims-adjusting with its own adjusters—who understand construction and will ask the builders themselves for their problem-solving advice.

HOW president Robert J. Reid concedes: "Some builders may drop out of the program because of costs or other reasons." He adds, however, that some builders will now join in "because of credibility" that will improve because of the changes.

Reid expects at least 200,000 houses will be added between now and next July to the 800,000 already under warranty program.

—D.L.



HOW's Reid:
Some may
drop out

Temple siding: personality for homes!



Here is all the warm appeal of natural pecky cypress, complete with its unique three-dimensional markings. And now Temple makes it available in the low-cost modern building material — hardboard siding.

These new panels are ideal for new construction or the residing market. They go up quickly — easy to handle 4' x 8' or 4' x 9' panels. On-site painting time and costs are cut in half, because they're factory primed with a new primer that provides greater flexibility for finishing. In addition to regular paints or opaque stains, semi-transparent stains now can be used to bring out the beauty of the wood texture.

Temple hardboard siding is made of 100% wood fibers. Works like wood, with ordinary tools. Free from knot holes or defects. Doesn't split or crack. And there are no resins to bake out in the sun.

Ask your Temple dealer about the new cypress pattern, and all the other popular Temple designs.

 **Temple**
DIVISION OF TEMPLE EASTEX INCORPORATED
DIBOLL, TEXAS 75941

Circle 17 on reader service card

FTC home defects study draws NAHB's ire

The Federal Trade Commission has released its long-awaited home-defects survey [HOUSING, Aug.], and the NAHB promptly labelled it "exaggerated" and "unrepresentative."

The FTC report covers new homes bought in 28 states and the District of Columbia during 1977 and 1978. It is based on 1,812 telephone interviews and 299 professional on-site inspections. Although buyer complaints were frequent, says the FTC, 79% of the homeowners surveyed said they were "satisfied with the overall quality of their homes."

The report also says that 62% of the homeowners "reported at least one problem" that the builder didn't resolve satisfactorily in the 30-month period after their purchase. Average cost estimated by buyers for new-home repairs: \$1,411.

Observation. Jeffrey Harris, assistant director of the agency's Bureau of

Consumer Protection, says the FTC will continue to check out "problem builders" for fraud or unfair business practices on a case-by-case basis. Agency officials deny, however, that information that they have gathered in the survey will be used in law-enforcement investigations.

But the NAHB points out that one of the 265 questions asked for the name of the builder of the house.

Another NAHB complaint: the size of the sample. "Inspecting 299 homes can hardly be called a representative sample in an industry that, at the time, was building more than 2 million units a year."

The FTC's Harris remarks: "Our impression is that there are some housing industry members who continue to do unsatisfactory work." In rebuttal, the NAHB says, "The vast majority of new homes built in this nation are well built."

Findings. Here is what the FTC study found:

- Problem areas: walls, ceilings and floors (61%); gradings, driveways and exterior concrete work (42%); foundations basements (12%); heating (10%); cooling (9%); major appliances (8%); interior electrical (7%) and contract work not done (4%).

- Disputes: 22% of those surveyed reported at least one serious disagreement with the builder on resolving a problem; and 7% of those surveyed reported seeking legal help.

- Satisfaction: The most satisfied customers lived in eastern south central states—21%—while the lowest level of satisfaction—9%—was reported from western north central states.

- Home Owners Warranty (HOW): Buyers with HOW protection had a lower rate of disagreements than those without it.

—D.O.L.

THE COURTS

Arizona escrow practices are taken to court

Arizona home builders have had to pay too much for escrow services, the U.S. Justice Dept. believes. Antitrusters there have sued the Title Insurance Rating Bureau of Arizona (TIRBA).

The charge: Members are robbing both builders and homebuyers of "the benefits of free and open competition" by using uniform rates for escrow services. At stake is about \$15 million a year in fees.

Washington objects to the TIRBA practice—begun in 1977—of filing a service rate schedule with the state insurance department. Those rates are followed by all TIRBA members—all title insurers in the state.

Even though some others perform escrow work most real estate deals are handled by title insurance companies, Justice Dept. claims. Court papers suggest that some subdivision trust escrows run as long as 20 years.

Trade associations may file rates for all members under Arizona law. But the antitrusters claim these facts add up to a conspiracy to curb competition because:

- The state has never disapproved a rate.

- No TIRBA members have ever filed

a separate schedule, or even any deviation from the group's norm.

The Justice Dept. has asked the U.S. District Court in Phoenix to order the TIRBA to cancel the rate schedule and to forbid the title insurance companies from getting together on rates.

In other court cases:

- Cities may make a fine distinction in determining which displaced tenants have a right to get help in obtaining new housing. The U.S. District Court in Milwaukee ruled that the Uniform Relocation Act requires benefits be paid to those whose housing is taken away by the government for its own use. But that aid does not have to be offered to those thrown out by a code enforcement program intended to upgrade a deteriorating neighborhood.

- Cities may use rent control laws as a tool to upgrade housing stock. The New Jersey Supreme Court okayed a law in Orange, N.J. that bans rent increases on buildings not meeting habitability standards. Opponents had charged that rent control and housing safety were too unrelated to be lumped together in a single ordinance.

- Cities may limit payments by opponents of rent control to a campaign to sway voters on the issue. The California Supreme Court found nothing wrong in a limitation of \$250 on contributions to any committee formed to support or oppose any ballot measure. Such a limit does not impinge on first amendment rights of rent control opponents who want to speak out, the

justices reasoned, because they are free to spend more money on ads or other promotions of their own.

- A home bought by a married couple in joint title will be considered community property during a divorce proceeding—even if one partner put his or her own money into the down payment. The California Supreme Court cleared up confusion in the state, where in six years, three appeal courts have ruled different ways on the issue. The justices threw out proposals that allow the partner who put up separate funds for the purchases to have a greater share of the equity.

- If a Multiple Listing Service is really important in any particular market, those running it cannot arbitrarily limit membership. The Monmouth County Court in New Jersey agreed with a broker that he cannot be thrown out of the MLS just because he had decided to drop his membership in the county Board of Realtors. The service had required all members to join not only the county organization, but also the state and national associations. The Board had argued that the listing service was so much a part of Board activities that it made sense to limit participation to members. But the judge found that access to the MLS is so important in making sales that the damage to the broker in being dropped outweighed any advantage to the Realty Board of limiting the service to members.

—DANIEL B. MOSKOWITZ

McGraw-Hill World News, Washington

Therma-Tru[®] Crystalline[®] Series

The elegant energy efficient door system.





The Therma-Tru® Crystalline® Series.

The classic elegance and timeless beauty of leaded, beveled glass — insulated for today's homes.

For generations, leaded, beveled glass — with its incomparable gem-like appearance — has been a symbol of tasteful elegance.

And now, this elegance has been captured in the Therma-Tru Crystalline Door Series.

Multi-faceted, prism-like panes of glass — joined together in beautifully distinctive patterns — transform light rays into a multitude of gleaming sparkles.

Clear and etched-look panes are intermixed for added beauty. Glass is available in clear and amber.

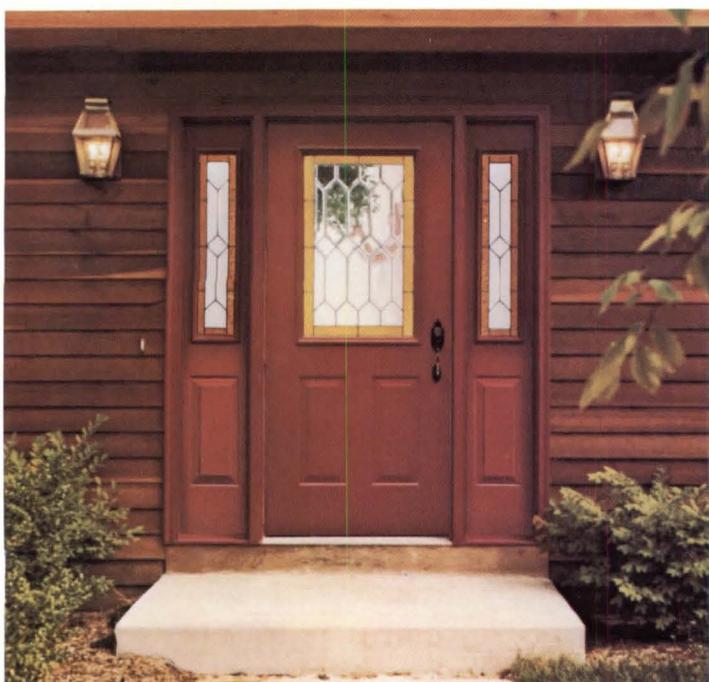
While Therma-Tru Crystalline lites are made using modern production methods — to provide high insulation values — the appearance of old-fashioned hand craftsmanship has been faithfully retained.

You get the elegant glass of yesterday in the practical doors of today.

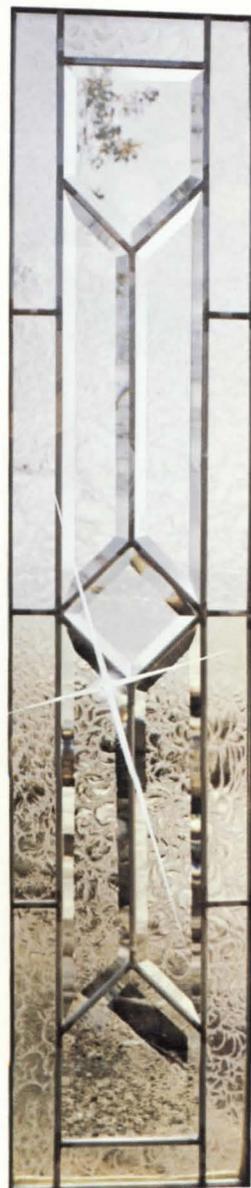
And, best of all, the Crystalline Series doors are easily affordable.

The Therma-Tru Crystalline Series. Elegance made practical.

*Cover Photo: Style 923, 930 S/L
Professionally Painted Woodgrain Finish*



Style 926A, 930 S/L



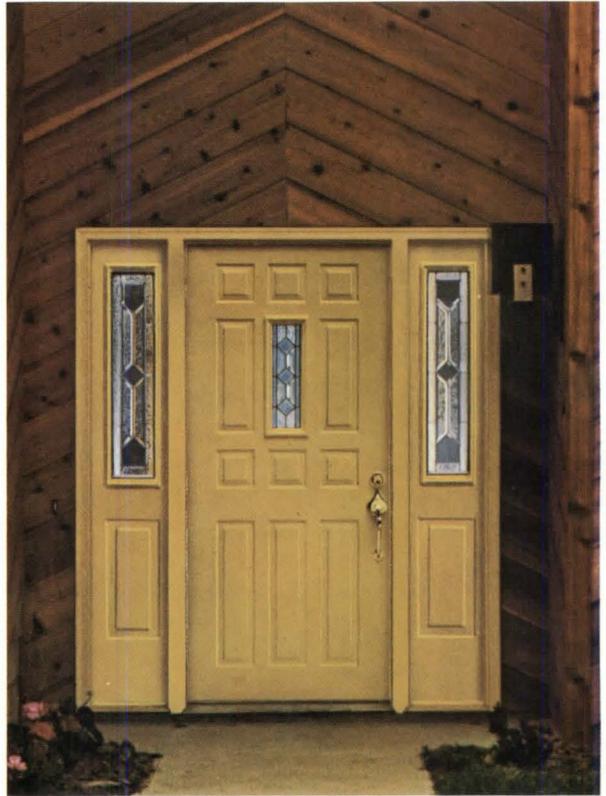
Circle 600 on reader service card

A dramatic difference.

A Therma-Tru Crystalline entryway door will add an impressive touch of elegant beauty to any home.



Style 930



Style 928, 930 S/L



Style 940, 910 S/L



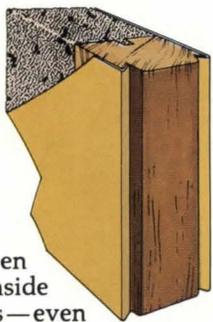
Style 906

More door for the money.

Like all Therma-Tru door systems, the new Crystalline doors have more to offer than just beauty. They offer a number of unique features that provide more energy efficiency, more security, more total value.

Polyurethane core

A polyurethane core between galvanized steel surfaces provides outstanding insulation

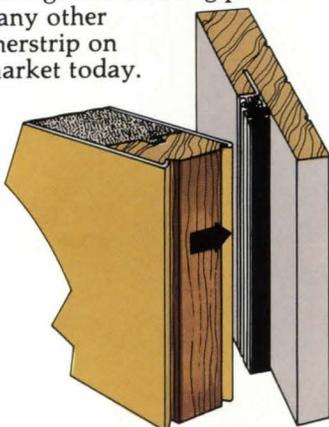


Thermal break

Pre-mortised edge prevents contact between outside and inside metal surfaces—even at hinges and lockset. Eliminates frost and condensation.

Arctic Magnetic weatherstripping

Seals like a refrigerator door to significantly reduce heat loss and air infiltration. Remains flexible in extremely low temperature and provides greater holding power than any other weatherstrip on the market today.



Self-sealing sill and door bottom.

A unique, innovative design achieves the tightest seal of any door system currently available. Heat loss is reduced and air and moisture infiltration is virtually eliminated. The sill and door bottom continually adjusts itself eliminating the need for periodic manual adjustment.



Easy to paint

Paint your Therma-Tru door any color you choose. Wood-grain or antique finish may also be applied.

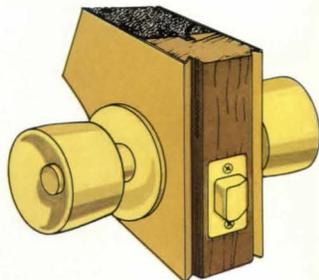


Maintenance free construction

Resists warping, cracking and sticking. Retains its beauty year after year.

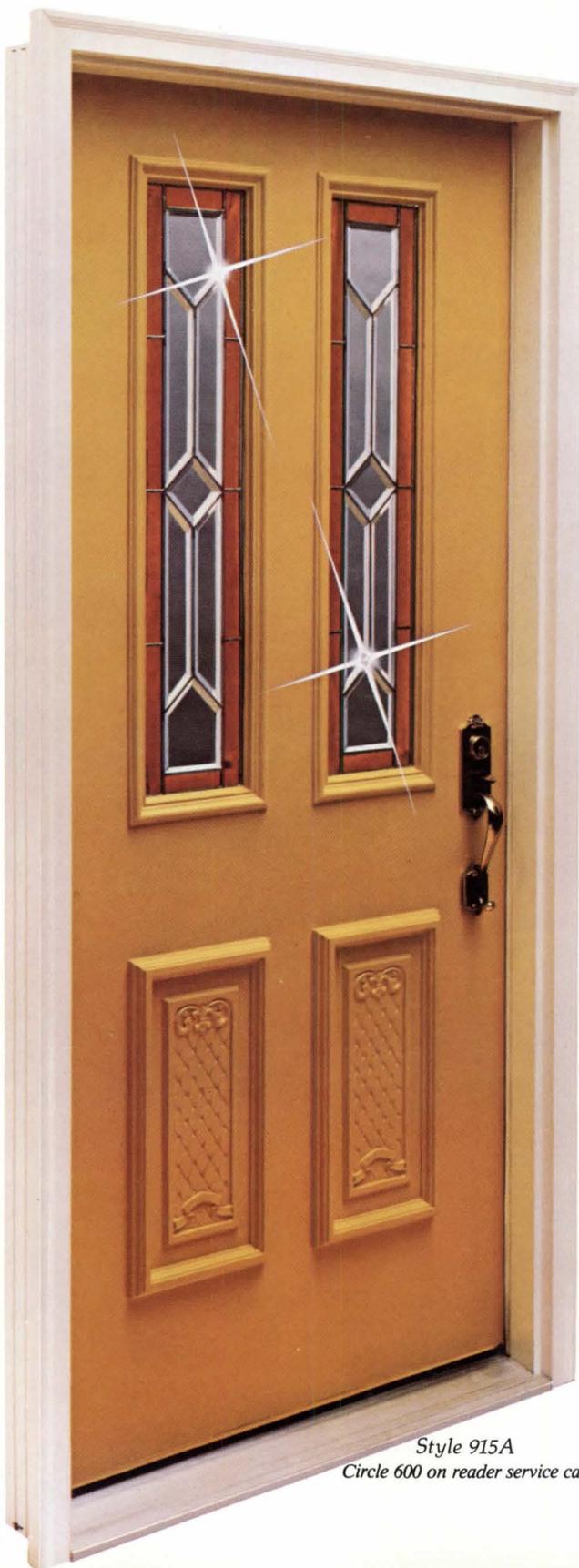
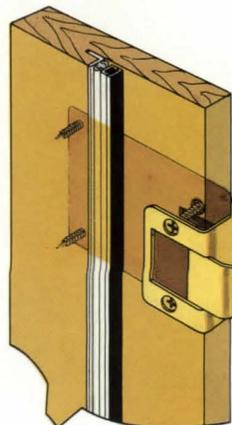
Use any lockset

Choose any lockset and/or deadbolt which provides the beauty and security you desire.



Patented, adjustable security strike plate

Steel strike plate wraps around wood jamb. Spreads impact force over a wider area, for more security. Adjustability factor provides a tighter seal.



Style 915A

Circle 600 on reader service card

Choose from a wide range of beautiful styles.

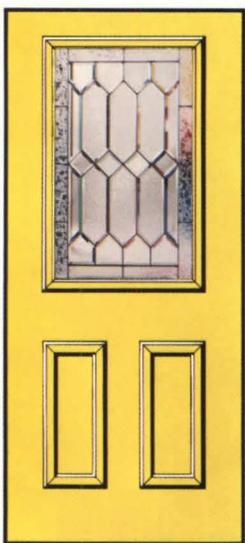
The Therma-Tru Crystalline Series includes a variety of distinctive designs—to beautifully complement any style of architecture.

Clear: Beveled, etched-look and clear glass panes.

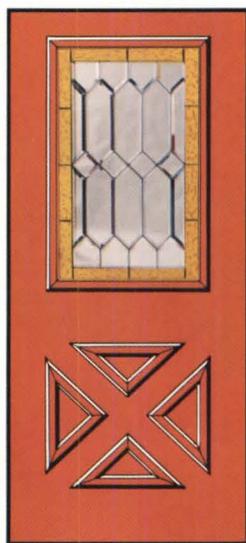
Amber (A): Beveled, clear glass panes with amber border.

Raised panel designs

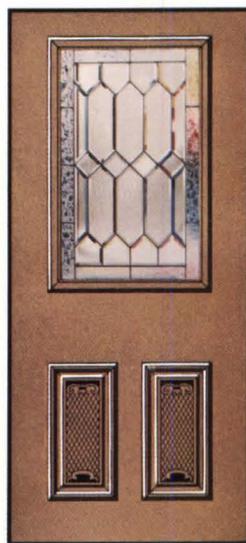
2'6", 2'8" & 3'0" widths



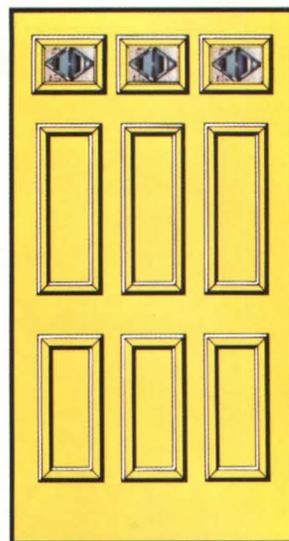
901 clear 901A amber



903A amber 903 clear



905 clear 905A amber



906 clear



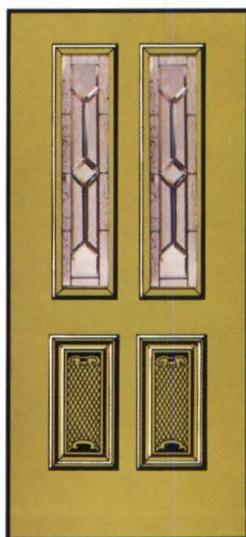
910 clear 910A amber



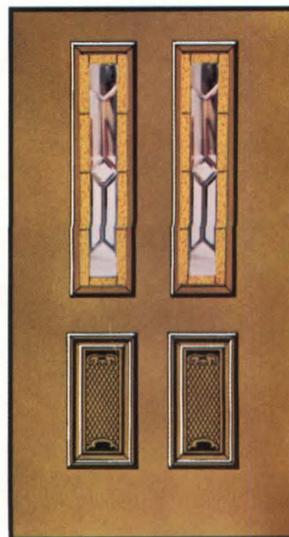
906 clear



910A amber 910 clear



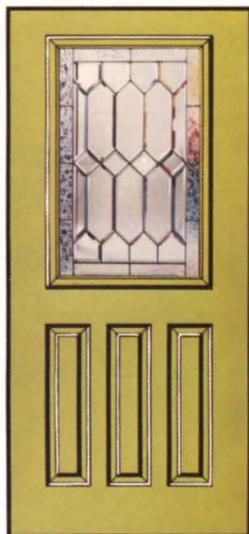
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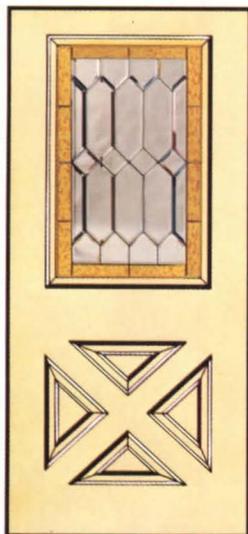
915A amber 915 clear

3'6" entrance width

Deeply embossed designs 2'8" & 3'0" widths



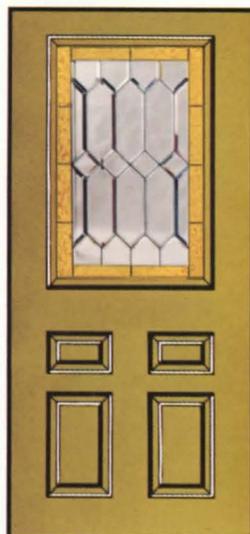
923 clear 923A amber



924A amber 924 clear



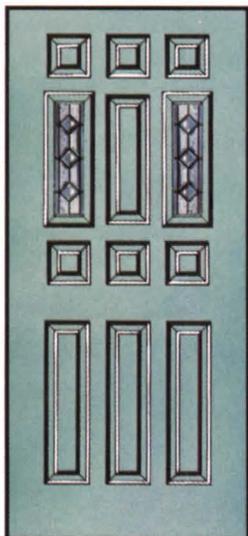
926 clear 926A amber



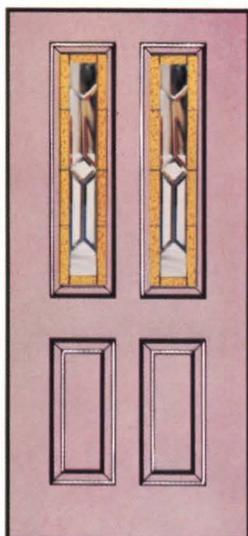
927A amber 927 clear



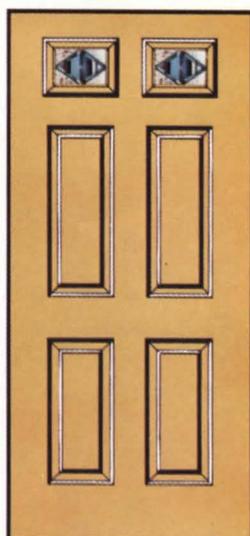
928 clear



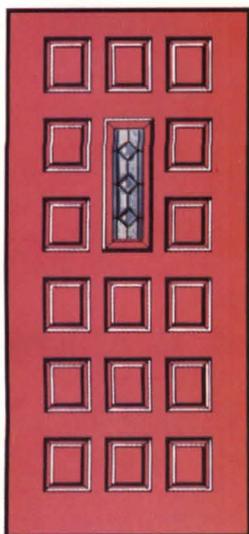
929 clear



930A amber 930 clear



936 clear



940 clear (3'0" only)

Sidelights

Raised Panel

910 S/L clear
910A S/L amber



915A S/L amber
915 S/L clear

Embossed

930 S/L clear
930A S/L amber



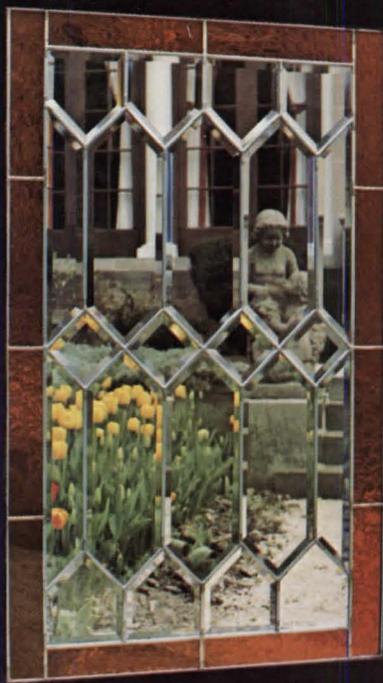
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1.



2.



3.



4.



5.



6.

