



House & home

THE MARKETING AND MANAGEMENT PUBLICATION OF THE HOUSING INDUSTRY

JULY 1967

Planning ideas from award-winning houses

Also: New developments in precast concrete . . .

What a man-made lake can do for a new community

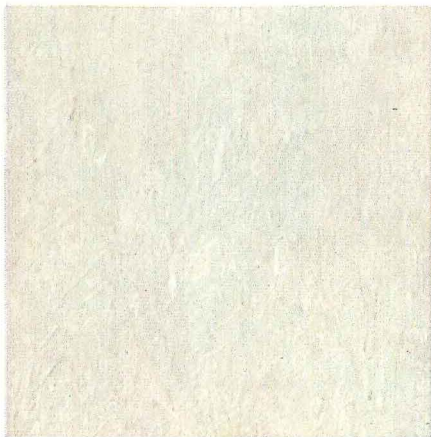
Azrock creative styling helps sell for you. Good example

ONYX ITALIA

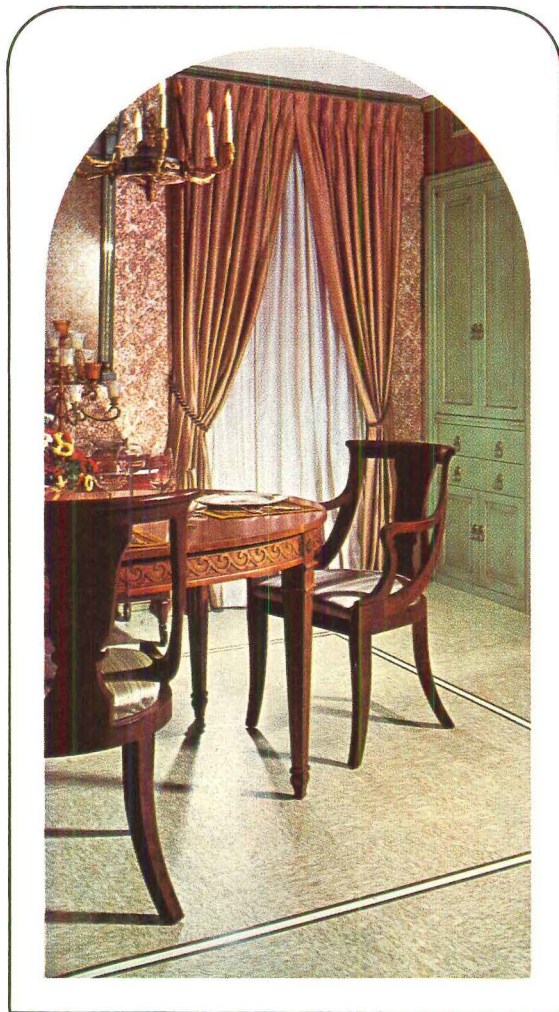
new slate-textured vinyl asbestos floor tile



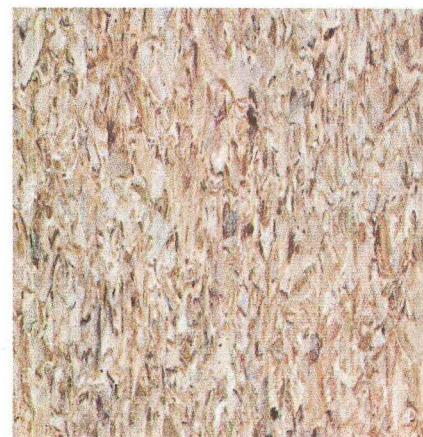
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VO-726 Bianco



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GREASE

Damages walls
and cabinets.



COOKING
ODORS

Spread all
through the home.



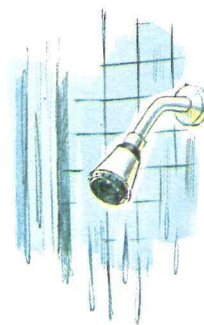
BROILING
SMOKE

Clings to draperies
and furnishings.



BATHROOM
MOISTURE

Ruins paint, plaster
and woodwork.

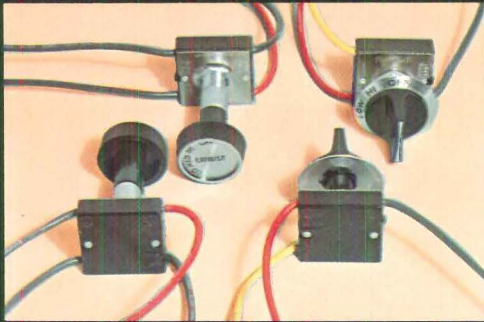


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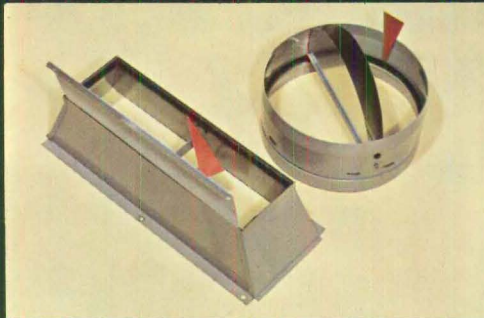


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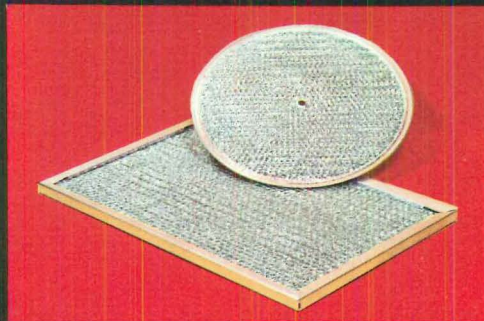
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See previous page

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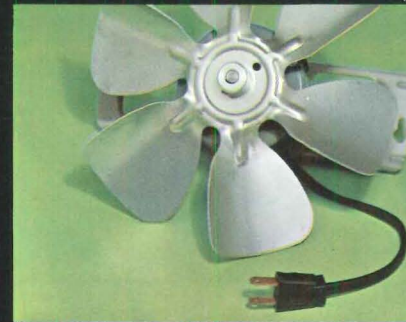
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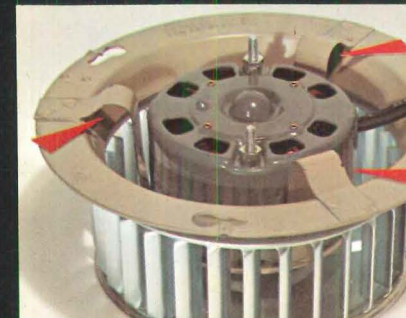


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A MCGRAW-HILL PUBLICATION

VOL. 32 NO. 1

JULY 1967

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EDITORIAL

Another money crisis for the housing industry? No, indeed 47

Interest and discount rates are moving back toward their 1966 peaks. But this time there's a lot more money available from housing's traditional suppliers

FEATURES

A man-made lake that will pay for itself—and then some 48

As a sales asset? Of course—this lake is a key community feature. But it also cut land-development costs and made possible a 25% increase in house lots

'Solving your people problems solves most management problems' 54

So says a builder who has tripled his volume in six years. His people-oriented management reduces employee turnover, raises morale and develops new talent

Do precast-concrete components have a future in housing? 58

They do if the manufacturers can make their systems simpler and, at the same time, more flexible. Here are four new systems that move in that direction

Four custom houses show you what's new in living rooms 66

Custom houses have always spawned ideas that eventually find their way into merchant-built models. These houses, and the ideas in them, are no exception

How housing's publicly held companies fared in fiscal 1966 74

Tight money hardly touched land developers but harried builders and prefabricators. HOUSE & HOME's annual report on the companies that Wall Street watches

NEWS

Mortgage experts beg Congress: Free the FHA interest rate 5

Consensus of financial leaders submitting advice to Sen. Sparkman's committee on mortgage credit reform: A free rate would be the greatest aid

Metropolitan Life discloses new plan to aid FHA lending 8

Giant insurance company devises a promissory note for sale to mortgage investors in lieu of mortgages, thus makes it easier for major lenders to invest

Seattle shows the nation's builders how to ride a boom 16

The city that flies high with Boeing reveals some tricks about stretching out a building boom so it will be good for another decade or so

DEPARTMENTS

Mortgage-market quotations	10	New products	87
Housing-stock prices	12	New literature	116
Leaders	40	Reader service card	105
Letters	44	Advertising index	122
Technology	83		

Cover: Award-winning custom house in Homes for Better Living competition. Architect: George Nemeny. Builder: Fetzer-Atwater. Location: Rye, N.Y. Photo: Ezra Stoller. *For story, see p. 73.*

NEXT MONTH

Anatomy of a failure: why a seemingly successful project (1,300 sales in five years) came a cropper . . . Built-for-sale apartments: quick road to growth for capital-poor builders . . . Design for the market: how a versatile architect gives his builder clients a competitive edge in a multistate area

There are still a few houses we don't make aluminum windows and sliding glass doors for.

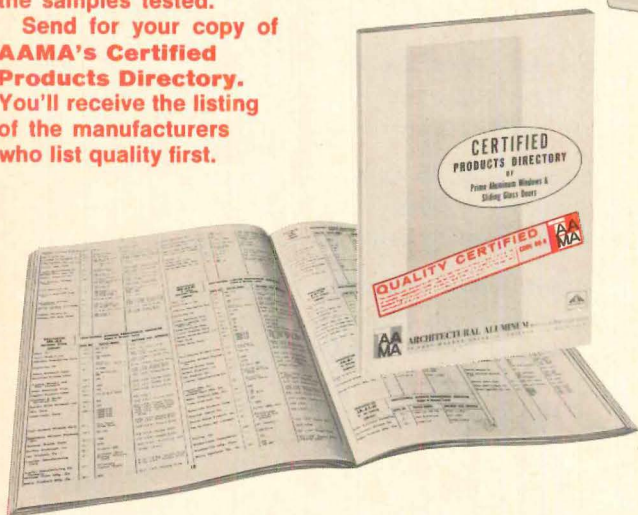
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HH7



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Mortgage experts beg Congress: Free FHA's interest rate

is predominant recommendation weaves a golden strand through most of the position papers presented to the 11 Senators now studying ways to rescue mortgage from periodic tight money.

Sen. John J. Sparkman's subcommittee on housing has already begun hearings. The panel has published suggestions from six government agencies, 12 financial groups and 12 individuals as *A Study of Mortgage* edited.* The volume refines the thinking of some of the nation's most sophisticated lenders in mortgage finance.

No other issue evokes wider mutuality in the recommendation to free the FHA from its administered 6% ceiling and to let it move more freely in response to credit market forces.

Inability to compete. Economist Oliver H. Jones of the Mortgage Bankers Assn. puts the case compellingly in a presentation marked throughout by lucid style and an entertaining approach.

"When mortgage borrowers cannot meet the market price they do not obtain credit," Jones warns. "This chart (right) displays the time lag of adjustments made in the maximum permissible rate on FHA mortgages to meet changing conditions.

"When the FHA contract rate lags the market, discounts develop to bring the rate up to market yields. It would appear that the discount adjustment would keep FHA mortgages competitive; however, the practice is so circumscribed by statute and regulation that it results in a reduction in the availability of funds."

Discount dangers. Discounting works well enough when discounts are small, but Jones warns:

"When they become large, lenders select other alternatives to avoid criticism; builders curtail their operations to avoid losses, and upgrading sellers hold their homes off the market to avoid loss of equity imposed by the requirement that they pay the discount portion of the borrower's cost of obtaining credit."

Adds the U. S. Treasury: "There should be freedom to move the rate to accommodate market conditions."

Says President Arthur Viner of Investors Central Management Corp., a mortgage lender for pension funds: "The freeing of

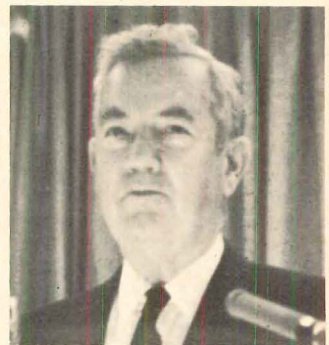
Photos: H & H Staff



HORNE



JONES



SPARKMAN

the rate would tend, more than any other factor, to attract into this market those institutions that have been leaving it and those not yet drawn to it."

Pleads former FHA Commissioner Julian H. Zimmerman: "Remove all rate controls except perhaps a realistic statutory ceiling and the results would be dramatic."

The Life Insurance Association of America goes further: "The solution to the problem of housing lies in providing more

facility to homebuilders' and Realtors' projects for expanding the government's Federal National Mortgage Assn., presently a trader in FHA loans, into a facility dealing in conventional mortgages. The Federal Reserve and Vice President Raymond T. O'Keefe of the Chase Manhattan Bank both suggest a trading desk for mortgages within FNMA.

The FNMA proposals would appear to have scant chance of success in the face of the financial community's criticism of the agency's past performance, particularly its overpricing technique that drove private investors out of the mortgage market in 1966. One of Viner's sharpest shafts is reserved for the agency:

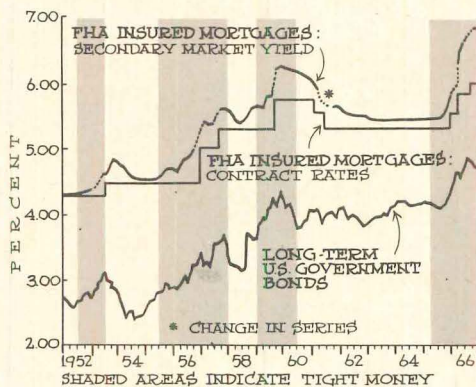
"It is essential, if the environment for investment in FHA and VA mortgages is to be made more attractive, for FNMA to abandon the policies that have governed the operations of its secondary market facility. . . . Not only should operations and objectives be changed, but the heavy hand with which it has generally carried them out should be replaced with a delicate touch."

Many experts urged the issuance of a bond or debenture, backed by pooled mortgages, to be sold to pension funds to attract wider investment. Another popular suggestion was for an improvement in the fiscal-monetary policy mix to relieve homebuilding of the heaviest burden in every tight-money period.

Strong medicine for S&Ls. Chairman John Horne of the Home Loan Bank Board, regulatory agency for the nation's 6,300 savings and loan associations, was skeptical of several of the experts' suggestions. He offered instead some tough rules for S&Ls, arguing that the reduced flow of savings to the associations was the severest depressant on mortgage activity last year.

Horne demanded authority to require S&Ls to increase liquidity well beyond the presently required 7% of savings. He contended that 9% liquidity in 1966 would have let S&Ls lend \$4 billion more than they did.

Horne also asked that S&Ls be compelled to contribute \$2 billion to a liquidity pool in the Home Loan Bank system as a safeguard against another 1966, and he urged that the banks themselves swing their investments into medium and long-term securities—to borrow long to lend long.



flexibility in interest rates at both federal and state levels so as to make home mortgages competitive."

Other solutions. Jones and several other experts call for development of a true secondary market. Home loans are originated and the new loans are now sold, they point out, but only occasionally are existing mortgages sold. No investor can count on selling his loans at any time at prevailing prices.

Proposals range from the American Bankers Assn.'s plan for a private market

Government Printing Office, Washington, D.C., 1964; 467 pages, \$1.25.

Walter Daran



VINER



ZIMMERMAN

Elwood P. Johns



O'KEEFE

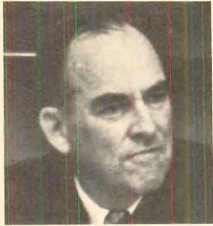
Rising home prices: It's the builder who pays the bills

Anybody who thinks that the upward spiral of house prices brings builders bigger profits has another think coming.

So says President Frank P. Flynn Jr. of National Homes Acceptance Corp., mortgage chairman for the Home Manufacturers Assn., in a position paper presented to a Senate subcommittee studying mortgage reform (see p. 5).

Land costs are obviously the big reason for rising house prices, Flynn says, but there is more to it than that.

As land becomes more expensive, builders must put larger houses on the site to make the houses marketable. Lot price must bear some relationship to house price. And the builder now provides more house at such minimal prices, Flynn says, that the cost-per-sq.-ft. of new houses must be one of America's all-time bargains in the field of homebuilding.



FLYNN

AVERAGE NEW HOUSE COST PER SQ. FT. COMPARED WITH SALES PRICE

Year	Sale price including site	Price of site	Sale price less site	Calculated area (sq. ft.)	Price per sq. ft. including site	Price per sq. ft. less site
1951 *	\$ 9,780	\$1,092	\$ 8,688	942	\$10.38	\$ 9.22
1955 *	12,113	1,626	10,487	1,049	11.55	10.00
1960	15,007	2,570	12,437	1,144	13.12	10.87
1964	16,491	3,176	13,315	1,213	13.60	10.98
1965:						
1st quarter	16,610	3,355	13,255	1,212	13.70	10.94
2nd quarter	16,722	3,491	13,231	1,217	13.74	10.87
3rd quarter	17,136	3,487	13,649	1,247	13.74	10.95
4th quarter	17,317	3,533	13,784	1,243	13.93	11.09
1966:						
1st quarter	17,321	3,549	13,772	1,253	13.82	10.99
2nd quarter	17,616	3,684	13,932	1,266	13.91	11.00
3rd quarter	17,955	3,655	14,300	1,269	14.15	11.27
4th quarter	18,247	3,651	14,596	1,307	13.96	11.17
Percent changed:						
1951-60	53.4	135.3	43.2	21.4	26.4	17.9
1960-66	21.6	42.1	17.4	14.2	6.4	2.8
1965-66	5.4	3.3	5.9	5.1	0.2	0.7
1951-66	86.6	234.3	68.0	38.7	34.5	21.1

* Figures are annual average. Others are 4th quarter. Source: FHA Trends, Sec. 203b, 1960-6.

"The builder is not making a reasonable profit," Flynn contends, and this will discourage builders from entering or continuing in the industry. He cites such discouragement as one cause for housing's debacle of 1966.

Flynn's thesis is so well documented in

the table above that builders will want clip it and paste it in their hats to show buyers. One striking comparison: From 1951 through 1966, the price per sq. ft. of the average new house rose 21%; in the same 16 years, the price of land on which the average house was built shot up 234%

A grass roots rebellion? Why suburbia's couples are fleeing cityward

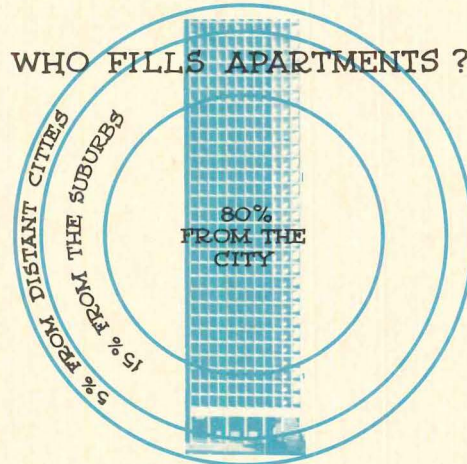
City lovers have argued for years that a suburban revolt is raging. Now a survey by a New York City real estate firm offers some statistical evidence.

A 12-month study of 74 New York City apartments showed that 20% of 3,300 new tenants were moving from the suburbs. That included 5% who were transferees.

Armed with its survey, Charles H. Greenthal & Co., which manages about 100 New York City apartments, has stepped up its newspaper advertising to reach the commuter market.

Reasons cited for deserting the suburbs:

- Steady work and expense involved in maintaining grounds.
- Time wasted by commuting—an item mentioned repeatedly by high-income persons, according to Alan B. Friedberg, a Greenthal vice president.
- The increasing cost of home maintenance and improvement—mentioned espe-



cially by couples who had lived in five- to six-year-old homes.

- The attraction of urban culture to

younger couples, now better educated

No status spending. Friedberg adds that some couples have found it cheaper in the long run to live in the city.

"For one thing," says Friedberg, "they don't have the cost of maintaining status symbols, such as expensive cars. In fact, the couple can often sell the second car that the wife needed in the suburbs just to do the shopping."

Friedberg also said that city dwellers who had moved to the suburbs often objected to the closer personal involvement that they were forced to have with their suburban neighbors.

The survey will come as no surprise to some city observers. For example, Edmund Bacon, executive director of Philadelphia's planning commission, has watched suburban families provide much of the occupancy for an urban rebuilding program in his city for several years.

In tomorrow's dream apartments: It's the maid who makes the market

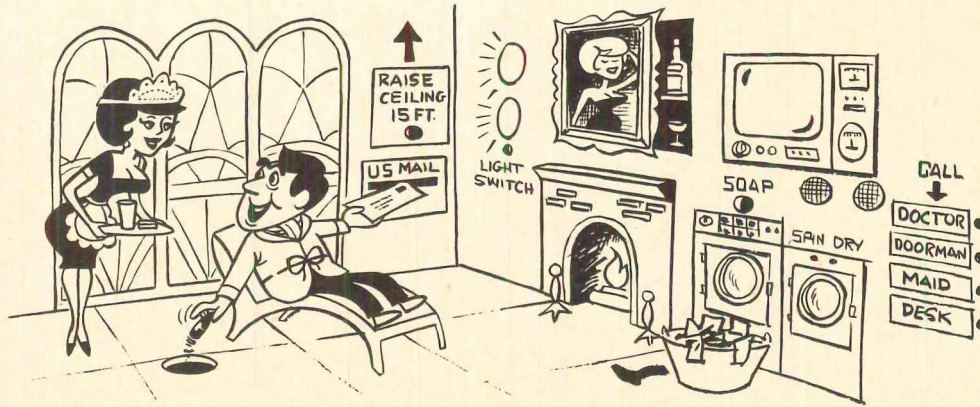
If the average tenant could have what he always dreamed of having he would take an apartment with all the conveniences shown at right—particularly the maid.

So says Arthur L. Bromberg of Sulzberger-Rolfe Inc., who has just surveyed 292 high-rise residents in New York City.

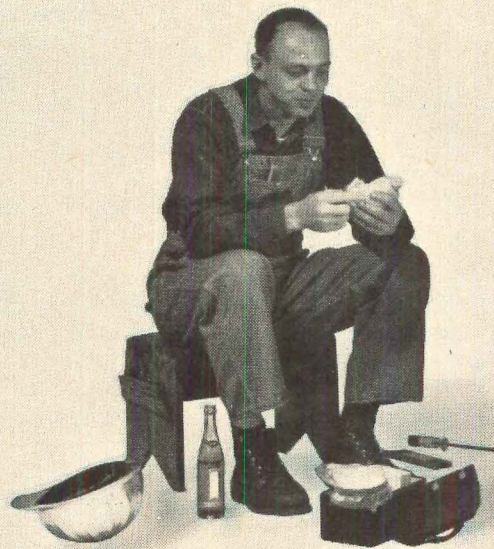
Only 2% of those surveyed listed good neighborhoods as a prime requirement. Tenants opted instead for the exotic—not only maid and valet service but also plenty of electronic gadgets plus wine cellars.

"You can bet," says Bromberg, "that if they had to pay for the dream items, we would have gotten a different story."

Yet the company, which builds and manages apartments, will put in some items.



11:27 delivered 11:53 installed.



Even oddball openings can be quickly filled by Float-Away.®

Float-Away metal bifold closet doors save you installation time (and money) because they can be made to measure for every opening—even if it's a construction error.

Then they can be computer-labeled and delivered to the job, the floor, the room—even the individual openings for which they're tailored.

Minutes saved here—multiplied by many floors and doors—can add up to

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*Department HH-7, 1173 Zonolite Road, NE, Atlanta, Georgia 30306. Phone (404) 875-7986. West Coast: Woodall Industries, Inc., 10423 Valley Boulevard, El Monte, California 91734. Phone (213) 444-2561 or 2365 Lafayette Street, Santa Clara, California. Phone (408) 243-8008.

Mortgage wholesaling—broad new plan to aid FHA lending

A bold new program of wholesaling mortgage credit in million-dollar lots offers a way to bring more money into mortgaging and building by increasing investor yields.

The plan is another breakthrough for the new mortgage management of the Metropolitan Life Insurance Co., one of the first major insurance companies to make land loans to residential builders (NEWS, May). Now the Met is introducing the mortgage-wholesaling plan to its nationwide network of 120 mortgage-banker correspondents.

Wholesaling is a technique to buy and sell credit, represented by a physical security, without undertaking the laborious business of trading the physical mortgages. The process offers wide benefits to banks, pension funds and even other insurance companies. The Met realizes the technique will spawn a dozen competitors, but the company is disclosing the details in the conviction that the program represents a basic improvement in mortgage financing. The overriding goals:

- Funnel more of the vast funds of major lenders to the local builder's level at less cost.

- Put the money to work under highly expert local supervisors—ie., mortgage bankers.

Mortgage banker's role. The Met sees the mortgage banker as the ideal link between the large investor hoping to make wholesale investments and the small investor not equipped to deal with individual mortgages.

"The wide experience of mortgage bankers in dealing with builders, brokers and borrowers; their knowledge of FHA and VA procedures, and their proven capacity to originate, underwrite and service this type of business make them perfect architects for creating new and expanded markets for their product," the Met says.

So the Met proposes that a mortgage banker create a subsidiary qualified as an FHA lender. The subsidiary would acquire acceptable FHA-VA mortgages from builders, brokers and individuals, then package the loans in units of \$1 million.

But the subsidiary would not deliver the cumbersome package of mortgages to the long-term lender, as succeeding generations of mortgage bankers have been doing. Instead the sub would sell a collaterally secured promissory note face-valued at \$1 million to the long-term lender (the Met). The sub would then trundle the stack of mortgages off to a bank trustee as collateral.

The only amortization required in the note would be that collected from individual mortgagors.

The inner workings. At this point the simple plan gets a bit complicated.

The \$1-million note would be sold at a discount—let's say five points (5%). The subsidiary would receive from the Met in actual cash not \$1 million but \$950,000.

The interest on the corporate note might be set at 5.80%.