The Therma-Tru® Crystalline® Series.

Crystalline Glass Dimensions:

1. 8" x 36", 2. 8" x 36", 3. 22" x 36", 4. 8" x 6", 5. 8" x 6", 6. 5½" x 18".

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K&B's Karatz: back home to head development

At **Kaufman and Broad, Inc.** (Los Angeles) Bruce Karatz, 35, is promoted to president of the newly formed Development Group. He's in charge of all site-built housing development, and reports directly to CEO and Vice Chairman Sanford C. Sigoloff.

Karatz's goal: double annual unit volume in five years (currently 2,900 units). He says he'll consider diversifying from the K&B staple—medium-priced single-family—into multifamily, condo conversion, and commercial and joint venture construction. Other possibilities: moving into higher-priced single family markets, and moving into lucrative Sunbelt markets.

Most recently, Karatz was president of **Kaufman and Broad, France**. He joined the company in 1972.

Other company changes: John E. Polk becomes president, California region, for site-built housing; and Bud E. Fink moves to president of **Kaufman and Broad of Southern California Inc.** **BUILDERS DEVELOPERS:** Herbert A. Ross is named chief executive officer of newly formed **Apartments, Ltd.**, a division of **Thompkins Development Co.** (Orlando).

United Development (Chicago) names Sheldon Lazar, 44, as vice president, sales. Lazar joins UDC, a subsidiary of **Urban Investment and Development Co.**, after 18 years at **Miller Builders** (Skokie, Ill.).

Gerald D. Murphy is elected Chairman of the Board of **Leisure Technology Corp.**, (Los Angeles) and Michael L. Tenzer becomes president and chief executive officer [HOUSING, Aug.].

Fred Katakura is the new director of engineering for **Silvercrest Industries** (Buena Park, Calif.), a manufactured housing builder.

At **Raldon Homes** (Dallas), a subsidiary of **Wood Brothers Homes** (Denver), Robert D. Schults is named vice president and divisional manager. He was previously a marketing executive for **AM Corp.** (Los Angeles).

Chas. H. Steffey Inc. (Baltimore) expands its construction division into a new company called C.H.S. Group. President of the new group is Sandy J. Marenburg, formerly head of the construction division. Related appointments at C.H.S.: Allan J. Gordon, vice-president, purchasing contracts; Robert T. Kleinpaste, vice president, marketing sales; David R. Pardoe, comptroller; and Robert R. North, assistant vice president.

The Pulte Home Corp. (West Bloomfield, Mich) promotes Robert D. Horner to president of its Illinois divi-

K&B's Karatz
new growth
strategies



sion. He had been chief financial officer of the corporation.

First Condominium Development Co. (Chicago) promotes Aaron I. Michaelson to president from executive vice president and treasurer. Harold L. Miller moves from president to chairman of the board.

LENDERS: **Western Mortgage Corp.** (Los Angeles) promotes James K. Casper to executive vice president, production. He was senior vice president, residential loans. **F&M Savings Bank of Minneapolis** names Carl E. Carlson president of its banking subsidiary, **F&M Mortgage Corp.** He joined **F&M Mortgage** as a vice presi-

Mr. Maxwell goes to Washington; this time, to lead Fannie Mae

David O. Maxwell will return to the Washington housing scene after a seven-year absence. His new job: president and chief operating officer of the privately-held, quasi-governmental **Federal National Mortgage Assn.**

During the Nixon administration, Maxwell served as general counsel of HUD from 1970 to 1973. In 1973, he left to found **Ticor Mortgage Insurance Co.**—now a subsidiary of **Southern Pacific Co.**—where he is currently chairman and chief executive officer.

Maxwell will leave Los Angeles-based **Ticor** to assume the C.O.O. and president positions in February. Next June 1, he will become chairman and chief executive officer, succeeding outgoing **Oakley Hunter**.

Objections. Maxwell didn't get the job without a fight, say insiders. He was elected by **Fannie Mae's** board of directors, but apparently not unanimously. Of the 15 board members, ten are elected by stockholders, and five are presidential appointees, hence prone to political decisions.

Some appointees reportedly objected to Maxwell's \$225,000-plus-perks compensation package. They

reportedly viewed it as too high for the head of a quasi-governmental agency.

PMI Mortgage Insurance Co. (San Francisco) names Gary W. Bradford president, and **PMI Insurance Co.** names Patricia A. Mikel senior vice president and chief operating officer. Both joined **PMI** in 1976; Bradford as a regional vice president. Mikel most recently served as a senior vice president, underwriting.

ASSOCIATIONS: **Rollin D. Barnard**, president of the **Midland Federal Savings and Loan Association** (Denver), is nominated for a one-year term as president of the **United States League of Savings Associations** (Chicago). **Roy G. Green**, president of **Fidelity Federal Savings and Loan** (Jacksonville, Fla.) is nominated as vice president of the **League**. **The Canadian Housing Design Council** (Ottawa) elects **Stanton K. Hooper** as chairman and **Richard E. Hulbert** as vice chairman. Hooper is president of **Stanton Developments Ltd.** (Edmonton, Alberta). Hulbert, an architect, is principal of **Hulbert and Partners** (Vancouver, B.C.). □

Ticor's
Maxwell:
to lead
Fannie Mae



reportedly viewed it as too high for the head of a quasi-governmental agency.

Echoing this sentiment: House Banking Committee Chairman **Henry Reuss** (D-Wisc.), who said it was "simply unconscionable" for the board to consider "paying someone salary and perks greatly in excess of that of the President of the United States."

Maxwell won out over a number of other candidates—reportedly more than a dozen—interviewed for the job by an executive search firm.

Fannie Mae is the nation's largest single mortgage investor. As such it holds mortgages totalling more than \$55 billion, and invested \$5 billion in 102,739 mortgages in the first half of 1980.

—D.O.L.

Urban rebirth: Beware of limits, says study

Is inner-city housing in a revitalization boom? Not exactly, says Sociologist John Kasarda.

He's studied urban policy and population trends for the last 10 years. And his conclusion: There's no evidence that the middle class is moving into central cities as fast as they are moving out to the suburbs.

The media have jumped on the revitalization story, he says, making it look bigger than it is. "Now, when a group of professionals moves in and fixes up, it's news. But it's not news when 500 other families move to Skokie or somewhere else."

And Kasarda claims urban policy is hurting those it's supposed to help. The urban poor find themselves trapped in public housing—dependent on rent, food, fuel and income subsidies. Then they can't follow when low-skill manufacturing, wholesale and retail jobs move to the suburbs.

Preferred suburbs. Kasarda, who is chairman of the sociology department at the University of North Carolina, Chapel Hill, lists three major reasons for these conclusions:

- Americans prefer living in rural-suburban areas.

- Urban amenities—such as well maintained roads, cable television and supermarkets—are now at least as good in outer suburbs as in cities.

- Businesses have discovered a more hospitable climate in small towns and outer suburbs, including such incentives as cheaper labor, lower taxes, access to all-weather roads and interstate highways, telecommunications technology connecting the remotest offices—and a generally more pro-business attitude of local government.

Kasarda bases his report on government statistics, studies by other sociologists and his own research.

Sweet suburbs. This urbanization of rural-suburban areas moved 2.7 million more people out of the cities than into them during the last decade. The fastest growing areas in all census regions were those with the fewest people.

Census figures quoted in the study show rural-suburban counties gained 619,000 manufacturing jobs between 1970 and 1978. In contrast, the 225 largest Standard Metropolitan Statistical Areas lost 513,000 manufacturing jobs during the same period.

Even more significant: 3,452,000 service jobs sprang up in rural-subur-

ban counties. Those jobs absorbed about two-thirds of the rural suburban work force this year—and the fast-growth trend continues.

Cities, meanwhile, kept weakening, the study shows:

- Between 1968 and 1979, only 0.5% of the nearly 20 million housing units—about one million—in cities were affected by revitalization or restoration efforts.

- For every household with an income of \$15,000 or more that entered central cities between March 1975 and March 1978, three left.

- More than 70% of the households



U.N.C.'s Kasarda urban boom a myth

Miles Colean, an FHA founder, dies



The founder of the term "urban renewal," Miles Colean, has died at 82. His interest in, and contribution to, housing spanned from city to suburb and even "reached across" international boundaries.

Colean moved to Washington, D.C. in 1934 as part of a housing advisory group to President Roosevelt. The group drafted legislation which created the Federal Housing Administration in an effort to spur housing out of the depression.

In 1938, he represented American housing interests as chairman of the U.S. delegation to the International Congress of Planning and Housing.

More recently, Colean popularized the expression "urban renewal," in his 1953 book *Renewing Our Cities*. This was the generic description for all urban revitalization for many years to follow. In 1969 and 1970, he chaired a presidential Task Force on Urban Renewal.

Forecaster. In the late 1950's and throughout the '60s, Colean worked closely with this magazine—then known as [House and Home]—on its annual economic forecast. At that time the magazine considered him "homebuilding's number one economist."

in revitalized central city housing units were intracity movers—not returning suburbanites.

- And the concentration of minorities and lower-income residents is increasing in central cities, both in absolute and proportional terms.

Policy. A national urban policy, says Kasarda, should include these points:

- Support of residential dispersion outside cities. Reasons: that's where the jobs are and that's where most people prefer to live.

- Building public housing closer to the new unskilled jobs in the outer suburbs. Public housing in cities only keeps residents far from available suburban jobs.

- Development of the cities strengths as cultural, financial and communications centers. The era of the city as a manufacturing center is over.

- Strengthening only those services that give cities a better economic edge—such as transportation, utilities and education.

—TOM READ

Perhaps as an indication of his economic insight, he said in a 1952 article, "One important way to guard against inflation is to put real savings into housebuilding. And considering all the risks ahead, we may well begin to ask, not, 'Is housing inflationary?' but, 'Can we afford to run the risk of inflation by unduly restraining housing?' The article was a refutation of the popular charge that homebuilding was inflationary.

Reaction. Jay Janis, Chairman of the Federal Home Loan Bank Board said when told of Colean's passing, "One of the giants of housing and housing finance has left us. His pioneering efforts with such great federal initiatives as the Federal Housing Administration helped ensure that America is the best housed nation in the world." Janis added, "It is ironic that his passing comes when this nation is once again facing a crisis in housing affordability."

Larry Simons, asst. HUD secretary noted that Colean "maintained his interest in the FHA until his death; and his decency, straightforwardness and dedication made it a pleasure to work with him."

Besides his other work, Colean was a consulting economist to the Mortgage Bankers Assn. of America from 1945 until his death. Mark J. Riedy, executive vice president, praised Colean as "a statesman in the housing finance industry." —DAVID GARFINKEL

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Study predicts: Condo inflation rate will cool

Luxury condo prices are topping \$300-per-sq.ft. in major markets such as New York, Los Angeles and San Francisco. And in the fashionable resort of Aspen, Colo., prices are nearing \$400-per-sq.-ft.

But the rapid price increases—100% in the last three to four years—will not maintain their feverish pace, reports the Marling Group, Ltd., a real estate consulting and development firm based in Northfield, Ill. The current levels, it says, are caused by:

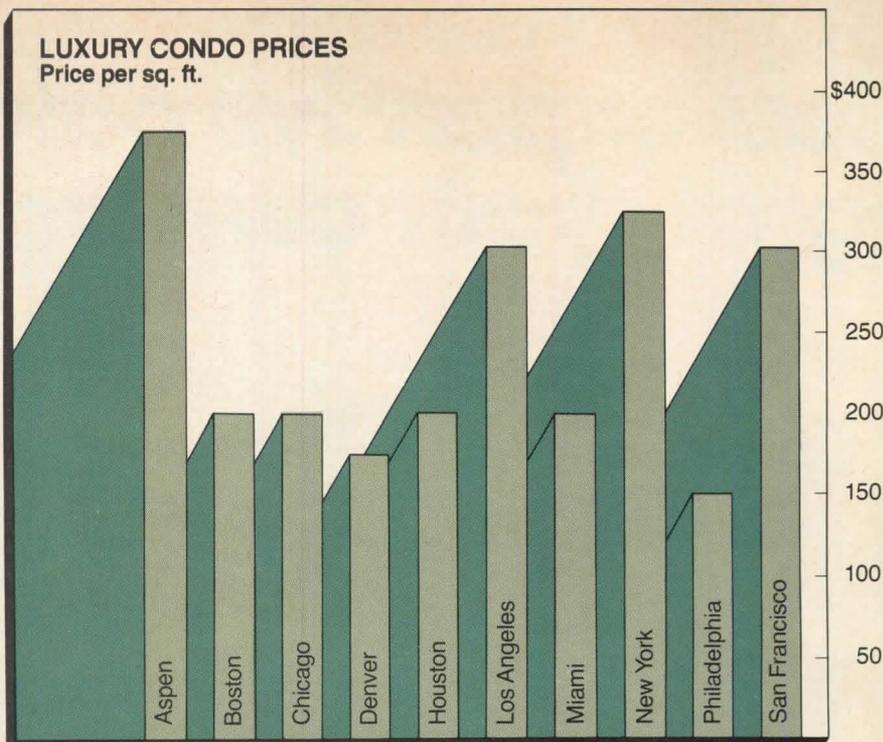
- Purchases by foreigners, which have increased demand for luxury condos and account for more than 60% of recent sales.

- Rapidly rising construction and financing costs.

- A rapidly dwindling supply of prime rental properties suitable for conversion.

- Government restrictions, both in place and anticipated, which increase a converter's risk.

Slowdown. Although luxury condo prices have skyrocketed in the last few years, this rate of increase will slow soon, says John Marling, president of the firm. Reasons: fewer people will be able to afford the top dollar units, and



Source: The Marling Group, Ltd.

CHART: SID MILLER

some sales will fall off.

The firm predicts these trends:

- Almost all desirable rental properties that are free from legal restrictions will be converted to condominiums.

- New condo construction will dominate in major markets, especially those attractive to foreign buyers, such as

New York and Miami.

- Condo conversion will predominate in smaller urban markets.

- Retail prices for new units in affluent major markets—such as New York, Los Angeles, Chicago and Miami—will, in the main, fall between \$150- and \$225-per-sq.-ft. —D.G.

HUD considers funding new towns in the Rockies

Boom town days are not quite over according to HUD. It's considering venturing millions of dollars to create them in the Rockies. The incentive: oil shale development.

The shale-rich Uintah Basin of Utah and the Piceance Basin of Colorado are being studied by HUD's New Community Development Corp.—now mostly inactive—to determine the impact of boom communities and the rapid growths of population to each area.

"We want to see how HUD can assist in this energy development," says a HUD official in Denver.

Early reports suggest HUD may loan \$50 million and the Department of Energy (DOE) may add \$20 million in grants to start and maintain new communities until they were self-supporting. For fiscal 1981, HUD plans tentatively to issue \$12 million in grants for the Uintah Basin project for housing construction.

Shale surge. Population in the Utah district now totals about 33,400. With oil shale development, it will

grow by 25,000 by 1990, says Charles Henderson, director of the Uintah Basin Energy Planning and Development Council.

In the Piceance Basin of Colorado, population growth is expected to surge even more. Population is now about 21,000. By 1990, 130,000 new residents will settle there, according to projections.

Here are some of HUD's current projections:

- The industry will produce 400,000 barrels a day of oil shale by decade's end.

- A new community of 15,000 would require \$100 million to develop the area. Additional funds would be needed for housing finance loans and

financing for commercial and industrial improvements.

- Workers in the new industry will earn between \$18,000 and \$25,000 1980 dollars a year.

- For that market, says HUD, it would be necessary to produce both attached and detached housing in the range of \$40,000 to \$70,000 per unit. Newly constructed apartment units will have to cost substantially less, under HUD projections.

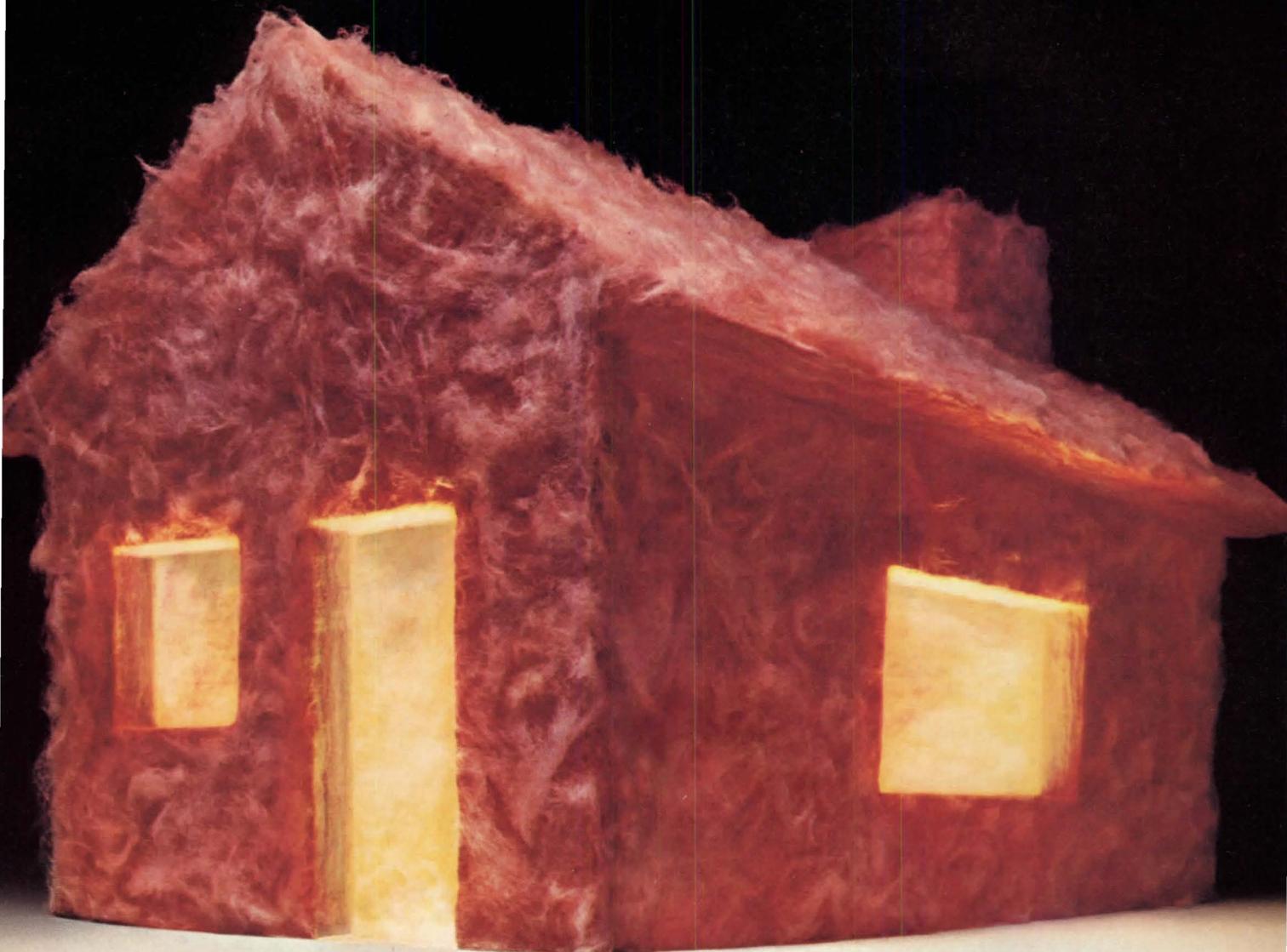
One HUD report suggests that without the new communities, the present housing shortage "would pose a substantial threat to investors and could slow down or even stop development of the new industry." —FRANK PITMAN

McGraw-Hill World News, Denver

Correction

The architectural firm of Clark Tribble Harris and Li, which designed the apartments shown in "Standardized but not Hum-

drum" [HOUSING, Sept., p. 56], has offices in Charlotte, N.C. and Washington, D.C., but not in Atlanta, Ga. as the article states.



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Why life-cycle costing was used in a non-profit project

You might think that life-cycle costing— basing purchasing and design decisions on overall, long-term performance rather than initial cost— would be suitable for upper-income housing, where there's a need to compete for buyers. But for non-profit, low-income rehab?

Remodeler John Knott, of Washington, D.C., used it, however, when he acted as general design and construction contractor on Julius Hobson Plaza, an 82-unit rehab intended to provide condominiums for low-income first-time buyers.

The results:

- Costs per-sq.-ft. penciled out at about \$28—which Knott claims is 25% to 35% below average for rehab in the D.C. area.

- Knott beat a \$2,038,000 budget by \$100,000, or about 5%.

- Buyers got first homes with features and amenities uncommon in their income bracket.

His concern for the buyers' needs and desires gives Knott a good chance of repeat business from the city government—which donated the project's three buildings and funds that were used for interior demolition work—and also from the non-profit local consortium of banks and businesses which provided the rest of the funds and coordinated the project. Also, Knott is gambling that the owners themselves will someday move up and perhaps turn into second-time buyers of Knott projects.

Performance standards. The first step in life-cycle costing is to find the level of performance for each product category that results in the lowest long-

Effects of life-cycle costing on three product/design decisions			
Product or design:			
Accepted	Central gas-fired boiler	HVAC system with ducts off chases around building perimeter	Higher-quality kitchen cabinets (fully laminated inside and out; adjustable shelving)
	vs.	vs.	vs.
Rejected	Individual electric waterheaters	HVAC system with ducts off centrally located bulkheads	Lower-quality kitchen cabinets (non-laminated; fixed shelving)
Increase in costs to builder	10%	8% (approximately \$300 per apt.)	20%-25% (approximately \$75-\$100 per apt.)
Long-term savings or advantages to homeowner	50% savings in energy costs	10%-15% savings in energy costs; increased operating efficiency; longer life span.	Easier maintenance; better appearance; more durability

Comparative chart (above) shows some of the trade-offs made as a result of basing product and design decisions on life-cycle costs. In each case, the builder felt long-term gains to owners justified additional cost.

term costs to the homeowner. Once this has been done, the particular product or design that costs the least to buy and install and that also meets the standard is selected.

An inexpensive product that doesn't meet the standard is automatically rejected. But the cheapest of all eligible products is the one that gets picked. "We use performance standards for everything that goes into our projects," says Knott, "right down to the electrical receptacles."

Budget beaters. To make up for the extra costs that resulted from some of his product and design decisions, Knott cut costs in a number of other ways. Among them:

- Team-style management. Knott treated subcontractors as though they were partners, rather than employees or subordinates, giving them more incen-

tive to perform well. (See box below).

- Custom-fitted floor plans. Architect Wayne Haffler tried to incorporate as much of the existing structure—particularly windows and load-bearing walls—as possible into the floor plans to keep demolition and construction costs down.

- Variances. Even though the city government already had a stake in the project's success, Knott had to do a good deal of jawboning to get some critical, money-saving code variances.

One example: a large existing stairwell that did not quite meet present-day code. "To meet code we would have had to tear the whole thing out and start from scratch," says Knott. "Fortunately we were able to convince the city government to give us a variance on it, since it was still structurally sound and was only going to be used in the redesign as a secondary exit." —STEPHEN LEVIN

The teammate approach to managing subs

"Treating subs as part of a team takes a lot more time up front," says remodeler Knott. "But in the long run, you get the best product for the least amount of dollars."

Knott's management style hinges on two beliefs: A motivated worker who is personally interested in seeing a project succeed is more productive than one who feels he's there simply to collect a check; and a competent subcontractor is more of an expert in his particular field than most builders,

general contractors, or construction engineers.

In the early stages of a project, Knott has subs make design proposals for their part of the plan. Each is given performance goals and standards developed by his engineers, as well as working architectural drawings, and asked to return proposals with budgets, descriptions of procedures, schedules, and lists of products and materials.

When submitted, proposals are re-

evaluated by Knott's engineers; employees who work in the field are also consulted to ensure that installation procedures and schedules are on target. If accepted, the proposals are then fitted into an overall construction scheme.

"The sub knows a lot about products and procedures because he's out there in the field every day," says Knott. "Tapping that experience and expertise, and taking advantage of it, helps keep costs down." —S.L.

ARCHITECTS! BUILDERS! DEVELOPERS!

Enter your housing designs now in the 1981 HOMES FOR BETTER LIVING AWARDS PROGRAM

Eligibility

Any house or apartment building in the United States or its possessions built since January 1, 1978. Must have been designed by a registered architect.

Entry categories

Production housing — any housing, single-family or multifamily, built for sale or for rent. Includes: both year-round and vacation housing; experimental houses; rehabilitations and recyclings; PUDs; mixed-use buildings or developments; etc.

Custom-designed housing — any one-of-a-kind house designed for a private client. Includes: both year-round and vacation houses; remodelings and additions.

Note: Remodelings must involve structural changes. Redecorations and single-room or single-apartment remodelings are inadmissible. Before- and after-construction photographs required for judging.

Registration fee

\$50 per entry. (Fees are non-refundable.)

Registration deadline:

November 24, 1980.

Submission of materials

A spiral binder for each project entered will be sent to registrants in January 1981. Binders should be filled with photographs and plans to illustrate the design, and returned. Detailed instructions will be sent with the binders. Deadline for return of binders: February 23, 1981.

Judging

A panel consisting of leading architects, builders and editors of **Architectural Record** and **Housing** will meet on March 31 & April 1, 1981 at the A.I.A. headquarters in Washington, D.C. to judge entries. Award types: First Honor Awards and Awards of Merit.

Winners

All winners will be notified immediately after judging; winning entries will be published in **Housing**. Award certificates and slides of winning projects will be presented at the 113th annual A.I.A. convention, May 17-22 in Minneapolis, Minn. Winners will be asked to provide A.I.A. and **Housing** with slides of winning entries, and will be charged \$25 by A.I.A. to cover production of its annual award-winner presentation. Winning binders will not be returned.

Conditions

Entries must be approved by all parties concerned. The Entrant represents that he is the sole proprietor of all rights in and to the material, illustrations and photographs submitted; that such items are free from copyright restrictions that would prohibit publication by **Housing**; that Entrant hereby grants to **Housing** the right to publish such material, illustrations and photographs at such times and in such manner as **Housing** shall determine, and agrees to indemnify and defend **Housing** from any claims arising out of or in connection with any such publication by **Housing**. The Identification sheet (white) must be signed to validate your entry.

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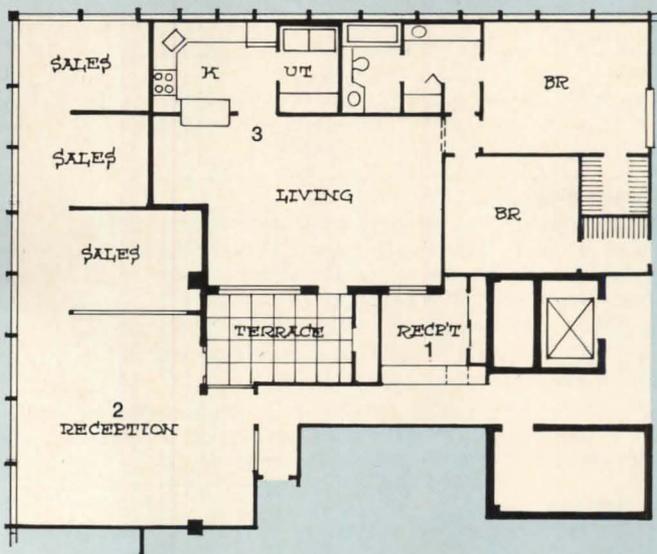


Partial building plan (right) shows how condominium model fits into second floor of office building (shown above). Prospects may obtain general information about the project, which is located in Florida, at a reception desk (1), and look over site and floor plans in a general display room (2). Design and decoration of model's interior (3) simulates interior design of a counterpart on the project's actual site.

Model is constructed so that its walls are no more than one inch from the office building's opaque-glass windows. It opened in August 1979, and recently was removed and replaced by a model of the project's best-selling unit.



3



2



1

Selling Southern living — way up North

If the buyer can't get to the project, bring the project to the buyer.

That's what builder Kevork Hovnanian had in mind when he put up a model home on the second floor of his Red Bank, N.J. office building (see photos and building plan, above). His objective: to sell condominium flats at Pine Ridge, in Palm Beach, Fla.

Building a model home in the North meant many prospects no longer felt they had to go all the way to Florida to decide, claims Hovnanian's executive

vice president, Jack Strama. "The model makes it easier for them to think about the project, and draws them further into the buying cycle, since they no longer worry about spending lots of extra money on airfare," he explains.

Hovnanian decided to use the empty floor space in his three-story company headquarters for a model home after he discovered that more than half his sales were to investors. He had already successfully launched an ad campaign

directed at this market (see story on facing page) and opened two other New Jersey sales offices with only scale models and floor plans.

About half of the 1,600 sales at Pine Ridge, which opened in Dec. 1978, have been made to New Jerseyites. Over half of those were made since the model home was built.

The project includes studios and one- or two-bedroom units, which now sell for between \$35,000 and \$43,000. Monthly fees are only \$29. —S.L.



CAROLE EICHEN
Carole Eichen Interiors
Fullerton, Calif.

Be sure you're serious when you merchandise to singles

The day of the flashy bachelor pad is long gone. Today's single buyers want to settle down, not swing. They're at ease with their unmarried status. And your model units should reflect this change in attitude.

For instance, we used to appeal to single prospects with casually arranged, inexpensive furniture, because they tended to see their living

quarters—and their single state—as temporary.

Now a more formal look is in order.

Many singles today—career women, for example—have higher incomes than their counterparts ten years ago. And they enjoy spending some of that money to fix up their homes.

Moreover, they appreciate the feeling of permanence associated with more expensive, long-lasting possessions, such as high-quality furniture or a collection of art objects.

Here are some other things to keep in mind when planning models for this market.

Take care with color. A married man will accept pastels as part of a model-decorating scheme—they're for his wife. A single man will be turned off by them. For him, stick to deep colors, such as burgundy, or earth tones, such as brown or beige. These can be mixed with white, as in the living room shown below.

The single woman, on the other hand, will be attracted by the "garden colors"—or sometimes by soft blues and pinks.

Kitchens count. Gourmet cook-

ing has taken over. You'll find more men in the kitchen—and enjoying it—than ever before. So take time to make model kitchens appealing.

I think a warm and cluttered look makes a kitchen seem particularly inviting. It's easy to achieve that look in a small kitchen. Use glass jars full of pasta on the counter, tins holding cooking utensils, etc.

Another idea: set-ups showing food being prepared. For singles, this might be a plate of hors d'oeuvres—they love to entertain.

For that reason, too, the dining table deserves special attention. It should be set formally for four or six, so the prospective buyer envisions himself as a host, not as a lone single cooking for one.

Maximize masters. It's not unusual for a single person to spend a lot of time in the bedroom—doing work at home, watching TV or just relaxing with a good book. A single will spend a lot of money to make this bedroom as comfortable as possible. So you should, too.

For instance, many master bedrooms in units for singles are too small for a retreat area. But I always try to make space for an up-

PHOTOS: THE ASSOCIATES



Masculine, but not macho, is how living room above could be described. Comfortable-looking contemporary-style furniture was intended to appeal to single men shopping at Sycamore Gardens, a Daon Corp. condo conversion in Tustin, Calif. (Photos at right are also from Sycamore Gardens.)

holstered chair. And there should be a convenient place for a TV set.

Anything you can do to help make the relatively small bedroom seem larger is also a plus. I recommend mirrored wardrobe doors, such as those seen in the bedroom shown below. The single professional will appreciate the expanse of mirrors when it comes to making a last-minute check of skirt length or trouser cuffs, too.

Storage is sometimes a problem in a small master. Do some creative thinking about it. Bookshelves above a window, such as those seen in the bedroom below, are one solution we've found.

A recent development in the singles market is the phenomenon of singles buying together in order to afford a townhome or condo. When you're expecting paired-up prospects, be prepared with two good-sized bedrooms. They should both get first-class treatment and their privacy should be emphasized. For example, showing a breakfast tray with newspaper and coffee in such a bedroom is a good way to tell prospects it can be a retreat from the shared living areas of the unit.

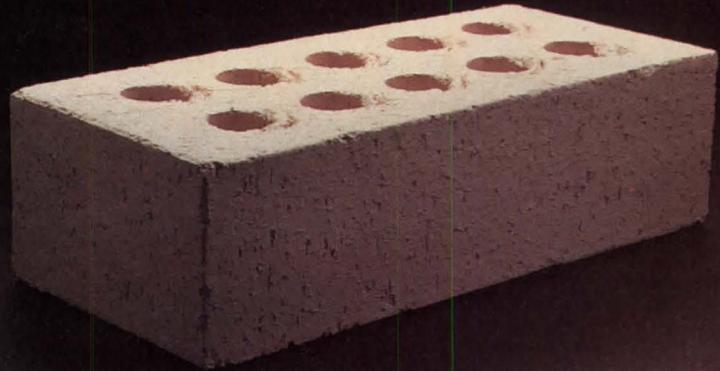


Glass-topped dining table (above) is set to show prospects how easy it will be to entertain.

Compact master bedroom (below) benefits from space-expanding mirrored wardrobe doors. Note shelves tucked above window.



WHAT KEEPS YOUR SALES HOT WHEN THE MARKET COOLS?



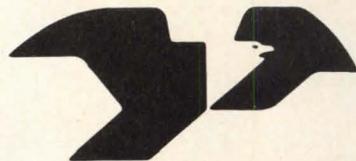
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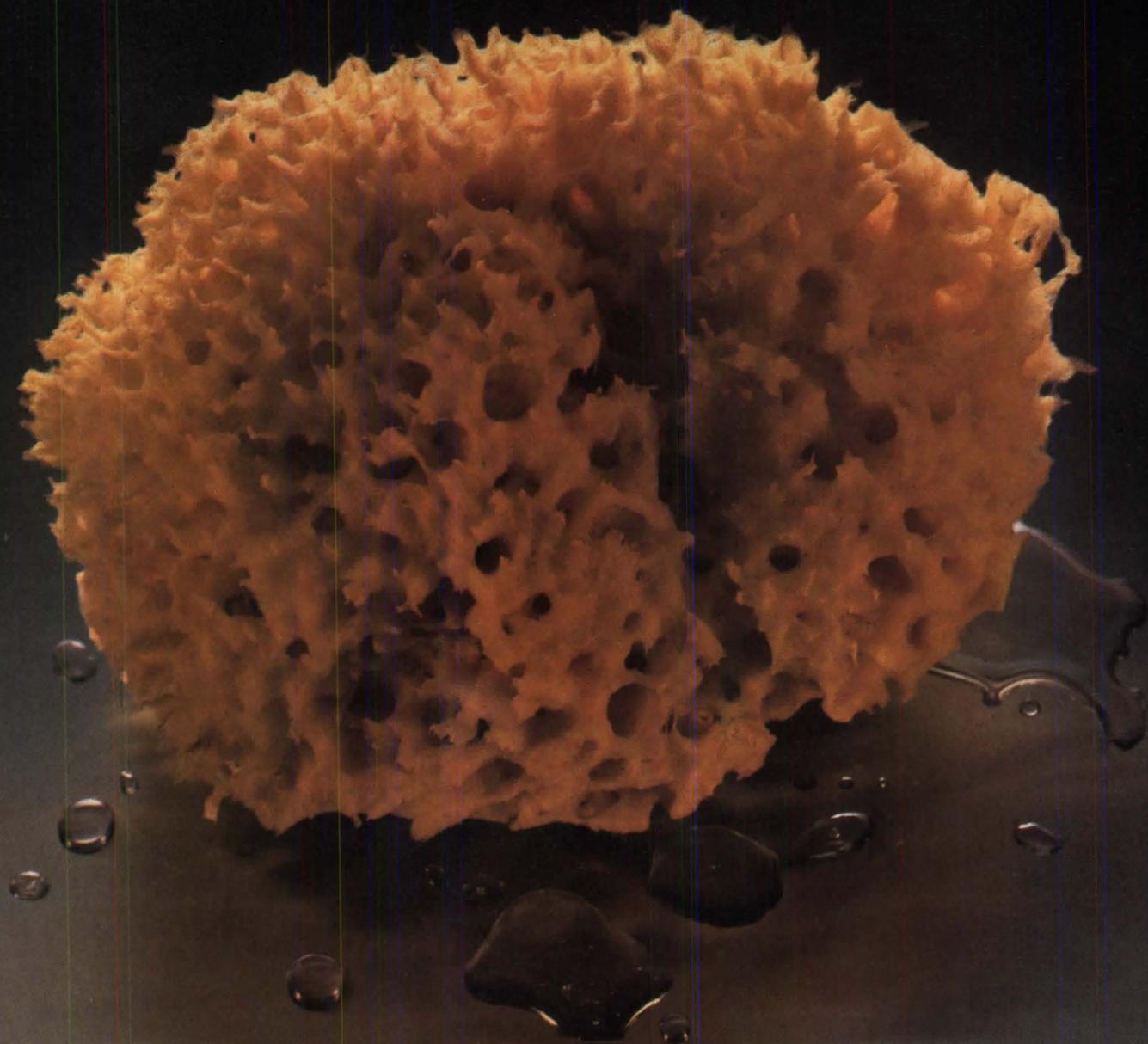
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City _____ State _____

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Present aircraft owned _____

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**The Perma-Shield[®] window
maintenance kit.**

With Andersen® Perma-Shield® gliding windows, who needs paint? Or brushes, or scrapers, or sandpaper, or steel wool?

No one!

About all the care these windows will ever need is a wipe with a damp sponge.

It's the not caring for these windows that building managers and homeowners love.

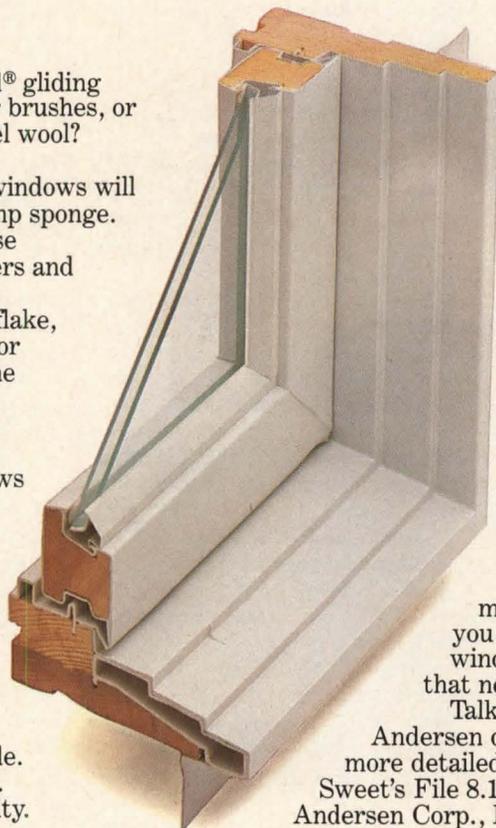
The windows won't chip, flake, blister or peel. Won't rust, pit or corrode. So they won't need the maintenance of windows that do. And won't need repainting every few years.

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The only completely enclosed sash.

It's made by extruding vinyl into a thick rigid sheath around a precision-milled wood sash.

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One of a kind flashing.

The same thick vinyl that covers the sash and frame exterior extends to form a wide continuous flange all around the window.

It's all one piece for faster, easier, weathertight installation.

Sash corner joints like no other.

Andersen cornerwelds sash stiles and rails together to seal out weather problems.

The best frame joints—none.

A thick vinyl covering is formed in one piece and bonded to the wood frame. Since there are no joints at the corners, there are no leaks at the corners.

With maintenance getting more and more expensive, shouldn't you be using gliding windows and gliding doors that need less and less?

Talk it over with your Andersen distributor or dealer. For more detailed information consult Sweet's File 8.16/An or us. Andersen Corp., Bayport, MN 55003.



The beautiful way to save fuel®

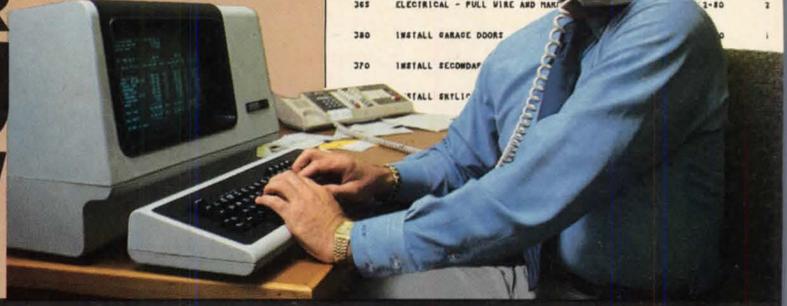
Andersen® Windowalls®



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JIM FORBES WENT FROM BUILDING TWO HOUSES TO A COUPLE OF HUNDRED IN SIX YEARS... HIS ADVICE TO OTHER BUILDERS, LARGE & SMALL...

LET A COMPUTER HELP YOU GROW



“It’s like throwing away a shovel and buying a big Cat. All of a sudden you say, ‘I can move mountains now instead of just dig holes.’”

That’s builder Jim (James C.) Forbes describing the creative freedom that comes to a builder who turns his donkeywork—chores like accounting and job-costing—over to a computer.

And, the Bellevue, Washington-based builder says, it doesn’t matter whether the company is small, big or in-between.

“Someone building one or two houses a year has just about as many transactions to process as I do building one hundred,” Forbes says, “because we all have to contract for every rafter, every oven, every nail. And the computer has an immense capacity for processing such transactions.”

So by plugging into a computer, Forbes says (a) a builder can concentrate his energy on what he knows best—planning and building, and (b) he can be a better manager.

“Without the computer I couldn’t keep close enough tabs on all the data that determines whether or not I’m on the right track” Forbes says. “When you’re winging it and don’t know exactly where you stand, it’s hard to map out a strategy.”

There’s an even more important advantage to the computer as Forbes has learned as he’s grown: “When your company is computerized, it’s highly marketable because lenders and investors love the computer.”

That means he has an edge in credibility when he approaches a potential joint-venturer or banker.

Forbes uses his computer as a planning tool. Most builders know at least one project where changing something

during the planning stage would have produced a better project.

“That’s an expensive way to learn a lesson,” Forbes says. “And it’s something you can avoid when you have a computer because it gives you time to check out all kinds of alternatives.”

Case in point: Knollwood (shown on page 48), where zoning permitted 140 units, which in turn would have required 280 parking spaces.

“Our architects said we could work 100 units and 200 parking spaces into the hillside site quite well,” Forbes says, “but that we’d be overly dense with the higher count.”

Faced with that kind of dilemma, a builder’s first reaction is “will my land costs get too high,” Forbes says.

But a quick trip to the computer showed him that reducing density would have only a minor impact on land costs when compared, for example, with adapting the site for the higher density.

Building fewer units provided two marketing advantages for Forbes. One: A greater percentage of units could be oriented to spectacular views than would have been the case with 140. Two: Units could be larger, thus fill a gap in the market.

“Everyone else was doing small units,” he says. “So we decided that with the view going for us, we would give more square footage, come in with a unique project, and get some premiums. Decisions of this kind involve a lot of variables, and that’s where the computer is invaluable.”

Forbes uses his computer as a marketing tool. Quick response to new numbers—rising or falling interest rates, for example—is often crucial to sales today. So Forbes employs his comput-

er system as a “qualifier.”

Using terminals installed in each sales office, a salesperson provides “affordability” projections—printouts listing monthly payments, closing costs, figures showing how mortgage payments affect income taxes, etc.

“A printout carries a lot more authority than scratched notes on the back of an envelope, says marketing vice president Dick (Richard E.) Friel.

The advent of creative financing has given Forbes another opportunity to test the versatility of his computer. He’s now providing prospects with cost-benefit data showing the effects of variable rate mortgages over five year periods (see page 44).

Another marketing aid: the computer’s ability to store, digest and juggle figures gives Forbes fingertip control over pricing strategy.

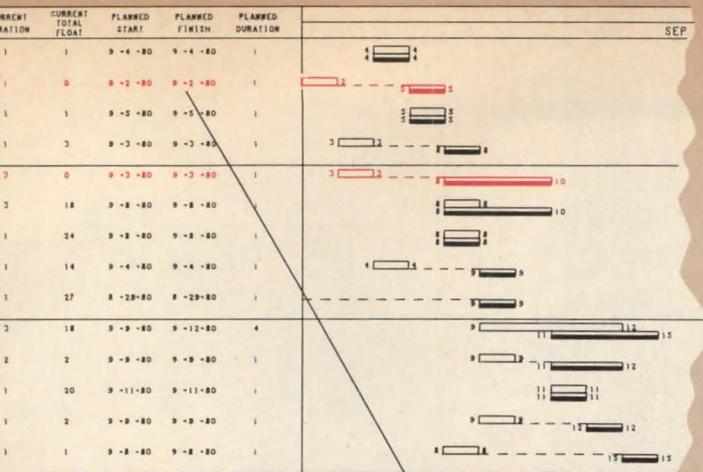
At the push of a button he can call up pricing information that’s categorized in a variety of ways—by project or by plan type, for example.

“It doesn’t take me long to see what plans and which price ranges are selling,” Forbes says. “So if we’re in the mood to move something or to take advantage of some economic event, we don’t have to wait for someone to pull the data manually.”

Typically, Forbes says, pricing changes are made to create buyers among weekend traffic. That’s usually at Saturday morning planning sessions when no secretaries are working.

“Without the computer we’d be hard put to make changes and get them posted on the site by 10:30 or 11:00 a.m.,” Forbes says.

Forbes uses his computer to “talk” to subs and other non-staffers. Routine dis-



Graphic "critical path" printouts (*sample shown at left*) helps Forbes and his staff track progress of projects at a glance. Items in red are on the critical path; that is, any delay will affect the overall completion date of the project. Items in black are not on critical path when scheduled, but could become so if delayed too long. Open bars plot the schedule for each activity; filled-in bars plot activities as they actually take place. Note that in the "current total float" column red items have no leeway; black-item numbers indicate days an activity could be delayed without becoming "critical." This graphic printout, an off-shoot of the more traditional tabular form (*see below*) was developed by architect Kevin Scott, Forbes' vice president of development.

ID NUMBER	DESCRIPTION	CURRENT START	CURRENT FINISH	WORK COMPLETED	DAYS REMAINING	CURRENT DURATION	CURRENT TOTAL FLOAT	PLANNED START	PLANNED FINISH	PLANNED DURATION
395	FRAMING HISE BLOCKING AND PICK-UP	9* 4880	9* 4880	1	0	1	1	9* 4880	9* 4880	1
310	NAIL ROOF SHEATHING	9* 5880	9* 5880	1	0	1	0	9* 2880	9* 2880	1
415	STRAIGHTEN CHECK ALL STUDS AND SOFFITS	9* 5880	9* 5880	1	0	1	1	9* 5880	9* 5880	1
315	SET WINDOWS AND EXTERIOR DOORS	9* 8880	9* 8880	1	0	1	3	9* 3880	9* 3880	1
320	LOAD ROOF WITH SHINGLES	9* 8880	9*10880	3	0	3	0	9* 3880	9* 3880	1
330	INSTALL ROOF TO WALL FLASHING	9* 8880	9*10880	3	0	3	18	9* 8880	9* 8880	1
400	FINISH INTERIOR DIMENSIONS	9* 8880	9* 8880	1	0	1	24	9* 8880	9* 8880	1

cussions, he believes, can be handled the same as other office routine—by the computer.

"A builder's staff is his most valuable asset," he says, "and it's senseless wasting their time talking over run-of-the-mill procedures with subs or other outsiders."

Instead, Forbes insists, such conversations should zero in on a sub's specialties, his background and his particular talent for doing an upcoming job.

So plans for each Forbes project are broken down into a master list of 500 to 600 items—everything from drawing revisions to relevant fire codes—and the list is fed into the computer.

When it's time to meet with, say, a

sub bidding for electrical work, the computer's text editing capability is activated. It quickly prints out all the details the sub needs—electrical specs, bidding instructions, data about the overall project and the way Forbes Development Corp. operates.

"People who've never worked for us find that especially helpful," Forbes says. "It introduces them to what we expect from them and what they can expect from us."

An ancillary benefit: The sub can't come back later and say he didn't understand the instructions. "I don't recall a sub ever coming to a meeting with pad and pencil so he could take notes," Forbes says.

Forbes uses his computer to keep track of project schedules. The computer provides hard dates, showing whether a project's on time or late—and the status of each stage of construction (*see printout on pages 42-43*).

A computer can also tell, as it did with Watershed Park (*shown on pages 46-47*) just how much impact a change in marketing strategy—revising floor plans, for example—will have on a project's completion date.

"Having an accurate fix on that date can save you a lot of money," Friel says. "It affects your newspaper ad schedule, your radio and TV spots—even the day your interior designer is due to decorate your models."

What's more, he adds, it's the kind of precise information you can't always rely on your construction super for. "His calculations are more likely to be based on gut feelings or what he thinks the boss wants to hear."

Forbes uses the computer to motivate his staff. It's not true, he says, that computerization leads to depersonalization in a company. "On the contrary, it creates a feeling that the company's moving quickly and everyone is important."

The important thing, he explains, is to use the computer to make a staff's contributions to day-to-day activities have an immediate impact.

"I have no trouble getting my project managers to constantly update reports because they know I'll respond to the data within an hour or so," Forbes says. "I can't let their reports get shunted into an office and perhaps not surface for months—or never."

Forbes likens that situations to factories where workers have been known to throw wrenches into an assembly

'You can't just pick up a phone and say send me a computer...'

In fact, Forbes advises, before laying out money for any system, a builder should try a time-sharing (leasing) program. "Then if your experience is bad, you simply cancel the service," he says.

Once you decide to buy, you need the services of a technician—a systems analyst. "He'll find out what data you routinely accumulate and ask you what kind of services you'd like your computer to perform—perhaps write checks and post them to your ledger and update estimates," Forbes suggests.

The kind of expert you need, he says, is someone who's able to suggest programs to you—someone who's aware of what other builders are doing with computers.

Forbes's sophisticated system cost over \$100,000; but he says that some systems with good capabilities run from \$5,000 up, plus maintenance.