COLLATERAL TRUST INDENTURE

THIS COLLATERAL TRUST INDENTURE, herein called the "Indenture" dated as of this third day of April, 1967, between a national life insurance company organized and existing under the laws of the State of New York (hereinafter called "Borrower"), the Metropolitan Life Insurance Company, a corporation organized and existing under the laws of the State of New York (hereinafter called "Trustee"), and Metropolitan Life Insurance Company, a corporation organized and existing under the laws of the State of New York (hereinafter called "Metropolitan")

WHEREAS Borrower is engaged in the business of, among other things, originating and servicing mortgage loans on residential properties; and

PURCHASE AGREEMENT

THIS AGREEMENT dated as of this third day of April, 1967, between Metropolitan Life Insurance Company, a corporation organized and existing under the laws of the State of New York (hereinafter called "Borrower") and Metropolitan Life Insurance Company, a corporation organized and existing under the laws of the State of New York (hereinafter called "Metropolitan")

WHEREAS Borrower has made or acquired and/or will make or acquire mortgage loans on residential properties fully insured by the Federal National Administration or guaranteed by the Veterans' Administration (each of which is called a "Trust") as trustee for The First National Administration, a corporation organized and existing under the laws of the State of New York (hereinafter called "Metropolitan")

CORRESPONDENT

SCHEDULE OF PLEDGED LOANS

To: Metropolitan Life Insurance Company (Law Division)

In accordance with the Purchase Agreement between Metropolitan Life Insurance Company and Correspondent, we submit for your approval the following loan papers, covering each of the loans listed in this Schedule:

Note Mortgage Assignment of Mortgage Survey Title Policy Insurance Certificate FHA Mortgage Insurance Certificate

PLEDGED LOANS		Maturity	Original	Current	Date Interest
Loan No.	Borrower	Date	Loan Amount	Prin. Balance	Paid to

TRUST INDENTURE is key to Met Life's mortgage wholesaling plan. A promissory note based

on mortgages, it carries a purchase agreement and a list of loans making up the note's collateral

It is this combination of discount and interest that would give the long-term lender an appropriate yield and make FHA-VA mortgages competitive with other forms of investment. The yield on this deal—based on a 25-year term for the 6% collateral loans prepaid in 10 years—would be a highly satisfactory 6.56%. Today's secondary-market yields are running about 6.15% to 6.30%.

The borrower-subsidary employs the parent mortgage banker to service the loans and pays for this service out of income. This income is the difference between the 6% the subsidiary receives from mortgagors on the \$1 million in mortgages and the 5.80% he pays to the Met on the \$1-million note. The difference in this case is 0.20%, which approximates a servicing fee of one-fifth of a point.

New income concept. The mortgage banker actually gives up the industry's hallowed concept of a clearly defined servicing fee under the Met's new program. Income replaces the fee.

The mortgage banker can vary this income almost at will—by varying the interest rate arranged on his note. But if he wants a lower interest rate on his note and more income, he will have to accept a deeper discount and less cash. If he is satisfied with less income, he pays higher interest and enjoys a lesser discount and more cash. It is a three-way parlay.

Some of the most conservative mortgage bankers still hold out for servicing fees of half a point, or 0.5%. In the case above, they would be at liberty to provide for income approximating a half-point fee. They would simply have to arrange interest on the \$1-million note at 5.50%, or 0.5% lower than the 6% income received from the mortgagors. But to get an interest rate of only 5.50% they would have to settle for a deeper discount than the five points quoted above, and they would receive far less than \$950,000 in cash.

Advantages. Wholesaling has several

immediate advantages, which could lead in turn to greater lending efficiency and reduction in the discounts presently charged to the homebuilder when a mortgage banker buys his loans.

The program eliminates mortgage submissions to the long-term lender, and it reduces remittances to one payment a month in place of payments on every loan. It minimizes the long-term lender's role in property inspections, a timesaver.

Wholesaling also offers a natural market for large blocks of existing mortgages. Establishment of a true secondary market for such loans was one of the major recommendations just made by mortgage experts to the Senate committee studying mortgage credit (see p. 5).

What it is not. The collateral trust indenture has probably never been used before on a national scale, although mortgage bankers themselves—Weaver Bros. of Baltimore, for one—have occasionally employed the note regionally. The device differs markedly from the mortgage bond issued against pooled mortgages in the 1930s, and it is nothing like the debentures now sold by some mortgage bankers and mortgage-purchase services against similar pools.

Nor is the indenture a participation. It is a promissory note. It has an accompanying purchase agreement setting forth terms and it has a detailed list of all mortgages that make up the collateral.

Off and running. The Kissell Co. (servicing: \$670 million) of Springfield, Ohio, closed the first note with the Met for \$500,000 worth of FHA-VAs in its trading area. Jersey Mortgage of Elizabeth, N.J. made the second closing for \$1 million, the amount at which Met hopes to take in most indentures.

The company is already talking with 20 to 30 of its other correspondents about similar notes, and from there it is but a step to nationwide credit wholesaling in appreciable volume.—EDWIN W. ROCHON

Who knows more about fire resistance than the Gypsum Association?



The Devil you say!

Outside of the Devil himself, nobody knows more about fire resistance than the Gypsum Association. Example: We've got the last word on fire tests—"Design Data/Fire Resistance." The 1967 edition of this informative booklet is yours for the asking. Free. So mail this coupon. We won't try to sell you anything. That's not our job. We're strictly in the information business. And any time you build, remember . . . gypsum products offer you superior fire resistance and sound control qualities, plus low-cost-in-place.

Name _____ Title _____

Company _____

Address _____

City _____ State _____ Zip _____

Mail to: Gypsum Association, 201 N. Wells Street, Chicago, Illinois 60606

HH

Mortgage squeeze stirs doubt about fast housing recovery

Six weeks of more-expensive money have aroused serious questions about housing's ability to stage the sharp recovery it was expected to make in the second half of this year.

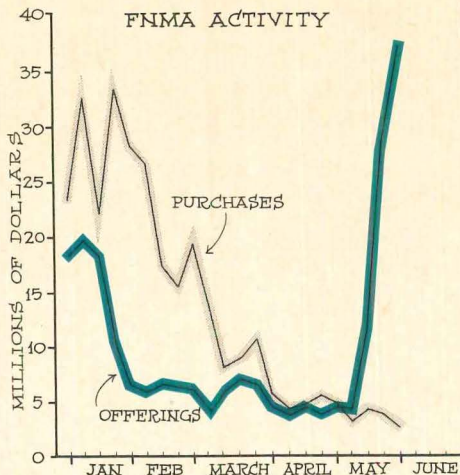
New York's First National City Bank sums up the nationwide concern in its June newsletter.

Few of housing's economists now see much chance of a complete recovery before the end of 1967, the bank says: "There is no guaranty that housing starts will either bounce back to a 1.5-million rate or that this figure represents a normal rate that can be counted on through the remainder of the 1960s."

Savings that used to finance housing have recovered, the bank says, but mortgage lending has remained weak. Furthermore, many builders have disbanded their organizations or cut them back, and families who could not borrow funds last year never really learned that credit had eased before they were afflicted by a return to higher interest and discount rates.

Price increases have also discouraged buyers, the bank contends. New-home prices rose no faster than the general price level from the 1940s to the early 1960s, but since then housing has been going up half again as fast as prices of all goods and services. Many industry experts attribute this increase to sharply rising land costs (see p. 6).

Stocks and mortgage market. The bank's summary was a reflection of concern spreading in Washington and on Wall Street. HOUSE & HOME's index of 25 lead-



ing housing stocks fell 16% this month (see p. 12). It was the first major setback for the list since housing's recovery began last fall.

More-costly money took builders' mortgage discounts half way back to their historic peaks of 1966. Builders are now paying 4½ points generally. Boston, taking their mortgages at par only a month ago, now charges four points.

The prime rate for conventional loans has risen by ¼%, to 6½%. And construction money shows signs of tightening.

The national secondary market is trading at an average of 95½-96 in New York, which means yields of 6.15% to 6.22% with a ¾% servicing fee. The yields are up 12 to 20 basis points on the

month and the pressure is still on for higher returns to investors.

FNMA and here we go again. The private market in FHA-VA loans is paying thin, and no wonder. The Federal National Mortgage Assn. finds itself once again overpricing the market. Its offer of 96 with ½% servicing fees is effective in 32 states, and that equates with a price of 97 with a ¾% fee—a point higher than the private market will pay.

The result is the dizzying climb in FNMA offerings shown in the graph (left)—from \$4 million to \$37 million in three weeks. "Here we go again," observes partner Philip C. O'Connell in the June market letter of Huntoon, Paige & Co., the best New York FHA brokerage. "The trend indicates that offerings will jump to \$40 to \$50 million per week shortly. FNMA is becoming the primary market."

Bonds and the budget. The overriding reason for the rise in all long-term rates in April and May was the enormous heavy offering in the bond markets. There is no let-up in sight.

And there is the federal budget, which the Wall Street investment house of Aubrey G. Lanston & Co. now describes as "out of control." Deficit estimates range from \$20 billion to \$29 billion.

"Twenty billion of federal deficit financing is far too big for the money and capital markets, given the probable demands for funds by other borrowers," another Wall Street house said.

Bond and mortgage experts considered that the understatement of the month.

Largest mortgage banker chooses a new president

He is Everett Mattson, who becomes president of T. J. Bettes Co. of Houston, the world's largest mortgage banker with servicing in excess of \$1.5 billion.

Mattson won the mortgage banking profession's Aubrey Costa Award* in 1966 as the nation's outstanding mortgage banker. He is a governor and an executive committeeman of the Mortgage Bankers Association of America and a past president of the Houston MBA. He joined the Bettes Co. in 1945 and was executive vice president when tapped for the presidency by the board of directors.



MATTSON

Mattson succeeds John F. Austen Jr., who was elected chairman of the board and chief executive officer. Mrs. Ruth R. Bettes, who was board chairman, becomes senior board chairman, and James Wooten becomes executive vice president. He had been senior vice president.

* Presented annually by Aubrey Costa, former president of Southern Trust & Mortgage Co. of Dallas. He is now chairman of the board.

HOMEBUILDERS' MORTGAGE MARKET QUOTATIONS

Reported to HOUSE & HOME in week ending June 16.

City	FHA Sec. 203b— Discount paid by builder			FHA 207 Apts., Discount 5¼%	Conventional Loan Rates			Construction Loan Rates
	FNMA x y 6%	Min.-Down* 30-year immed.w Private mkt.	Trend		Comm. banks, Ins. Cos. 75%	Savings banks, S&Ls 80%	Savings banks, S&Ls Over 80%	
Atlanta	4	3½-4½	Up 1	a	6½-7	6¼-7	7-7¼	7+1-2
Boston	3	4	Up 4	a	6	6¼-6½	a	6¼-6½
Chicago	3½	3-5	Up 2	a	6	6¼	6¼-6½	6½+1½
Cleveland	3½	4	Up 1	a	6¼-6½	6½	6½+1-2	6¼+1-2
Dallas	4	4	Up 1	a	6½	6¼-6½	6¼	6½-7+1
Denver	4	2-3	Up 1	a	6¼	6¼-6½	6¼	6½-6¼+1-2
Detroit	3½	2-2½	Up 1½	8½-9	6¼	6½	6¼	6¼+1
Honolulu	4	3½-4½	Up 1	a	6¾-7	7-7¼	a	7+1-2
Houston	4	3-4	Up 1	a	6½	6¼+1	6¼+2	6¼-7+1½
Los Angeles	4	4-4½	Up 2	a	6¼-6½	6¼-6½	b	6½-7+1-1½
Miami	4	4	Down ½	a	6½-6¼	6¼	6½	6½-6¼+2-3
Minn.-St. Paul	3½	1-3	Steady	8-9	6¼	6-6½	6½	6½+1
Newark	3	1-2	Down ½	8-9b	6+1	6+1	6+1-2b	7+1-2
New York	3	1-2	Up 1	8-9	6+1-2	6+1-2	6+2b	6½-7+1
Okla. City	4	2½-4	Up 1	a	6½-6¼	6¼-6¼+1	6½-6¼+1	6½-7+1½-2
Philadelphia	3	4	Up 2	a	6	6	6¼-6½	6½+1
San Fran.	4	4	Up 3	a	6¼	6¾-7	a	6½+1½
St. Louis	4	3-4	Up 1	a	6¼-6¼	6¼-6¼+1	6¼+1	6½-6¼+1
Seattle	4	3-4	Up 1½	a	6¼	6¾-7	7-7¼	7
Wash., D.C.	3½	4-5	Up 2	a	6½+1-2	6½+1-2	a	6¼+1-2

* Immediate covers loans for delivery up to three months, future covers loans for delivery in three to twelve months.

• Quotations refer to prices in metropolitan areas, discounts may run slightly higher in surrounding towns or rural zones.

• Quotations refer to houses of typical average local quality.

• 3% down on first \$15,000; 10% of next \$5,000; 25% of balance.

Footnotes: a—no activity, b—limited activity, c—Net yield to investor of 6% mortgage plus extra fees, w—for comparable VA loans also, x—FNMA pays ½ point more for loans with 10% y—discounts quoted are net after seller pays ½% marketing fee and ½% adjustment for stock purchase. Seller must pay 1% of mortgage for stock calculated in \$130 units, of which \$30 is contribution to FNMA capital and \$100 is for a share trading at about \$72.

Sources: Atlanta, Robert Tharpe, pres., Tharpe & Brooks Inc.; Boston, Robert Morgan, pres., Boston 5½ Savings Bank; Chicago, Robert H. Pease, pres., Draper & Kramer Inc., and Robert H. Wilson

pres., Percy Wilson Mortgage & Finance Corp.; Cleveland, David O'Neill, vice pres., Jay F. Zook, Inc.; Dallas, M. J. Greene, pres., Southern Trust & Mortgage Co.; Denver, Clair A. Bacon, pres., Mortgage Investments Co.; Detroit, Sherwin Vine, vice pres., Citizens Mortgage Co.; Honolulu, H. Howard Stephenson, vice pres., Bank of Hawaii; Houston, Everett Mattson, vice pres., T. J. Bettes Co.; Los Angeles, Christian M. Gebhardt, vice pres., Colwell Co.; Miami, Lon Worth Crow Jr., pres., Lon Worth Crow Co.; Minneapolis-St. Paul, Walter C. Nelson, pres., Eberhardt Co.; Newark, William W. Curran, vice pres., Franklin Capital Corp.; New York, John Halperin, J. Halperin & Co.; Oklahoma City, B. B. Bass, pres., American Mortgage & Investment Co.; Philadelphia, Robert Irving, vice pres., First Pennsylvania Banking & Trust Co.; St. Louis, Charles A. Keller, vice pres., Mercantile Mortgage Co.; San Francisco, John Jensen, vice pres., Bankers Mortgage Co. of California; Seattle, Kirby D. Walker, vice pres., Continental Mortgage Co.; Washington, James C. Latta, Sr. vice pres., Associated Mortgage Cos. Inc.

What builders should know about Kwikset Entrance Handle Sets.

Today's homebuyer is looking for more value and styling in housing. Kwikset Entrance Handle Sets are the economical way to show quality the moment prospects enter your models.

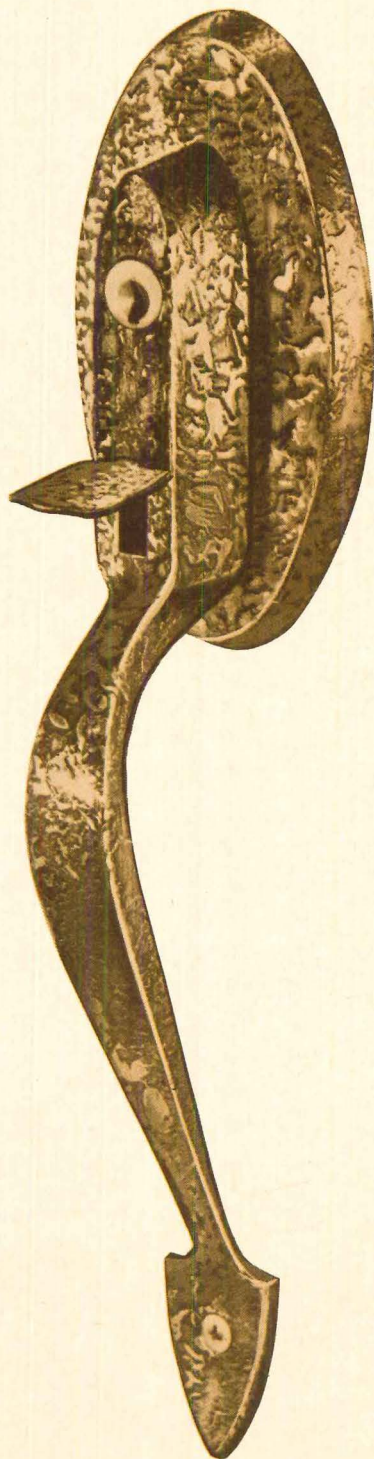
Kwikset Entrance Handle Sets make a lasting first impression.

Buyers are conditioned to the idea that this type of lockset is used only on higher-priced homes. But by using these distinctive sets, you can drive home the fact that *luxury* and *value* can also be found in reasonably priced homes.

Kwikset Entrance Handle Sets are versatile. Eight interior knob designs, including the *new* Facet and Grecian, are now available to match the inside Entrance Handle Set knob with every other lockset function. Dummy sets for double doors are also available.

Kwikset Entrance Handle Sets are easy to install. They are the *only* ones that can be installed in *exactly* the same time- and money-saving manner as other Kwikset locksets. You can even use the same installation tools.

Kwikset Entrance Handle Sets feature improved performance. The interior mechanism has



been completely redesigned for smoother, more trouble-free performance. The pin-tumbler security and the extra safety of the rugged deadlatch provide maximum protection for homeowners. And, like all Kwikset products, they are fully *guaranteed*.

Kwikset Entrance Handle Sets enhance your architecture. The sleek curve of the handle and the decorative rosettes will beautifully complement any style of exterior design. Handle Sets are also the ideal replacement locks for remodeling or modernizing.

Kwikset finishes increase the look of elegance. Kwikset Entrance Handle Sets are now available in a selection of 11 *rich* finishes, including the distinctively different antique and etched.

A Kwikset Entrance Handle Set, shown here with the new oval rosette in etched bronze, will create that important lasting first impression on your prospective buyers.

kwikset  **locksets**

America's Largest Selling Residential Lockset

Kwikset Sales and Service Company Anaheim, California A Subsidiary of Emhart Corporation

Three Wall Street firms channel money into homebuilding

The three have already brought \$70 million into homebuilding-equity deals, and they will provide more. They are Lazard Freres & Co., Kidder Peabody & Co. and Eastman Dillon, Union Securities & Co.

Wall Street has for months been buying heavily in the common stocks of homebuilding, land-development and mortgage-finance companies (NEWS, Mar.). The swing of the three investment banking houses into actual equity participation amounts to yet another sign of interest by the investment community in the building industry's prosperity potential.

Trend setter in New York. Lazard Freres has just disclosed that its wholly owned subsidiary, Longstreet Equities, will co-sponsor New York City's most exciting new project, a complex of 1,450 apartments to be built atop piles in the East River. Longstreet will arrange the financing for the \$42-million development, to be called Waterside, and will hold the lease from the city for the underwater land. The other sponsor is the HRH Construction Co.

Waterside will have four towers and 48 townhouses and will rent to poor and to rich at rates from \$18 to \$60 a room. It is described by the architectural critic of *The New York Times* as "a trend setter in every sense of the term."

"This could be the city's first large-scale breakthrough from the norm of sterile housing cliches and arid open-space that

has been the bureaucratic or easy-profit formula," said the writer, Ada Louise Huxtable. "Waterside would be a standard-setting development for any waterfront city in the world."

Waterside's financing will combine federal mortgage-insurance programs and tax abatements under New York State's Redevelopment Companies Law. The developers would pay New York City \$400,000 a year in lieu of taxes and rent on the submerged land. The project would normally produce \$800,000 a year in realty taxes, so the developers will in effect pay no rent and receive a 50% tax abatement. They will be limited to a 6% return on investment.

Lazard Freres has sponsored several residential developments through subsidiaries. Along with Crocker Land Co., Ideal Cement Co. and David Rockefeller Assoc., it has set up a San Francisco subsidiary, called Westbay Community Assoc., to develop a residential-commercial complex in California's San Mateo County.

Renewing the West. Kidder Peabody Realty Corp., a subsidiary of Kidder Peabody & Co., has bought City Reconstruction Corp. from Kansas City redeveloper Lew Kitchen (NEWS, May). Under Kidder Peabody control, CRC will finish renewal projects in Los Angeles and Tulsa. CRC has \$22 million in the 13-acre Bunker Hill apartment job in Los Angeles and contemplates an ultimate investment of

\$50 million. It has \$6 million in the 2 acre Tulsa project and expects that reach \$25 million.

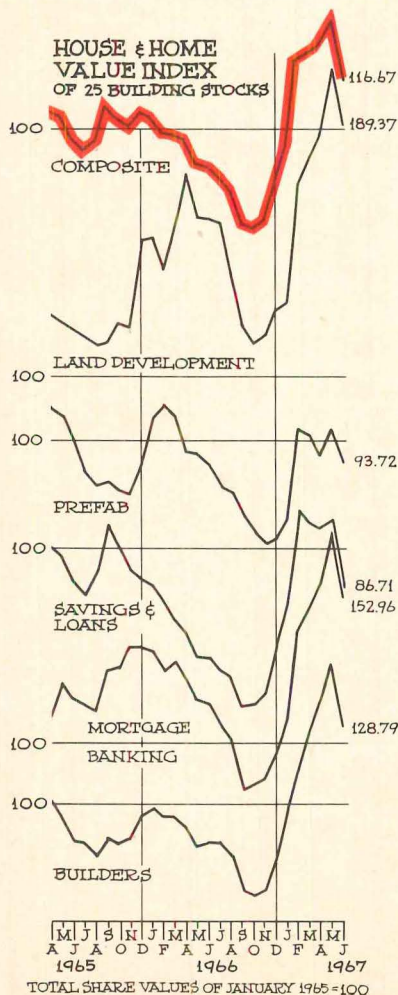
Kidder Peabody Realty has arranged equity and debt financing on a host of commercial properties.

New challenger. Eastman Dillon Union Securities & Co. has organized Eastdil Inc. to arrange for equity deals and mortgage financing for companies interested in real estate. Benjamin V. Lambert, 29, a general partner of Eastman Dillon, heads the subsidiary, which will have offices in New York, Beverly Hills and San Francisco.

Eastdil is oriented toward commercial construction, but it is helping to plan a 11,000-acre new town in San Jose for a population of 100,000 in the Santa Clara Valley of California. The joint developers are Oceanic Properties, the land-development subsidiary of Honolulu's Castle & Cook Inc., and San Francisco developer Harlan Geldermann. Eastdil also has \$10 million in The Cove, a spectacular apartment project built by Associated Contractors at Tiburon, off San Francisco Bay.

Eastdil owns 7 million sq. ft. of space in various regional shopping centers, as well as several industrial properties. It was organized to fill the void left when Eastman Dillon relinquished control of its former mortgage-financing concern, Huron & Co.

continued on p. 10



HOUSING'S STOCK PRICES

COMPANY	June 5 Bid/Close	Chng. Prev. Month	COMPANY	June 5 Bid/Close	Chng. Prev. Month	COMPANY	June 5 Bid/Close	Chng. Prev. Month
BUILDING			Trans World Fin. ^e	8 3/8	- 1 3/8	Gulf American ^b	10 3/4	- 3/8
Capital Bldg. (Can.)	45 1/2	- 10 1/2	Union Fin.	6 1/2	- 3/8	Holly Corp. ^b	1 1/2	+ 1/8
Cons. Bldg. (Can.)	1.25	- 15 1/2	United Fin. Cal. ^e	9	- 3	Horizon Land	6 1/2	- 1/2
Dev. Corp. Amer.	1/2	+ 1/4	Wesco Fin. ^e	16 1/2	- 5	Laguna Nig.	3 3/4 ^d	- 1/4
Edwards Inds.	1 1/2	nc	MORTGAGE BANKING			Lake Arrowhead	8 3/4	- 1/4
Eichler Homes ^b	1 1/4	- 15 1/2	Advance	8 3/4	+ 3/8	Major Rlty.	50 1/2	- 25 1/2
First Hartford Rlty.	6 1/2	- 1 3/8	Associated Mtg.	6 1/2	- 1/4	McCulloch Oil ^b	11 1/2	- 1 1/2
First Nat. Rlty. ^b	1 1/2	- 1/8	Charter	2 3/4	+ 1/4	So. Rlty. & Util. ^b	2 1/2	nc
Frouge	3 1/2	nc	Colwell	12	+ 1 1/4	Sunasco ^c	11 1/2	- 1/4
General Bldrs. ^b	16	- 3/4	Cont. Mtg. Inv. ^e	35 1/2	- 2 1/2	DIVERSIFIED COMPANIES		
Kaufman & Bd. ^{bx}	23 3/4 ^d	- 1 3/8	Cont. Mtg. Ins.	7 1/4	- 2 1/4	City Invest. ^e	62 1/4	- 14 3/4
Lou Lesser Ent. ^d	2 1/2	+ 1/8	FNMA	68	- 4 1/2	Rouse Co.	11 1/4	- 3/4
Nationwide Homes	2 1/2	+ 1/8	First Mtg. Inv.	16 1/4	- 2	Tishman Rlty. ^e	26	- 1 1/4
Pres. Real. A. ^b	9 3/4 ^d	+ 1/8	Kissell Mtg. ^b	4 1/4	- 1 1/8	MOBILE HOMES		
Sprout Homes	1 1/2	- 1/4	Lomas & Net. Fin. ^e	3 3/4	+ 1/2	Con Chem Co.	11 1/2	- 1/4
U.S. Home & Dev.	1	- 1/4	MCI ^c	38 3/8	- 9 3/4	Divco-Wayne ^c	3 1/2	- 3/8
J.M. Walter ^e	27	- 6 3/4	Mortg. Assoc.	4	- 3/8	Guerdon ^b	5 3/4 ^d	- 1 1/2
Del. E. Webb ^e	3 1/4	- 3/8	Palomar Mtg. Inv.	2 1/4	- 1/8	Redman Indus. ^b	6 1/2	- 1/4
PREFABRICATION			Southeast Mtg. Inv.	4 3/4	- 1/4	Skyline ^b	19 3/4	- 4 1/4
Admiral Homes	1/4	- 1/4	United Imp. & Inv. ^b	4 3/4	+ 1/4	a—stock newly added to table. b—closing price ASE. c—closing price NYSE. d—traded on date quoted. g—closing price MSE. h—closing price PCSE. k—not available. —Figures in HOUSE & HOME's 2 stock value index. x—adjusted for 2-for-1 split. y—tender offer. z—trading temporarily suspended by SEC.		
Albee Homes	1 3/4	- 1/2	LAND DEVELOPMENT			Sources: New York Hanseatic Corp., Gairdner & Co., National Assn. of Security Dealers, Philip Beer of Russell & Sax American Stock Exchange, New York Stock Exchange, Midwest Stock Exchange, Pacific Coast Stock Exchange. Listings include or companies which derive a major part of their income from housing activity and are actively traded.		
Continental Homes	3 3/8	nc	All-State Prop.	31 1/2	- 1 1/2			
Inland Homes ^b	4 7/8 ^d	+ 1	American Land	1	- 1/8			
Modern Homes	1 3/4	- 1/2	Am. Rlty. & Pet. ^b	7 1/2	- 3/8			
Natl. Homes Ass.	3 3/8	- 3/4	Arvida	6 3/4	- 1 1/2			
Scholz Homes	3 3/8	- 3/4	Atlantic Imp.	18 1/4	+ 1 1/4			
Steel Crest Homes	(2)	- 1/4	Canaveral Intl. ^b	7 1/2	+ 1/8			
Swift Industries	2 3/4	- 1/4	Christiana O. ^b	3 3/8	- 1/8			
S&Ls			Cousins Props.	15 1/4	- 1/4			
American Fin.	15 1/2	- 1 1/4	Crawford	3	- 1/4			
Calif. Fin. ^e	5	- 1 1/4	Deltana Corp. ^b	14 1/8	+ 3/8			
Empire Fin.	7 1/2	- 1 1/4	Disc Inc.	1 1/2	- 1/4			
Equitable S&L	14 1/2	- 3	Fla. Palm-Aire	1 3/4	+ 1/8			
Far West Fin. ^e	8 1/2	- 3/4	Forest City Ent. ^b	5 1/4 ^d	- 1/2			
Fin. Fed. ^e	15 1/8	- 4 3/8	Garden Land	4 1/4	- 1/4			
First Char. Fin. ^e	21	- 6 1/4	Gen. Devel. ^e	9 1/2	- 2			
First Fin. West	5 1/4	+ 2 1/2						
First Lincoln Fin.	7	- 2						
First Surety	3 3/4	- 1 1/4						
First West Fin. ^e	3 1/4	- 1/8						
Gibraltar Fin. ^e	14 1/8	- 3 3/8						
Great West. Fin. ^e	11 3/8	- 3						
Hawthorne Fin.	7 1/4	- 3/4						
Imperial Corp. ^e	6 1/2	- 1 3/8						
Lytton Fin. ^e	6	- 1/2						
Midwestern Fin. ^b	3	- 3/8						
Trans-Cst. Inv.	2 1/4	- 3/8						

SHORT-TERM BUSINESS LOAN RATES

Average per cent per year	N.Y. City	8 North Central Cities	8 South-west Cities	4 West Coast Cities
LOAN SIZE (000)				
\$1-9	6.55	6.80	6.65	7.26
\$10-99	6.49	6.65	6.50	6.90
\$100-499	6.08	6.39	6.27	6.49
\$500-999	6.89	6.17	6.13	6.27
\$1,000 up.	5.90	5.92	5.95	6.03

Source: Fed. Reserve, new series. February, 1967.