As to payback period: "Going on computer is like adding a key man who says, 'I can help you do another project or two a year,'" Forbes says. "So for me, it's the same payback as I'd expect from a key employee. And someone like that can make back his annual salary with one cost-saving idea."

But, he adds, when you use a computer creatively, the real payback is in the help you get managing your tasks. "It lets you identify the work to be done and follow up on it."

[For more specifics on computers, and how other builders use them, see "Does it Pay to Computerize?," HOUSING, Nov. 1979.]



1



2



4



3

line. "They feel frustrated and want to see something happen because of them," he says.

An unexpected benefit: Forbes' computer introduces discipline into his company. "Picture a conveyor belt with me at one end waiting for reports to drop off so I can see how we're doing," Forbes says. "And at the other end are the people who work for me feeding the computer the appropriate data at the right time."

That step imposes discipline on the staff, he says, because people have to be consistent when they format data.

There's also the need to monitor daily activities—an especially trying task for a builder with jobs in more than one location. "In manually oriented companies—especially larger

ones—lower management can pretty much dictate the information that reaches upper management," Forbes says. "But if a computer has been programmed properly, it isn't usually subject to manipulation. So the builder gets the information he needs."

And, he says, the computer's red-flag capability introduces another form of discipline: making a builder anticipate possible problems down the line.

An example: a temporary cash shortfall in 30 or 60 or 90 days. "The computer can't solve the shortfall problem," Forbes says, "But it gives you lead time to work something out."

"And that's a lot better than running to the bank to ask for money to meet today's payroll."

'Of course the computer hasn't come up with one original idea—the key is still people'

Marketing by computer with printouts, like this one, shows prospects appreciation and tax benefits of home ownership. This example, spelling out the effects of a five-year rollover mortgage, assumes that a \$74,900 house is being bought with a \$14,980 down payment by someone in the 30% tax bracket. Mortgage terms: a buy-down from nearly 13% to 10 $\frac{1}{2}$ % for three years, then a projected increase of 1 $\frac{1}{2}$ %. The computer, Forbes says, is capable of supplying similar information for up to 30 years and using varying down payments.

----- THIS IS YOUR 5-YEAR 'CAN-DO' HOME OWNERSHIP COST/BENEFIT PROJECTION -----

Customer: MR AND MRS JOHN DOE
Location: ROLLWOOD
Residence: 301

These figures illustrate some of the benefits of owning a condominium home built by Forbes Development Corporation.

This example assumes that you purchase a home with a price of \$74,900 today using a "rollover" or renewable-rate loan with an interest rate of 10.875% for 3 years, which then increases the mortgage of 1.5% to 12.375% for the next 3 years. With a down payment of \$14,980 and assuming an initial tax bracket of 30%, the tax savings alone effectively reduce the cost. If you assume that the property value will increase by 10% per year, then your monthly equity increase further reduces the cost, especially when viewed in relation to your income inflation projection of 10%.

This analysis is based on the following assumptions:

- 1) Historically the price of homes has increased an average of more than 1% per year since 1969. While it is assumed an inflationary trend will continue, Forbes does not warrant this will continue indefinitely.
- 2) Your annual income will increase at your assumed inflation rate of 10% per year.
- 3) Your Federal tax bracket will increase as your income increases by a factor of 1/2 per year.
- 4) The effects of closing costs and finance charges vary and are not shown.

	Now	Year 1	Year 2	Year 3	Year 4	Year 5
Property Value	74,900	82,390	90,629	99,692	109,661	120,627
Owner Equity	14,980	22,711	31,243	40,631	50,887	62,169
Projected Appreciation	0	7,490	8,239	9,063	9,969	10,966
Equity Increase	0	241	292	376	386	316
Loan Balance	59,920	59,679	59,386	59,061	58,774	58,458
MONTHLY -----						
Loan Payment	564	564	564	564	631	631
Principal	21	23	24	29	25	28
Interest	543	541	538	535	606	603
Property Tax	79	87	96	105	116	127
Insurance Premium	21	23	25	28	31	34
Association Dues	60	66	73	80	88	97
Total Monthly Payment	724	740	758	777	865	889
Monthly Income	2,500	2,750	3,025	3,328	3,660	4,026
Income Tax Bracket 1	30	34	38	42	47	50
Income Tax Deduction	622	628	634	641	722	730
Income Tax Savings	187	211	239	270	341	365
Net Monthly Cost	537	529	519	507	524	524
As % of Income	21	19	17	15	14	13
Monthly Equity Increase	0	444	711	782	855	940
Effective Monthly Savings	0	115	192	275	330	417

5



6

Staff consultations let Forbes keep close tabs on daily activities—for example, progress at Watershed Park, the company's newest project (see p. 46). Here he: discusses a "sales trap" plan (1) with Dick Friel, marketing VP, architect Kevin Scott, development VP, and Carl Brown, construction VP; checks on-site problems with Cherine Vuchetich, customer service manager (2) and Ed Maupin, construction super (3); scans a schedule (4) with Diane Kanning, administrative manager; okays plan revisions (5) with Annette Wood (Mrs. Forbes), secretary-treasurer; and monitors a cost-update report (6) with computer operator Lila Hermes.

A computer may be the "state of the art," Forbes says. "But without the right people in key spots, it's all for naught."

And the "right people," he says are those that are so committed they almost forget they're working. "It's not just the money that attracts that kind of person," he says. "It's the desire to perform at the top of their ability."

How does Forbes find such people? Sometimes by luck, he says, you can latch onto a proven winner—someone who's succeeding someplace else but isn't appreciated.

"And as your reputation rises, you'll begin attracting that type," he adds, "because committed people want to be with a winner—a company where they really feel they can reach their potential."

But, he warns, before you reach that point, there's bound to be a period of trial and error.

Forbes admits he did a lot of trying and made a few mistakes as his company began to grow. Particularly, he says, it was a period when he was too quick to put people in positions of authority.

"If I had to change something from those days," he says, "it would be my basic management style—I assumed too much of other people." He describes some of the growing pains:

"Let's say you start by yourself, evolving from no production to a dozen houses. Then you hire somebody to do all the buying. You're beginning to delegate authority.

"That means you're changing modes; instead of a doer, you're part doer, part manager. And each time you add people—especially levels of

people—you introduce an element of risk that they won't perform as you want them to.

"And that's where a builder has to be especially careful as his company grows—making sure he trains his people, teaching them his objectives so they really understand what's expected of them."

The latter, he says, is where he fell short, where lack of experience in managing a medium-size company showed:

"I'd say to my new people: 'There's a fire over there; put it out.' Or I'd tell them: 'Here's a wheelbarrow; push it up the hill, and let me know when you get the top.'"

Putting people on line and not taking the time to train them, he cautions, is "very risky, fraught with peril."

Forbes's problem was compounded by starting out at a time when there was a dearth of talent to draw from because Seattle's economy was booming, and most everyone was working. "A lot of the people I was able to pick up were the floaters. I went through many construction supers; it was tough to get good subs; and that caused us delays.

"We had a technically complicated product with technically inexperienced people," he recalls.

Today, he adds, he looks for people who'll scream if he doesn't let them do enough and "we turn away people who complain because they think you're asking too much of them."



PHOTOS: AL BERGSTEIN

'A simple process made me a believer'

Jim Forbes's love affair with computers began several years before he formed his own company. He was running a feasibility study for a San Diego builder, trying to work out a profitable pricing program for several models in a project.

"We had a complicated formula that included things like points and real estate commissions," Forbes says. "And testing each new set of prices took four or five hours."

By computerizing the data, he was able to do the same work in a matter of minutes.

Forbes entered the homebuilding business as a loan officer for a Florida-based REIT which, because of his training as an engineer, assigned him to problem jobs in California.

Forbes's path to the REIT job was a bit unorthodox—ferrying passengers, as a pilot/salesman for executive jets.

"I met lots of businessmen," he says, "and it struck me that the real estate people tended to be younger, had advanced faster, and seemed to be having a lot of fun."

Then during one trip, an executive told Forbes he was wasting his education—"that with a masters degree I should be moving from the front of the plane to the back."

That's when he decided to ask one of his former passengers—a REIT officer—for a job. It was in 1970, and Forbes was 29 years old.

A later stint with the REIT brought Forbes to Seattle which, he decided would be a good town for a budding homebuilder.

"It was humming," he says, "and I felt it would be easier for a little guy like me to get started where there wasn't the kind of competition I'd be facing in Southern California."

Forbes hasn't bought a company plane yet, but he often rents one for business trips (see photo above). Recently, for example, he flew to Kalispell, Montana, where he's working on a deal for a mixed-use project. "I'd have wasted a couple of days waiting for scheduled planes," he says. "This way I set my own hours."

'I longed for the freedom of a one-man operation'

That's what made Forbes go into business for himself about six years ago. And he did start out on his own—living on \$10,000 worth of savings and sharing office space with two real estate men.

Although his first intention was to "buy a pickup truck and stay small," he soon learned there were plenty of innovative small builders in Seattle, but a big hole in terms of large builders doing new things.

He also realized that with a lot of two- and three-house builders working independently, the single-family market can get overbuilt quickly. "It's hard to keep track of what they do, so they can affect a market in short time without anyone knowing it," he says.

Something else he soon discovered: Lenders tend to favor their big borrowers—especially in tough times.

"The little guy in this town was the one who got shut out first," Forbes says. "So I'm a firm believer in growth—not just as a matter of preference, but for survival.

A big advantage in being larger, he maintains, is the ability to spread the risks: "We found that as the market went through the cycles from normal to rates rising, peaking, then falling, each of our projects seemed to shift in its appeal to buyers," he says.

Some builders may question Forbes' path to growth—pioneering new product types and venturing into untested markets. And he admits there are some risks, so he tries to protect himself:

- By joint venturing. "Everything we do is a limited partnership for funds or a deal with a landowner," he says.

- By using proven talent—award winning architects and interior designers—when he introduces a new housing concept. "They bring ideas to us like bees pollinate flowers," Forbes says. "So we farm ideas from other markets, through their architects."

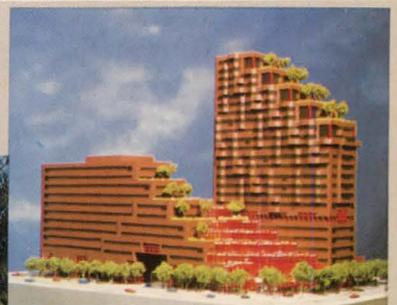
- By involving local people financially when he goes into a new area. "Testing new territory is exciting," Forbes says. "But we always link up with someone with a feel for the market so we won't get skewered or drift off the target, making strategic errors." (to page 48)



From the beginning...

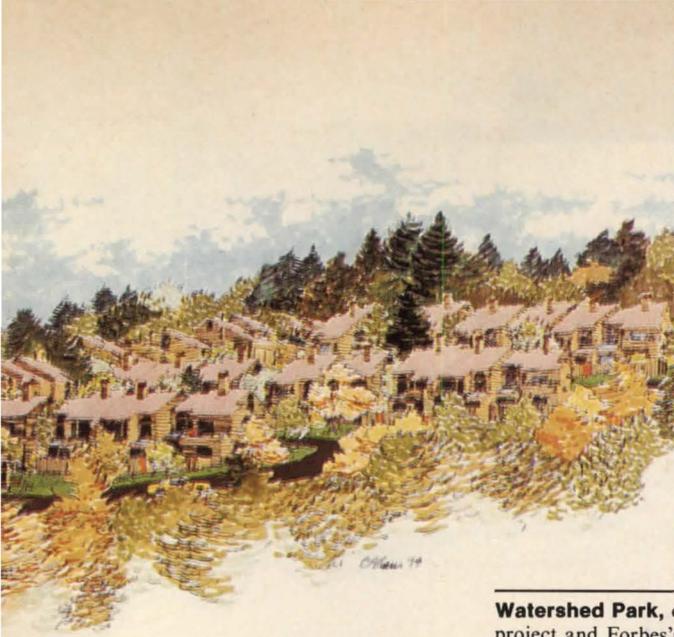


AL BERGSTEIN

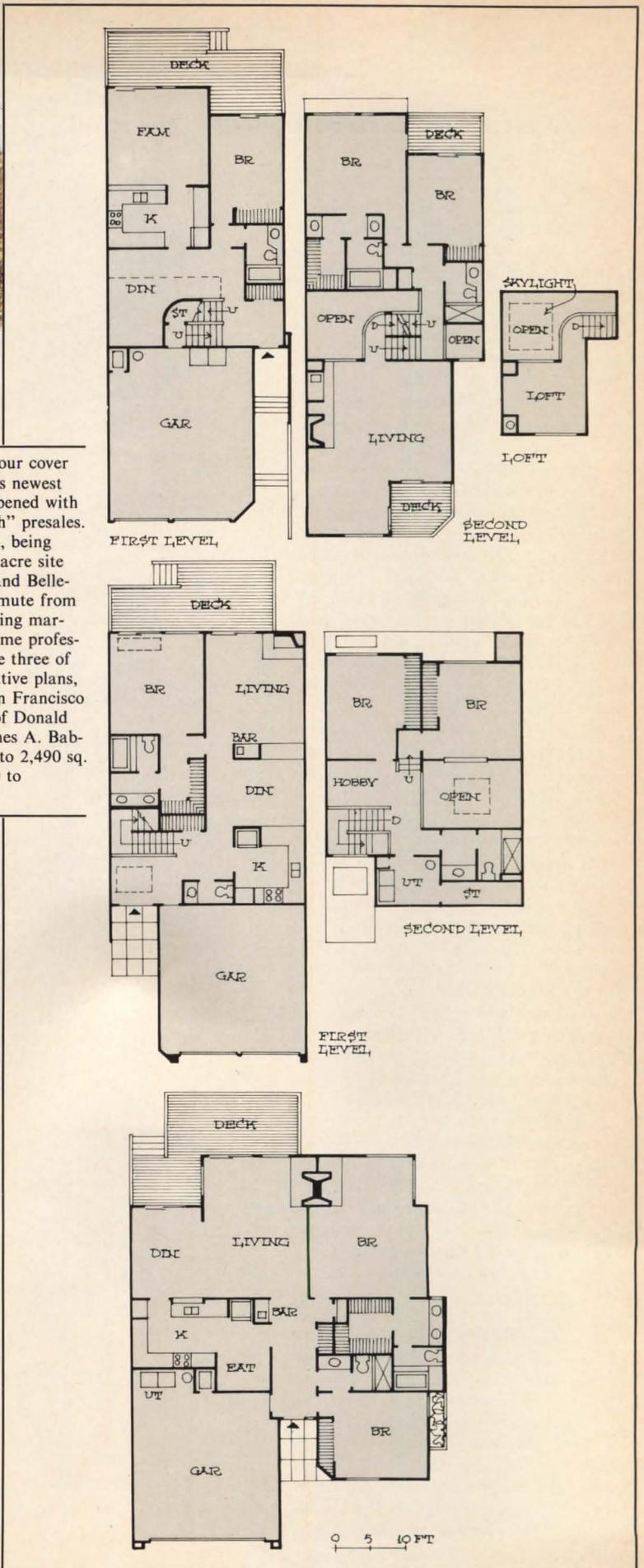


...to the future

Growth pattern for Forbes is epitomized by the contrast between the detached house and mixed-use complex shown. The house is one of the first two he built; the mixed-use complex was recently proposed for a redevelopment site in Portland. Forbes lost out to a company with more internal financing capability. But the design garnered such favorable comments that he's been approached to joint venture a similar project privately. One reason: true to form he used an architectural firm with proven ability in inner-city mixed-use work: Fisher-Friedman Associates of San Francisco.



Watershed Park, our cover project and Forbes's newest product, recently opened with five "word-of-mouth" presales. The 52-unit project, being built on a steep 12-acre site between Kirkland and Bellevue, is a short commute from Seattle, hence is being marketed to upper-income professionals. At right are three of the project's innovative plans, designed by the San Francisco architectural firm of Donald Sandy Jr., AIA/James A. Babcock. Sizes: 1,520 to 2,490 sq. ft. Prices: \$138,000 to \$166,000.



NELSONER TV

Case-in-point: He's about to introduce Portland homebuyers to a duplicate of award-winning Country Trace (shown on page 49). But since Portland is "a bit more conservative" than Seattle, his partner suggested a toned-down merchandising program. "We'll still have a classy brochure," Forbes explains, "but it won't be as fancy as the one we used in Seattle."

Forbes became a devotee of good design as a marketing tool as a result of a personal experience—his search for an apartment when he moved to California from the East Coast.

"I looked at two adjoining projects," he says. "One was designed as a straight grid and was minimally landscaped. The other was denser. But it had a lot of landscaping and seemed much more livable. So I looked for a way to come up with the \$30-a-month extra I needed to move into the nicer project. I just knew I wouldn't be happy in that half-baked one."

Building innovative products is only half the battle, Forbes says. It's equally important to keep on top of industry trends. So he has established a "board of contributors," a large group of building specialists including engineers, financial experts, etc. whom he calls on regularly for advice and data.

And he conducts weekly meetings to discuss any ideas staff members get from seminars, from talks with project personnel or even from out-of-town newspapers. "There's a wealth of information just in the Sunday *Los Angeles Times*," says Marketing Vice President Friel: "You can borrow ideas on everything from creative financing to merchandising techniques."

Despite Forbes's personal commitment to growth, he still believes there's a place for the small builder—but not the "lethargic small builder."

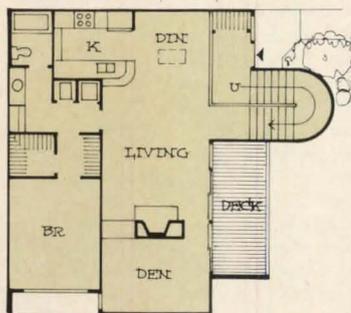
"I know a handful of local builders who, without any staff at all, will be doing well for the next 50 years.

"But they don't do only one thing. They may general-contract a job; they may spec some houses; they may do a condo or a small office building.

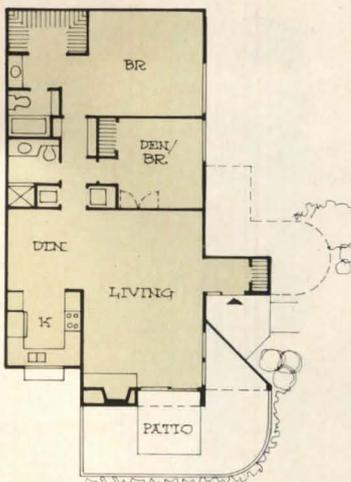
"In other words, they don't just build houses, houses, and houses—and then all of a sudden get shut out because their financing dries up."

"They keep their feelers out; they think like big builders in terms of being attuned to their environment. And they know things are going to change tomorrow and next month and so on. So they're very fast on their feet."

—JUNE R. VOLLMAN



UPPER LEVEL



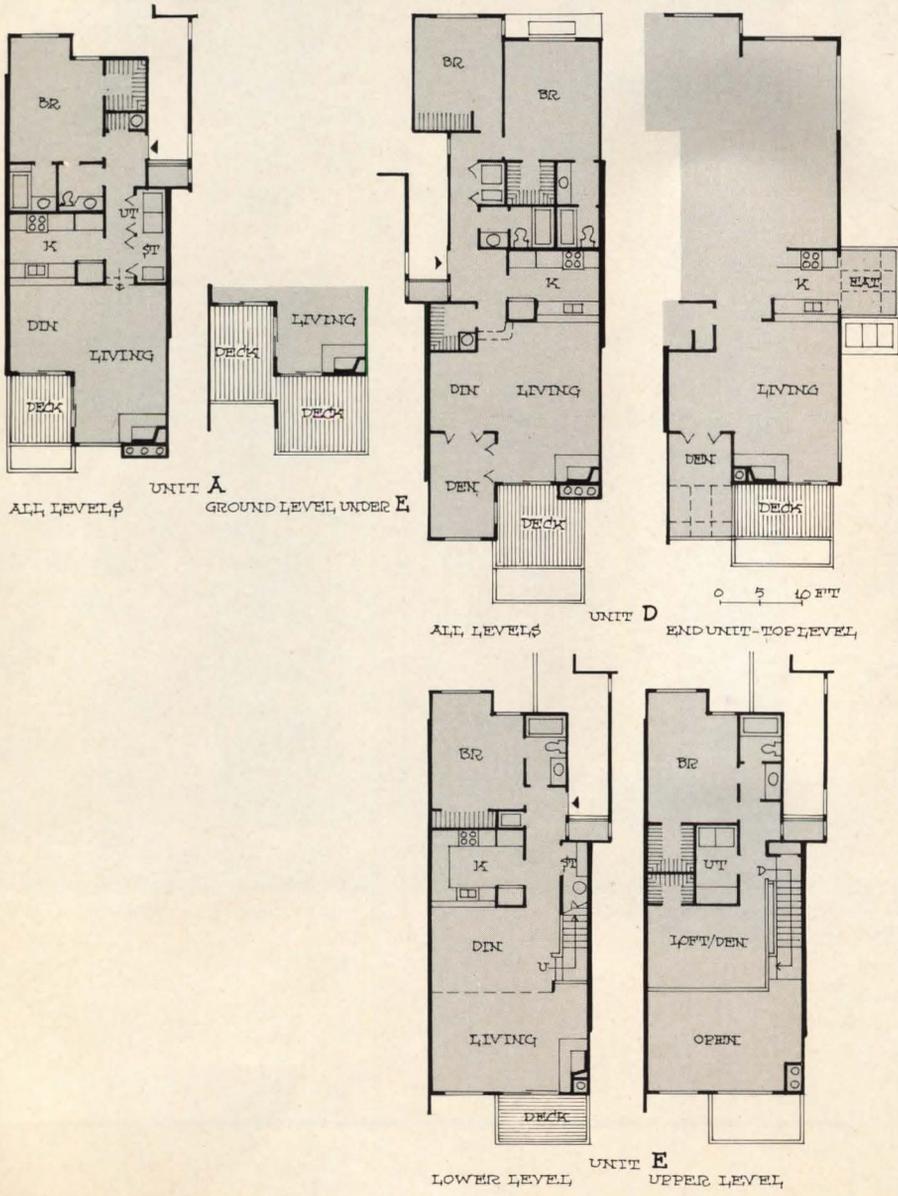
LOWER LEVEL



Stacked flats at Country Trace in Kirkland introduced Seattle multifamily buyers to such features as multilevel entrances in second-floor units (*top plan*) and greenhouse windows in two-bedroom plans (*lower plan*). The 80-unit project, which captured awards at the 1980 Pacific Coast Builders Conference, was designed by Richardson-Nagy-Martin of Newport Beach, Calif. To date all but three of the 771- to 1,152-sq.-ft. flats have been sold for \$47,950 to \$75,900. Forbes called on Motivational Design & Marketing Inc. of Irvine, Calif., to design the sales office (*not shown*).



PHOTOS: AL BERGSTEIN



Stepped-up design—an innovation for Seattle multifamily projects—helped bring Forbes more awards at the Pacific Coast Builders Conference. The project, Knollwood in Redmond, was designed by the San Francisco firm of Donald Sandy Jr., AIA/James A. Babcock. It consists of 100 units, ranging from 880 to 1,632 sq. ft. All are floor-through and many of the top-level units have greenhouse rooms—either dens or breakfast nooks. Prices: \$46,500 to \$102,500. At Knollwood, as with other Forbes projects, model units (*not shown*) were decorated by Carole Eichen Interiors of Fullerton, Calif.