Quality construction marks the 3,000-home Pineridge Estates development—now 80% complete. Floor plans range from 3 bedrooms with 1 bath to 5 bedrooms with 3 baths—selling for \$18,000 to \$25,000. *Builder*—Orrin Thompson Homes, Minneapolis *Architect*—Peterson, Clark, Griffith, Inc., Minneapolis *Plumbing Contractor*—Murr Plumbing, South St. Paul

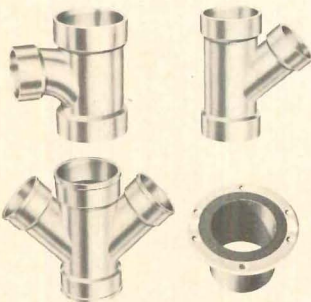


ANOTHER VALUE BUILDER

Building a 5-bedroom 3-bath home for \$25,000 calls for astute use of many "value builders" by the contractor. Plastic DWV with GSR fittings was one of the important value builders installed by Orrin Thompson Homes in their Pineridge Estates development in Cottage Grove, Minnesota, a suburb of St. Paul.

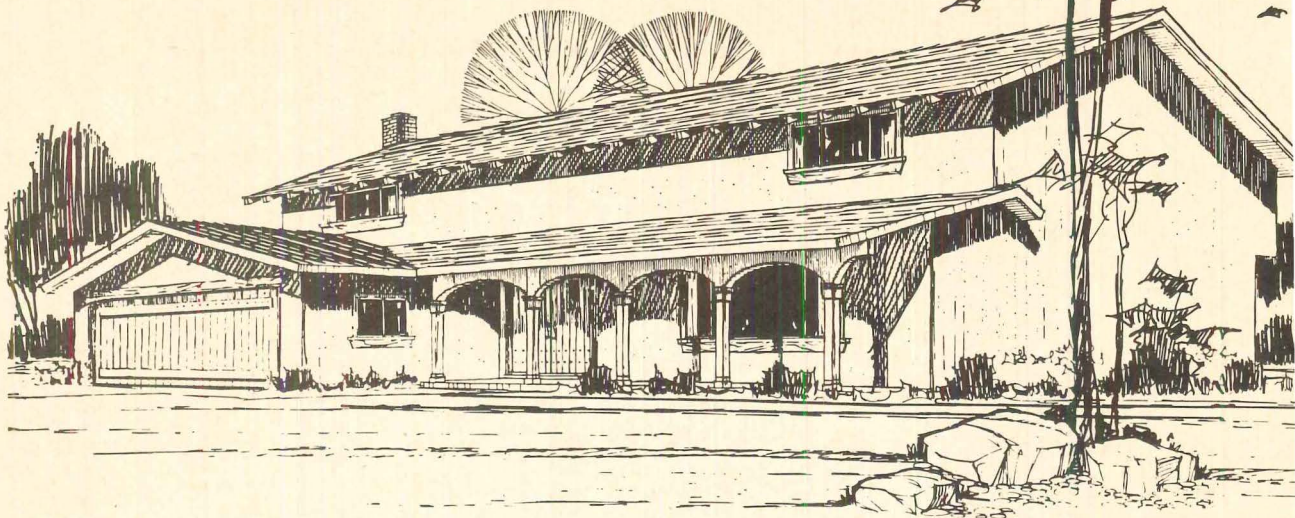
"I'm convinced that the use of plastic DWV increases the value of the homes we build," says contractor Orrin Thompson. "Yet our saving in installation time and material cost is substantial"

Total resistance to rust, corrosion, and soil chemicals assures long service life in plastic DWV. With precision molded, top quality GSR fittings, it can be installed much faster than conventional materials. To increase value while you reduce costs, ask your plumbing contractor for plastic DWV—with GSR fittings, the most complete line in the world. R. & G. SLOANE MFG. DIV., ATLANTIC RESEARCH CORP., 7606 N. Clybourn Ave., Sun Valley, Calif. 91352.

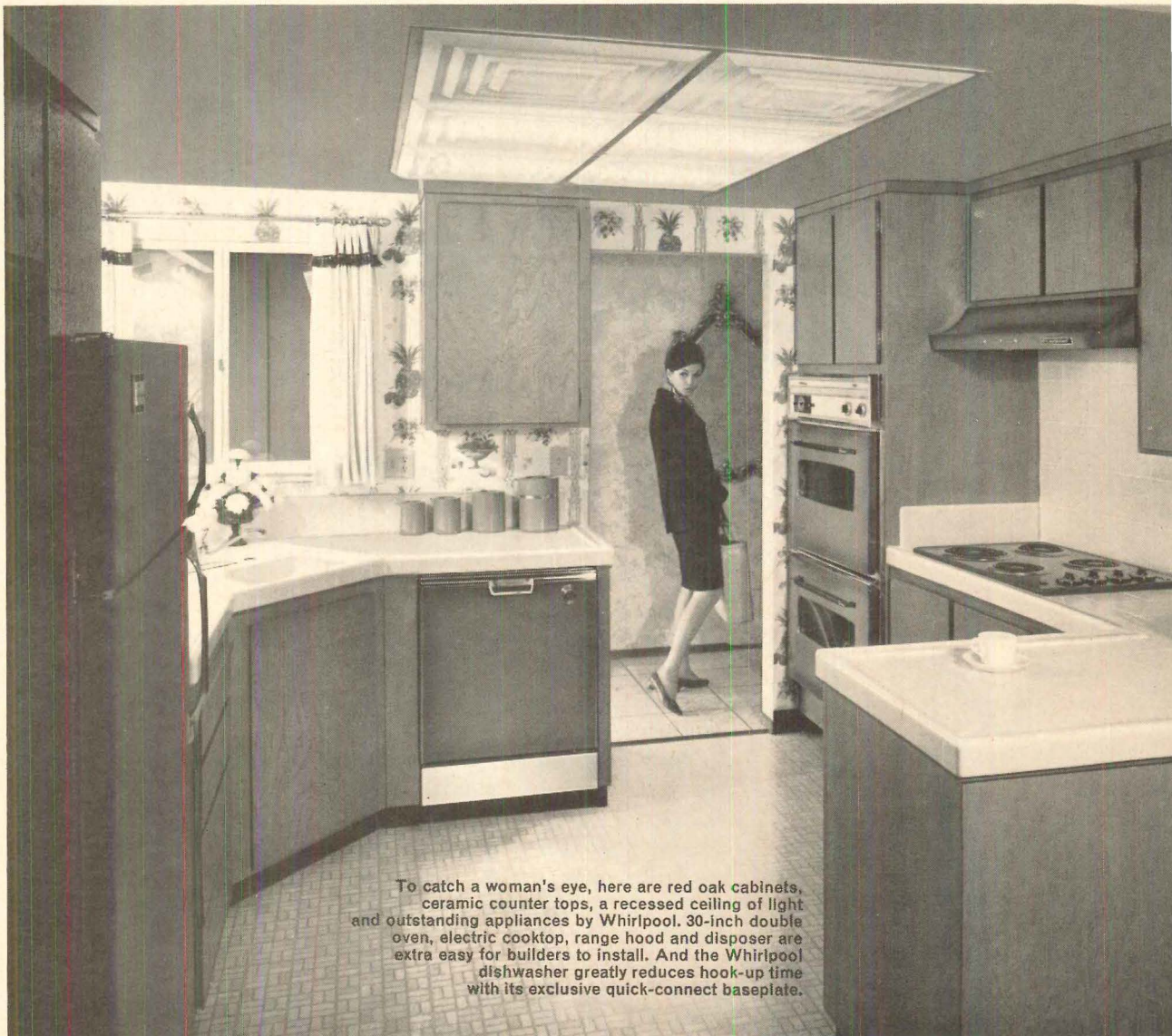


PLASTIC PIPE FITTINGS

Country living within convenient reach of San Francisco and Oakland is offered at Parktown in the northeast area of the beautiful Santa Clara Valley. Comfortable hacienda design predominates. The elegant four-bedroom San Gabriel model shown here is priced at \$24,400.



Parktown... 520 acres of carefree



To catch a woman's eye, here are red oak cabinets, ceramic counter tops, a recessed ceiling of light and outstanding appliances by Whirlpool. 30-inch double oven, electric cooktop, range hood and disposer are extra easy for builders to install. And the Whirlpool dishwasher greatly reduces hook-up time with its exclusive quick-connect baseplate.

Living...with Whirlpool appliances

Parktown, a 65 million dollar planned community in California's Santa Clara Valley, has everything for pleasant living!

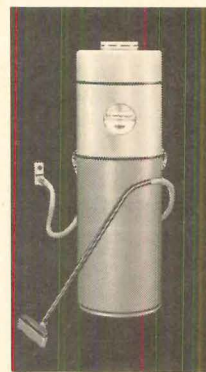
A network of parks running through its 520 acres will eventually contain five schools and a shopping center . . . along with picnic areas, playgrounds, tennis clubs, etc. The attractive homes contain every convenience, too, with deluxe appliances by Whirlpool.

All model homes in this community feature Whirlpool 30-inch double ovens. Other Whirlpool built-ins include Whirlpool dishwashers and food waste disposers. Even the new Whirlpool central vacuum system, the Jack-Vac shown at right, is offered as an option.

Developers Arthur J. Sassone and Vincent Schaefer, "Our decision to feature Whirlpool appliances is in line with our policy of offering the homeowner top value for his dollar.

New Jack-Vac adds interest and extra profit

Buyers in Parktown can have their homes equipped with the very newest built-in . . . Whirlpool's unique Jack-Vac. This true central vacuum system means no messy dust bags to empty, no cords to trip over, no machinery to pull around. The flexible hose simply plugs into one of the wall jacks. A wet system is available that even picks up scrub water. *You can pre-condition your homes for Jack-Vac installation with a builder package that costs only \$5.00!* Ask your Whirlpool distributor about this special deal.




HOME APPLIANCES

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. . . deal with one man . . . so you get undivided responsibility and service.

Seattle—where builders show you how to cope with a boom

Boom is a controversial word in Seattle.

The Chamber of Commerce likes it, insisting that no other term describes what has happened because of the unprecedented hiring by the Boeing Co., Seattle's Mister Big.

But homebuilders don't like it, for boom also suggests bust. They remember the bust of '64 that followed the World's Fair boom of '62, and they are trying to flatten out the current housing boom so that it will continue strong for a decade.

The builders are succeeding, at least in part. The result: a new stability in Seattle construction, plus some practical lessons for an industry that may soon be surprised with other housing booms in other cities.

Specter of overbuilding. Apartments are leading the Seattle race, with 5,838 units authorized by permits last year. That was twice as many as in 1965, and the rate of gain continues into 1967. Estimates for the year run from 7,000 to 9,000, and the industry is already seeking ways to avoid overbuilding some districts.

Apartments are favored over single-family houses because many new Boeing wage earners cannot qualify for an FHA loan. As their incomes increase, however, they are expected to become homebuyers—many as early as next year.

Single-family permits reached 7,458 last year, well above the 5,436 in 1965 and the 4,408 in 1964. First-quarter permits this year fell 38 short of the 1,982 in the same period of 1966, but April's and May's figures should bring this year's rate into the lead.

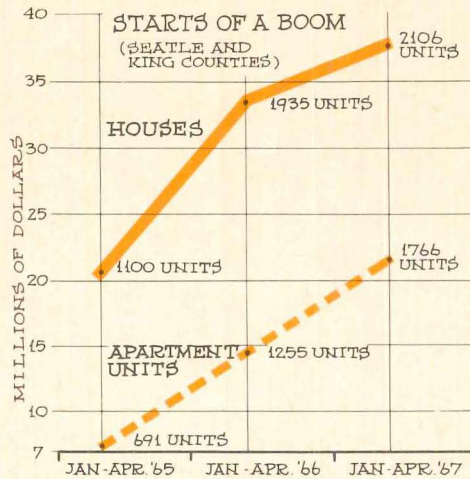
Executive Vice President A. J. Martineau of the Seattle Master Builders Assn. expects to see 17,000 starts this year. If the 1966 ratio of apartments to houses holds, the area would get 10,000 houses. That would be well above the records of 8,854 in 1959 and 8,709 in 1962.

Peak-out? Industry consultant H. DeWayne Kreager is even more optimistic. He expects 19,000 starts and believes the figure might even reach 22,500.

"By national standards we certainly are having a housing boom," says Kreager. "This is the only metropolitan area to show gains for both single- and multiple-family housing during the first quarter as compared with the same period of 1966."

Kreager and other observers expect a peak-out this year but they see a strong demand, particularly for single-family houses, for a decade. Boeing employment is projected at a steady 90,000 for most of that time, as workers engaged on the 707-through-737 series of planes shift first to Boeing's model 747 and then to the giant supersonic transport (SST). So Kreager anticipates a need for 15,000 to 18,000 housing units a year.

The new stability. This sort of stability is a new experience for Boeing, whose employment fell below 60,000 in 1963 with cancellation of the Dynasoar space program. Several thousand engineers were transferred to Boeing installations in



the South and Midwest, their vacant homes depressing the market to the point where some key builders fled the area. And Boeing suffered another blow the next year when it lost a prized military plane contract to Lockheed. This actually led to the present boom, however, as Boeing converted plans for the military plane into blueprints for the model 747 commercial plane. Orders have been so heavy that employment totals are assured for years.

Although it is adept at building planes, Boeing nearly panicked two years ago at the problem of finding 10,000 homes for its new employees. It was ready to set up trailer camps until real estate interests convinced the company that existing housing would meet much of the need. This has proved true, although vacancy rates have dropped to near-zero.

Boeing operated its own housing listing service last year, finding listings for 15,000 applicants until it became convinced the problem was solved.

Lessons for tomorrow. Apartment construction to meet a temporary need is one way that Seattle are builders seeking to flatten the boom. Another has been a campaign to sell residents on the desirability of trading up to better new houses, thus making their more modestly priced older homes available to new residents.

Builders, bankers and suppliers have organized the Puget Sound Better Housing Council, directed by Realtor William MacPherson and Builder Dan Narodick, to press the drive.

The council spent \$30,000 advertising in the tight money market of 1966, and it will spend more if the new tightness in credit prevails. Partly as a result of this

effort, realty transfers for the first four months are 41% ahead of last year.

One major factor in meeting demand has been the entry of California builders in the Seattle market. Some, like the SM Construction Co., which is building 60 apartment units for Seattle, have deserted California. Others, like the American Housing Guild, have merely set up Seattle branches. AHG is building 100 houses in the Puget Sound area.

A changing scene. The boom has wrought several changes. Seattle mortgage companies have had things their own way so far, but competition is coming. Advanced Mortgage of Detroit is reported on the verge of opening a Seattle office, and the giant T. J. Bettes Co. of Houston is also said to be eyeing Seattle.

Building management in Seattle also has a sophisticated new look, typified by Be & Valdez. For years the biggest Seattle homebuilder (until its original owners went into land development), the company is now a subsidiary of Transamerica Corp. California's mighty supermarket of finance. Transamerica's management has installed Oscar Berry, formerly with its Oakland Calif., operation, as president of Be & Valdez. He says he will build 40 houses a month beginning in July.

"Perhaps this isn't quite the old boom but it's awfully good," he says with the sure smile of a builder who knows a good thing.

—RAY BLOOMBERG

At last—a big step toward a unified building code

The first draft of the structural section of a nationally unified code for one- and two-family houses will be ready for the December meeting of the National Association of Homebuilders in Chicago.

So promised the Building Officials Conference of America (BOCA) after its leaders huddled with officials of two other major code groups at the BOCA convention in Baltimore last month.

For years NAHB had prodded the three groups to develop a residential code for use anywhere in the country.

(The two others are the International Conference of Building Officials, the West Coast's model-code group, and the American Insurance Assn. A fourth major code group, the Southern Building Code Congress, is not involved.)

President Leon Weiner of NAHB ran a fast check for results last month and found virtually none (NEWS, June). So he warned in effect: Get to work, or we'll have a federal code thrust upon us.

The Baltimore convention took him up on his word. BOCA's leadership said afterward that agreement is also near on the plumbing, electrical and mechanical sections of a unified code. With delivery of the structural element in December, there would remain only the task of eliminating any conflicts between the parts.

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California, here it comes—with a big upturn in housing

Exuberant leaders of the Pacific Coast Builders' Conference now swear that California's housing starts in 1967 will run well beyond last year's 102,000 and that 1968 will bring a 100% gain—to 220,000.

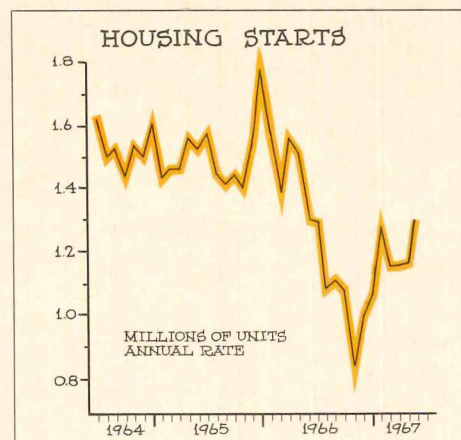
That would spell an impressive comeback for the trend-setting state that normally builds one of every five new American homes. California suffered the nation's severest residential building decline in the mortgage squeeze of 1966.

The recovery might come even faster but for the fact that California's municipalities impose an unusually long lead time on their builders. It takes 12 to 18 months to win the approvals and permits requisite to the ground-breaking for a single-family subdivision. Start-up time on apartments runs six to nine months.

More than 1,200 builders jammed the plush Fairmont Hotel atop San Francisco's Nob Hill for the PCBC's annual meeting. Most seemed to agree with their leaders' predictions of a 1968 boomlet, and many pointed to a strong new resale market for older houses as a contributing factor.

The big D—demand. One reliable statistic lends further support to California's optimism. One of housing's most widely respected economists, Conrad Jamison of Security First National Bank of Los Angeles, puts the state's housing demand at 225,000 units a year. The industry will build only half of that this year, which means that inventory should virtually disappear.

The Bank of America, the world's largest with \$16½ billion in assets, is still betting on the California recovery even though the mortgage market has turned



MAY'S STARTS LEAP 11.7%

May's housing starts rose to an annual rate of 1,310,000 from April's revised rate of 1,173,000. That took starts almost up to the 1,318,000 pace of May 1966.

Permits rose less sharply, to a rate of 1,046,000 from April's 1,028,000.

"It was much better than we were looking for," said economist George Christie of F. W. Dodge Co. (construction data).

The rise would have been even better news had it not been overtaken by an increase in mortgage rates (see p. 10).

toward more expensive money. Vice President Charles E. McCarthy, in charge loan origination in the state, continues pay par for FHA-VA mortgages despite the retreat of most other mortgage houses a price of 96.

Gov. Ronald Reagan urged private builders to find new ways of tapping the low-cost house market to make sure boom lasts. Of federal programs he said: "We don't believe they are the answers to your problems or those of low- and middle-income families."

Conference sidelights. The conference heard news of the agreement between the Building Contractors' Association of California and the HBA of Los Angeles, Orange and Ventura Counties to merge into a united Building Industry Association of California. The consolidation won approval of 80% of the combined membership of 2,000. A two-thirds vote was needed.

The Home Builders Council of California, legislative arm for the state's residential building industry, decided to intensify its effort to amend the state's new park-dedication law, under which government bodies can require builders to contribute private property, without compensation, for public parks in or near housing developments. The council contends that the law subjects new-home buyers to a public-parks tax that is not borne equally by the remainder of the body politic.

—RICHARD W. O'NEIL

Supreme Court tells California: You can't legalize bias

The court has ruled that the state's voter-approved Proposition 14 was unconstitutional because it encouraged racial discrimination by property owners.

The 5-to-4 decision also held that the amendment to the state constitution amounted to racial discrimination by the state itself.

The opinion by Justice Byron R. White declared that the amendment went beyond mere repeal of the state's anti-bias Rumford Fair Housing Act of 1963.

Thus the high court in effect left open the question of whether it might uphold a simple repealer of the Rumford Act.

Proposition 14 was approved, 2-to-1, by California voters in 1964 (News, Dec. '64) in the form of an initiative, which can be reversed only by a subsequent vote of the people.

New attack. The court's scrapping of Proposition 14, which had the vigorous support of the state's real estate interests, intensified efforts by the California Real Estate Association to have the Rumford Act repealed by the state legislature in Sacramento.

"If the Assembly does not act . . . we will probably have to support a movement to take the issue back to the people through an initiative," says Association president Reed Robbins.

In speaking for the majority of the Supreme Court, Justice White declared Proposition 14 amounted to racial discrimination by the state and thus violated the 14th Amendment to the United States Constitution.

The California amendment, he said, not only extended beyond repeal of the state's fair housing legislation but created "a constitutional right to discriminate on racial grounds in the sale and rental of real property."

The minority disagreed. It found no cause to believe the section would have encouraged discrimination. The dissent held that Proposition 14 had merely moved the state back to a neutral position on housing.

Mixed reaction. As the smokescreen of legalities enveloping the conflict of civil rights versus property rights grew thicker, the court's action evoked different views. Justice John M. Harlan, for example, felt the decision could hinder anti-discrimination efforts:

"Opponents of state anti-discrimination statutes are now in a position to argue that such legislation should be defeated because, if enacted, it may be unrepeatable."

Justice White refrained from implying that states must effect anti-bias laws. Open-occupancy advocates have argued that a

state's failure to pass such laws constituted discriminatory state action. Whether the court's decision moved in this direction remains to be seen.

The justice also skirted another murky aspect of the controversy: When does private discrimination become part of public policy, subject to national policies?

"This court has never attempted the 'impossible task' of formulating an inflexible test for determining whether the state in any of its manifestations has become significantly involved in private discriminations," he said.

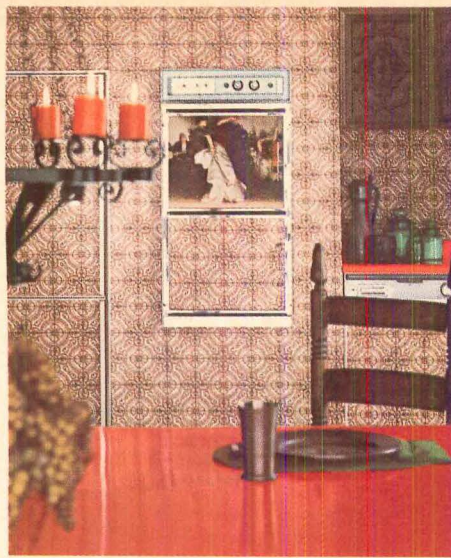
Other states. While the court's most recent opinion does little to clear up the controversy, it did affect various efforts of other states to follow California's example of a popular referendum on the issue. In the best, such efforts must be finely drawn to be constitutional.

Such efforts are having limited success. A Maryland campaign to force a referendum was ruled invalid on a technicality. A drive to repeal Washington state's recently enacted anti-bias law is "faltering badly," says Mary Beth Bryan, chief of the state real estate licensing division.

But in Illinois, opponents of anti-bias laws have succeeded in persuading the State Senate to bottle up eight pending measures.



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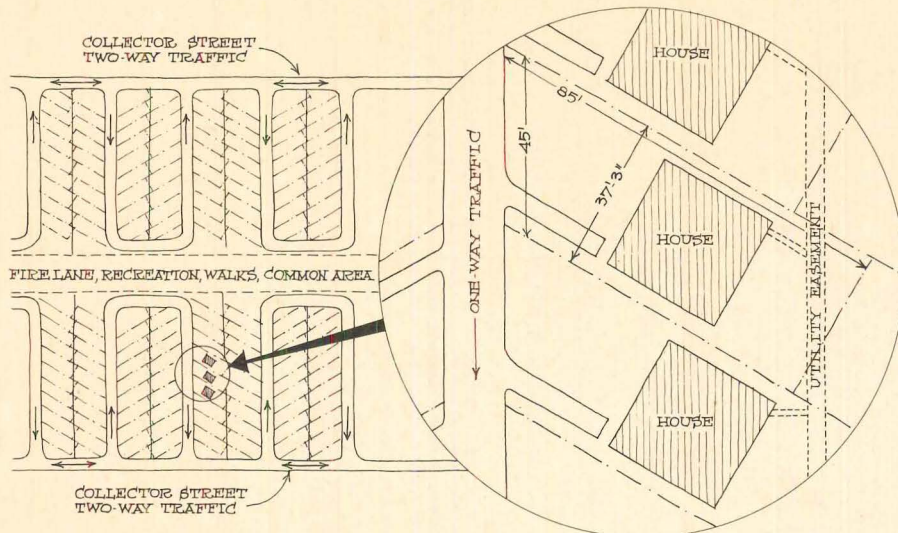
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ANGLED LOTS encourage the staggered houses shown here in FHA's new modular-site concept for

\$10,500 houses. Two cars could park in slanted driveway, with one other parking space on street.