MULTIFAMILY HOUSING THAT'S CUSTOM-FIT TO SITE

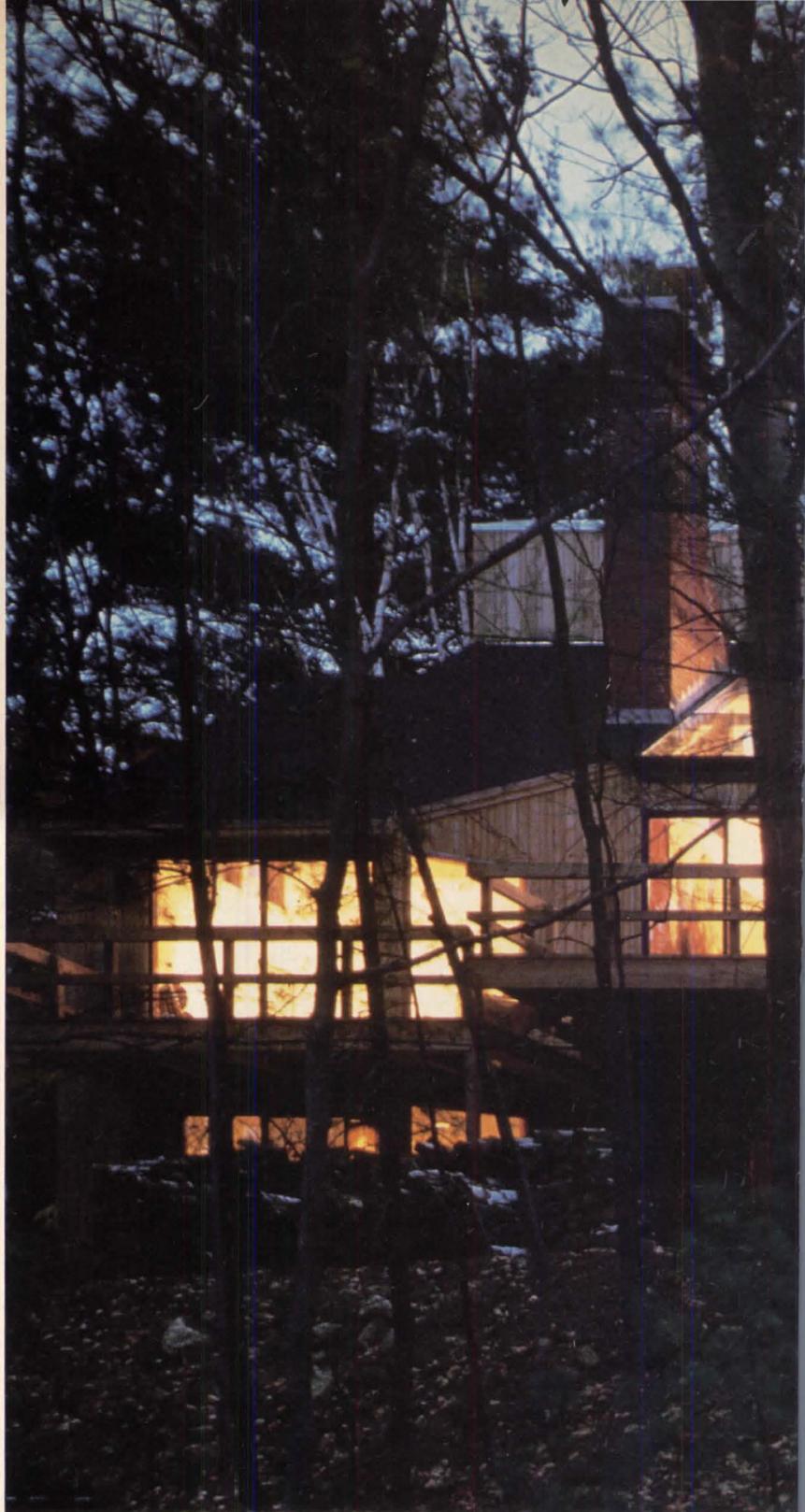
Sometimes, smart site planning is a matter of knowing what *not* to do—when to refrain from fiddling with the site and put what's there to its best advantage. Other times, the opposite is true—a major addition to the site is needed to make the project go.

The seven multifamily projects here—all HFBL winners*—provide excellent examples of both instances.

Note, for example, how the standardized triplexes at High Meadow Outlook offer an economical adaptation to a relatively steep site. And how at Cranmore Woods, the site's southwestern slope was exploited to produce the passive solar feature that's both an energy saver and an important design element. Conversely, at Lighthouse Cove and Harbortown success hinged on major site additions: extensive interior waterway systems.

But no matter how different the actual responses were at each of the projects shown in these 12 pages, the motivation in each case was the same: a custom approach to site planning for multifamily housing.

—WALTER L. UPDEGRAVE



Townhouse project in North Conway, N.H. was developed around existing trees to preserv

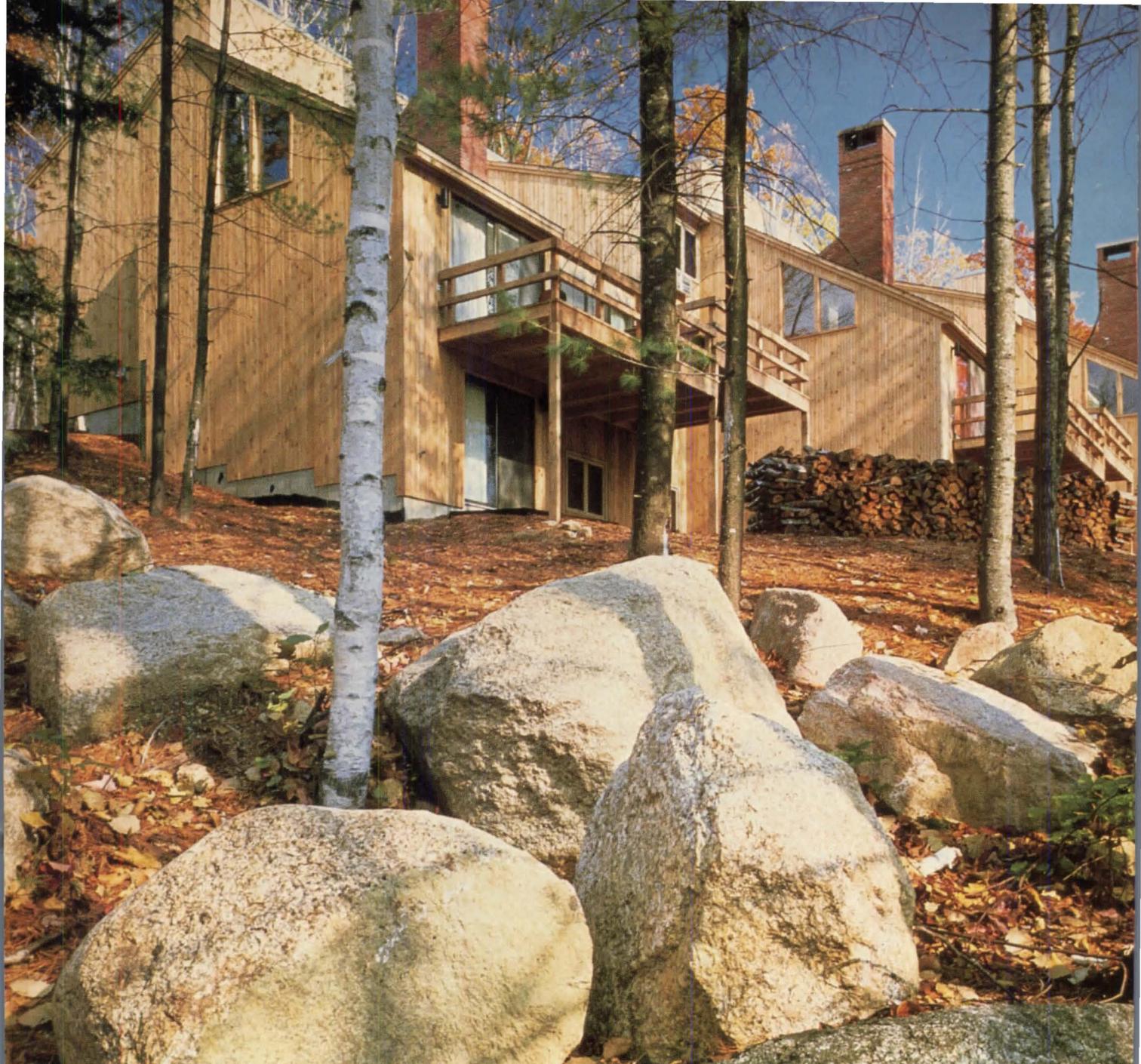


*The Homes For Better Living awards program is sponsored by the American Institute of Architects in cooperation with HOUSING. The full list of 1980 winners appeared in May. More winners will be published in later issues.

Cranmore Woods and Turtle Rock Glen both won first honor awards; High Meadow Outlook, Lighthouse Cove, Strawberry Hill, Harbortown and Lincoln Ridge won merit awards.

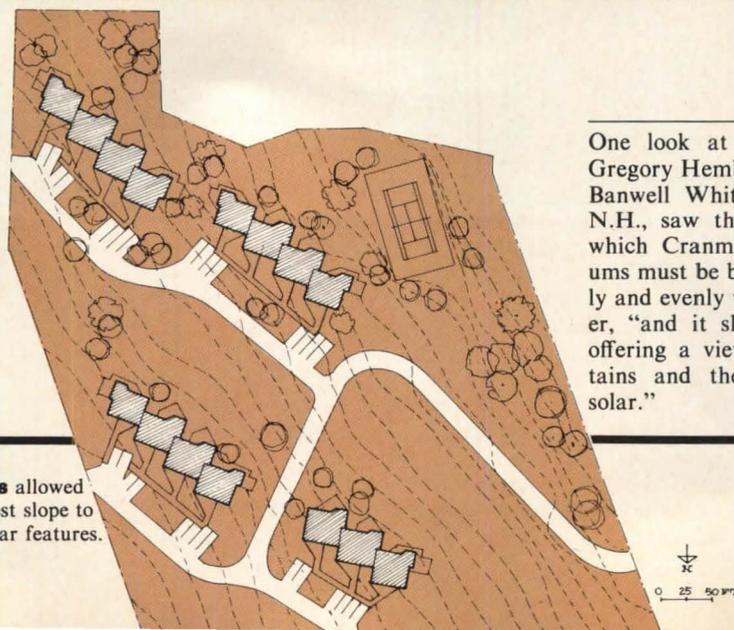


e rustic, secluded feel of the site. Solariums and other living areas are designed to make the most of sun and mountain view.



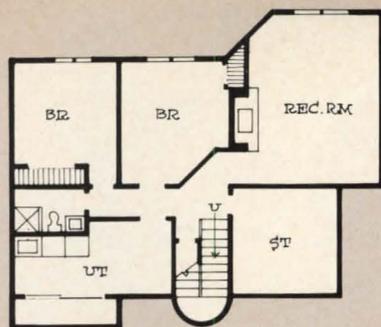
PHOTOS: NICK WHEELER

TOWNHOUSES FACE SUN AND VIEW



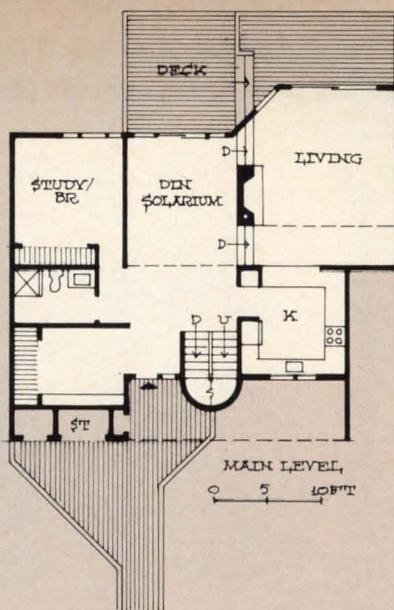
Four pocket clusters allowed developer to put site's southwest slope to use for some passive solar features.

One look at this 7.5-acre site and Gregory Hemberger, an architect with Banwell White & Arnold, Hanover, N.H., saw the two elements around which Cranmore Woods Condominiums must be built. "The site was nicely and evenly wooded" says Hemberger, "and it sloped to the southwest, offering a view of the White Mountains and the potential for passive solar."



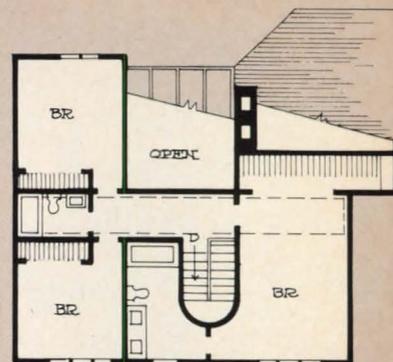
LOWER LEVEL

Glass-roofed solarium is open to main living areas (see main level plan above center and photo below). A photocell triggers a shade to control heat gain and loss; tile floor and brick chimney serve for heat storage. A bridge capped with a light spine connects upper level bedrooms and overlooks solarium (upper level plan above right and photo below).

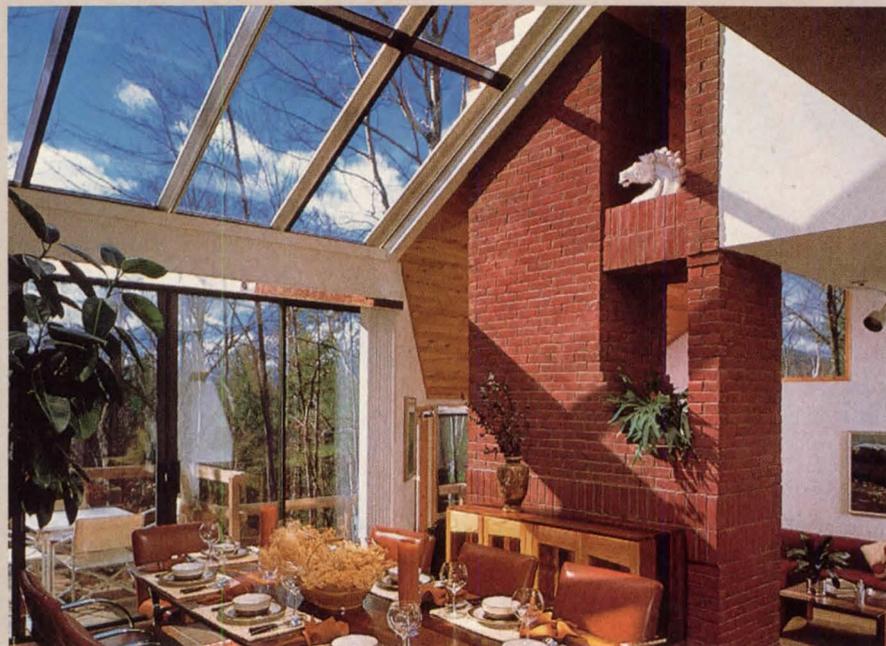


MAIN LEVEL

0 5 10 FT



UPPER LEVEL



The site plan and floor plans Hemberger came up with followed directly from these two features. The four clusters take advantage of the slope by giving each unit a view and unobstructed exposure to the sun. The clusters also helped preserve existing trees, maintaining an air of rustic seclusion. And by arranging the clusters to face the sun, Hemberger could design the townhouses with dining room-solar-

iums as the dominant space.

The fifteen, 3,000-sq.-ft. units were also built with an eye towards economy: All floor plans are the same. The result was considerable savings in materials cost—particularly with skylights and glass roofs—and time. "Once the crew learned how to build one unit," says Hemberger, "they were able to fly on the rest." Still, unit's individual identity was retained by

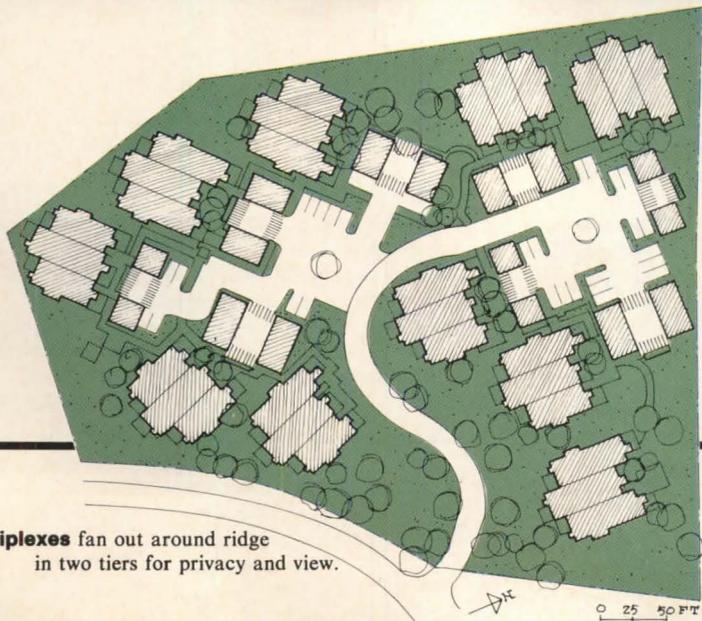
varying entry bridges and unit setbacks.

The last four units in this project are now under construction. Only one remains unsold, the other fourteen going for \$175,000 apiece. The developer, Mara Development Corporation, and landscape architect, Mountainside Landscape Designs, are both located in North Conway, N.H.

(More passive solar designs on p. 62)

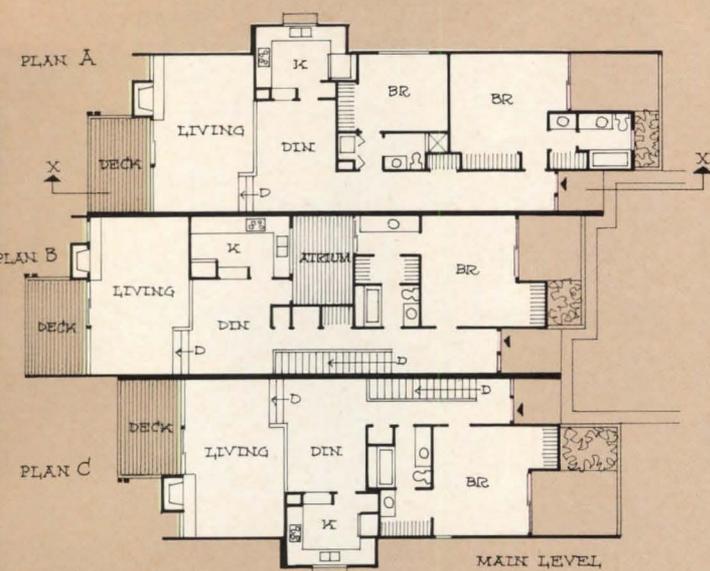


PHOTOS: JOSHUA FREIWALD

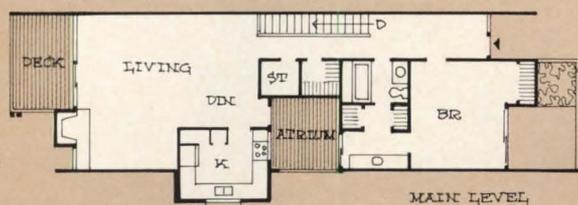


Clusters of triplexes fan out around ridge in two tiers for privacy and view.

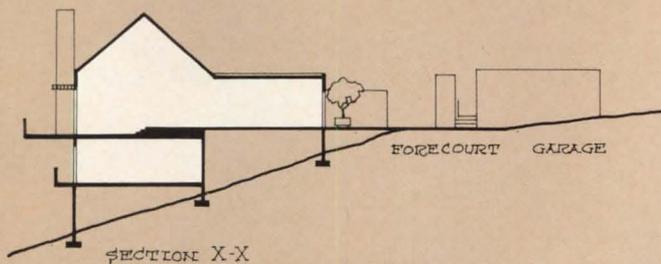
STANDARDIZED TRIPLEXES STEP DOWN 25-DEGREE SLOPE



MAIN LEVEL



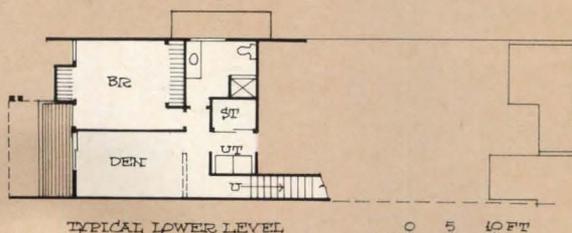
MAIN LEVEL



SECTION X-X



Cathedral-ceilinged living rooms and adjoining decks make units feel more spacious.



TYPICAL LOWER LEVEL

0 5 10 FT

'Stair-step' foundations

(see section, left) allowed builder to follow site's slope with a standard triplex unit repeated ten times. To suit elderly, retired buyers, all living areas were kept on one level (see plans). D plan with atrium variation may replace A or C.

Donald Goodhue of Hall Goodhue Haisley and Barker, Monterey, Calif. calls High Meadow Outlook's ten standardized triplexes his "formula for zero grading and preservation of site." It's also an example of taking the site as is and designing the product to fit.

Quite simply, Goodhue "took a standard triplex and modified a step foundation" so that neither retaining walls nor grading was needed. Instead, the

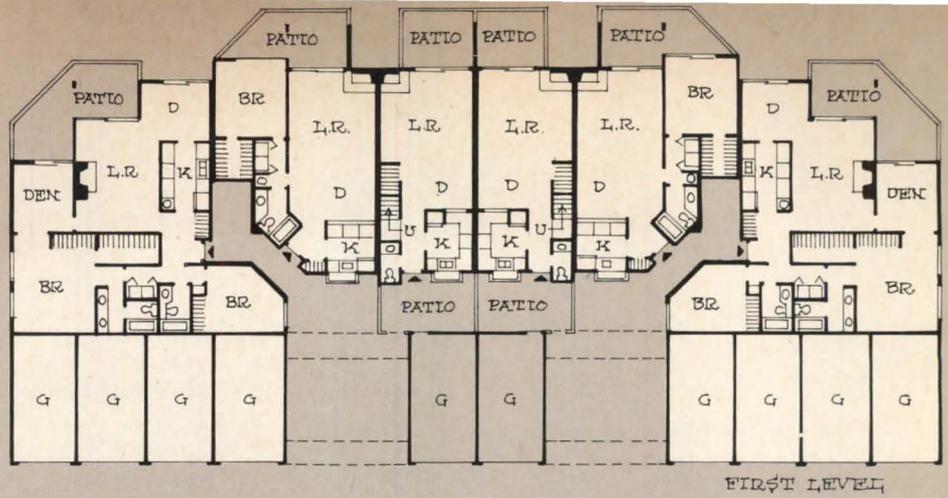
duplexes follow the site's 25-degree grade like a set of stair steps. The only grading done on this site was for two parking compounds along slightly sloping portions of the narrow ridge which makes up this four-acre site.

Economy was the obvious reward to Goodhue's scheme. Not only were grading costs avoided, but the developer, Daniels and House Construction Co., also of Monterey, saved time and

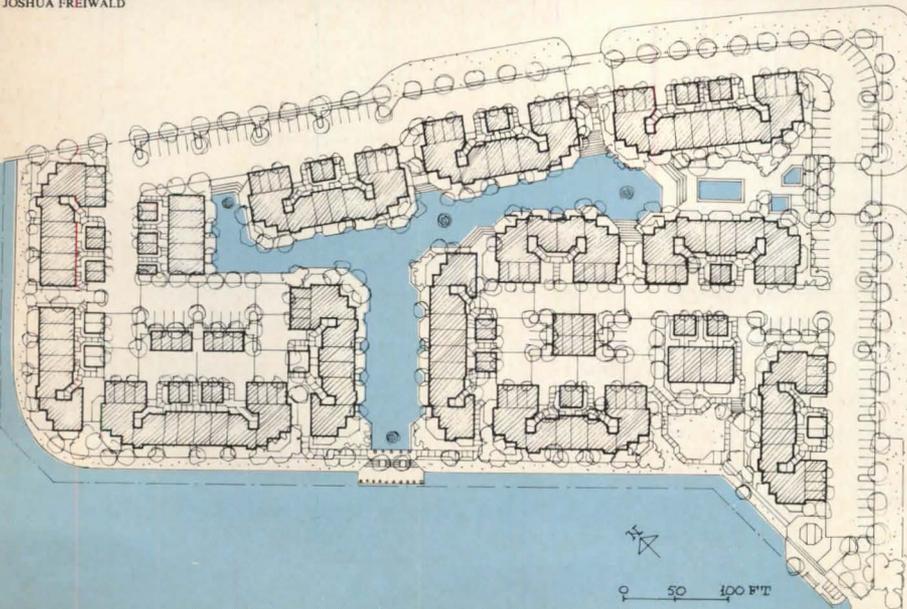
materials costs by duplicating the triplex unit. Privacy was the less obvious plus. By staggering the units in each triplex (see plans above), Goodhue prevents neighbors from looking in on one another from their decks.

The 30 units sold before completion. In fact, 200 people signed a waiting list to buy the 1,380 to 1,910-sq.-ft. homes at prices ranging from \$130,000 to \$185,000.

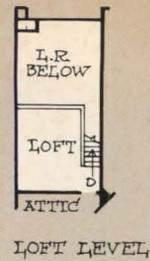
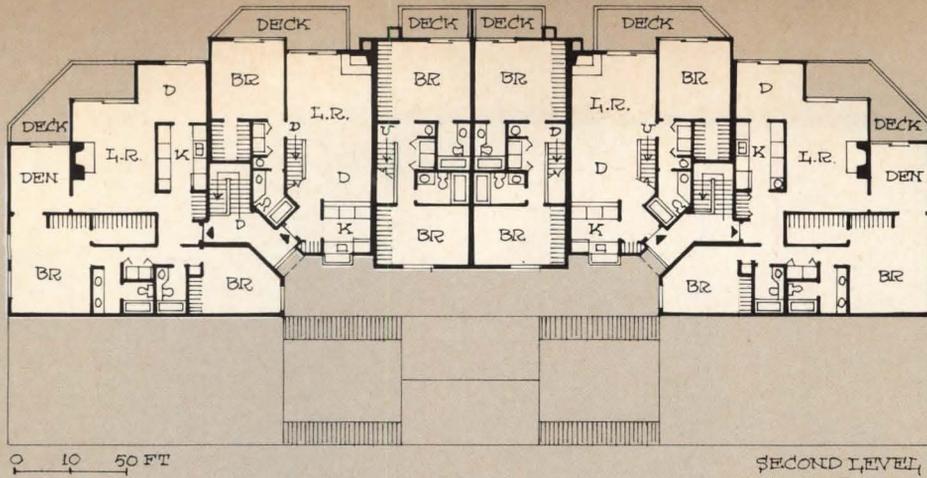
Accordion-like clusters helped put maximum number of units along water's edge. Typical cluster (right) consists of townhouses sandwiched by stacked flats. By so grouping units, the clusters can easily expand or contract to fit the needs at different points throughout the site (see site plan below for variations in cluster sizes). Note loft (far right) reserved for center townhouse units in cluster.



PHOTOS: JOSHUA FREIWALD



**CLUSTERS
EXPAND OR
CONTRACT
ON THE
WATERFRONT**



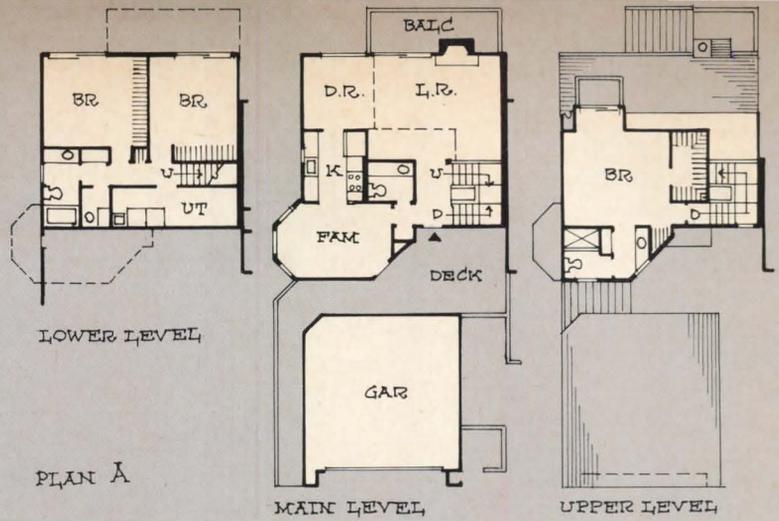
Man-made lagoon (left) borders such amenities as a pool, spa and clubhouse (above) at the common area just inside the project's entrance. Cedar-shingle siding should weather over time to a silvery finish. Combined with the building forms, overall effect should be similar to that of a New England coastal village. Anthony M. Guzzardo & Associates, San Francisco, was project landscape architect.

Lighthouse Cove probably would have been an unqualified success even if architect/developer Rodney Friedman, of Fisher-Friedman Associates, San Francisco, hadn't decided a one-acre lagoon should be added to the 7.5-acre site. Its location in Redwood City, Calif., along the shores of a natural lagoon that assured at least half its 124 townhouses a water view, already pointed to sales success.

But Friedman saw he could give every unit water exposure with the man-made salt water system—a feature that would cost about the same as normal landscaping. His site plan (*facing page*) pulled it all together. The accordion-style clusters which expand or contract by adding or dropping townhouses brought almost all units to the edge of either a natural or man-made lagoon.

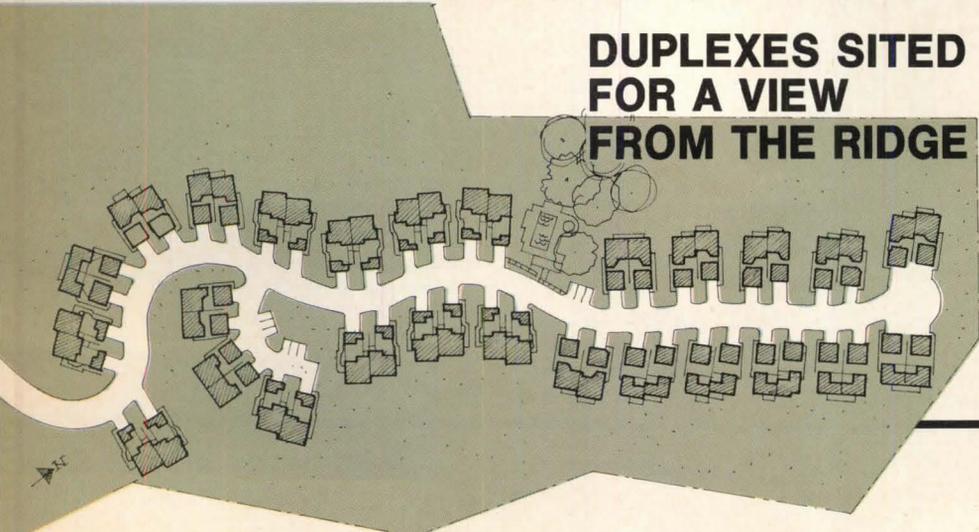
More than a sales success, Lighthouse Cove turned into an event. People picked numbered ping pong balls in a raffle to determine who could buy which units. The first lucky winners netted the townhouses on the main lagoon; the remaining winners took the rest. By the end of the day, every unit—sizes ranged from 800 to 1,300 sq. ft.—had sold for between \$87,000 and \$130,000.

Three adaptable plans were designed to fit the site's varying terrain. Three-bedroom plan A (right) and two-bedroom plan B (right and bottom photo) occur where units have to step down the hillside. For flatter lots, three-bedroom plan C is put to use. All units, which range between 1,620 and 2,093 sq. ft. in size and \$110,000 and \$165,000 in price, sold out within 30 days of completion. Already, one resale has reportedly fetched a price of \$250,000.



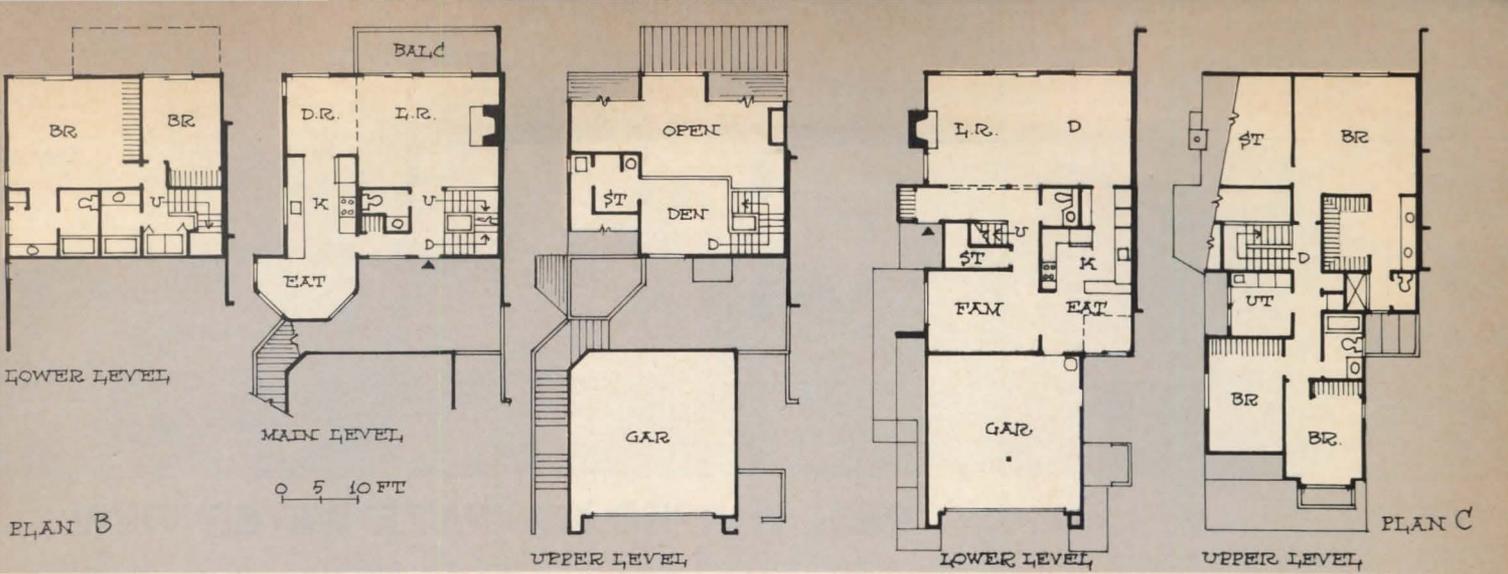
PHOTOS: FSTOP PHOTO

DUPLEXES SITED FOR A VIEW FROM THE RIDGE



One reason architect Rodney Friedman, Fisher-Friedman Associates, went to duplexes at Strawberry Hill is this: Twenty-six of them—a total of 52 units—could sit within the natural roll of the 13-acre ridge site. More than a convenience, this eliminated the need for retaining walls which might otherwise have been required.

Friedman chose to string out the duplexes as shown in the site plan (left)



for another reason: He wanted to make the most of the view of San Francisco which lies to the south and that of Mount Tamalpais to the north. So he placed the units off a spine road running along the crest of the ridge.

Living areas, and their adjoining decks, face away from the road and out toward either view. Each unit's attached garage faces the spine road. The garages, says Friedman, add vari-

ety to the streetscape and create the impression of detached housing.

Another developer had taken a crack at this site with a 280-unit condominium project. It failed. Friedman attributes much of his success to his, and Menlo Park, Calif. developer Vintage Properties', decision to go to duplexes sited downside of the crest of the ridge. Says Friedman, "Early decisions are the most important."



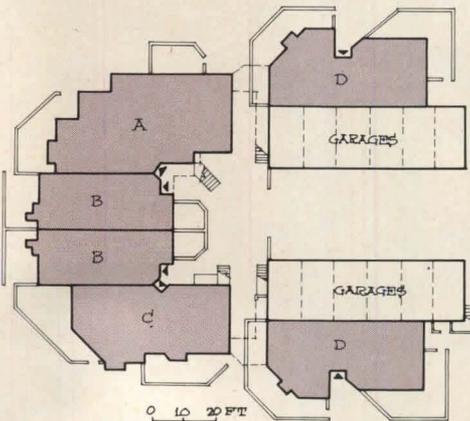
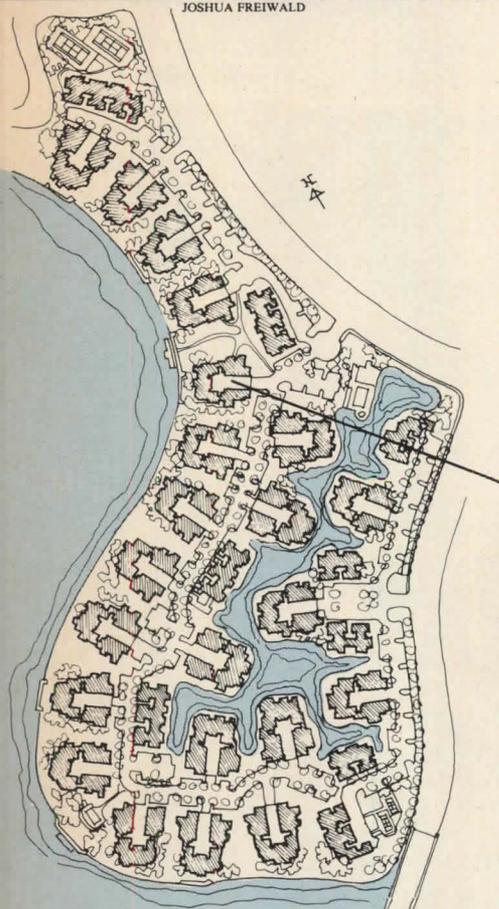


JOSHUA FREIWALD

PIER SHAPES MAXIMIZE WATER VIEW

With San Mateo's Marina Lagoon bordering 75% of the 28-acre site and assuring over half the project's 312 units a water view, architect Rodney Friedman knew he had a sure thing in Harbortown.

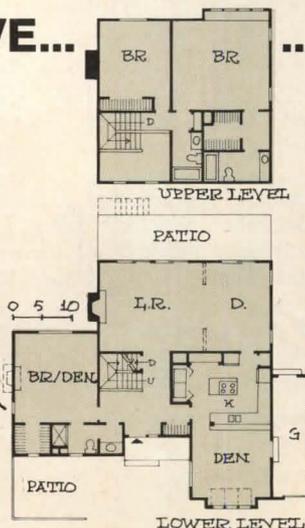
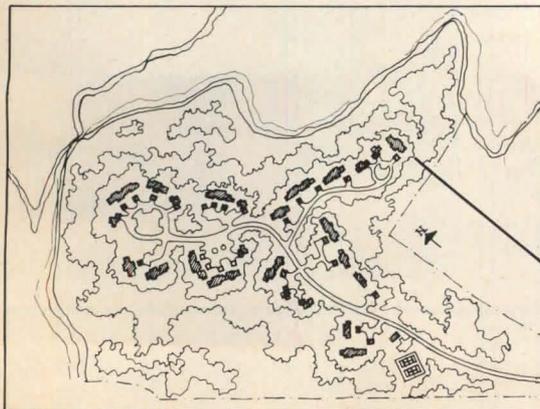
But he made it even surer. First, he doubled the water frontage by adding a 3-acre lagoon. Then, using an idea borrowed from a New England fishing village to add another bonus, he designed pier-shaped clusters which, in effect, extend into the man-made lagoon and provide maximum water exposure and privacy for the townhouses and flats (for more detail, see HOUSING, June, 1979). All but 20 units sold at prices of \$98,500 to \$155,500. Mariner's Isle Associates, Menlo Park, Calif. developed the project; Omi Lang Associates, San Francisco, was landscape architect.



Typical pier cluster—one of 22—consists of two townhouses, 10 flats and 12 garages (in above plan, D buildings have 3 flats each; A and C two each). Townhouse sizes: 1,555 sq. ft. and 2,100 sq. ft. Flats vary from 1,150 to 1,625 sq. ft.

CLUSTERS CONSERVE...

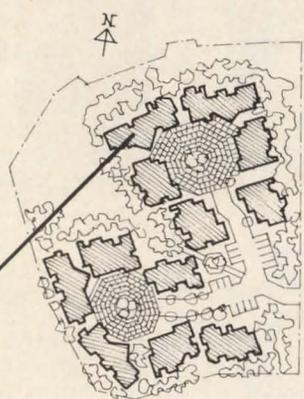
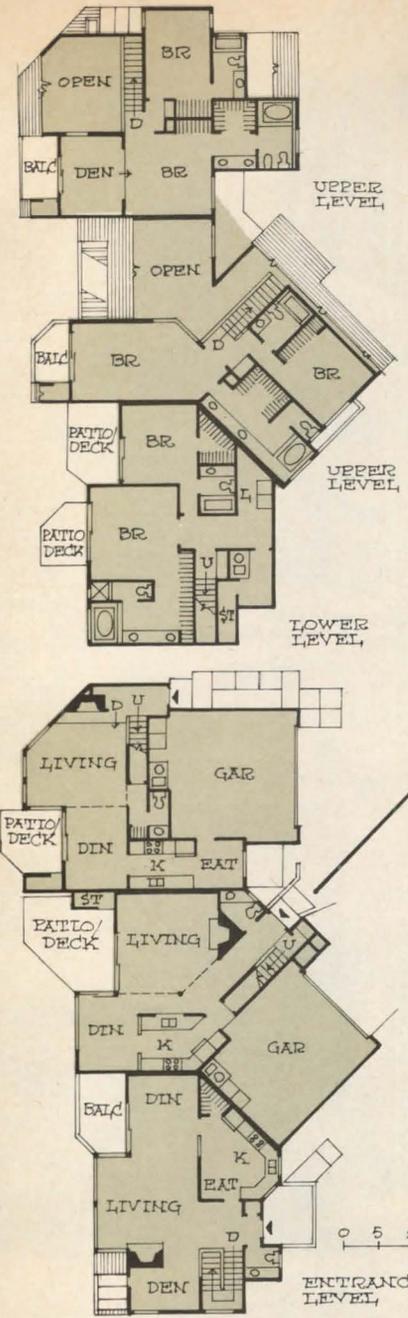
...OPEN SPACES



Developer Spaulding & Slye, Burlington, Mass. had to fight to get this site plan (left) approved for its 58-unit condominium project, Lincoln Ridge. The town of Lincoln wanted proof that this cluster arrangement would have no more impact on the town than conventional two-acre zoning. So s&s did a series of comparative studies which showed to the town's satisfaction that this plan would reduce traffic and increase tax revenue by almost \$150,000 as compared to the detached housing alternative [HOUSING, December '79]. A bonus: about 70% of the 82-acre site could be dedicated as perpetual conservation land.



SOLVING THE SAME KNOLL PROBLEM



Nodular clusters—such as the three-unit type shown here (*plans, left*)—consist of interlocking townhouses that look onto a common driveway of paved aggregate. In all, the five floorplans—four of which feature an attached garage—offer anywhere from 1,400 to 1,750 sq. ft. Design features include extensive glass walls, volume space and use of angled rooms [more on these features in *HOUSING*, May, '79].

The Irvine Pacific Development Corp. came to Fisher-Friedman Associates with a problem. Irvine wanted to develop several of the exposed knolls which occur throughout the Irvine ranch. But the developer didn't want to take the brutal step of bulldozing the knolls—and the views they offered—away.

Fisher-Friedman's solution was Turtle Rock Glen—nodular clusters made up of two or three townhouses sited atop two such knolls at 22 and 28 units per knoll. Landscape architects were Frank Raadmacher Associates, Tustin, Calif.

Besides its success at Turtlerock—an immediate sellout at prices of \$100,000 to \$160,000—Friedman values the project because “it's portable—the same clusters can work on similar knolls anywhere.”



Steeply pitched roof and broken roof lines in this 2,325-sq.-ft. detached unit (*photo and plan, left*) recreate New England look. Nine detached units—mixed in with 49 attached—were meant to attract families, but most were grabbed by empty nesters. Attached units (*not shown*) ran from 1,520 to 1,982 sq. ft. All units in project sold quickly at prices ranging from \$96,000 to \$160,000.

Prototype passive-solar house (*right*) was built at Brookhaven National Laboratory, New York.



Demonstration house in Maryland (*right*) is a standard Ryland Group plan adapted to passive solar heating.



What's special about these houses?



For-sale duplex (left) is part of an all-passive-solar project in Boulder, Colo.

They're... solar houses with mass appeal

To many people, "solar" means far-out design and expensive technology. But it doesn't have to.

The homes shown at left are also solar homes — passive solar. They achieve their results with standard materials and standard construction techniques. So anybody can bring them in at a decent price.

These houses cost about \$2,500 to \$12,000 more than what similar houses without solar features would cost. But they're well within the reach of many families, particularly as they should cost 40% to 66% less to heat than their non-solar counterparts. And best of all, these houses are familiar — they look and feel like home — so they're certain to have mass-market appeal.

In sum, they're something we'll be seeing more and more all over the country as energy costs rise: homes that do not rely completely on solar, but that use it to save on energy costs.

The three homes shown at left include a prototype (*top*) built by the Department of Energy to show that a passive solar house can be built with familiar materials; a duplex (*middle*) that is part of an all-passive-solar development in Colorado; and a single-family house (*bottom*) adapted from one of The Ryland Group's best-selling plans. The builder of the Colorado duplex commented that the details aren't any more complicated than what his subs normally do. And a regular Ryland crew took about 80 days to build its 1,756-sq.-ft. model. Which is right in the ballpark for any standard house.

To learn more about these houses, turn the page. And for a look at a passive solar townhouse development — this one a top design award winner, turn to p. 52. —BARBARA BEHRENS GERS



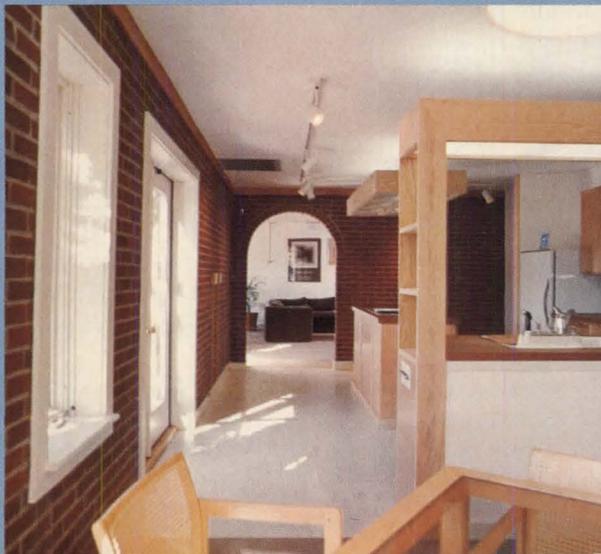
This prototype uses its south wall to store heat

Two 8-in.-thick thermal mass walls made up of paving brick (chosen because of its density) extend the length of the southern elevation. The first is a Trombe-type wall (*shown under awning in photo below and in diagram bottom right*); the second is the rear wall of the double-glazed greenhouse (*photo below*) which serves as both a living area and a heat collector.

In addition, the house is super-insulated—exterior walls with an R value of 27 result from replacing standard sheathing with 1-in.-thick rigid foam plastic insulation in addition to using R-19 fiber glass batts between 2x6 studs. It's also virtually airtight because of such measures as running electrical wiring in raceways atop baseboards rather than in outside walls. (In fact, one aim of a planned monitoring process is to make sure the house



PHOTOS: DOUG HUMPHREY



South-facing elevation (*above*) is 60% glass. The greenhouse, built from a prefabricated kit, is separated from the rest of the house by tight-fitting doors so temperatures in the greenhouse can go higher and lower than the rest of the house without creating additional demand on mechanical equipment. Thermal screens protect space from summer sun. Architect: Total Environmental Action, Harrisville, N.H.

Brick walls (*left*) provide a warm-looking finish as well as heat. Wall with archway stores heat from a wood-burning stove in living room (*plan right*).

"breathes" enough to forestall indoor pollution.)

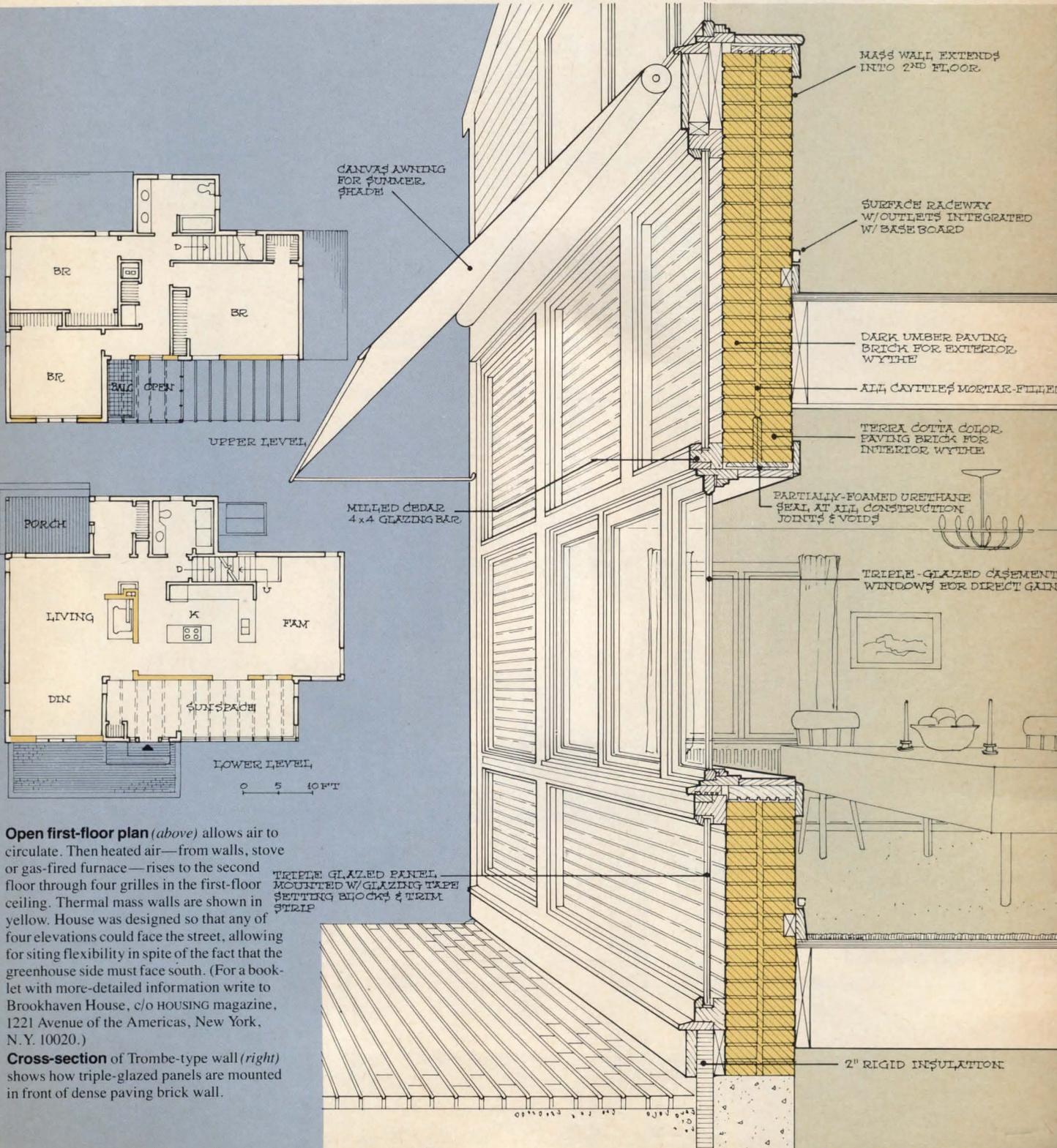
The Department of Energy, which built this house at its Brookhaven National Laboratory in New York, estimates that it will cost only a third as much to heat as a conventional house (see chart right). Construction costs are estimated at about 13% higher, however, partly because of the cost of adding a greenhouse, extra insulation, etc.