FHA's plan for the low-income housing market: staggered houses, angled lots, narrow streets

The sketch above shows how FHA hopes to persuade builders to accommodate the low-income buyer's basic desire to own a detached single-family house.

The homebuilding industry's greatest untapped market is among families that cannot afford to spend more than \$10,500 on a house. Yet rising land costs usually rule out a house in that low range.

So FHA has come up with this land-saving layout for \$10,500 houses staggered on tiny lots along narrow one-way streets.

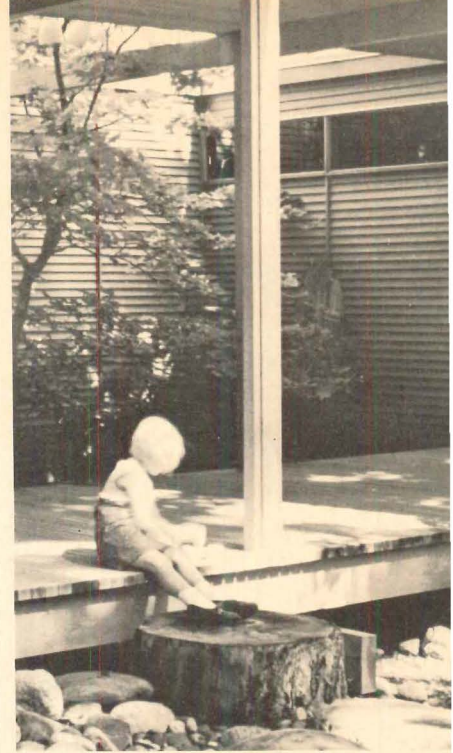
How it works. FHA calls the basic unit a module. The houses on both sides of any one-way street, plus the looping street itself, form the module—the basic land-plan unit out of which an entire neighborhood can be built. Each module includes or

abuts on a common recreational area.

Conventional two-way collector streets feed the residential modules, as in the sketch above.

The executive director of the American Institute of Planners, Robert Williams, describes the new plan this way: "It's a combination of small-lot subdivision techniques of the 1940s with the slanted lots and one-way streets developed in trailer parks and the common-ground idea of townhouse developments."

Density and costs. The lots would run about 5,000 sq. ft. FHA's model lot is 37.3' wide and 58' deep. The agency figures costs this way: an 800-sq.-ft. house, \$8,000; closing costs, \$937; site development, \$1,563.



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House & Home, March 1966

They're engaged: Atlas Credit (money) and Sunset Pet. (land)

After three months of courtship, Atlas Credit Corp. of Philadelphia and Sunset International Petroleum Corp. of Los Angeles have agreed on housing's biggest marriage of convenience in this decade. They will unite as a new concern, as yet unnamed, to form housing's biggest operating company with assets of \$276 million, stockholders' equity of \$40 million, and fiscal 1965 earnings of \$7.5 million. The deal is a stressed financial



WOLGIN



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fabber (NEWS, June) and State Mortgage Co. of Los Angeles.

Sunset, a petroleum company turned community developer, is building planned communities on 25,771 acres in eight different locations near San Francisco, Los Angeles, and Sacramento. About 70% of its sales come from real estate. The company has been able to generate considerable cash because its income is

Well, they married—and now they're divorcing

Sunasco Inc. of Beverly Hills is selling Sunset International Petroleum Corp. and getting out of California land development and building.

Only a year ago J. L. Wolgin's Atlas Credit Corp., a Philadelphia financial and mortgage-banking combine, merged with Sunset, the Beverly Hills real estate developer, to form Sunasco. Now the directors of Sunasco have approved terms to sell their subsidiary to Canaveral International Corp. of Miami for \$26.5 million in stock.

A. Bruce Rosette, financial vice pres-

ident and secretary of Sunasco, will head the merged concern.

Sunset owns 25,000 acres in California's key metropolitan areas, but its net income of \$6.2 million for the year ended Sept. 30, 1966, was down sharply from the \$7.4 million of 1965.

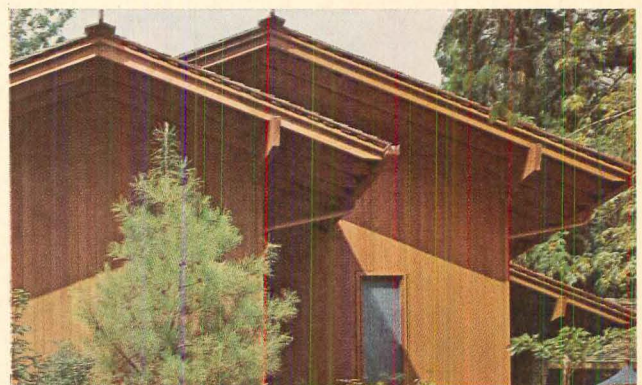
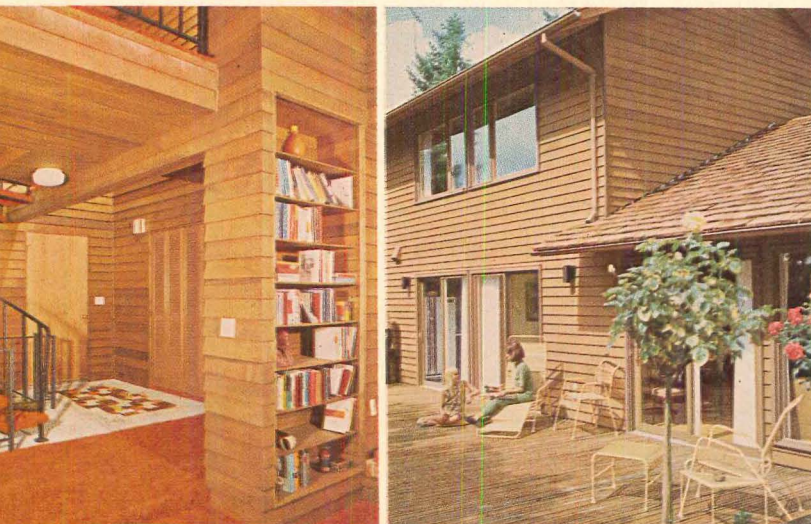
On completion of the transaction with Sunasco, Daniel Dubbin will replace his brother Henry as Canaveral's chairman. Henry and six associates have been indicted by a federal jury in New York on charges of conspiring to manipulate the price of Canaveral stock.

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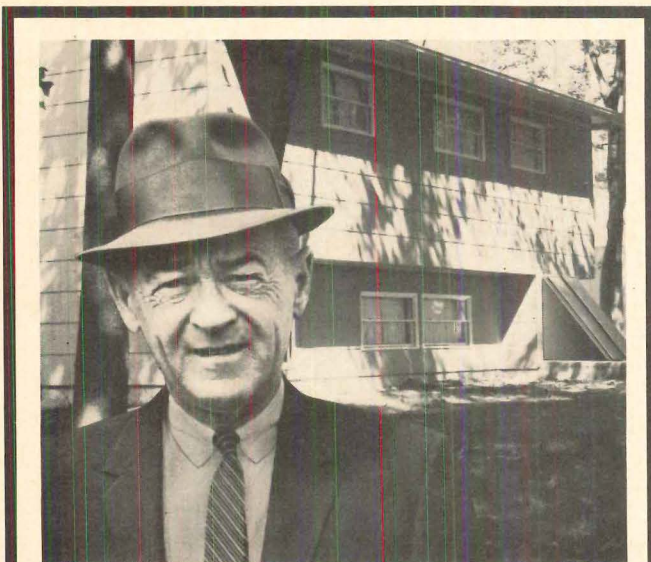


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Largest plumbing maker enters homebuilding field in California

President **William D. Eberle** is taking American Radiator & Standard Sanitary Corp. of New York City into a joint venture with **William Lyon's** Luxury Homes of San Jose and the Janss Corp. of Los Angeles, owned by **Edwin and Bill Janss**.

The nation's largest plumbing manufacturer (\$570 million sales in 1966) has put up \$2 million to buy into Potrero Homes, the Lyon-Janss partnership. Each principal will now own one-third.

The original partnership built 400 houses in the Potrero Valley of California's Ventura County. The new venture will concentrate on a nearby 1,100-acre site at Thousand Oaks-Conejo Valley, where plans call for 100 commercial buildings and 4,500 single-family FHA-VA houses in the \$19,000-to-\$27,000 range.

Janss developed Westwood Village in West Los Angeles. Lyon, president of the HBA of Los Angeles, Orange and Ventura Counties, has 10 subdivisions in California.



NEW BUILDER EBERLE
From fixtures to whole house

This is the first homebuilding operation for American-Standard which makes 85% of its sales the home-construction field. The company originally owned half Gulfstan Corp., an engineer-contractor that built water systems for public bodies and for some builders. American-Standard took full control when Gulfstan incurred heavy losses last year then phased out many of Gulfstan's operations.

West Coast's Mission Viejo is sold

James E. West, board chairman of southern California's Mission Viejo Co., has just bought the combined 80% in the company held by Donald L. Bren Assoc. and George A. Fuller Co.

West is the attorney for the O'Neill family trust, which held the remaining 20% of the Mission Viejo Co. The family owns the adjoining O'Neill Ranch of 53,000 acres. Bren Assoc. has headquarters in Newport Beach, Fuller in New York.

The Mission Viejo Co. has completed a golf course, shopping center and about 440

houses in two developments in the Mission Viejo tract, and plans to build another 1,000 houses. The Mission Viejo tract began on 1,500 acres purchased from the O'Neills, and the original plan was to expand to 11,000 acres. Parcels were sold to Dear Bros., which built 500 homes on its own land, and to build **Harlan Lee**, who put up 45.

West says **Philip J. Reilly**, executive vice president, will now head the Mission Viejo Co. **Donald Bren** headed the company for three years before the sale and planned the original community

New president named by the Del Webb Corp.

Robert H. (Bob) Johnson, 51, has been elected president of Del Webb Corp., one of the country's biggest residential and commercial building concerns.

Johnson is the third president of the firm he joined in Phoenix, Ariz., 32 years ago. He succeeds **Del E. Webb**, who continues as chairman and chief executive.

Del Webb's gross revenue in 1966 was \$166 million, with a net loss of \$761,668. This compares with revenue of \$130 million in 1965 and a net loss of \$13 million. (See page 74).

DEVELOPERS: **Clark A. Smith** has resigned as FHA director for Wyoming. He will manage Horizon Land's New Mexico development: Paradise Hills, a community of 2,500 near Albuquerque, and Rio Grande Estates, comprising 100 homes on the out-

skirts of Belen, 30 miles south of Albuquerque.

ASSOCIATIONS: **S. B. Phillip Jr.**, president of Central and South West Corp., has been elected president of the Electrical Heating Assn., an industry promotion group with 170 member companies. **Gordon H. Smith**, president of Albro Metal Products Corp., New York, has been reelected to a second term as president of the National Association of Architectural Metal Manufacturers.

DESIGNERS: **John Slayter**, who pioneered the space frame for sectional houses (H&H, Sep '62), has set up Slayter Assoc. to specialize in design and technical guidance for mobile-homes and relocatable-structures made by clients include Alcan Design Homes and U. S. Gypsum Co.



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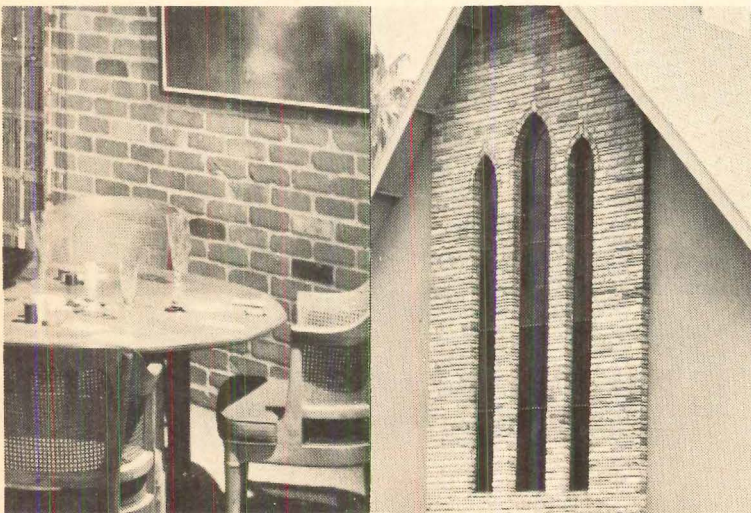
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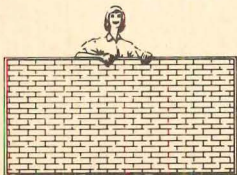
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Architects pick leader who pledges to press war on community ugliness

He is Robert L. Durham of Seattle, who took over the leadership of the 19,000-member American Institute of Architects at its New York convention last month.

Durham evolved the AIA's campaign against community ugliness, headed the task force that studied and set up the program and then served as program coordinator. Now he promises to continue the war on ugliness with "new phases of community action."

An urban and civic leader, Durham helped put across an ordinance establishing Seattle's municipal art commission. He has been a national vice president and chairman of the AIA's council of commissioners and was first vice president of the institute last year.



ARCHITECTS' DURHAM
A wider war on ugliness

Durham succeeds Charles I. Nes Jr. of Baltimore. George K. Kassabaum of St. Louis is the AIA's new first vice president, post that normally leads to the presidency.

Californian heads lumber group

Russell H. Ells, president and general manager of the Willits Redwood Products Co. in Willits, Calif., has been elected president of the National Forest Products Assn., the trade federation for the forest products industry.

Ells, 66, was chosen at a meeting of NFPA directors in Washington in May. He succeeds Gene C. Brewer of New York, president of U.S. Plywood-Champion Papers, who becomes chairman of the NFPA board.

An engineering graduate of the University of California at Berkeley, Ells is a director and past president of the California Redwood Assn., San Francisco. He operated a timber engineering business in the Willits area, then became plant manager for the Sage Land & Lumber Co. and later, with a partner, founded Willits Redwood. He has been in the forest industry 27 years.



LUMBER GROUP'S ELLS
From Western to national role

DIED: John Frank Pendergas, 62, director of FHA's San Francisco office since August 1962, died of a stroke May 31; Kenneth Kimball, 55, seasoning research specialist and dry-kiln engineer for the U.S. Forest Products Laboratory, Madison, Wis., May 4 of a heart attack.

Jack Irvine, 76, dies; headed mortgage firm

Jack Irvine, president of Western Mortgage Corp., died of cancer at his Los Angeles home on May 24. He was 76.

Irvine became president of the company in 1945 and helped build its servicing portfolio to \$1.3 billion. He sold his controlling stock interest to Chairman H. Leslie Hoffman eight years ago.

Western is the world's second largest mortgage banking house (behind T. J. Bettes Co. of Houston) and is the largest mortgage banker in California. It is the principal supplier on the West Coast for the Metropolitan Life Insurance Co.

Wendell C. Brock dies; builder in Sacramento

Wendell C. Brock, 50, Sacramento, Calif., homebuilder, died May 3 of leukemia. He was vice president of M. J. Brock & Sons, which has built more homes in the Sacramento area than any other builder. Brock, a past president of the Associated Home Builders of the Sacramento Valley, was a native of Los Angeles.

His father, Milton J. Brock, was president of the National Association of Home Builders in 1941 and established the homebuilding firm in 1938. The firm completed large residential developments in the Los Angeles area, then expanded into homebuilding in the Sacramento market.



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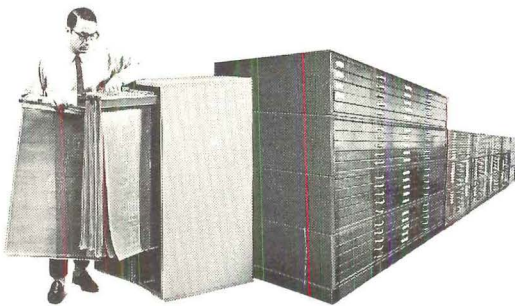
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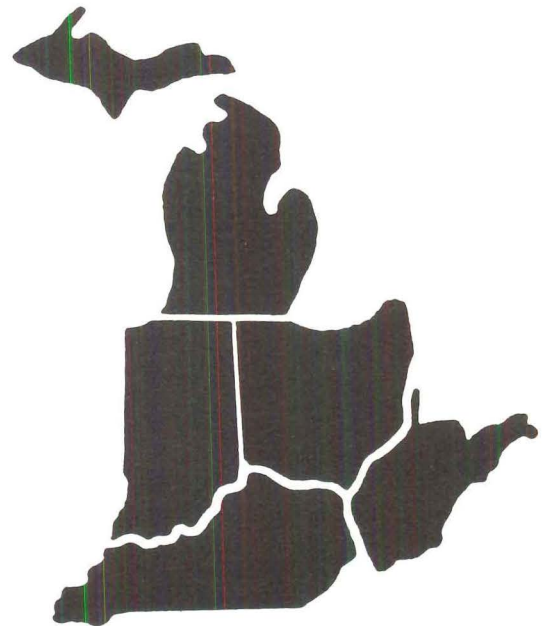
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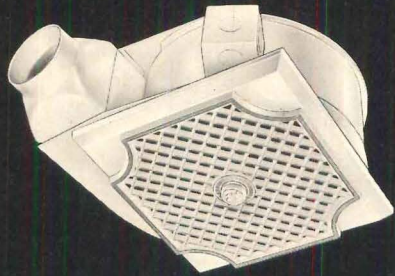
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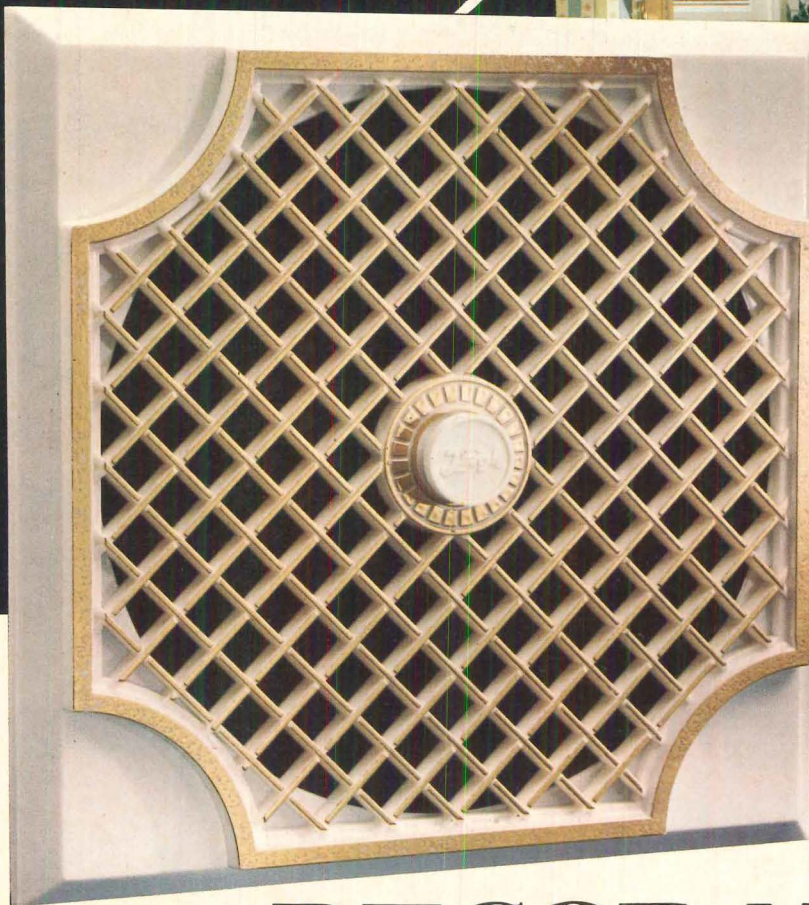
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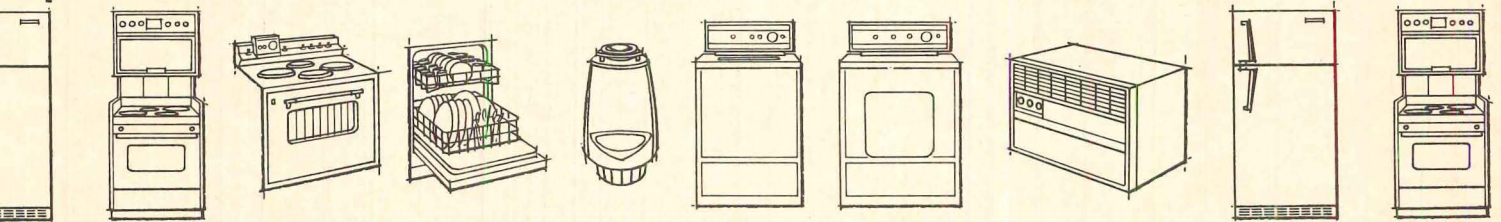
East Coast Warehouse: Leigh Corp., Edison, New Jersey. West Coast Warehouse: Leigh Industries, Inc., City of Commerce (Los Angeles), Calif. Made in Canada by Leigh Metal Products Ltd., London, Ontario. Western Canada Sales Agency: E. H. Price Ltd., Winnipeg, Edmonton, New Westminster, Calgary.



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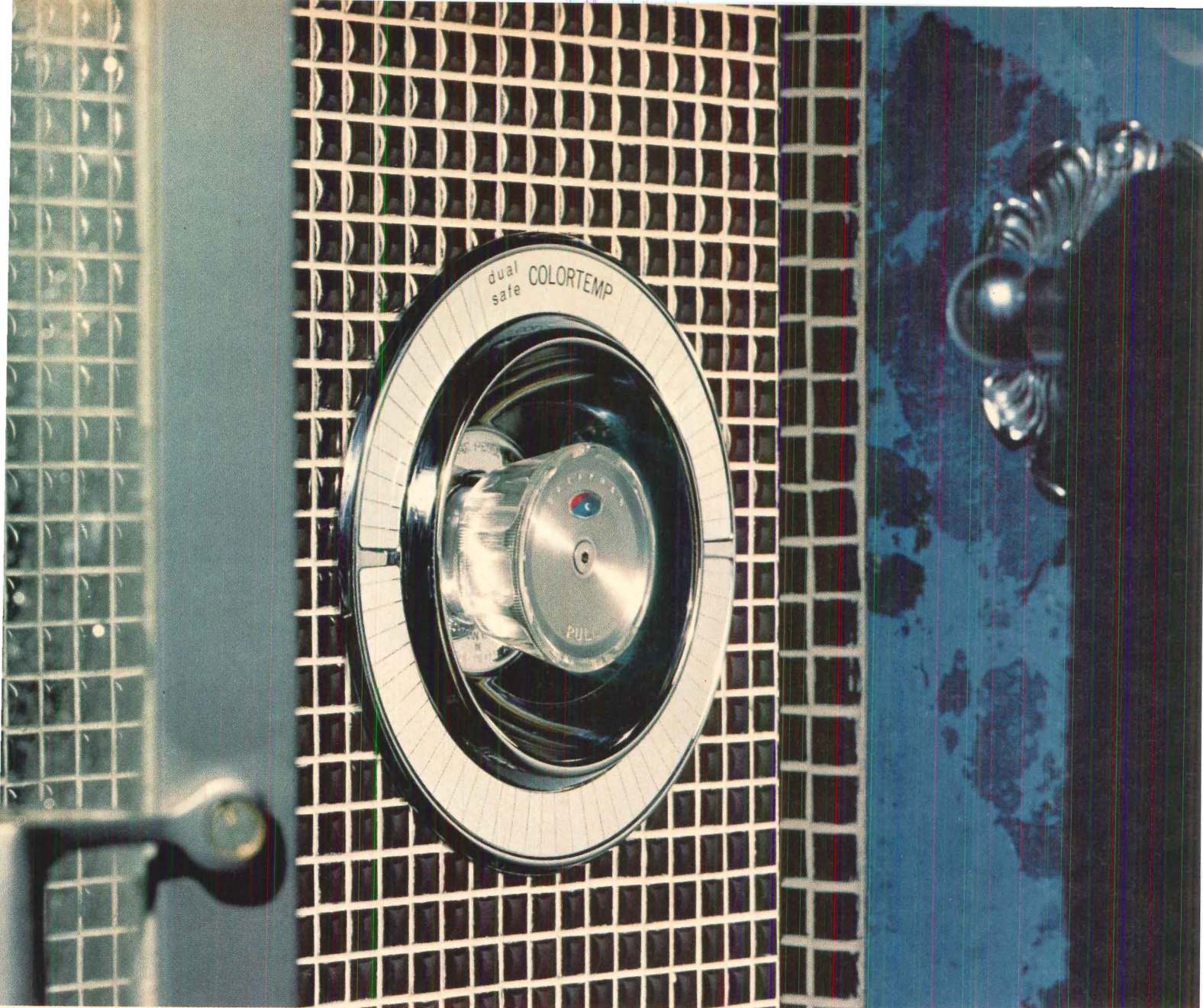
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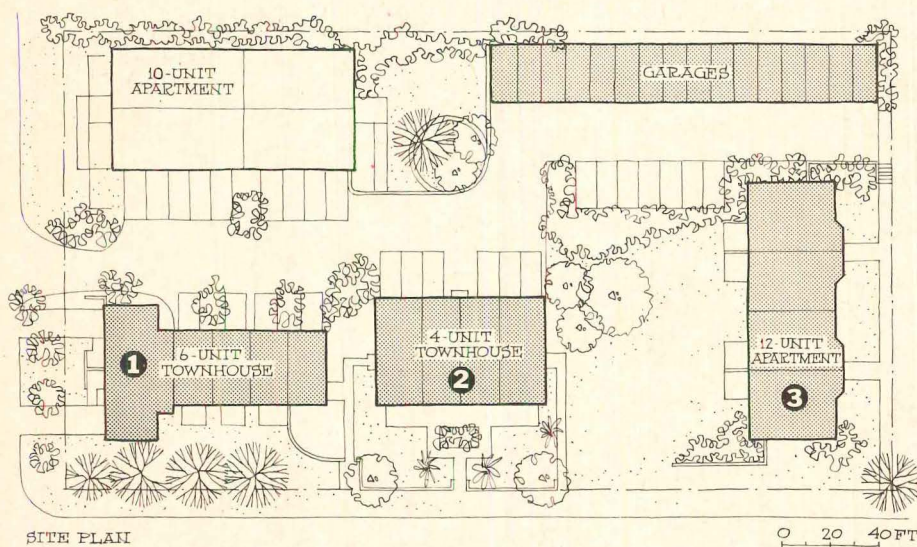


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SMALL-SCALE BUILDINGS and handsomely landscaped site preserve open feeling despite density of 20 units per acre. Project was designed for adults.

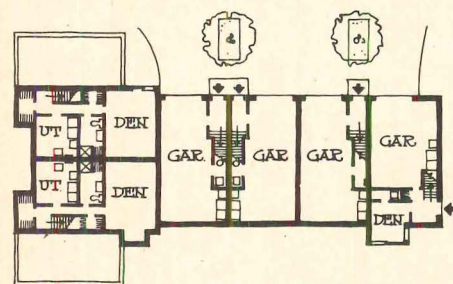
A high-density rental project for a single-family area



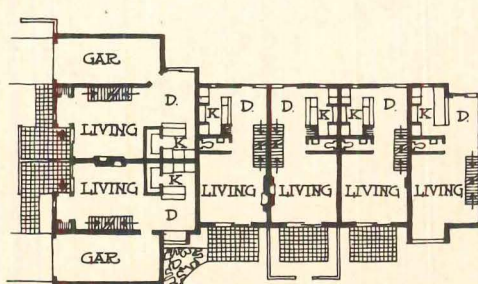
This 32-unit project occupies only 1½ acres (left), but its blend of townhouses and apartments maintains house scale. None of the buildings is over three stories high, and one, set into the slope, appears to be only two stories from street level.

Costs per unit were \$20,000 to \$35,000 for construction, and about \$3,000 for land. The townhouse rentals are from \$265 to \$325; the apartments shown here rent for about \$265, and ten recently finished apartments at the rear of the project rent for up to \$350. Fred W. Schurecht is the architect, builder and owner. Location: Barrington, Ill.

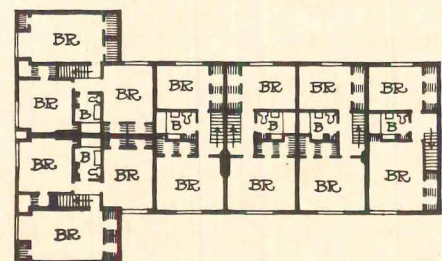
1



GROUND LEVEL



FIRST LEVEL

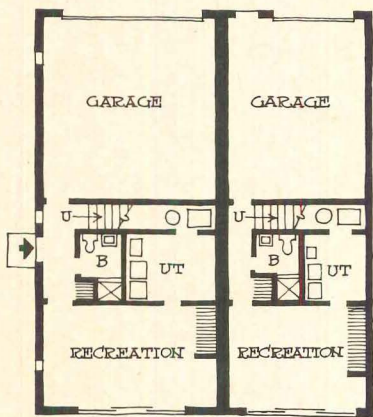


SECOND LEVEL

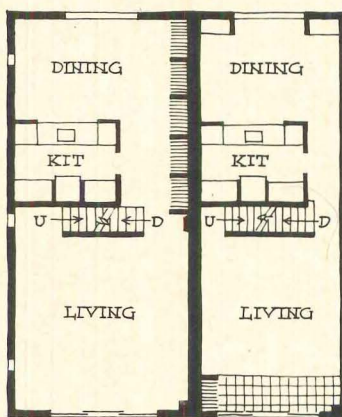
0 10 20 FT

SMALLER TOWNHOUSES (1 on site plan) are on the corner of the site. Two units at the left of the T-shaped building have garages at street level and three bedrooms plus a studio and utility room on the lowest level (cut into

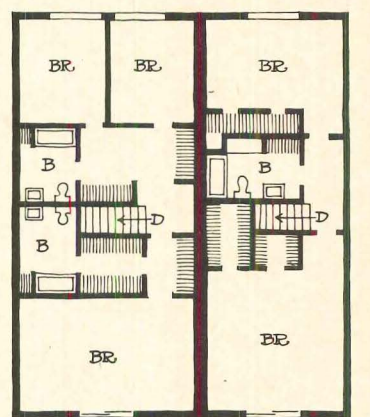
the slope). The four units facing the side street have garages on the lowest level, living areas and two bedrooms above. The end unit (at right on plan) has a side entrance, two outdoor-living levels and a den.



TERRACE LEVEL



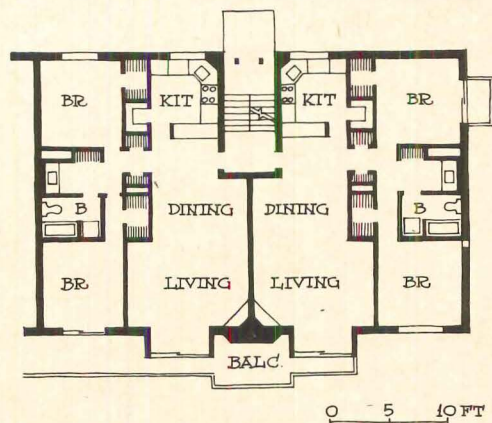
FIRST LEVEL



SECOND LEVEL 0 5 10 FT

LARGER TOWNHOUSES (2 on site plan) have bottom garage levels that include an extra bedroom or recreation room, laundry, bath and utility room. The two end units are slightly larger, have two-car garages plus three bed-

rooms on the top level; they are entered from the side. The inside units have a formal entrance at the street side and a rear family entrance next to a one-car garage. All units have terraces and balconies.



0 5 10 FT

APARTMENT UNITS (3 on site plan) are designed in pairs on three levels so that six units share a stairwell. Units are floor-through, and all have sliding doors to balconies that face the landscaped site. Some end units also

have side balconies or terraces. All units have two bedrooms, compartmented bath, pantry in the kitchen and corner fireplace. Garages for these apartments are in a separate building at the rear of the project.

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Ralph Huszagh, Architect



Designed by Lee Blake



Designed by Ernest Blaylock, Southern Decorators



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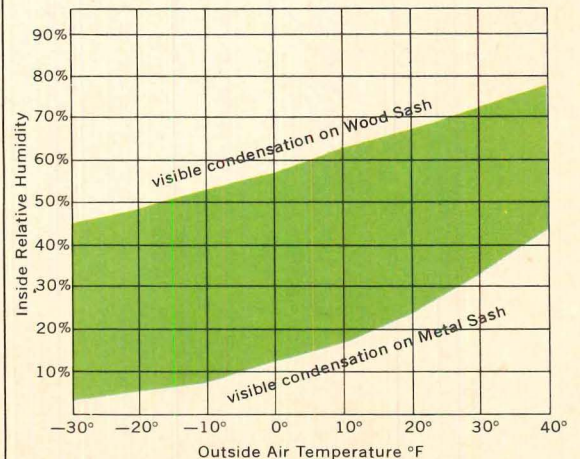
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Visible Condensation of Inside Surfaces.

Room temperature 70°. Outside wind velocity 15 mph.

Chart shows comparative condensation on inside surface as outside temperature drops. Example: when outside temperature is 20° it would take as much as 69% inside relative humidity before condensation would appear on wood sash—but condensation will form on aluminum sash with just 22% inside relative humidity (and, most homes average 30-35%).



Source: ASHRAE Standard Psychrometric Chart



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Marketing vs. gimmickery

H&H: I have read every one of your merchandising issues, since the first one 15 years ago, with more interest than I read most of your other issues. This year you did the best job you have ever done. Your May issue was outstanding because you stuck to the merchandise itself and dropped that old, tired litany of signs, exhibits and gimmickery, just as the public has dropped its susceptibility to signs, exhibits and gimmickery.

Today's knowledgeable buyer looks hard at the merchandise itself, and that merchandise is far more than simply a good dwelling unit and a nice facade. Good merchandising calls for attention to the whole community—from road signs to the roll of the land, the preservation of natural characteristics in the landscape and the juxtaposition of houses and/or apartment units to provide each with its own special claim on the environment around it.

There is no question that we need more-exciting architecture along with the way we handle our communities and our neighborhoods. Whenever we combine exciting architecture with really good overall environment, prospects become buyers because of the merchandise itself and not because of any merchandising gimmicks that pass for marketing. The slickest gimmicks in the world won't sell "dogs" in a nothing development.

I think your May issue can advance the housing industry's approach to environmental design a decade overnight if all of us pay attention to what you report about the lessons other builders have learned.

EMIL HANSLIN
Emil Hanslin & Assoc.
Wauquoit, Mass.

Reader Hanslin practices what he preaches. His New Seabury community is a classic example of merchandising that's built right into the merchandise itself.—ED.

Tapping pension funds

H&H: Your pension-fund article [May] overlooked the continuing efforts that our association, the Northern California Carpenter Employers Fund, and the Carpenters Union are making. You infer that most groups, now that the money situation is easing, have been sitting on their fannies. This is certainly not the case with us. For example, I am making a presentation today to the Alameda County Retirement System; we have had about six meetings with the new administration in California to follow through on the Teachers Fund; we have given two speeches, one in Chicago and one in San Francisco, to members of the National Conference of Health, Welfare and Pension Plans (a training session for trustees) whose combined assets total \$9 billion.

We certainly have not been letting any grass grow under our feet. We realize this crusade is a long-run affair and we plan to keep plugging.

Now that I've rapped your knuckles, allow me to congratulate you on your urban-planning editorial [May]. HHFA's present policy really subsidizes the unrealistic planning your editorial referred to. Why? Because it does not require that a municipality requesting community-facility loans and grants have a "housing element" in its general plan. In other words, the city's market plans should provide for the housing needs of all segments of the community regardless of race, color or economic level. HHFA should also discourage such loans to cities who pass minimum lot-size regulations that exclude the middle-income families from their communities.

WILLIAM T. LEONARD, executive vice president Associated Home Builders of the Greater East Bay Inc. Berkeley, Calif.

Outdated rent controls

H&H: Congratulations on your cogent article titled "Only in New York: a housing 'shortage' that won't end" [May].

You mention that New York is the only city "still laboring under rent controls." We are sorry to say that all the major cities in Westchester County, and many of the towns and villages, still retain rent controls.

Despite the sustained efforts of the Apartment Owners Advisory Council (a realty owners and management group that is affiliated with us), Westchester communities refuse to lift controls for many of the same reasons as those so clearly delineated in your New York story.

We have succeeded, in some instances, in having municipalities adopt vacancy decontrol—that is, the procedure in which an apartment is decontrolled as it becomes vacant. While vacancy decontrol is a step in the right direction, its adoption is excruciatingly slow.

It appears that the few cities—all in New York State—that have retained rent control are generally those with a sustained or declining housing inventory. There simply must be a connection.

GEORGE A. FRANK
Builders Institute of
Westchester and Putnam Counties
White Plains, N.Y.

We agree.—ED.

Land reform Down Under

H&H: I should imagine that you have had many requests for extra copies of your celebrated issue of August 1960 in which land problems were dealt with.

This is another.

The government of the State of Western

H&H editorial index

HOUSE & HOME's 1966 editorial index, an eight-page reference guide, is now available.

It includes a cross-reference listing of all subjects covered last year by H&H—115 in all, from acoustics to zoning—plus a combined, chronological table of contents of major articles.

If you'd like a copy of the new index (there's no charge), write to: Reader Service, HOUSE & HOME, 330 West 42 Street, New York, N.Y., 10036.

Australia is moving quite quickly toward combination of legislative measures designed to inhibit speculation in land and to bring sorely needed but vacant urban land onto the ordinary market. One of the most important things that it will have to do will be to educate the general public (and even some of the parliamentarians) on the topic.

I intend to suggest to the Cabinet through my Minister that a large part (or even the whole) of the contents of your August 1966 issue be disseminated in Western Australia to the influentials and to the press. Its exceptionally expert combination of punch and profundity would be uniquely suitable for our public-relations exercise.

DAVID CARR, chief planner
Town Planning Dept.
Government of Western Australia
Perth, Western Australia

Who's a 'savant'?

H&H: I thought your May editorial on "the righteousness of deep-think planners" was great. My only concern was that in mentioning our population projections for urban growth, you are not putting us [the Urban Land Institute] in the same category with your aforementioned "savants".

MAX S. WEHRLY, executive director
Urban Land Institute
Washington, D.C.

That was not our intention.—ED.

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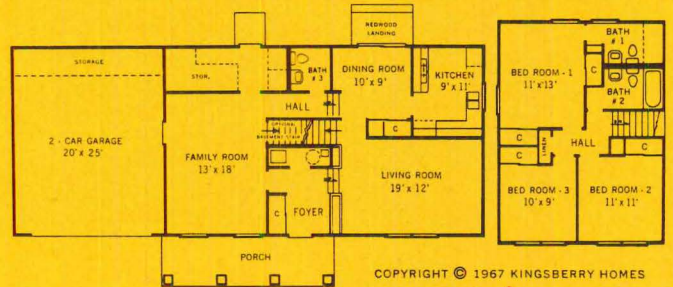
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EDITORIAL

Money problems vs. market opportunity

Does the rising price of mortgage money mean housing is heading for another crisis? No, indeed

At worst, it simply means that the sharp upswing in starts predicted for the second half of this year may be a little slower in coming.

Sure, interest and discount rates are moving back toward their 1966 peaks. And since that trend is not about to reverse itself, the housing industry can—and probably will—learn to live with it.

This year—like 1966—looks like a year of high-cost money. But, unlike 1966, it is not a year of money shortages; there's a lot more money available from housing's traditional suppliers than there was last year.

Money prices are up because of competition from the bond market and the demands of a war economy. But, say sources close to the Federal Reserve, the money outlook for housing is fundamentally good. And, notes New York's First National City Bank, savings that can be used to finance housing have recovered. One example: The net flow of money into S&Ls climbed from an annual rate of \$2 billion in mid-1966 to a rate of \$10 billion in the first quarter of this year—and the rate hit an all-time high in April.

What's more, other factors—chiefly robust demand for new housing and a switch in government monetary policy—will almost certainly keep 1967 from being 1966 all over again.

Housing demand is the highest since World War II, and it's getting higher. New household formations are booming along at well over one million a year. Demolitions of existing housing are running close to 500,000 a year. In almost every state except California, vacancy rates are the lowest in ten years, and new construction lags so far behind demand that almost no good housing remains empty. Even California is raiding its inventory at a great rate; in the first quarter of the year, for instance, Los Angeles absorbed 10,000 units from

vacant stock, while fewer than 5,000 new units were completed.

Finally, people have the money to spend for new housing. Family incomes are half again as large in real dollars as they were 15 years ago.

The best news of all comes from Washington. President Johnson's Administration is now firmly committed to supporting a housing recovery this year. The Administration has asked Congress for an income-tax increase, and one of its prime reasons was concern over high interest rates and the victimization of housing. That move, more than any other, may convince the Federal Reserve that its increased supply of money can continue without inducing inflation.

So the market's there and the money's there. All that's needed is new housing so good that it obsolesces the old house. And what obsolesces the old house?

Some meaningful clues come from a major corporation which has been transferring 18,000 of its employees every year. The corporation found that transferred employees sell houses built in the 1960s with ease, but have trouble moving houses built in the 1950s.

The newer houses sell easily, says the company's market research division, because 1) they are better planned ("togetherness" is out, privacy is in); 2) they have better heating, cooling, wiring, plumbing, hardware and appliances; 3) they are sited with more attention to good land use and preservation of trees and natural contours (not just plunked down in the middle of a bulldozed lot).

The inference is clear: Let's stop worrying about high-priced money—which we can't do much about—and concentrate on turning out a more salable product.

—RICHARD W. O'NEILL



18-ACRE LAKE is the central feature of Transamerica's 293-acre project. First group of houses is at lower right, model area is in lower center.

This man-made lake is a sales feature with big fringe benefits

Its original purpose was to perk up 293 acres of uninspiring land.

The site—Newark, Calif., about 30 miles south of Oakland and San Francisco—is well located. But the land is flat and uninteresting, and the area has no aura of prestige.

So Transamerica Development Co. took 26 acres out of the middle of the site and created the 18-acre, free-form lake shown above. The remaining eight acres will become a landscaped park around the perimeter of the lake.

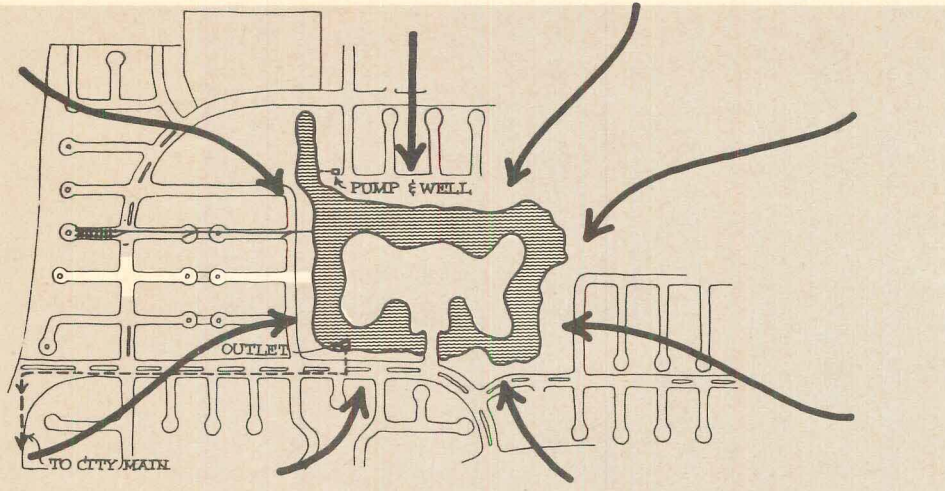
The cost of the lake itself was about \$300,000. This adds only about 1% to the average house price (just under \$30,000—see p. 53), a perfectly reasonable

figure for a strong merchandising feature. And it also gave the project an obvious but sound name: The Lake.

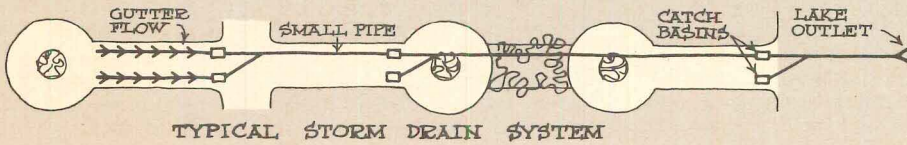
But by the time the project is finished, The Lake's lake will have paid back its entire cost, and with interest. It has already cut a big slice out of land development costs; it has made possible a 25% increase in the number of house lots on the land; and, according to project manager M. Arthur Derr, its appeal is the key reason why early sales are now running extremely well despite the mushy California market.

So the lake is paying off in three vital areas: land development, sales and municipal cooperation. On the next five pages you will see why.

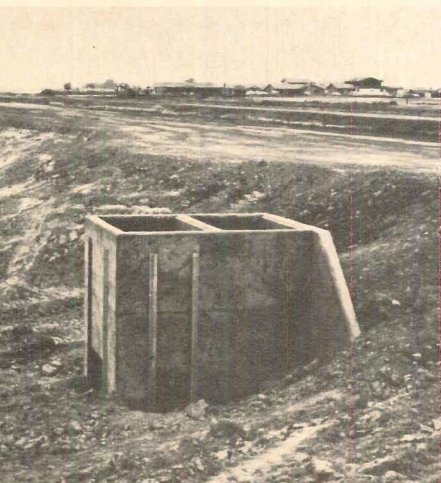
The lake is paying its way as the storage basin for a cost-cutting storm-drainage system



DRAINAGE PATTERN (above) shows how entire project drains into lake. Fill from lake cut was used to raise one end of site to adequate drainage level. Drawing below shows simple system of laterals.



LAKE BED is cut by scrapers (above). About 500,000 cu. yds. of earth were moved. Two 18" openings (left) lead water to municipal drains, also maintain lake's basic 7' depth. Lake was filled (below) from wells that also make up water losses from seepage and evaporation.



As a matter of fact, the savings effected by the system came pretty close to canceling out the entire cost of the lake.

Transamerica's drainage problem will be familiar to many developers working in flat country without nearby waterways big enough to handle storm water. There is a municipal main not too far away, but it is much too small to handle the sudden surge of storm water that could roll off 293 acres. So the city of Newark stipulated that Transamerica would have to enlarge the mains.

"Even if we had done the work ourselves," says project manager Derr, "it would have cost \$200,000. So we began to wonder if there was another way of doing it.

"We had already considered building the lake as a merchandising feature, despite its high cost; then Dan Coleman, our land planner and engineer, saw that it might also lick the drainage problem."

So the lake became, in effect, a temporary reservoir for storm water, with all of the project's catch basins draining into it. The basic depth is 7', but grading allows an additional rise of 18". And this rise will handle 10-million gallons of water.

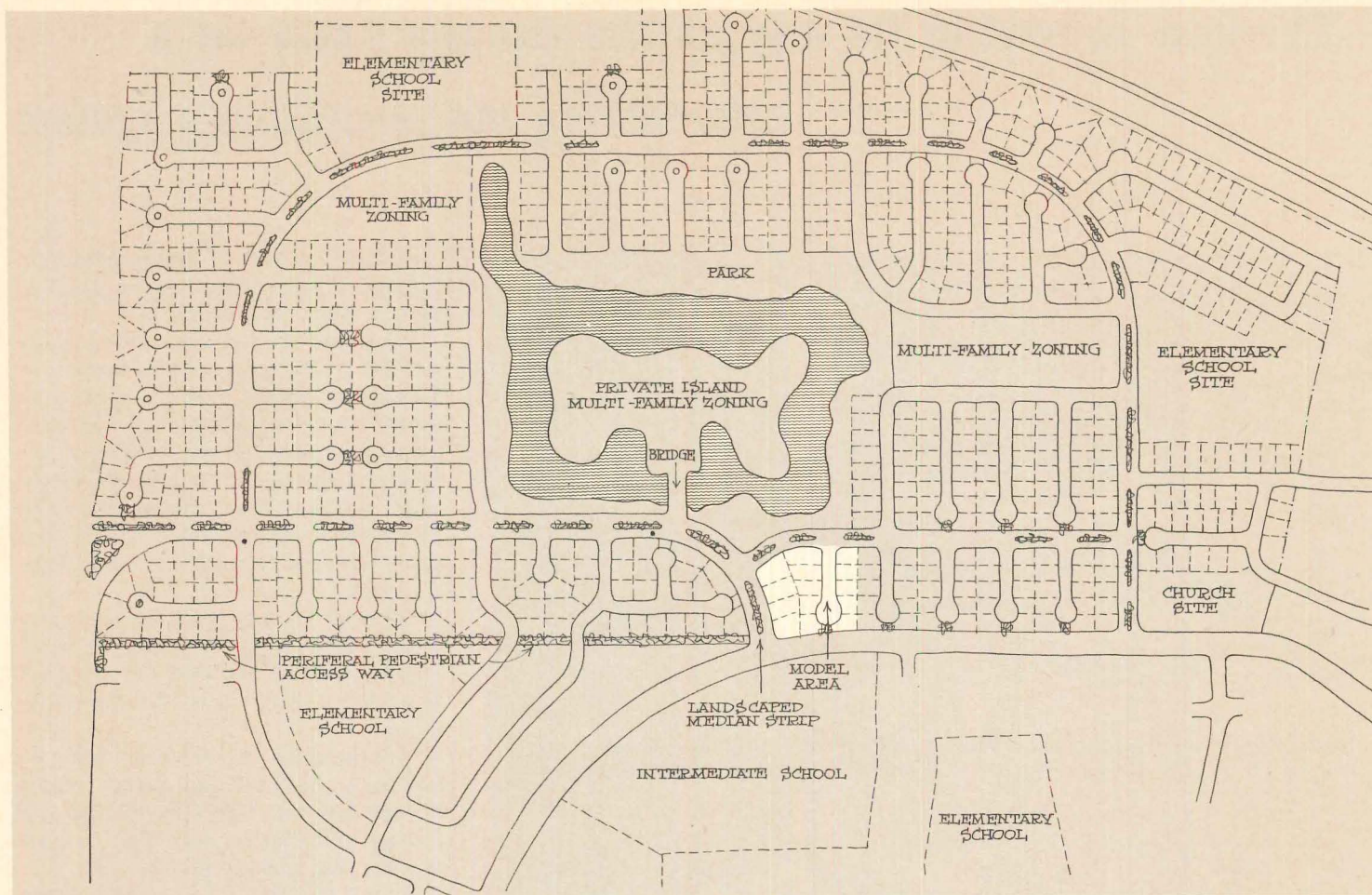
"The lake still discharges into the Newark storm system," says Derr, "but the flow is spread over a much longer period, and the city's present system can handle it."

The result: a saving of \$200,000. Also, the lake acts as a collector, eliminating mains within the project that Derr estimates would have cost another \$50,000.

But while simple mathematics would seem to indicate that Transamerica got its lake for a bargain \$50,000, the realities were not quite so clear cut.

"The \$300,000 that the lake cost us was all front-end money," says Derr. "More than half of the entire site had to be regraded to drain into the lake. And since the material we cut out of the lake bed was used as fill for the regrading, the entire job had to be done before we could begin any building. This created a tremendous negative cash flow which had to be figured in as part of the cost."

So Transamerica ran a series of profitability studies on the project with and without the lake. They showed that in the long run, and taking account of merchandising and zoning advantages (pp. 50 and 52), the lake still made economic sense.



LAND PLAN includes lots for 800 single-family houses, all on cul-de-sacs. Three sites—one of them on the island in the lake—are planned for multi-

family buildings, possibly condominiums. Plan is basically a grid, but short dead-end streets help minimize the hazards of through traffic.

2 The lake is paying its way as the project's biggest— and most merchandisable—community feature

Pinpointing the primary reason why people buy houses in a particular development is, to say the least, an inexact science. There are so many variables—location, design, plans, prices, community facilities, etc.—that no one of them can realistically be singled out as *the* cause of successful sales.

Nevertheless, Transamerica has some pretty persuasive evidence that The Lake would be far less successful without its lake. For example:

Lots near the lake have been the best sellers—even at premium prices. The basic lot value in the project is \$7,000; houses built on lakefront lots carry an extra \$4,000 price tag, and those merely near the lake cost \$2,000 extra.

"Yet," says project manager Derr, "most buyers willingly pay the higher tab."

The project is pulling better-heeled buyers into the area. "Newark has never been considered a top prestige area," says Derr.

"But now, for the first time, prospects for \$30,000 houses are moving in. We know from talking to visitors—and we've been getting a healthy 250 families or so every Sunday—that the lake is the thing that caught the interest of most of them."

Most important, sales are going well despite a soft market. The long-range program calls for the project's 1,100 units to be sold out by 1973; to date—less than a year after opening—100 units have been sold.

"This is well above our minimum schedule," says Derr. "And we're sure that as soon as the market gets better, we'll get a higher percentage of sales from our traffic."

The pulling power of the lake has allowed Transamerica to get along very comfortably with only a moderate advertising program.