"When we planned the 2,000-sq.-ft. house two years ago, its selling price without land penciled out at \$77,600, including builder profit," says project manager Ralph Jones. He estimates that it would go for "around \$90,000" today, a price that results in part from the fact that only familiar, widely available materials were used.

Projections of Annual Heating Needs for Six Cities

	Heating supplied by solar energy	Heating by furnace (BTU's/millions)	Fuel required annually (Gals. of oil)
Boston, MA	65%	13.66	180
New York, NY	65	10.25	130
Chicago, IL	57	17.83	230
Baltimore, MD	77	4.84	60
Madison, WI	56	22.77	300
Louisville, KY	69	7.80	100

*No contribution from the wood stove is assumed in these figures. These projections are based on PASCALC computer simulations using average weather data for each location.



Open first-floor plan (above) allows air to circulate. Then heated air—from walls, stove or gas-fired furnace—rises to the second floor through four grilles in the first-floor ceiling. Thermal mass walls are shown in yellow. House was designed so that any of four elevations could face the street, allowing for siting flexibility in spite of the fact that the greenhouse side must face south. (For a booklet with more-detailed information write to Brookhaven House, c/o HOUSING magazine, 1221 Avenue of the Americas, New York, N. Y. 10020.)

Cross-section of Trombe-type wall (right) shows how triple-glazed panels are mounted in front of dense paving brick wall.



This standard two-story got a house-warming basement

Four windows and four sliders—all double-glazed—open the basement to the sun (*below*). Then its heat is stored in three places: in the tiled concrete floor; in concrete columns; or in a sill-high collector that contains heat-absorbing eutectic salts (*photo and diagram bottom right*).

As the heat is released, it rises into living areas through floor registers. Some heated air also enters a cold air return duct, preheating air for the house's conventional heating system.

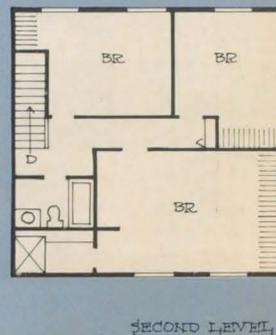
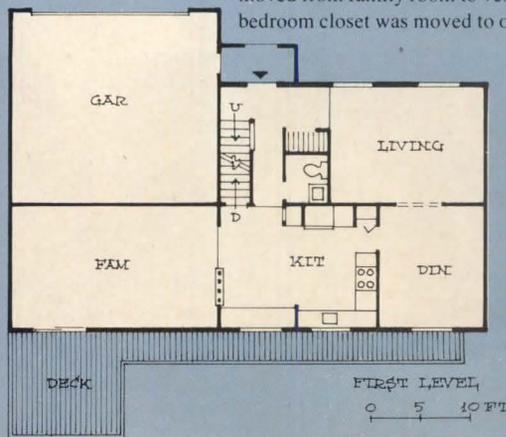
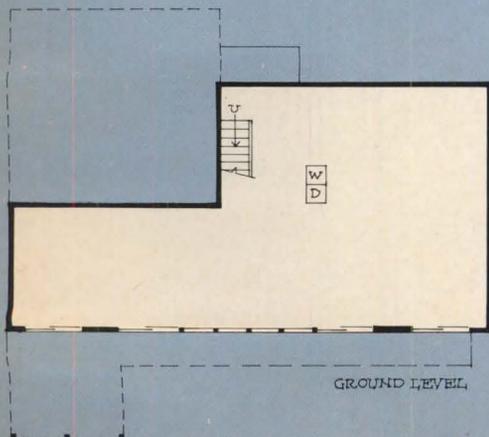
All this could cut heating bills 40%, says Richard Jenkins, vice president for research and development for The Ryland Group, Inc. (The house, built for NAHB's energy-saving house program, is adapted from one of Ryland's best sellers.)

But the savings are hard to pin down.



PHOTOS: THOMAS STILTZ

Market-proven floor plan (*above and below*) was changed slightly to promote energy savings: a vestibule was added at entry; service door from garage was moved from family room to vestibule; and master bedroom closet was moved to outside wall.



"We included so many energy-efficient systems that it's difficult to say how much will be saved by passive solar alone," Jenkins says.

For example, to cut down air infiltration, the house was wrapped with a nonwoven fabric barrier before siding was installed (see page 73). And one-half-in. gypsum board with a foam backing was applied on the interior of side walls to boost their R value from R-13 (resulting from 3½" of fiber glass insulation) to R-19.

The complete energy-saving package hikes house price about \$10,000—to \$111,000—but Jenkins wouldn't duplicate it for the market. "The eutetic salts collectors, for one thing, were used mainly so we can see how they hold up over the long

run," he says. "For a sellable house, a more realistic add-on would be \$8,500." That cost includes such items as:

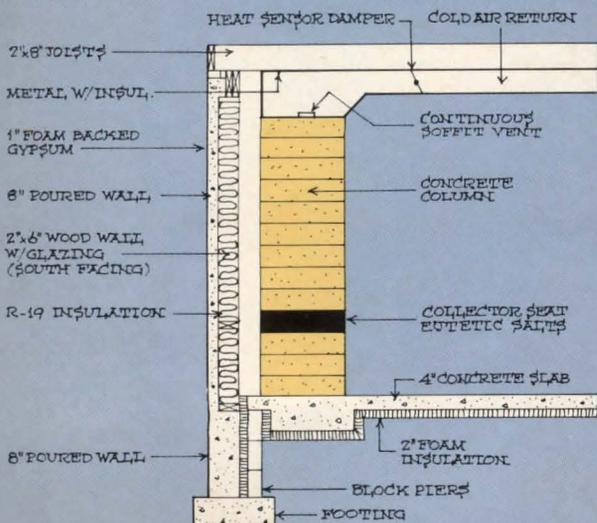
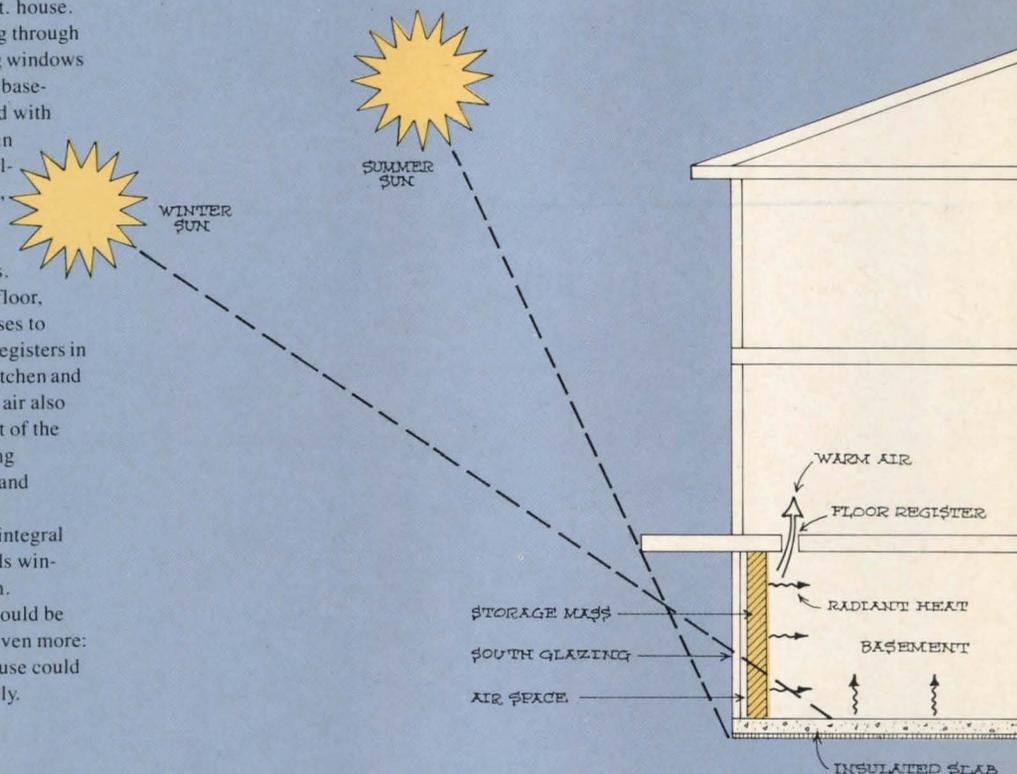
Passive solar wall (glass, wood, framing, etc.)	\$1,930
Deck and balcony	1,835
Foam-backed gypsum board for side walls	1,096
Extra cost for energy-saving kitchen appliances	630
Hot-water heater pre-heater	575
Entry vestibule	400
Extra cost for high-EER three-phase heat pump	355
Air infiltration barrier material	200

Passive solar wall (right and below) could provide 40% of space heating for the 1,756-sq.-ft. house. Warmth from sun streaming through double-glazed south-facing windows is stored: 1) in the concrete basement floor which is covered with resilient vinyl flooring; 2) in brown-painted concrete columns (yellow in drawings), which cost a total of \$660; and 3) in sill-high collectors containing eutetic salts.

As heat is released from floor, columns or collectors, it rises to upper level through seven registers in the floor of family room, kitchen and dining room. Some heated air also enters a cold air return duct of the home's conventional heating system. (Cost of registers and extra ductwork: \$345.)

Note that the deck is an integral part of the system: it shields windows from hot summer sun.

A wood-burning stove could be added to cut heating bills even more: one wasn't used here so house could be monitored more precisely.





These attached houses store heat in a rockbed

A 12-in.-deep layer of ordinary river rock underneath the basement floor absorbs heat from air warmed in a greenhouse-like area (*photo below*) and in the "sunscoop," an insulated attic space with clerestory windows.

"A fan pulls hot air from the sunscoop down to the rockbed," says Jim Leach, president of Wonderland Development Co. and partner in the architectural firm Downing/Leach, Boulder, Colo. "Then heat radiating from the rocks rises to warm the living spaces." (*See schematic below right.*)

This system is designed to provide 50% of the space heating in 80 duplexes and townhouses at Winding Trail Village, Boulder, Colo. The other 50% will come from a fireplace or an auxiliary system—but there's no furnace.



PHOTOS: GEOFFREY WHEELER



Cozy sun room (*above*) expands living area as well as being a source of heated air. The ceramic tile floor and brick wall absorb heat and help keep the room's temperature up after nightfall.

Wall of windows (*left*) faces south. In the duplex unit shown, the rear of the house faces sunward, so a backyard patio is provided. In other units, south is the street side. In those cases, a private entry court is created in front of the sun room.

"We use a 75 gallon gas water heater," says Leach. "When additional space heating is called for, hot water is pumped through a coil, air is blown over it, and the heated air is distributed as with any forced-air system."

Leach estimates the yearly heating bill for the units will come to about \$150 a year — or one-third that of a standard house with gas heat. He'll know for sure by next summer, after the first buyers have wintered at Winding Trails.

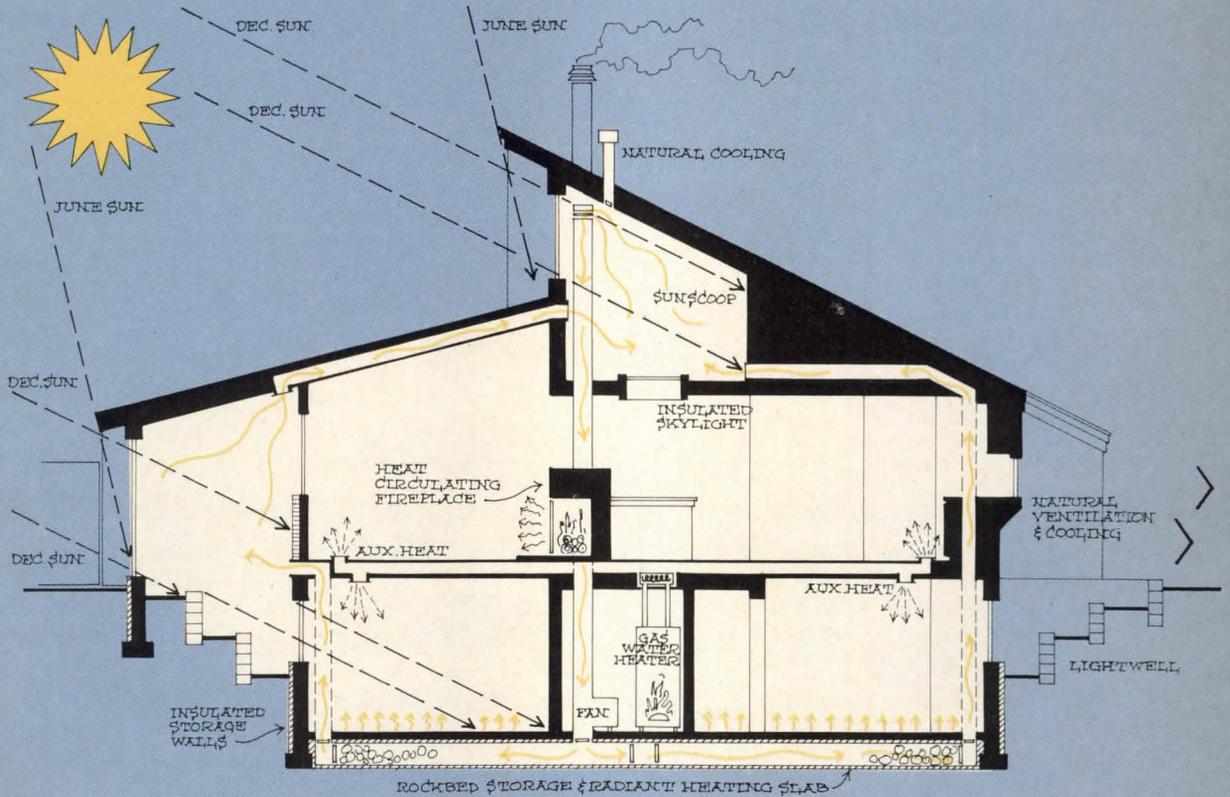
Nine units have been sold so far, at prices ranging from \$85,000 to \$110,000 — or about \$5,000 to \$8,000 higher than for comparable ones sans clerestories, skylights, etc.

"All the windows actually make the house more marketable, though," says Leach. "You can sell the greenhouse look

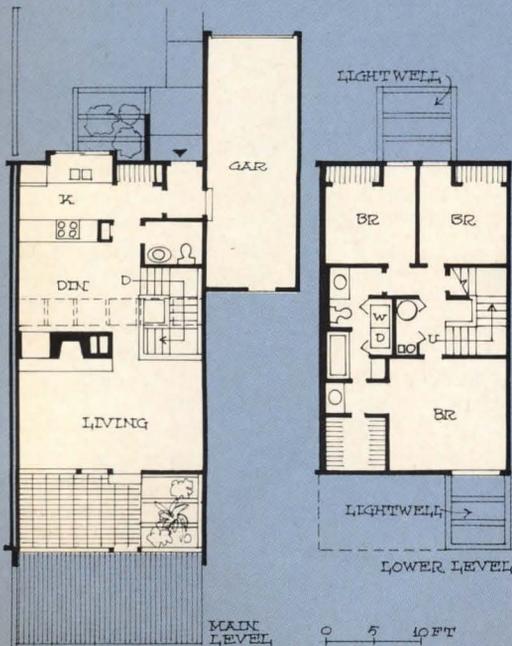
whether it's solar or not." Leach says he had no problem selling a lender on solar, either. "Local lenders have been receptive," he says, "and we got a conventional construction loan from Columbia S&L, Denver."

The purely passive solar features added about \$2,500 to the cost of the units. Here's how that figure breaks down:

Rockbed (labor and materials)	\$1,000
Sunscoop (above what it would ordinarily cost to install skylights)	500
Ductwork from sunscoop to rockbed and fan	500
Other modifications (i.e. upgraded foam insulation outside foundation walls)	500



Solar scheme (above) calls for heated air to be collected in the rooftop sunscoop, then pulled down to the rockbed. Heat radiates from rockbed through a 4-in.-thick concrete floor and rises naturally to the upper level via stairwell, etc. Note that the lower level is below grade, cutting down on air infiltration in winter and heat gain in summer. Four-ft.-deep window wells let winter sun warm lower level; roof overhangs shield sun room and sunscoop from summer sun.



Typical floor plan (left) has three bedrooms on lower level with living areas above. The 1,520 sq.-ft. unit shown is one of three plans in first phase of four duplexes and seven townhouses. Garage is included only when units is built as duplex. In second phase, the master bedroom in this plan has been enlarged and so have the lower-level window wells. Buyers are mostly young couples.



Mixed-use townhouses for the live-above work-below market

Mixed-use townhouses seemed a logical step in the on-going development of the Aspen Airport Business Center, a 35-acre business and residence park located between Aspen and Snowmass Village, Colo. The demand was already there, expressed to Business Center manager Clark Smyth by a number of people who leased commercial space in the center in addition to being tenants in the center's 64-unit apartment complex. What they told Smyth they wanted was this: The chance to own both living and working space in the same building. "So we took the opportunity of meeting this demand," says Smyth.

The Business Center met that demand with twelve townhouses—four 1,280-sq.-ft. efficiencies, six 1,472-sq.-ft. one-bedroom units and two 2,080-sq.-ft. two-bedroom units—set up with commercial space on the ground floor,

an equal amount of living space above and, on top of that, a loft storage area. The townhouses were built with a one-hour firewall separating the commercial and residential spaces.

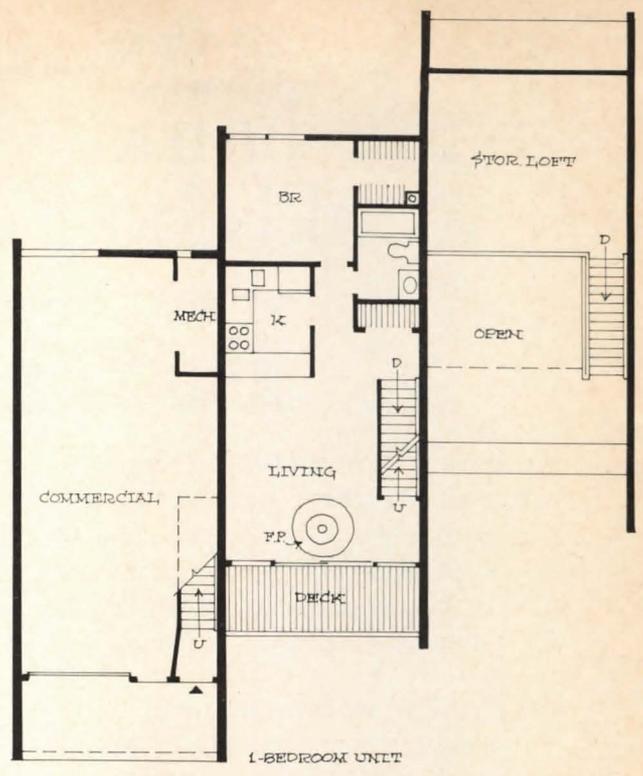
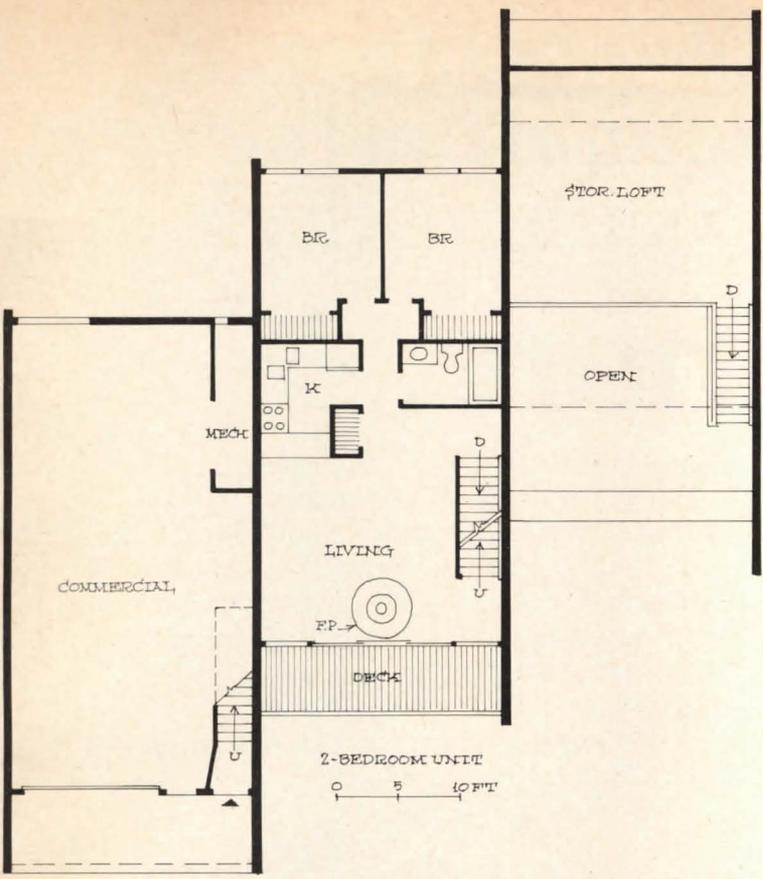
"That was enough to meet the fire code requirement for non-hazardous business activity," says Smyth. "Which is the only type we wanted to attract anyway."

To retain some control over the project, the Business Center leased, rather than sold, the land under each unit. The land lease runs forty years and includes 11 five-year options to renew. The base rent of \$100 per month for efficiencies, \$115 for one-bedrooms and \$165 for two-bedrooms is re-negotiated every five years with the new rent tied to existing market rates. Under the lease, the center provides maintenance and insurance.

All units sold prior to completion at

prices ranging between \$72,500 and \$142,500. Five buyers opted for the live-above-work-below option and found their lease and mortgage payments equaled what they had been paying in separate apartment and commercial rents. Three buyers chose to live above and rent the ground floor to commercial tenants at rents of \$7 a sq. ft. The Aspen market often fetches rents twice that rate. The remaining four buyers use the entire townhouse as living space. Among the eight commercial tenants are a graphic designer, stock broker, dressmaker, photographer and two contractors.

The only problems associated with this project were those related to getting it approved by the Pitkin County Zoning Board and by lenders. The county was unfamiliar with combining commercial and residential space in one building. It also had hesitations



Mixed-use plans include one-and-two bedroom units (*above*) and an efficiency unit (*not shown*). Commercial space is redesigned garage area.



Energy-efficient townhouses feature concentration of glass on south elevation (*see left*). Units also come equipped with woodburning stoves, R-19 insulation in walls and R-30 in ceilings. Although living area in one-bedroom unit (*photo below*) measures only 576 sq. ft., volume ceiling and open loft area help create spacious feeling.

about the for-sale units over leased land. It took the zoning board 18 months to give its approval which carried this condition: Only residents of Pitkin County could buy.

The Business Center's lender, on the other hand, was concerned not just about the land lease and mixed-use aspects of the project, but the county's proviso that only Pitkin residents were eligible buyers. These concerns were resolved and the lender gave the center a mortgage commitment for the project. Later, however, when interest rates shot up, the lender welched on this commitment, forcing the center to internally finance sales.

The county now likes the mixed-use units, a new lender understands them, and the Business Center wants to build them again—this time up to 150 of them on 16 acres directly north of the present 12 units.