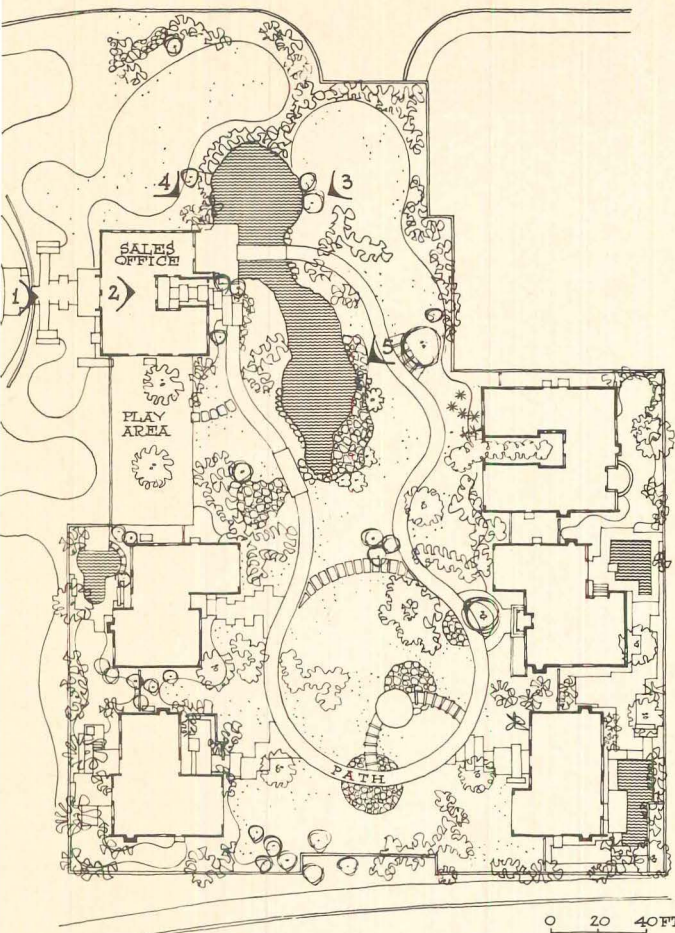
"We have ten billboards," says Derr,

"and the rest of the campaign is in the form of medium-pressure newspaper ads. So far we've worked on a cyclical basis—emphasizing the lake itself for about three months, then shifting to our houses for the next three months."

The lake also gets equal billing with houses in the model area (facing page). The sales office and five models are sited in part of the first section nearest the lake, and visitors can't miss the project's chief feature. And the area has its own miniature lake—actually an over-sized ditch—which visitors cross via a bridge to reach the model houses.

When the project is sold out, the model area will turn into an ordinary—albeit beautifully landscaped—cul-de-sac (the ditch will be filled in and become a road).

Cost of the model area: \$100,000 above and beyond the houses themselves. "A worth every nickel," says Derr.

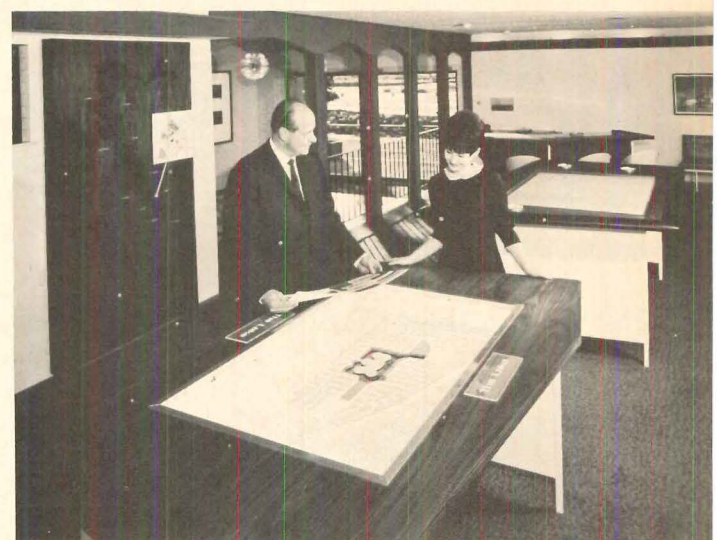


MODEL-AREA LAYOUT is a souped-up version of a standard cul-de-sac. Sales office is at upper left. Numbers are keys to views at right and below.

Photos: Ricco-Mazzuchi



1. SALES OFFICE is immediately adjacent to parking area. Visitors must pass through it on their way to the models.



2. SALES EXHIBITS quickly establish the lake as project's key feature. Office is housed in shell of a standard model.

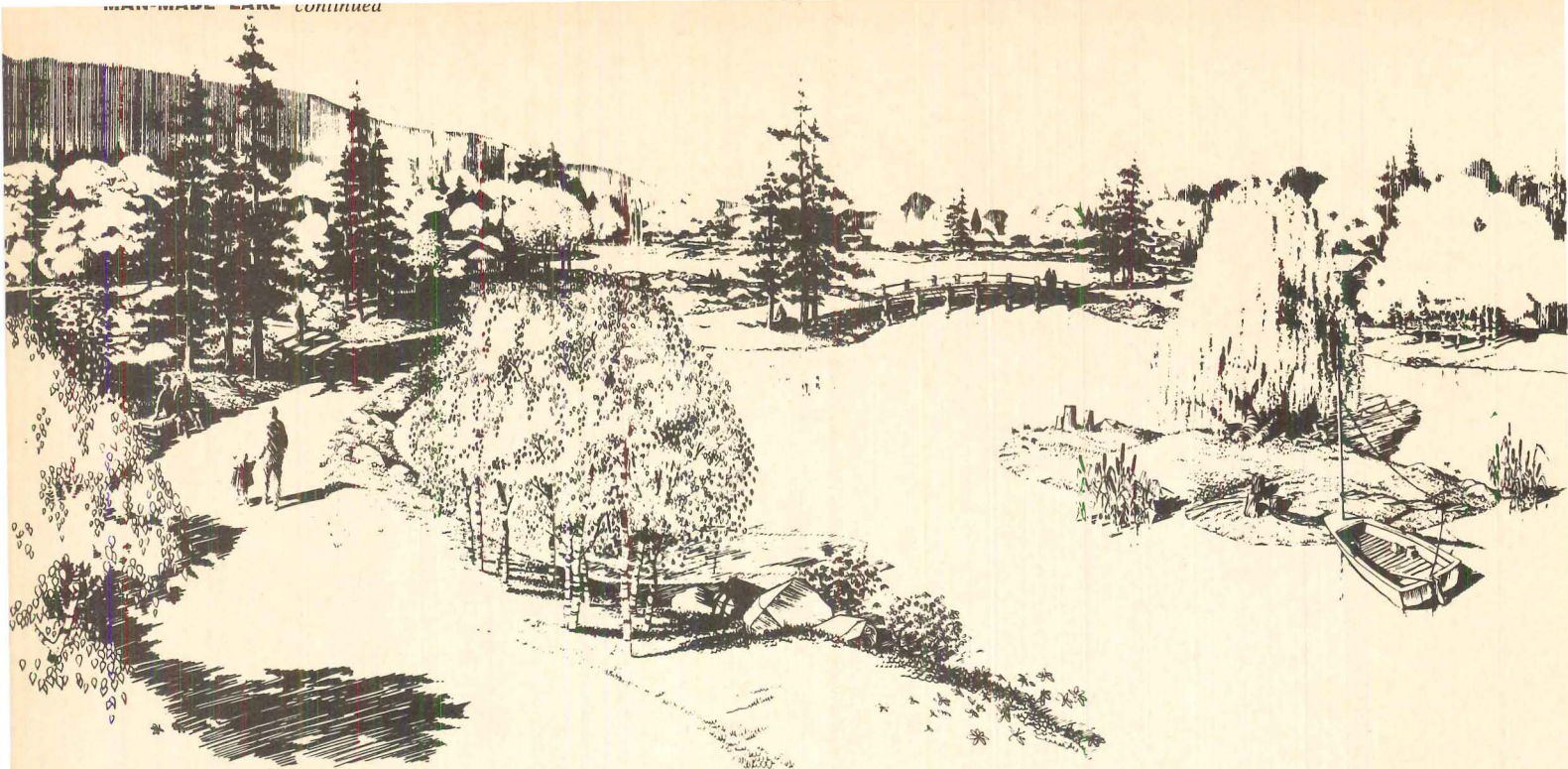


3. BRIDGE carries traffic from sales office to model area. Layout is designed to work without a lot of directional signs.



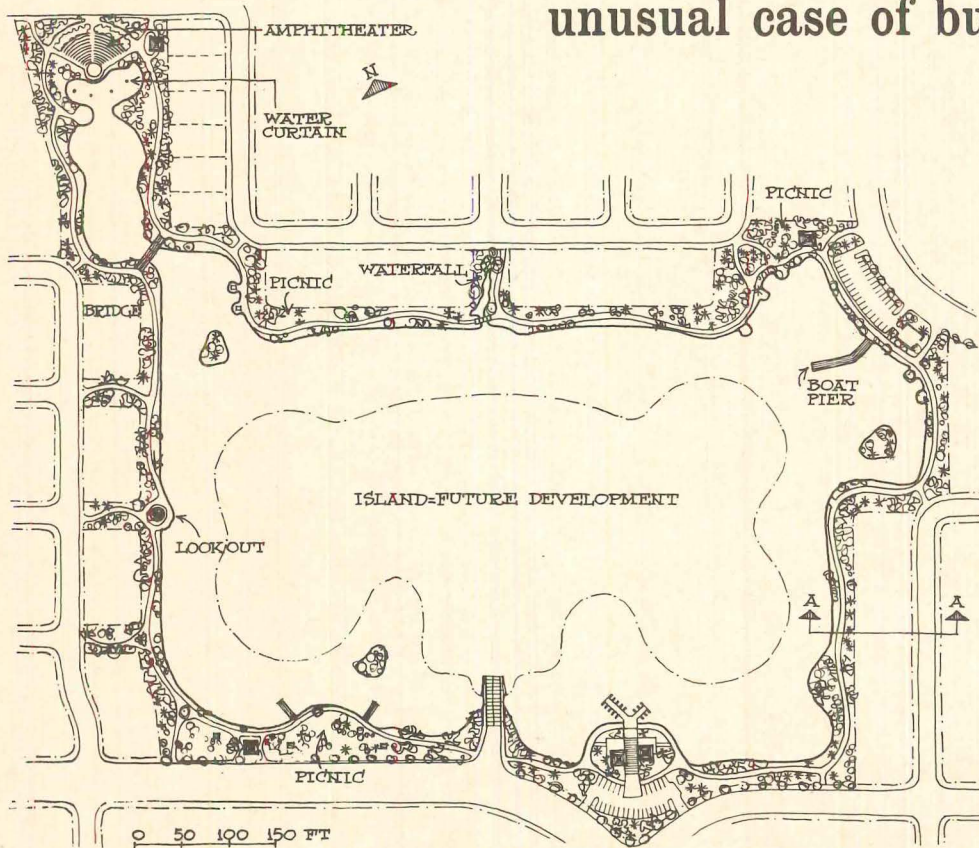
4. THREE MODELS, seen here from bridge, and two others, out of photo at right, flank a landscaped open area.

5. SECOND BRIDGE leads away from models and back to sales office. Lake will be filled when area is closed. *continued*



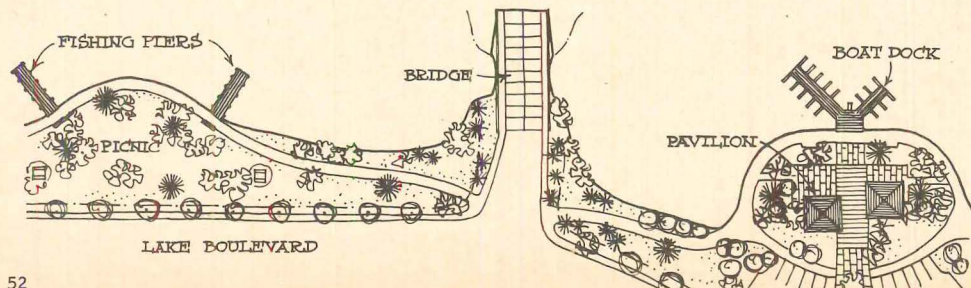
ARTIST'S RENDERING shows how city-owned park around the lake will look when trees and shrubs, now being put in, have reached maturity.

3 The lake is paying its way as the key element in an unusual case of builder-city cooperation



PARK PLAN (above) includes a scenic path around lake. Stepped-down grading, at right,

maintains privacy for abutting lots. Detail (below) shows pattern of planting and a future boat area.



The lush landscape drawn above is not figment of an adman's imagination. It's a reasonably accurate picture of how the 8-acre park around The Lake's lake will look in a few years. And it's also an example of what can be done when builder and city officials work together instead of at swords' points.

The park is owned—and will, when finished, be maintained—by the city; the land was donated by Transamerica, and the two groups will share equally in the cost of landscaping, estimated at \$120,000 (the money is now in escrow). Transamerica helped in developing the landscaping plan, and must approve it. When the city puts the landscaping job out to bid, Transamerica can be a bidder—giving the company in effect a way to establish an upset price. Finally, any capital improvements beyond those in the original plan—docks and special gardens are a possibility—will be made by the city.

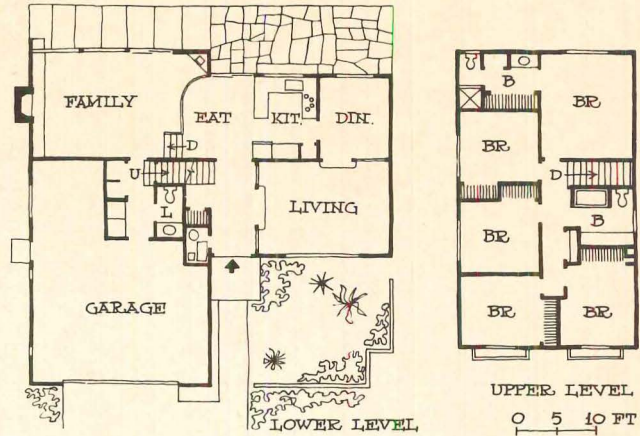
The lake and its park were the primary reason for the city's approval of smaller lots. Newark's original zoning would have allowed 8,000-sq.-ft. lots, or a total of 880 units in the project. But city officials took account of the 26 acres that Transamerica was turning over to them and cut the minimum lot size to 6,500 sq. ft. Result: 230 more units.

"In my experience," says Derr, "our partnership with Newark is unique. And it's going to benefit everybody—the city, Transamerica and, especially, our buyers."

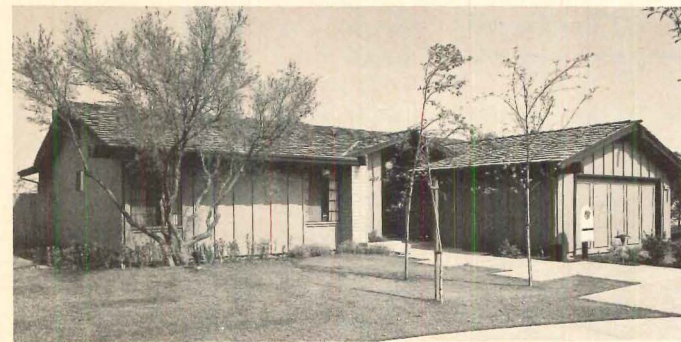
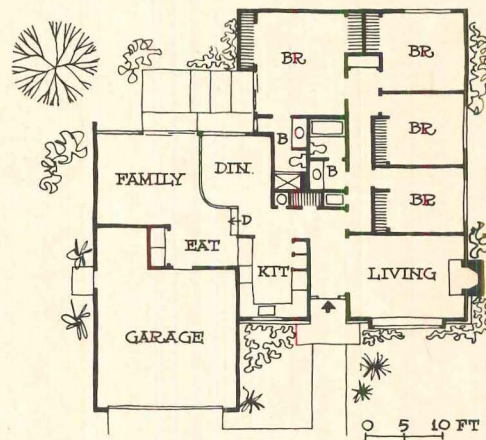
These models are the current best sellers at The Lake



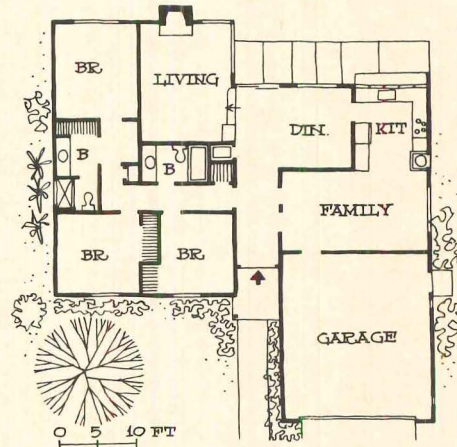
\$32,000 MODEL, most expensive in the project, is the top seller; it has accounted for 26 of the first 90 sales. This version of the house has 2,311 sq. ft., five bedrooms. Coming soon: another version with three much bigger bedrooms on the second floor.



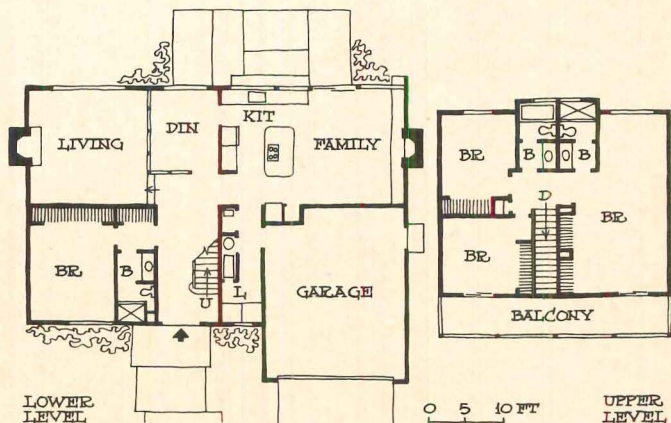
\$26,600 MODEL, with 1,710 sq. ft. of living area, has accounted for 20 sales. Its best feature: an excellent traffic pattern that dead-ends both the living room and kitchen. Compartmented bath serves three bedrooms, is close enough to living area to serve as guest bathroom.



\$25,700 MODEL, smallest in the project, has also chalked up 20 sales. Its 1,580 sq. ft. are arranged in an unusual way: three bedrooms and the living room on one side, kitchen and family and dining rooms on the other, with a wide entry hall separating the two areas.



\$30,550 MODEL, with 2,148 sq. ft., has accounted for nine sales. Transamerica thinks it should have done better, and has now redesigned the kitchen so that it is more separate from the family room. Prices of all models include the price of a basic lot—\$7,000.



Over the past few years, homebuilding has benefited enormously from massive doses of better management. But Clarence Kettler, president of Washington, D.C.'s Kettler Brothers, thinks that one aspect needs still more attention. His thesis:

Solve your people problems, and you solve most of your management problems



COMPANY CHAIRMAN Milton E. Kettler heads land buying, finance, administration and sales.

Photos: Del Ankers



COMPANY PRESIDENT Clarence E. Kettler directs land development and house building.

Six years ago, Kettler Brothers found itself in what most builders would consider a very comfortable position. It was building close to one hundred houses a year and grossing between \$3 and \$4 million. Profits were good. The company was soundly but conservatively capitalized, and it enjoyed an excellent reputation for quality. On top of this, the Washington, D.C., market was obviously at the beginning of a long and healthy growth.

But despite this rosy picture, Kettler Brothers' top brass was not comfortable.

"We knew how to build, sell and finance houses," says Milton E. Kettler, chairman of the board, "but all of a sudden that just wasn't enough. We had a big organization with a pressing need to grow, and we realized that we didn't really know how to go about it."

But they did go about it, and the company has indeed grown: Sales volume in 1966 was \$12 million, up 50% in three years, and profits have kept pace. This summer Kettler Brothers will open four new subdivisions in Montgomery Village, a 2,200 acre development in Gaithersburg, Md., north of the Capitol.

Behind this impressive growth record lies one overriding fact: In an industry noted for its ups and downs, Kettler Brothers has achieved a high degree of stability and good management. Morale is high; employee turnover—from executives to mechanics—is almost nil; and although the supervisory and office staff has almost doubled in three years, every department is now staffed with people capable of

handling the next stage of growth.

What were the key decisions that brought this all about?

The first step: an objective appraisal by outside experts

The first of these experts, marketing consultant James Mills, was hired to assess the basic strengths and weaknesses of the company, and to suggest the direction the growth should take. His advice:

"Grow deep, not out. If you build the manpower and the management skills, the volume and profits will follow. You can do it backwards—shooting for volume and hoping that the men and the company will keep pace. The bankruptcy courts are filled with companies that confused numbers with profits."

Next, Kettler Brothers invited Stanley L. Berlinsky, Ph.D., a clinical psychologist to work with company executives in five areas of personnel relations:

1. Testing, interviewing and evaluating prospective new employees.
2. Evaluating the performance and developing the potential of all employees.
3. Spotting and removing roadblocks in internal communications and in relationships among employees.
4. Anticipating stresses on employees caused by extraordinary job demands, and reducing the impact of those stresses.
5. Consulting with personnel on personal problems that could hurt individual job performance.

Out of this collaboration between builder and consultant has come a program that the Kettlers feel is the core of the company's

any's stability. Here are the key points of that program:

Before you hire people, be sure the jobs exist

Not a single prospective employee is interviewed until the company determines that a job is open and exactly what its functions are. The appropriate department head, working with Berlinsky and Administration Manager James Grigg, writes a complete job description, including all its duties, how it fits into the organization structure and the personal traits or aptitudes it demands.

They also decide exactly when the man will be needed, then work back from that date to a hiring date.

"Don't wait until you are desperate," says Milton Kettler. "If you know you will need a man on May 1, and the hiring and orientation process takes three months, you have to start looking on February 1."

Once the need for the job is proven, Kettler executives interview potential prospects, then send the most likely candidates on to Berlinsky for testing and intensive interviewing. This testing and interviewing is done in the calm, professional atmosphere of Berlinsky's office to reduce the tension always present in job seekers.

Armed with the job description and the aptitudes wanted, the psychologist gives only those tests that he feels will provide the most-relevant information.

"Tests are no substitute for a lengthy interview, good references and past performance," Berlinsky says. "They are a tool only. If we had to forego either tests or the interview, it would be the tests.

"We never make our decision on the

results of tests alone; they are only indicators. But the more we know about the skills and aptitudes demanded by the job, the better we can select validated tests that will show up these qualities."

A new difficulty in the hiring process has arisen from the complexities of opening Montgomery Village, which dwarfs Kettler's earlier projects.

"We had to hire a golf pro and a restaurant manager, two jobs with which we had had no previous experience," says Berlinsky. "It took us weeks to be sure of just what the jobs entailed. But once we wrote accurate job descriptions, it wasn't too hard to find the people to fill them."

New employees aren't given the sink-or-swim treatment, but must go through an orientation program that ranges from a few days for clerical help to as much as a month for a key salesman who will have full charge of a subdivision. In addition to a heavy dose of sales training, the new salesman must get to know people in every department and must become familiar with every facet of design, construction, finance, service, supply and administration.

The first place to look for talent is among your own people

Before any outside hiring is approved, the company makes a thorough review of present employees to see if the job can be filled from within. Says Jim Grigg: "We look not only for the man who already has the ability to fill the job but also for the one who could fill it with a little additional training, which we would see that he got."

Most key positions that have opened as a result of company expansion have been filled by promotion, not by hiring. Ex-



DEEP INTERVIEW of newest Kettler employee, John St. Peter, left, is conducted by psychologist Stanley L. Berlinsky. St. Peter will manage Montgomery Village information center, must have personality that will impress visitors.



PERSONNEL SESSION is held by, left to right, Residential Superintendent John Jackson, Berlinsky and Administration Manager James Grigg. Trio is reorganizing construction department to improve controls and communication.

What Clarence Kettler looks for in a foreman

Foreman is a key job in the Kettler organization; interviews and written tests are aimed at revealing the following qualities in candidates :

1. The ability to manage people, to get along with them and get them to perform. This ability must apply not only to those above and below the foreman's own level, but also to others on the same level.

2. The ability to manage things, to plan and schedule, and to follow through on that schedule in an orderly way without crises or crash catch-ups.

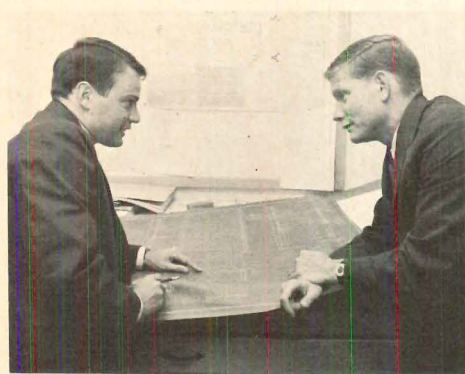
3. The ability to relate dollars to production, hence to be profit oriented.

4. A strong desire to do things better than they are being done presently.

5. A strong personal ambition, not a willingness to stand still.



ORIENTATION of new employee John St. Peter, right, is conducted by John Gornall, advertising and public relations manager, who explains scale model of new information center.



NEW SALESMAN Bryan Sheehan, right, learns what features have been included in Kettler designs as a result of market research. Tutor is George Smith of design department.

amples: Construction Superintendents Alvin Thompson (commercial) and John Jackson (residential) started with the company as carpenters; all the present foremen were originally carpenters or laborers; Thomas Matan, who will be sales manager of one of the new Montgomery Village subdivisions, began as a demonstrator on an earlier project; and Marketing Vice President Charles Phillips Jr. has been an outstandingly successful salesman.

A deliberate company policy is aimed at uncovering and nurturing a man's ability to move up. Each job description includes the proviso that a job holder must find and train his own replacement so that he himself can be promoted more easily.

This emphasis on upward mobility is a basic reason why employee turnover is almost non-existent. Naming people who have left the company—voluntarily or otherwise—strains the Kettlers' memories (they mention one top sales executive who left to fulfill a lifelong ambition to own his own business).

Regularly review—in writing—every employee's performance

This year, Kettler Brothers instituted just such a program for all personnel, from the top down. Each executive and supervisor fills out a four-page form for the employees under his direction, rating them for personal qualities, management ability, job performance, and capacity for promotion.

This rating sheet must be shown to the employee concerned and discussed with him by his supervisor. The employee may question or comment on any part of it, and he then signs a statement to the effect

that he has been fully informed.

This evaluation is never made at the same time as a wage review; the company wants the employee to think in terms of whether or not he is doing a good job rather than in terms of a reward or wage raise. (But the evaluation is, of course considered when subsequent wage review are made.)

The Kettlers feel that the evaluation has given them a much better idea of the promotion potential of many employees. As a bonus, the frank appraisals cleared up many areas of doubt for employees who didn't know what their superiors thought of their work and were afraid to ask.

Wherever the evaluation shows a key employee not doing as well as he should Milton Kettler takes a hard look at management. His reason:

"Many times, the failure of a worker to do well is the fault of his boss. If a man is technically qualified to do the job and doesn't, almost surely I have failed to communicate to him exactly what I wanted him to do, or else I failed to pick the right man for the job. The fault is mine for not giving him enough time, training, or programming."

You can't avoid all emergencies, but you should lessen their impact

The company is keenly aware that the homebuilding business has unavoidable periods of pressure, and tries to anticipate and ease those stresses on the individual. For example, the six-year planning of Montgomery Village brought predictable waves of pressure, first to people concerned with financing, planning and design, then successively to the land-develop-

What Milton Kettler looks for in a sales manager

Each Kettler salesman is in full charge of his own subdivision. He hires and trains his own demonstrators, and carries a heavy responsibility for company success. So his testing and interviewing are probably more thorough than for any other job short of a company officer. Says Kettler:

"Our market research, and the location, price and style of house we build in a specific subdivision tells us

much about our buyers in advance. The salesman on that job must have a personality profile closely compatible with that of his buyers. Age (or at least mental attitude) would be part of this, as would educational level, off-duty interests, background and family.

"We're looking for all the factors that will help him be sympathetic to the people who will be buying the houses. Like can best sell like."

ment and construction departments, and usually to sales and marketing personnel. Says Clarence Kettler:

"Back last fall, Dr. Berlinsky and I sat down with John Jackson, our construction superintendent, and planned for this spring's problems. We tried to even the work load, plan for vacations, and allocate time off fairly. I'm sure that this is why construction is going so smoothly now."

The company also tries to reduce similar strains on subs and suppliers. If a subcontractor must meet a schedule that is really "above and beyond the call of duty," he may get the contract without having to go through the bidding process.

Better-educated employees are more valuable to the company

So in addition to on-the-job training for promotion, which every supervisor must provide for subordinates, the company encourages all employees to improve themselves in their free time. With permission from a department head, anyone can take educational or vocational courses related to his job. Upon satisfactory completion of the course, the company will reimburse him for the entire cost.

In addition, men are sent at company expense to almost every important industry-sponsored seminar or training course. (And the company pays for more than 20 subscriptions to *HOUSE & HOME* sent to the homes of key employees.)

Here's how President Clarence Kettler sums up why he and his brothers have put so much importance on people:

"It sounds corny, but we wouldn't enjoy our business nearly as much if we thought that our people were unhappy and strained because of working here. Everything in our approach is not necessarily the right or wrong way for someone else. But it's the best way we have found to create good housing, build a profitable business and have a happy and productive group of employees. It has been an attitude that has brought health and stability to our company."

Kettler employees on their part are sure they are different from other builders' employees, and that their company and its products are different from (and better than) their competition. And a profit-sharing plan that has put up to 15% of their annual earnings into a trust fund for them does nothing to hurt that conviction.

Why did the Kettlers use an outside professional, and what are the rules for selecting one?

Why can't a builder just solve all his people problems with common sense—"by the seat of his pants?" Clarence and Milton Kettler agree that Berlinsky has provided a channel for vertical communication—up and down—because he is both an outsider and a professional.

"People will talk to him freely," says Clarence Kettler. "They would clam up with the boss. Also, Dr. Berlinsky is a trained questioner, skilled at getting people to reveal what is really troubling them."

"More than this, it sometimes turns out that the problem is not with an employee, but with one of us. An employee might not be able to tell us that."

As a case in point, Kettler says that he has just found that a whole series of problems in the construction department were happening because he was telling men what had to be done, then returning again and again to tell them how to do it. "I'm carrying a piece of paper in my pocket right now reminding me that when I give an order, I have to let the man carry it out without interference."

Berlinsky also found that resentment was growing among workmen because executives visiting the job were ignoring dozens of things that men had done well, but harping on the few things that were faulty. As a result of this discovery, both praise and blame are being more intelligently (and effectively) handed out.

The relationship of Berlinsky with Kettler Brothers is a continuous one that takes an average of two days per week of the psychologist's time. All department heads and supervisors know that he is available for consultation on any human-relations problems

affecting the company—e.g. friction between employees.

Berlinsky talks to the people concerned, and can often pinpoint the difference and resolve the problem. Also, when there is a series of complaints with the same theme, he can alert management that it has a problem that must be ironed out.

The psychologist is also available for personal problems, and the Kettlers might even pay part of his fees if they feel that the problem is affecting an employee's job performance. But they do not dig into private lives, and abhor any indication of the "big brother" approach.

Both the Kettlers and Berlinsky admit that it would take at least a medium size building firm to afford the services of a professional psychologist. For those who can afford it, who realize that they have people problems, and who will admit that they lack the skills to solve them, they give this advice:

1. Make a long-term commitment to the program; don't use it to try to solve a one-time problem.

2. Give the psychologist full access to top levels of management. The system can't work up from the bottom.

The psychologist should:

1. Have good professional credentials, preferably be a member of the American Psychological Assn.

2. Be experienced in the personnel and industrial relations field, with industries as much like housing as possible.

3. Be willing to go where the job is, even when this means interviewing superintendents in the field or sales managers in real job situations.

4. Understand and agree with the objectives of the company principals.



Will U.S. housing of the future come off precast-concrete production lines like this?

Precast components have already entered the American housing market. But their inroads so far have been tentative and have usually turned into dead-ends.

Codes have blocked precast building by posing unresolved questions about wall thickness, panel height, prestressing methods and connections between panels.

Manufacturers haven't really tried to apply precast concrete to housing because 1) their industry is based on nonresidential construction and

2) most precasters have neither the budget nor the staff to experiment with components tailored to homebuilding.

Engineers generally fail to make precast construction techniques work in housing because they concentrate on highly disciplined systems that put rigid limits on design.

Precast construction can work in homebuilding, as the Europeans have been proving for years. But can it be made to work here? The answer is twofold:

Yes, if simpler construction systems let laborers master precast parts

Most precast parts being made today aren't simple enough for homebuilding. They require high-cost commercial labor because 1) their joint connections are complicated and 2) their tolerances are close.

The ideal system for homebuilding is one with a single type of connection and tolerances of 3" or more. A joint system like this was introduced three years ago, and is probably the only really

successful precast housing method on the U.S. market today (*p. 60*).

Any precast-concrete system must be foolproof to compete in homebuilding. Precast components can't be cut and drilled in the field economically, so a margin for error must be built into them at the factory. The greater this margin for error, the more adaptable the precast system is to house and apartment construction.

Yes, if more flexible construction systems give buyers design variety

The trouble with precast is that it tends to preclude design variety. Reason: Precast's economy lies in repetition of basic shapes and rigid modules. Casting forms take time and money to set up, so the most sensible precast-building system is the one with the fewest different parts.

That rule of thumb makes precast-house design tough for engineers and architects. And it is the reason precast concrete has traditionally been associated with low-income housing.

But there are ways to beat precast's disciplines. One is to leave space for combining conventional

siding materials with precast walls or framing components. Another way is to cast molded designs and exposed aggregates into concrete components. Still another way: Combine the basic modules in a random way both upwards and sideways.

Precast-house pioneers are trying all of these approaches today. Their efforts—illustrated on the following six pages—show that precast may have a future not just in low-priced markets but in medium-priced and even high-priced housing as well.



Robert W. Schuette

A precast system for low-income apartments

Post-tensioning locks together a shell of precast panels



Thomas Phillips

FINISHED BUILDINGS can be varied by alternating materials in curtain-wall enclosures and by using exposed aggregates in concrete.

This system is fast, cheap and flexible. It lets five men plus a crane operator install 5,000 sq. ft. of multi-level floor space in an eight-hour day. Its square-foot cost is \$2.64 to \$3 for a shell, \$10.70 to \$12.80 finished.

And that cost range covers low-rise and high-rise—from one to 32 stories—and a wide choice of finishing materials, including ribbed steel, brick and lap siding.

Architect Carl Koch and engineer Sepp Firnkas have been pioneering the system—called Techcrete—in Boston. They have used it for 587 low-income apartments up to nine stories, but claim its applications are much broader.

The components are: 1) precast load-

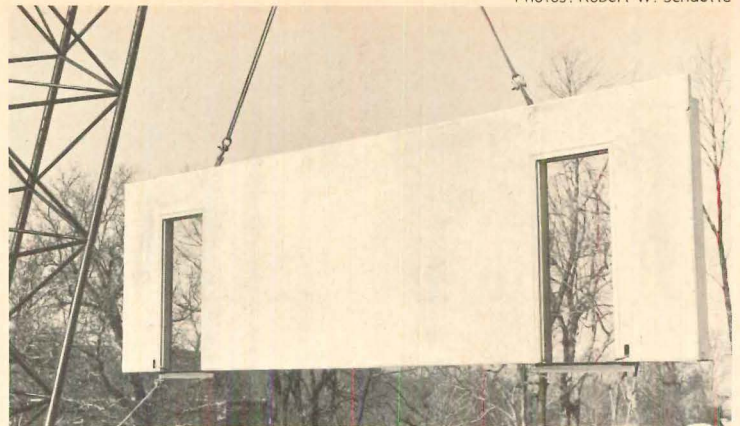
bearing wall panels, 8" thick and 36' to 40' long; 2) hollow-core prestressed floor slabs, 40" wide and 32'6" long; 3) vertical post-tensioning rods inserted through sleeves in the wall panels and coupled from floor to floor (*top right*) and 4) multistory shear walls (*center right*).

The system's advantages: 1) Workers need to master only one panel connection (*drawing, right*); 2) exteriors can be varied because front and rear walls are filled with conventional finishing materials; 3) floor span 32', making plans highly flexible; and 4) foundations are simpler because the wall panel can also serve as a retaining wall or as a deep girder bearing at only two points.

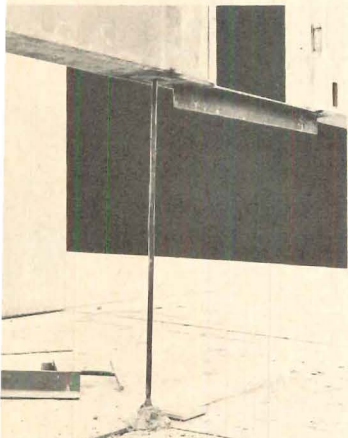
Post-tensioned rods tie walls to floors and help workmen line up panels



1. POST-TENSIONING ROD is coupled to rod in lower wall panel.



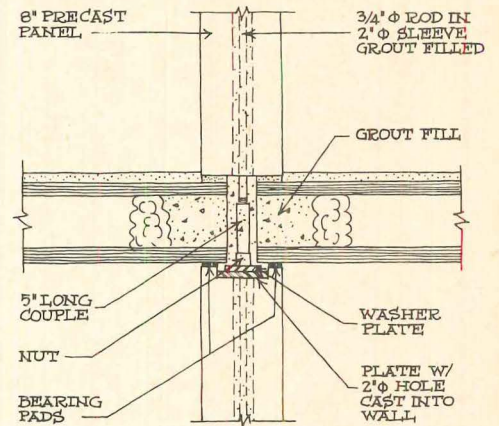
2. PRECAST WALL PANEL, with integral door bucks temporarily braced at bottom by angle irons, is swung into position over tensioning rods.



3. ROD-PANEL INTERLOCK occurs as panel sleeve is lowered onto rod.

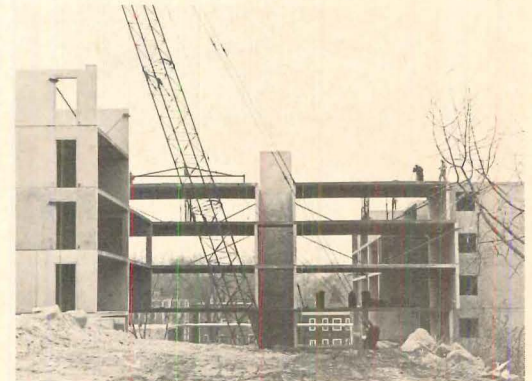


4. ROD TENSIONING, done floor to floor by hydraulic jacks, locks wall panel to walls and floor planks beneath.



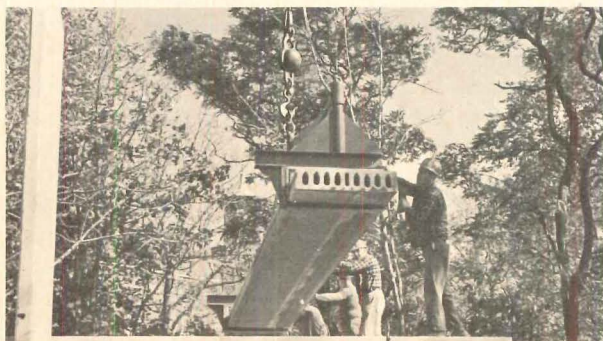
WALL-FLOOR CONNECTION of coupled tensioning rods is later filled with expansive grout.

A structural core sets work sequence and incorporates all bracing needs

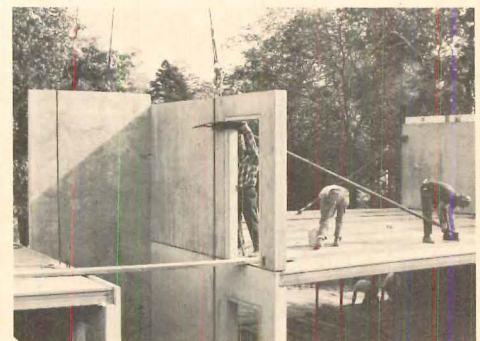


PRESTRESSED SHEAR WALL, held up by two wall panels (left), is the rigid nucleus around which Techcrete panels are erected (above). Shear walls, at right angles to loadbearing panels, extend to full building height and form stairwells. They are prestressed, 4" thick and 6' wide.

Simplified hardware speeds setting of floor planks and shoring of walls

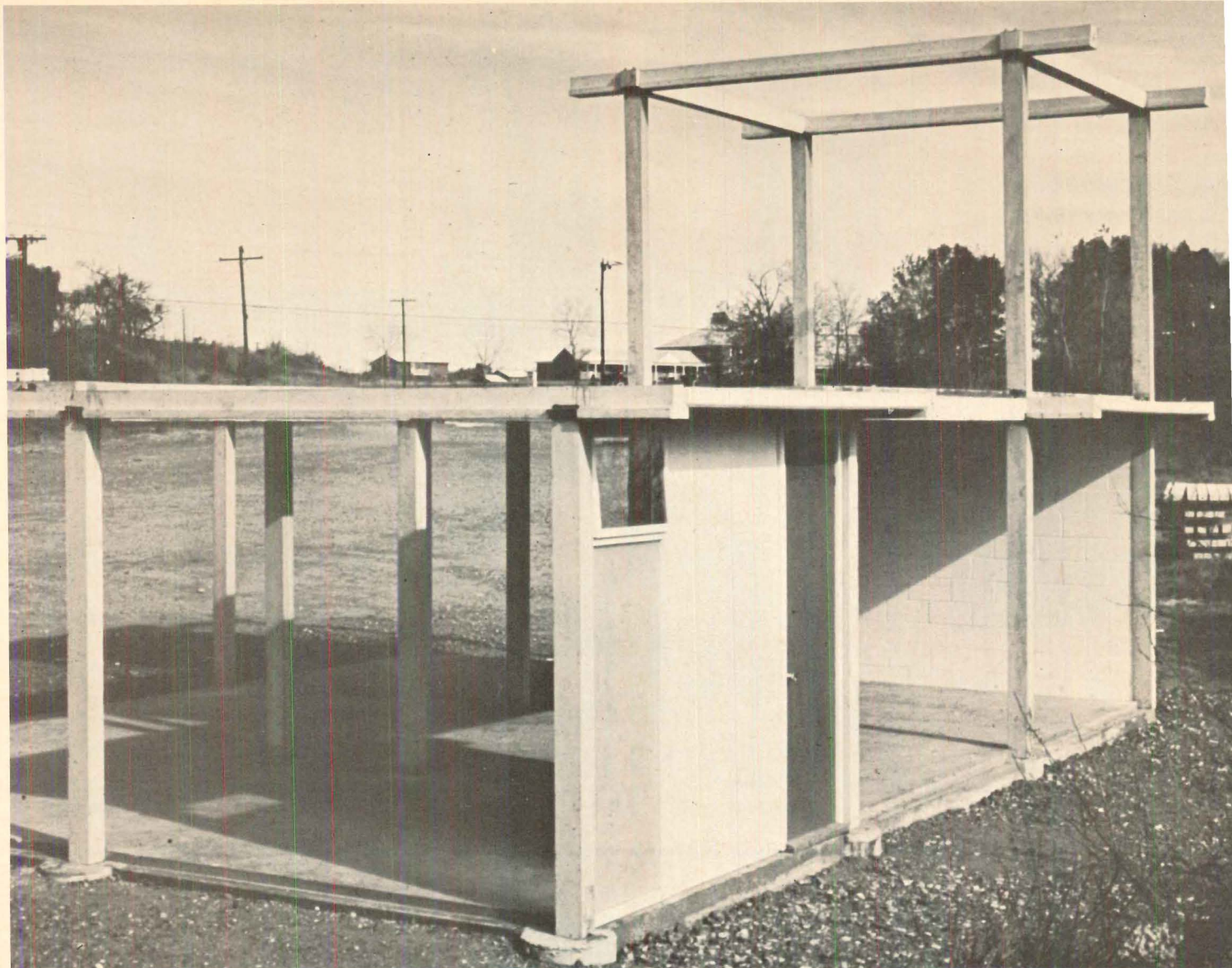


FLOOR-PLANK HOIST has built-in tilting action that lets a crane operator slide newly placed plank against adjoining plank.



WALL PROPS clamp on, eliminating cast-in anchors. A wall panel is installed in 16 minutes.

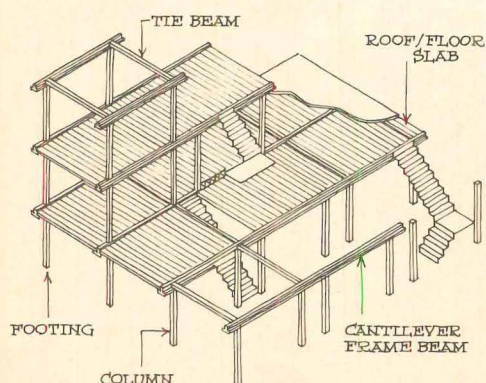
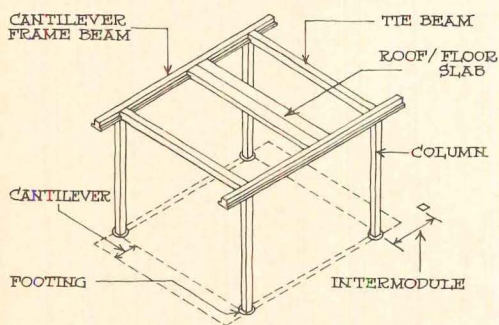
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MODULAR PRECAST FRAMING can be stacked or expanded sideways in a variety of structural designs. Walls are enclosed with conventional materials.

A precast system for low-cost urban houses

Lightweight post-and-beam framing expands two ways



How well the system works is supposed to be determined this summer in Detroit. A neighborhood renewal group sponsored by the Detroit Roman Catholic Diocese—and financed by a \$203,000 grant from HUD—will use the precast framing to build 17 houses on eight scattered sites.

To show how flexible the system is, the project will include duplexes, a three-family townhouse and a six-unit apartment, as well as single-family houses of three to five bedrooms.

Construction costs are expected to be as low as \$7.50 a sq. ft., with a five-bedroom house costing \$11,325 plus land.

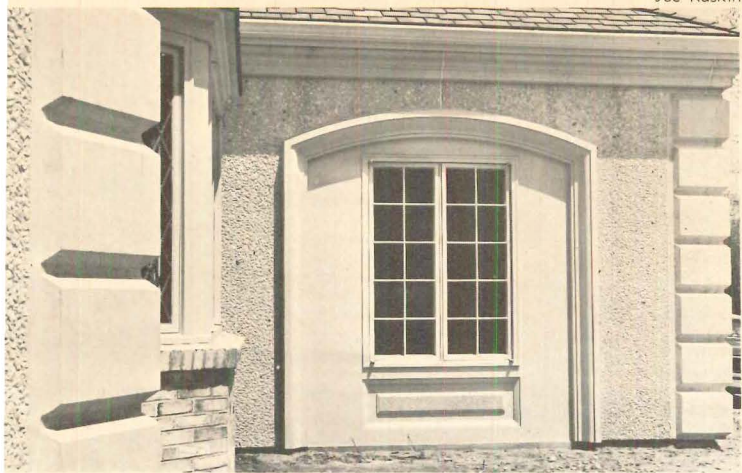
The framing was pioneered in Venezuelan homebuilding by its inventor, Neal Mitchell Assoc. of Cambridge, Mass. But it hasn't yet been used for the multistory buildings—up to four floors—that Mitchell claims it is capable of.

None of the components weighs more than 150 lbs., so the hope is that workmen can set them manually without a crane.

There are four pieces—column, cantilever beam, tie beam and slab—which are combined in a basic module that can be multiplied both horizontally and vertically (*drawings*). Reason for the light weight: the use of skin-hardened cellular concrete containing a foam-and-silicone additive.

Like the Techcrete loadbearing-panel system (*see p. 60*), Mitchell framing incorporates curtain walls. In fact, it is entirely enclosed by curtain walls, which permit unlimited exterior treatments. Siding of all types can be field applied or prefabricated in panels off site, can also be fastened between the precast framing or used to mask it.

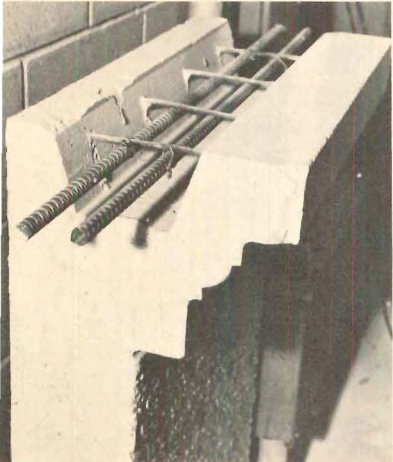
One critical detail in the Mitchell frame—joint connection—is still unresolved. Precast experts say no system is foolproof if it has more than one type of connection, but this system has used several. Another question to be answered: Can workmen indeed maneuver 150-lb. components manually in multistory construction?



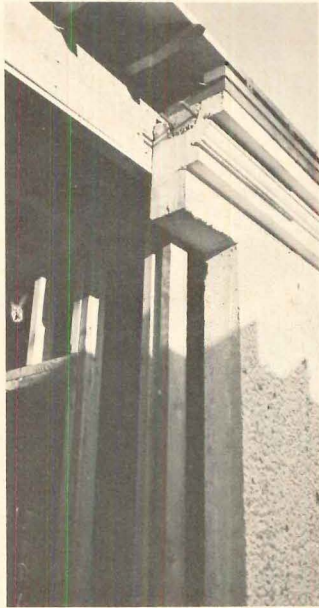
CLASSIC DETAILING is cast into four wall components: window arches and pandrels, quoins, and aggregate-faced panels incorporating frieze and cornice. Precaster's sales pitch: the look of stone for the price of brick.

Joe Ruskin

George Dixon



BUILT-IN WALL TIE produces a continuous bond beam across all wall panels. After panels are placed, double reinforcing rods are laid in precast trough, wired to cast-in cross-ties (above); then trough is filled with concrete (right).



CONNECTIONS consist of plates and angle-irons bolted to cast-in fasteners. Furring strips for attaching interior finishes are also cast in.

A precast system for high-cost houses

Custom wall panels blend classic moldings with aggregates

A precast manufacturer designed these elegant, loadbearing walls for his own house. They have exposed-aggregate surfaces because the company—Granite Research Industries of Somerville, Mass.—specializes in applying aggregate faces to concrete, plastic and wood curtain walls. And they have deep molding details because the manufacturer-builder, Greg Kolligian, intentionally chose the most intricate configurations he could think of.

Unlike other precast-house pioneers, Kolligian thinks the best way to move precast systems into single-family housing is to break into high-priced markets and work down: "You can't show off the architectural possibilities of precast concrete in cheap houses. The low-price market is interested strictly in saving money—aesthetics comes second or gets ignored."

In Kolligian's house—a big one-story (left) in Lincoln, Mass.—aesthetics comes first and economy second. Only the walls are concrete; the roof was built conven-

tionally of wood framing and shingles. Other materials, brick and rustic siding, were added to the walls both for accent and to show how well they blend with concrete and aggregate textures.

Four different components make up the walls: two panels for windows, one for walls and one for quoins (top left). The parts are bolted together by plates and cast-in fasteners (above right), and the walls are joined at the top by a unique cast-in-place perimeter beam (details above.)

How feasible is the system? Kolligian gives two indications. First, he says it costs no more than brick and may cost even less, depending on the grade of brick. Second, he claims that modifications in casting forms and high-volume production runs could let him compete in house-price ranges under \$40,000. At least one prominent builder in the Boston area is now considering giving Kolligian's precast system a try.

continued

Joe Ruskin



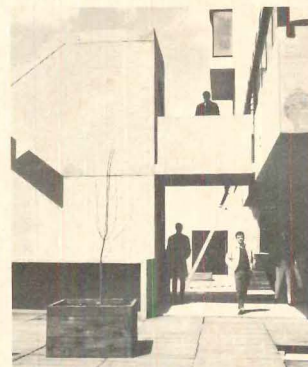
PRECAST HOUSE looks normal from street because roof was built and pitched conventionally.



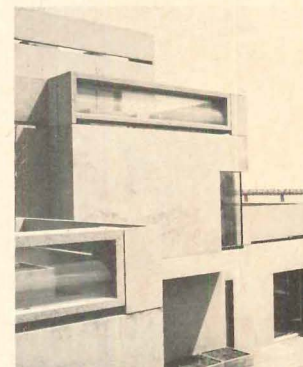
DERRICK AND CRANE hoist one of Habitat's 90-ton modular boxes (17½'x38½'x 10') during early construction. Interior finishes were applied before boxes were placed.



BUILT-IN PEDESTRIAN STREETS also function as structural beam and as conduits for sewers, water and electrical service. City of Montreal pays cost of utility lines from level to level.

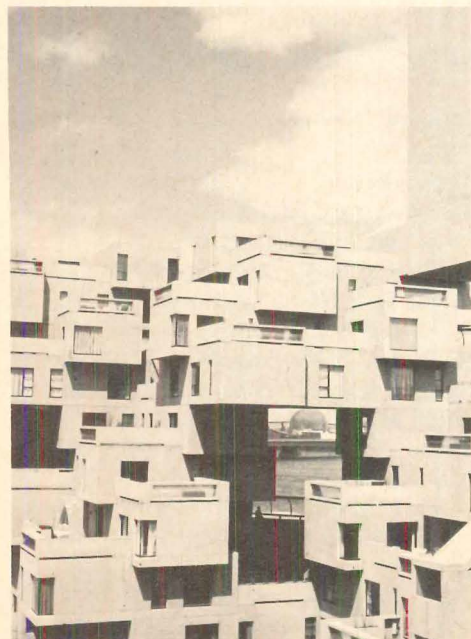


PROMENADES AND TERRACES provide for public and private outdoor recreation at all levels. Private terraces average 17'x35', including gardens watered periodically by a central sprinkling system. Also included: five playgrounds totaling 40,000 sq. ft.