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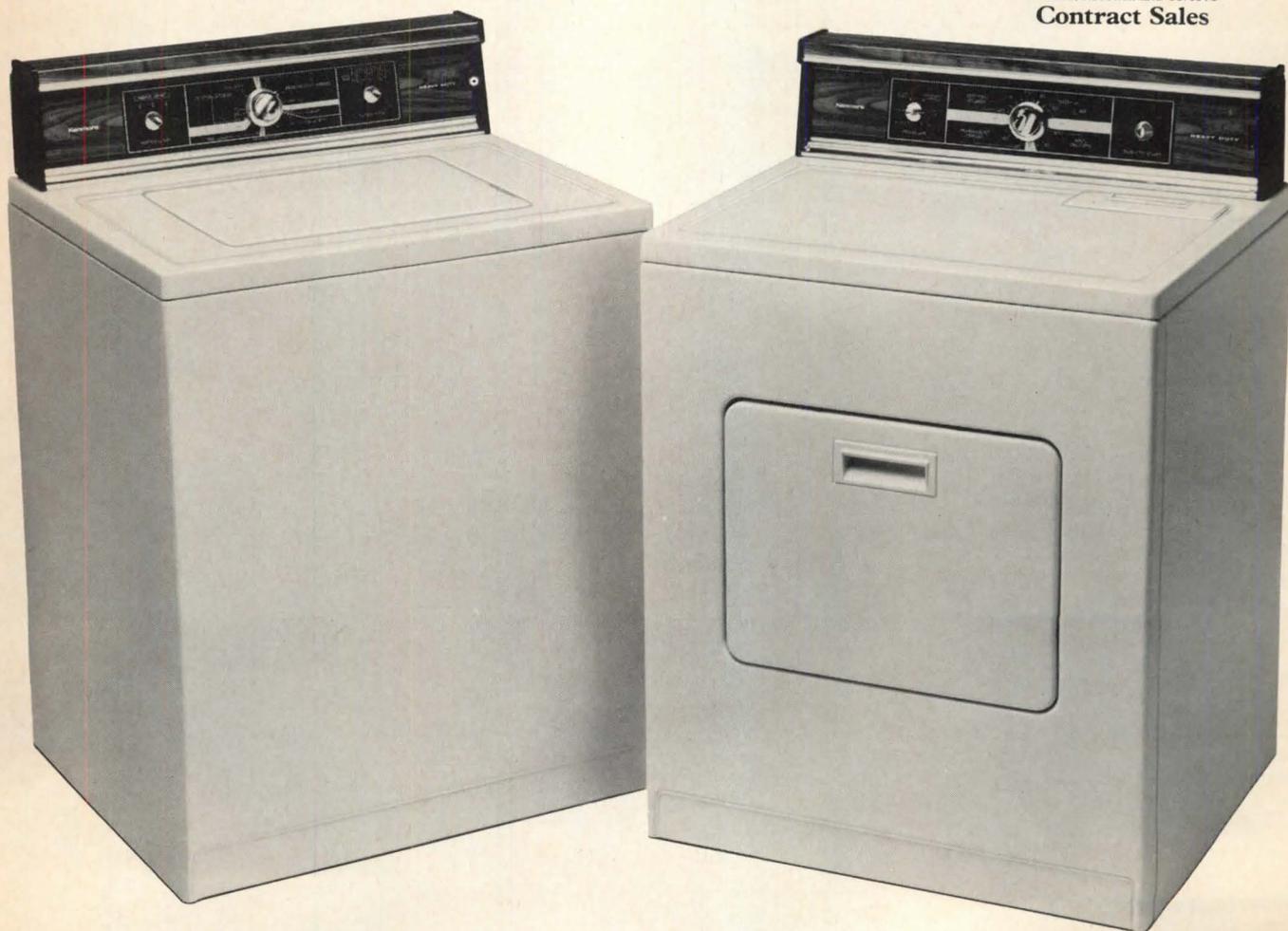
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Tyvek® wraps up heat loss problems

Proper insulation goes a long way in making a home energy-efficient. But often there remains a problem with air infiltration, especially around doors and other apertures. As Tyvek® building paper infiltrates the market, however, "energy-robbing" air infiltration will be reduced—and homeowners will gain substantial energy savings.

Tyvek® does not replace insulation. It covers all insulated areas and utility holes, and is wrapped around window frames and door jambs. The material acts as a barrier to wind currents, reinforces thin areas in batting, and effectively traps still air. According to BOCA tests, air infiltration is reduced by 88.2% to 98.9%, depending upon insulation thickness and wind velocity. When applied over attic floor insulation, heat loss is reduced by 10% to 20%, according to the manufacturer.

Tyvek® looks and feels like thin paper. It is, however, a spunbonded olefin, and its nonwoven composition gives the material its properties. Among them:

- It's lightweight: One hundred sq. ft. weighs under a pound.
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- It allows vapor transmission, but will not weaken or rot.

Installation is simple for new construction and remodeling jobs alike. Cost is low: Tyvek® costs—including material and labor—about \$200 for the \$100,000 home shown below. DuPont. *Circle 200 on reader service card.*

—JENNIFER A. WAGNER

PRODUCTS

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Doors & windows 78
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Solar 74
Tools & equipment 80



Wraparound: Sheathing on home shown in Columbia, Md. (see page 66) is covered with Tyvek® before siding is installed. The building paper completely wraps the house (see photos left and below) and covers all potential air infiltration areas, such as window wells and door jambs and still plates between floors. A layer of Tyvek® also covers the attic floor insulation. The only tools needed for installation are a measuring tape, scissors and a staple gun.



Solar collectors: seven systems to choose from

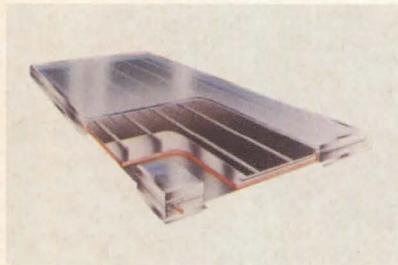
Many homebuyers have been resisting solar heating systems for the same reason people put off buying color TV's when they first hit the market: "It's a great idea, but I'll wait until they're perfected." But as the state of the art improves and energy prices continue to rise, solar has gained more acceptance. The question then becomes: Which system will be the most cost-effective in a particular circumstance?

Shown on this page are components from several of these systems. Some are primary heating systems, others back-up. And one even heats jacuzzis.



Nova™ collectors, shown installed above, are part of a hot water system that can heat jacuzzis and pools. American Home Solar Systems. *Circle 211 on reader service card*

"Sunstream" collectors (left) measure 4' x 8', and come with either anodized extruded aluminum or bronze-finish frame. Grumman. *Circle 212 on reader service card*



Double-glazed collector (schematic above) is designed for installation in both residential and industrial hot water systems. U.S. Solar Corp. *Circle 213 on reader service card*



Non-tracking collectors (above) are featured in the "Sunpump/Suncycle" hot water heating package, which converts any existing hot water heater. Entropy Ltd. *Circle 214 on reader service card*



SEPI collector modules (above) are part of a swimming pool heating system. Collectors connect to existing pool filtration systems. Solar Energy Products. *Circle 215 on reader service card*



Flatplate collectors, shown installed above, are constructed of double-glazed tempered glass, inch-thick insulation, copper tube and plate, and an aluminum frame. National Solar Supply. *Circle 216 on reader service card*



"Sunflower V12" collector, shown installed above, features a specially-designed plate that triples absorptive area. Collectors can be mounted flat or at an angle on low-pitched roofs. Sunflower Energy Works. *Circle 217 on reader service card*



Textured safety glass for tub and shower enclosures (above) comes in eight sizes, from 24" wide to 84" long. AFG. Circle 230 on reader service card

"Antique"™ faucet (right) is offered with brushed chrome, polished chrome or 24-carat gold finish. Valvet® water valving system ensures tight seal of washer and valve seat. Matching bath and shower fittings are available. Kohler. Circle 231 on reader service card



Desert gold-colored bath collection, shown installed above, includes the "Samoa" enameled cast-iron tub, the elongated "Silette" toilet, and the "Owen" lavatory, with "Regata" fittings. Eljer. Circle 232 on reader service card



Mahogany cabinetry system (above) includes a vanity with sink and towel rack, a hamper, shoe rack and adjustable shelving. Heidapal. Circle 233 on reader service card

Companion cabinet with drop-down door (right) is shown in "Clarion" style. When open, door serves as a spare counter and features an adjustable shelf. Quaker Maid. Circle 234 on reader service card



"Cathedral Oak" cabinetry (above) is shown with an autumn gold finish. Doors, with arched, raised-panel faces, are made of oak. Options shown include an over-the-toilet cabinet with mesh door inserts. Riviera. Circle 235 on reader service card



Wood entry door system (above) is specially designed to reduce air infiltration. System features double "Voyager Byzantine" doors. Over 60 other styles can be accommodated in the system. Nord. Circle 218 on reader service card



Beacon Hill™ door system (above) includes prehung, insulated steel doors and sidelights with beveled glass inserts, weatherstripping and aluminum "thermal break" threshold. System is offered with double doors. General Products. Circle 219 on reader service card



Patio Pass-Thru™ door system (above) includes sliders and sliding window, both glazed with insulating Spaceglass®. Window installs into interior and exterior counters, creating a handy serving/eating bar. General Aluminum. Circle 220 on reader service card



"Blenweave" shade (above) is offered in nine decorator colors with a variety of valance and trim accessories. The Roman-style shade can be ordered to any width. Aluminum slats, 1/4" thick, look like wood, but will not splinter or chip. Levolor. Circle 221 on reader service card



"Flexalum" vertical blind (above) comes with 3 1/2"- or 5"-wide aluminum vanes which are offered in 18 to 20 colors. Blinds also come with 100% wool or plastic vanes. Blind, which is installed on a drapery-like track, can be turned 180°. Hunter Douglas. Circle 222 on reader service card



Colonial-style replacement window (above), with solid vinyl frame, weatherstripping and insulating glass, has a U-value of .65. Sash tilts in for easy cleaning and can be removed from inside should glass need replacing. CertainTeed. Circle 223 on reader service card



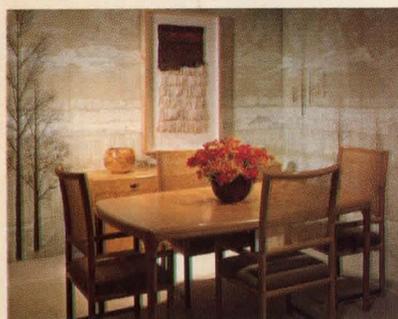
"Aspen" wallcovering, shown above applied to kitchen walls and cabinetry faces, has chevron pattern hand-printed on vinyl or Mylar® paper-backed ground. Wallcovering is available in five colorways. Nils Anderson. Circle 250 on reader service card



Complementary vinyl wallcoverings, "Lattice Kitchen" and "Lattice" above, are prepaste and scrubbable. Both come in blue-green or brown colorways; "Lattice" is also available in yellow. Style-Tex. Circle 253 on reader service card



Vinyl-coated wallcovering (above) is from the "Small Traditions" collection. "Cornwall" is scrubbable and strippable and is offered in five colorways. Also available: matching fabric. Thomas Strahan. Circle 255 on reader service card



Silk-screened mural comes in three panels with companion panels that permit installation in a large room, as shown above. Four colorways are offered. Jack Denst. Circle 251 on reader service card



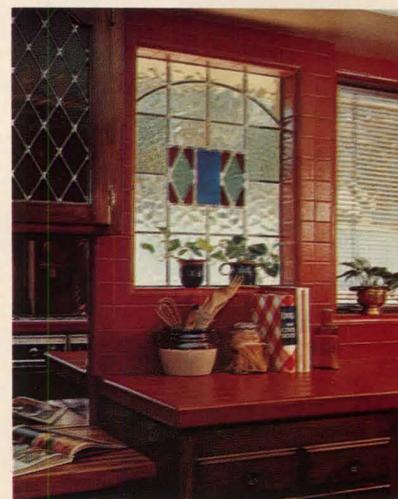
Plywood paneling (above) has a birch-face veneer. Topcoat resists stains and chemicals. Grooved panels simulate 8" (shown), 16", or random-width planking. Champion. Circle 254 on reader service card



Decorative plastic laminate shown above in an "English Yew" woodgrain pattern is from Design Group 1. There are over 30 other woodgrain designs in line. Wilson-art®. Circle 256 on reader service card



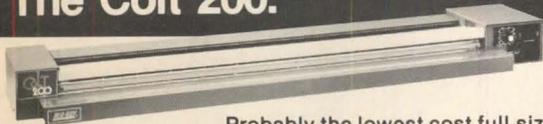
Simulated brick shown installed above comes "straight cut" or with irregular profile and surface; both types—Inca® Old Chicago and Country Rustic®—are shown. Inca® comes in five colors, Country Rustic® in four. Z-Brick. Circle 252 on reader service card



Textured ceramic tile, shown above on countertops and surrounding windows, is available in many sizes, including 3" x 6", 6" x 6", 4" x 8", 3" x 9" and 4" x 9". "Terra Grande" tile, offered in over 20 colors, is shown in textured flame. Francis-can Tile. Circle 257 on reader service card

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PRODUCTS/TOOLS & EQUIPMENT



Hydrostatic drive tractor (above), with a 16hp diesel engine, offers one-pedal, forward/backward operation; no gear shifting is necessary. Speed varies up to 8.4 mph. Model with manual transmission is available. Kubota. Circle 236 on reader service card



SpaceJoist™ prefab truss system, shown above being installed, consists of wood frames fastened with 20-gauge, galvanized steel webs. SpaceJoists™ come in 8", 10 3/4" and 16" depths. Truswal. Circle 237 on reader service card

Pneumatic finish nailer (right) drives 1½" to 2" long nails. The heavy-duty tool is designed for both residential and industrial use. The nailer features front-end loading and a choice of trigger or touch-trip firing. Duo-Fast. Circle 238 on reader service card



Gas-powered airless sprayer/cleaner (above) has a gasoline engine that delivers up to 2,800 psi. A tilt-back pump head allows immersion into 5-gal. pails and makes loading easy. Tool comes with 50 ft. of ½" hose. Graco. Circle 239 on reader service card

Three cordless drills (right) have rechargeable power packs that plug into drill handles. The Boar Guns™ recharge in about one hour, and the charger has a temperature control cut-off. The units operate at variable speeds, both forward and backward. Skil. Circle 240 on reader service card



Lightweight rotary hammer (above) has fewer mechanical parts than comparable units. A vented piston operation delivers greater hammering power and reduces cold weather start-up problems. Black & Decker. Circle 241 on reader service card

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Leads on lighting arrangements and fixtures

A revised "Guide to Fluorescent Lamps" is available. The 32-page booklet contains basic information, defines terminology, lists fluorescent lamp types and lamp operating characteristics. Tables and diagrams summarize this information. Chromaticity and spectral distribution diagrams are in color. The guide costs fifty cents and is available from the Advertising and Sales Promotion Dept., Lamp Commercial Div., Westinghouse Electric Corp., Bloomfield, N.J. 07003.

"Guidelines to Good Lighting," from the American Home Lighting Institute (AHLI) provides a "room-by-room" description of **effective and attractive methods of lighting homes**. The 16-page booklet discusses preferred fixtures and arrangements for exteriors, entrance halls, living areas, kitchens, baths, game rooms. There is a chapter on light source types, including incandescent, fluorescent, mercury and high-intensity lamps. Renderings show suggested room applications. For single copies send one dollar to The American Home Lighting Institute, 230 North Michigan Avenue, Chicago, Ill. 60601.

A 71-page booklet from Underwriters Laboratories describes the **safety requirements for high intensity discharge lighting fixtures** in commercial, industrial or residential applications. Included are mercury vapor, metal halide, high- and low-pressure sodium lamps. The scope of the requirements is described at the beginning, and a glossary defines terms for the purpose of this standard. Many tables summarize and detail the standards set forth. The booklet is also illustrated with many schematics and line drawings.

Standards for Safety was revised last March, and the standards set forth will become effective on April 1, 1983, except for Part 4, effective in 1984. For a copy of *Standards for Safety* write to Guy Horton, Underwriters Laboratories Inc., 1655 Scott Blvd., Santa Clara, Calif. 05050.

Ceiling- and wall-mount fluorescent lighting are highlighted in a 36-page catalog. The introduction discusses the advantages of surface, stem- and wall-mount fixtures over recessed fixtures under certain conditions. It also discusses "energy effectiveness" and how to choose the right luminaire for a given environment, taking into consideration such factors as glare control and reflection. Each of the eighteen types of lighting shown in this publica-

tion—from diffuser luminaires to parabolic louver luminaires and modular cylinder fixtures—is described in these terms, with graphs and diagrams expanding on these points. Application data is included. Lightolier. *Circle 301 on reader service card*

A 66-page catalog presents the manufacturer's line of **indoor lighting**. Fixtures shown in full color include ceiling and wall-mount models, many recessed lighting styles, and an "architectural" series for large-scale installations. Also shown and described are "power-trac" lighting and other special units, such as exit signs. Halo. *Circle 306 on reader service card*.

Many ideas and suggestions for creating an **attractive and functional lighting plan** are given in a 16-page booklet. Sections discuss the "principles of lighting" for general, specific and accent lighting in interior decorating. Under "Decorative Lighting" are some how-to's for selecting both indoor and outdoor lighting. The publication also discusses the number of outlets and controls needed in a home.

Complementing this booklet are a series of brochures dealing with specific room lighting. Individual brochures discuss the dining room, the family room, the bathroom and kitchen. Other brochures deal with fluorescent lighting, track and recessed lighting, and outdoor lighting. Thomas Industries. *Circle 303 on reader service card*

Cast-iron and copper **lamp posts and lanterns** are featured in a four-page brochure. Four-color photographs display lantern styles, and line drawings show various lantern and post configurations. Decorative Designs. *Circle 316 on reader service card*.

A 92-page catalog presents the manufacturer's full line of **elegant-design fixtures**. Products shown in four-color photos include: brass and crystal chandeliers and candelabra, pendants, glass balls, and an array of exterior fixtures, such as lanterns and lamps. Fixture designs fall into nine traditional style lines for the interior. Exterior fixtures are arranged according to finishes. Also shown is marquee lighting. The Feldman Co. *Circle 308 on reader service card*.

A four-page bulletin describes a **computerized lighting control system** suitable for commercial or office buildings. General Electric. *Circle 319 on reader service card*.

A 24-page catalog provides a showcase for 18 models of elegantly-styled outdoor lighting. Four-color photographs show each cast-aluminum lantern in various uses such as wall-mounted on houses, suspended from roof overhangs and porches, lined up along streets and drives. A comparison table indicates relative proportions of lanterns, and a drawing of each model gives dimensions. Norlett. *Circle 309 on reader service card*.

A second booklet from the manufacturer shows four more exterior lanterns. Specs are included. *Circle 310 on reader service card*.

The same manufacturer publishes a catalog of interior lighting fixtures, including floorlamps and pendant fixtures. Intensity of illumination for each model is indicated in a table. Suggestions for proper lighting are also discussed. *Circle 311 on reader service card*.

A four-color foldout displays over 20 models of **fluorescent fixtures**. Shown are primarily ceiling-mount and pendant lighting. The benefits of fluorescent lighting are listed, and a table compares the cost of fluorescent vs. incandescent lamps. Home-View®. *Circle 317 on reader service card*.

The **Holophane™ luminaire**, a vandal-proof indoor/outdoor fixture, is described in a four-page brochure. Application flexibility and rugged construction of the fixture are emphasized in the product description. Charts summarize light distribution properties of several models. Options and accessories are listed. Johns-Manville. *Circle 313 on reader service card*.

A 14-page booklet describes the Contra/Cline™ series of **glass-free, geometric-style outdoor lighting**. Diagrams and charts detail the patented optical system. Application guide discusses applicability for pedestrian malls, walkways, parking areas, residential and commercial streets. Specs and a "Mechanical configuration" guide are included. Moldcast Lighting. *Circle 314 on reader service card*.

A four-page 1980 catalog highlights the manufacturer's decorative **cast-aluminum and solid brass outdoor lighting**. The publication suggests both residential and commercial applications. Catalog and supplementary brochure graphically illustrate how these fixtures are designed for energy efficiency. Hadco. *Circle 315 on reader service card*.

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ORGANIZATION: Firm, Company, Government Agency or Institution: _____

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Note: Last date coupons can be accepted for this year's summer job listings is November 24, 1980

INTEGRATED ACCOUNTING AND WORD PROCESSING HOMEBUILDER COMPUTER SYSTEMS

ESTIMATE REPORT		SUMMARY LOT COST REPORT					
NO.	DESCRIPTION	QTY	UNIT PRICE	TOTAL	QTY	UNIT PRICE	TOTAL
1	CONCRETE	100	1.00	100.00	100	1.00	100.00
2	BRICK	100	1.00	100.00	100	1.00	100.00
3	WOOD	100	1.00	100.00	100	1.00	100.00
4	ROOFING	100	1.00	100.00	100	1.00	100.00
5	PAINT	100	1.00	100.00	100	1.00	100.00
6	PLUMBING	100	1.00	100.00	100	1.00	100.00
7	ELECTRICAL	100	1.00	100.00	100	1.00	100.00
8	MECHANICAL	100	1.00	100.00	100	1.00	100.00
9	LANDSCAPING	100	1.00	100.00	100	1.00	100.00
10	UTILITIES	100	1.00	100.00	100	1.00	100.00
11	PERMITS	100	1.00	100.00	100	1.00	100.00
12	INSURANCE	100	1.00	100.00	100	1.00	100.00
13	LABOR	100	1.00	100.00	100	1.00	100.00
14	EQUIPMENT	100	1.00	100.00	100	1.00	100.00
15	PROFIT	100	1.00	100.00	100	1.00	100.00
16	TOTALS	1000	1.00	1000.00	1000	1.00	1000.00

SUBCONTRACT CONTROL REPORT		PROJECT SCHEDULE STATUS	
NO.	DESCRIPTION	START DATE	END DATE
1	FOUNDATION	01/01/81	01/15/81
2	FRAMING	01/15/81	02/01/81
3	ROOFING	02/01/81	02/15/81
4	MECHANICAL	02/15/81	03/01/81
5	ELECTRICAL	03/01/81	03/15/81
6	PLUMBING	03/15/81	04/01/81
7	PAINT	04/01/81	04/15/81
8	LANDSCAPING	04/15/81	05/01/81
9	UTILITIES	05/01/81	05/15/81
10	PERMITS	05/15/81	06/01/81
11	INSURANCE	06/01/81	06/15/81
12	LABOR	06/15/81	07/01/81
13	EQUIPMENT	07/01/81	07/15/81
14	PROFIT	07/15/81	08/01/81
15	TOTALS	01/01/81	08/01/81

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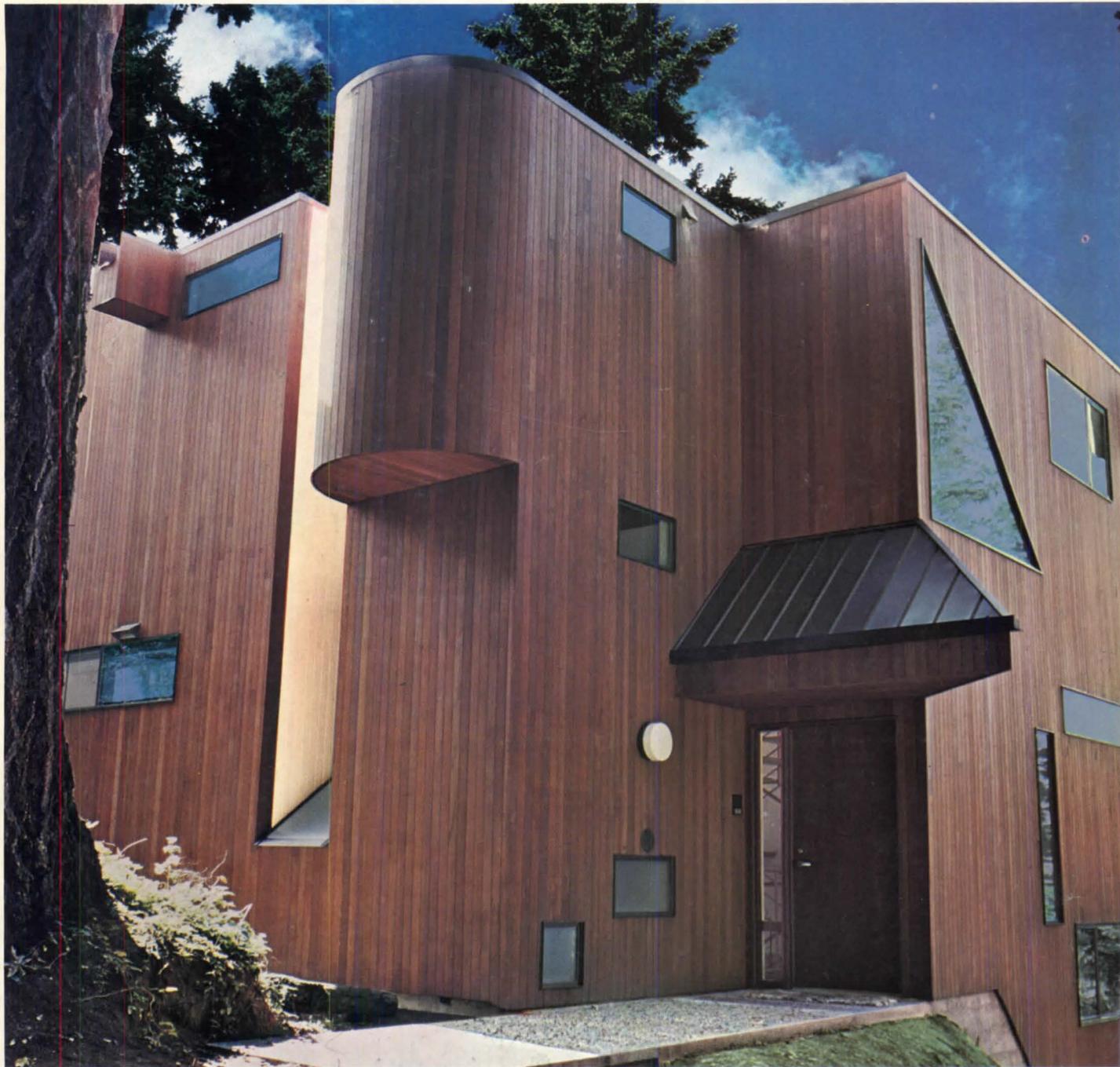
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