A precast system for upper-middle-income housing

Loadbearing boxes create a modular subdivision in the air



RANDOM LOOK of Habitat represents painstaking engineering involving ½" tolerances. Two problem sources: public passageways and living units combining three boxes on two levels.

This is not a cheap way to build, but it's an attractive solution to high-density housing. From a single precast box, the system produces stacked living units with as much visual variety as a hill village in southern Europe.

But the box weighs 90 tons, and a plant to produce and handle it costs more than \$3 million. Also, needless to say, the plant can't be more than a stone's throw from the site.

Israeli architect Moshe Safdie brought the concept to Canada and applied it to a demonstration model at Expo '67. The demonstration—called Habitat '67—cost over \$13,500,000 for 158 living units (354 boxes), or about \$100,000 per unit.

That unit cost is misleading, however, Habitat was originally meant to contain 1,000 units, which would have reduced its per-unit cost to that of a conventionally built, three-bedroom Canadian house in the \$40,000 price range. Other development groups are considering the system for still bigger projects, which would make

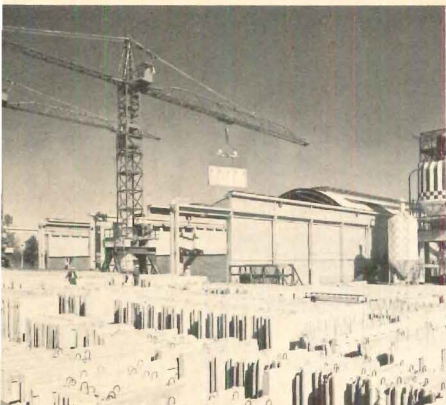
unit costs even lower than \$40,000.

Habitat's random look makes problems for engineers because loads from box to box are never constant. In fact, if Habitat's boxes had been stacked any higher, the engineers would have switched to a structural frame with non-loadbearing boxes inserted.

Habitat's biggest construction advantage is that its interiors can be finished in a factory. Canadian engineers made the most of this by incorporating a molded fiberglass bathroom.

If Canada makes condominium ownership legal, Habitat will be considered a hillside subdivision of 158 private homes rising 120' in the air and covering four city blocks. It has its own 15'-wide street (top photo), which the City of Montreal would use to provide the full range of municipal services on a conventional house-to-house basis.

At present the units are being leased. There are 19 types with up to four bedrooms for \$300 to \$700 a month.



PANEL STOCKYARD near Milan belongs to a highly mechanized plant (*right*) that produces over 2,000 precast dwelling units a year.

European production like this may hold the future of U.S. precast housing

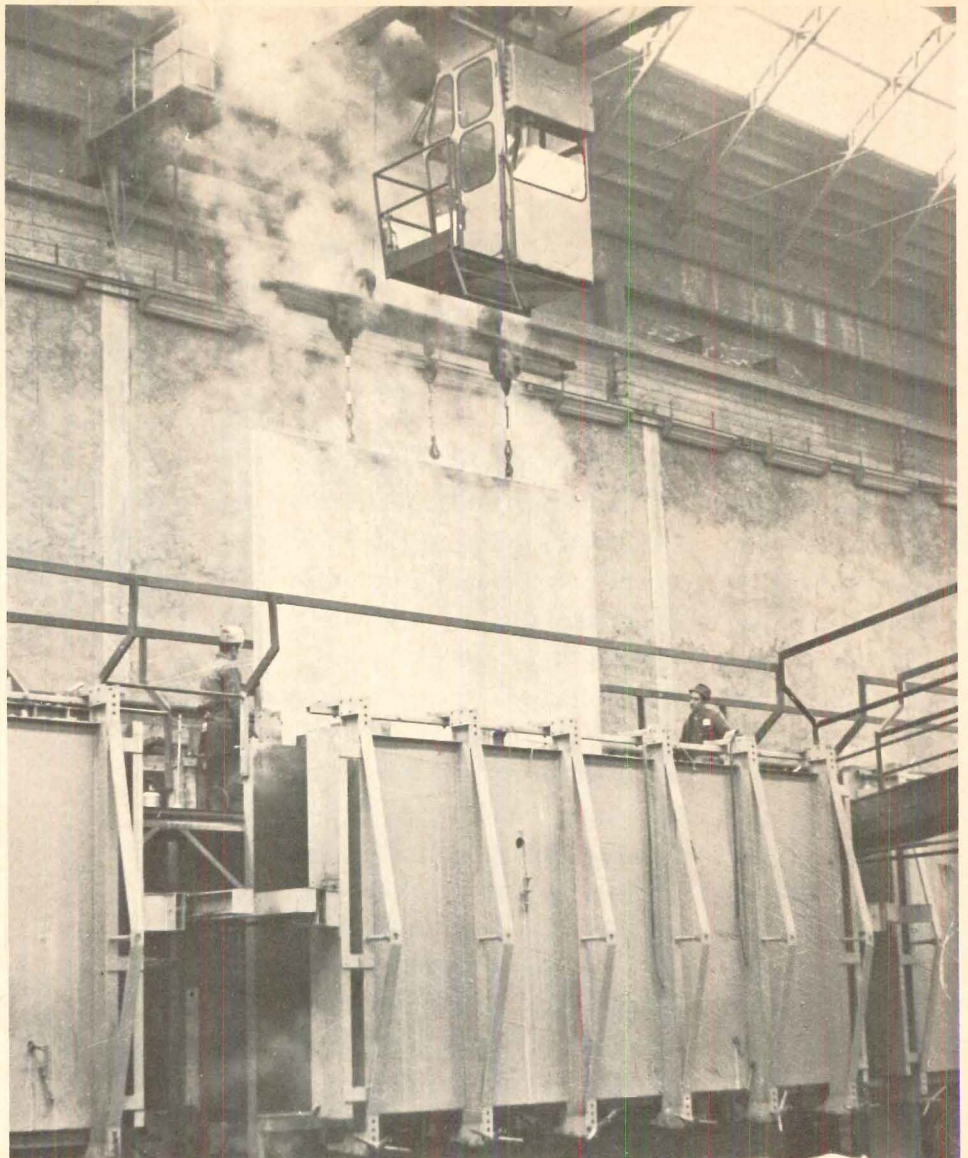
This Italian plant makes U.S. precasting plants look like relics from the last century. And, indeed, many U.S. plants are little more than simple on-site equipment that takes all day to cast and cure a panel.

By contrast, European precasting methods are highly industrialized. Plants like those of Balcency-MBM—a French and Italian precasting combine—can turn out 10,000 sq. ft. of loadbearing panels daily with 11 casting machines and a minimal labor force. They do it with 1) water-heated forms that cure concrete in as little as two hours (*right*), 2) vertical forms to simplify handling, 3) pouring and vibrating techniques that produce perfectly smooth concrete faces and 4) vast components stockyards (*above*) in which panels are indexed like books in a library.

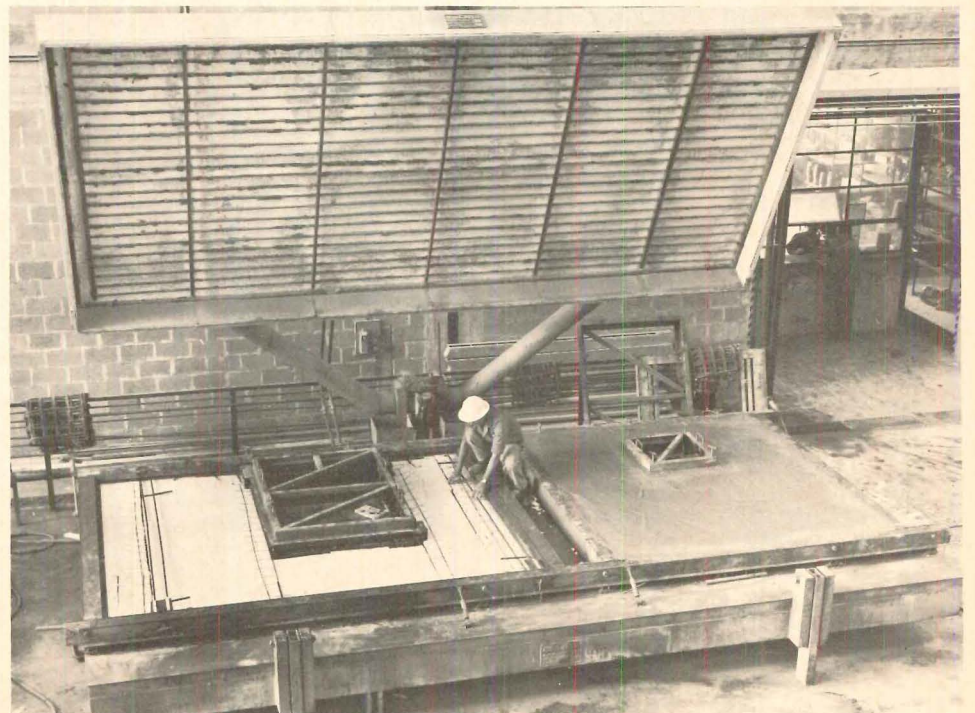
But European precast-construction techniques make somewhat less sense for the U.S. housing market. Their joint connections are too difficult for unskilled workmen. And much of their economy depends on casting in plumbing, wiring and even heating equipment—practices that U.S. codes and tradesmen have long opposed.

If simpler U.S. precast-building techniques can be wedded to sophisticated European production methods, precast concrete could well become a factor in U.S. housing. European precasting systems are, in fact, being promoted in the U.S. now. And before the year is out, one such system will be set up in New England primarily to make a dent in U.S. housing.

—H. CLARKE WELLS



RADIANT-HEATED CASTING MACHINE for interior wall panels cures concrete in two to three hours. Concrete is pumped into the vertical form at the bottom to avoid air pockets.



CAST-IN HARDWARE, like window frames and wiring raceways, and thermal insulation are placed in horizontal form for exterior wall. Form raises vertically for removing cured panel.

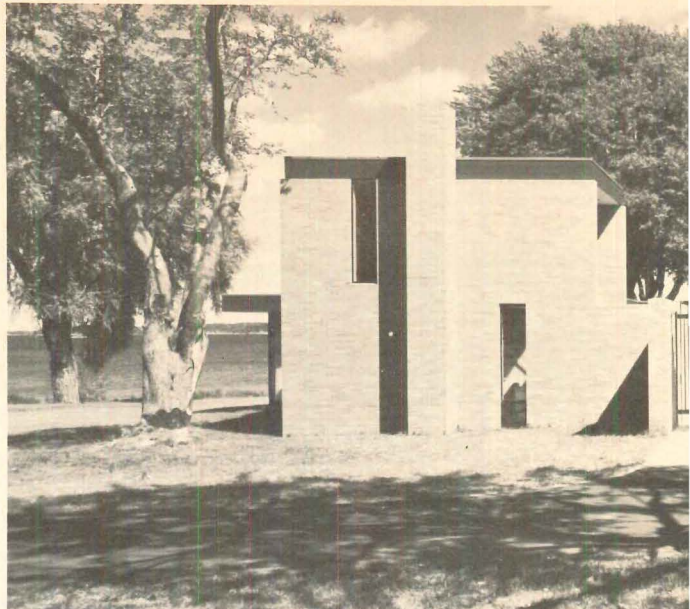
Four custom houses show you what's new in living rooms

Ten years ago these houses would have rated little more than a passing glance from most merchant builders. The bulk of the market was in low- and medium-priced houses, and the typical living room was a 12'x18' box with perhaps a bay window or a sliding glass door as its most luxurious feature.

Today that same merchant builder is in a very different position. On the one hand, he has lost much of the low- and medium-priced market to mobile homes and apartments; on the other hand, the market for higher-priced detached houses has grown enormously. And it's this growth that makes the custom-designed living room important.

Merchant-built living rooms have already benefited from custom design: The two-story living room, for example, became a common feature in custom houses three or four years ago; today it's beginning to show up in built-for-sale houses priced below \$30,000. So it's entirely reasonable to assume that the custom houses on the following pages—all of them award winners in the Homes for Better Living Program*—contain ideas that can make the living rooms of tomorrow's merchant-built houses more interesting, and hence more salable.

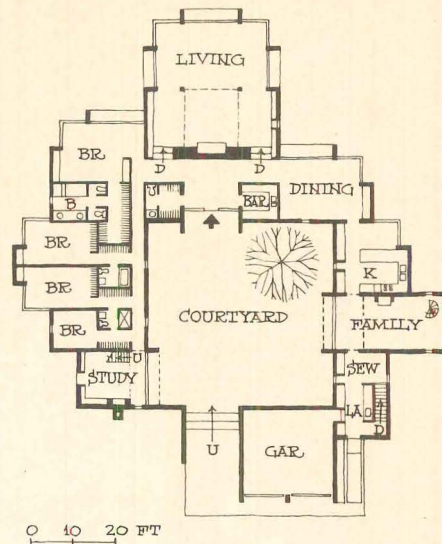
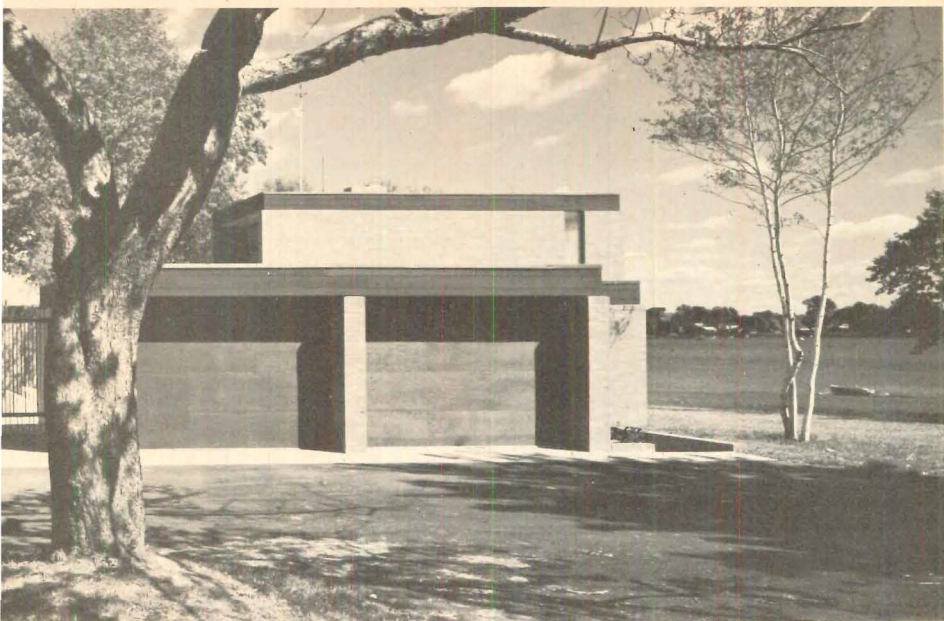
*Sponsored by The American Institute of Architects, HOUSE & HOME, and *American Home*.



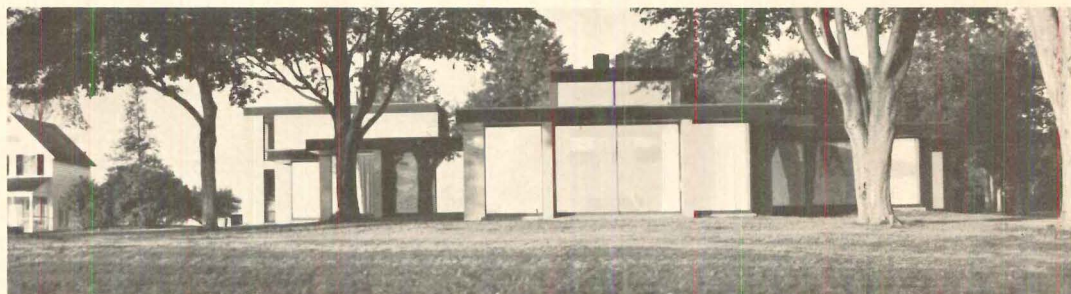
MAIN ACCESS to house is through gate, at left of garage, and across center court to formal wing at rear. Family entrance is at far right.



CONVERSATION AREA, defined by posts and raised ceiling, adjoins open area with glass walls on three sides.



Photos: David Hirsch



VIEW FROM WATERFRONT shows glass-walled living room, center, raised roof with clerestories above.

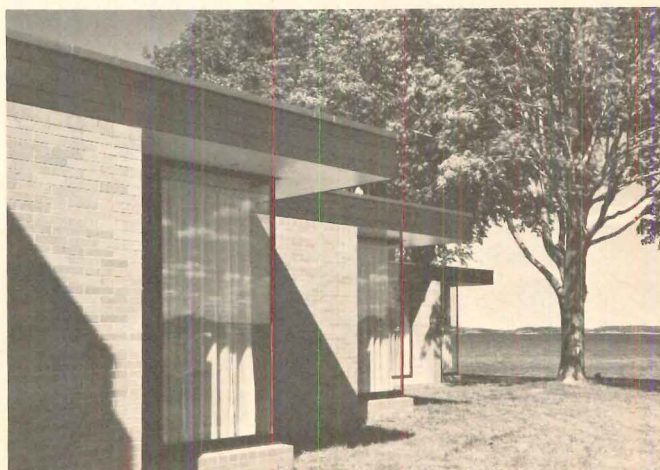
This living area is actually two rooms within a third room

The overall dimensions are a rather overwhelming 30'x35'. But these figures are deceptive because they refer to not one room but three. First, there is a 15'x15' conversation area next to the fireplace; it is demarcated by posts and by a raised section of roof with a high window. Beyond is what the architect terms a closed-in version of the old-fashioned porch—a 30'x20' area with three walls of glass that command a sweeping view of the St. Lawrence Seaway. And, finally, the combination of the two areas provides one enormous room for large-scale entertaining.

There are two other raised roof sections in this U-shaped house: One is in the bedroom wing, where there is a balcony area over the study; the other is in the family living wing, where there is a balcony area above the family room. And both have a view of the water. Total living area: 5,000 sq. ft.

Honor Award Homes for Better Living

ARCHITECT: *Richard R. Moger; Arthur Lutzker, assoc.*
 BUILDER: *Rouse Construction*
 LOCATION: *Clayton, N.Y.*



CORNER WINDOWS, set into stepped-back walls and under deep roof overhangs, open rooms on sides of house to views of water.

continued



UNUSUAL WINDOWS in living room include clerestory, top, glass wall opening to court, left.



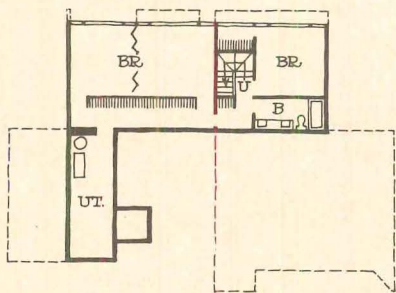
MAIN WINDOW in north wall would have been inadequate to light 30'-long room.

Unusual windows bring extra light into a living room with only one exposure

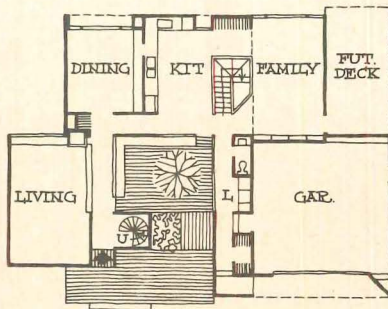
The one conventional window in this 30' long room faces north. But most of one long wall has been left open so that a large window across a gallery-hall can let light into the living room from a center court. And another window—a clerestory placed under the peak of the shed roof—brings in more daylight and a view of trees and sky.

The need for such unusual fenestration stems from the house's orientation: Because its south side faces the street, privacy demanded that big glass areas face north. High windows on the other three sides let sunlight in without destroying privacy.

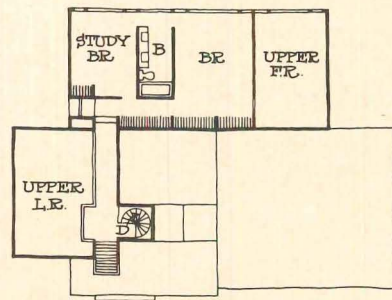
The house doesn't look big, but it has almost 2,800 sq. ft. of living area. One reason is a large daylight basement that holds three children's bedrooms.



GROUND LEVEL



FIRST LEVEL



SECOND LEVEL

0 5 10 15 FT

**Award of Merit
Homes for Better Living**

ARCHITECT: *William H. Scarbrough;
Samuel J. Cichello, Assoc.*

BUILDER: *Clarke H. Rohl*
LOCATION: *Manlius, N.Y.*



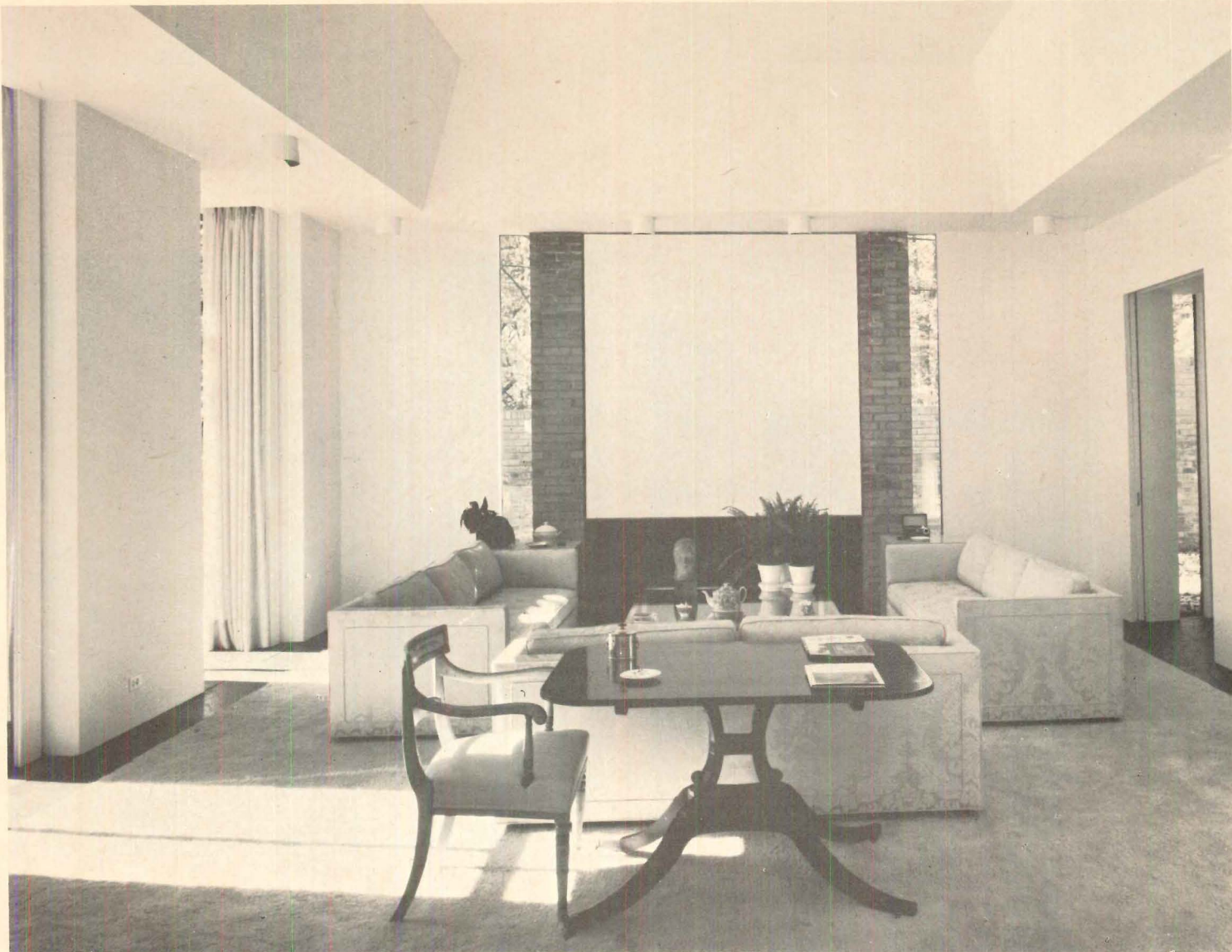
TWO-STORY FAMILY ROOM has high eastern window above door to a future deck. Shutter doors, top right, open from master bedroom.



STREET ELEVATION, which faces south, is almost windowless. High section set out from wing at left houses circular stairway.



VIEW FROM SIDE shows how most windows face north, at left. Projecting wing at right is living room. Foundation windows are in basement bedrooms.



LIVING ROOM has fireplace at far end flanked by strip windows. Bay windows break room's perimeter. Mansard roof permits 13' ceiling.



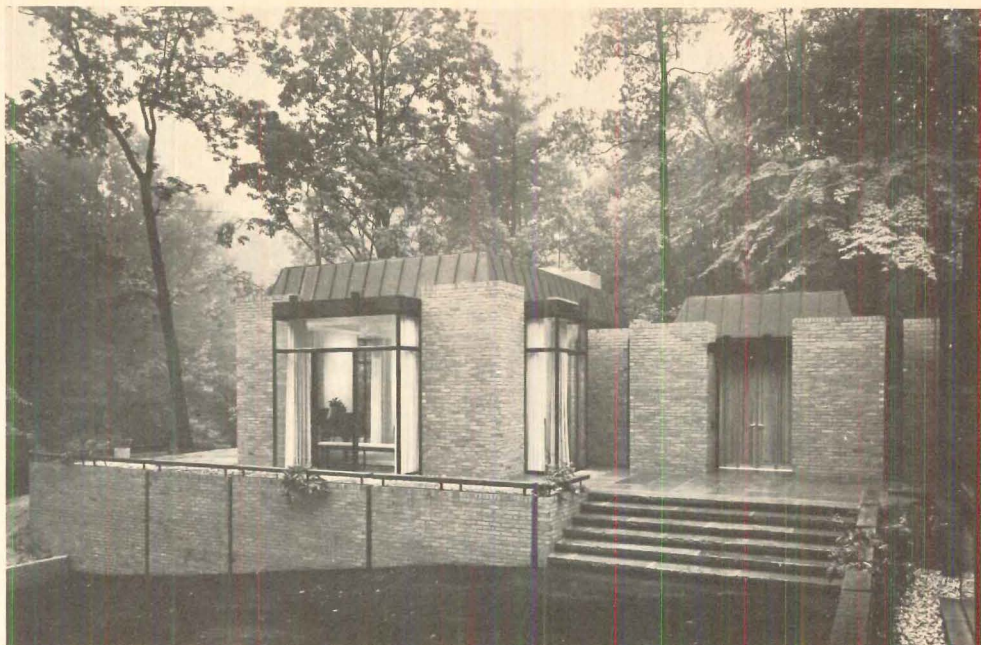
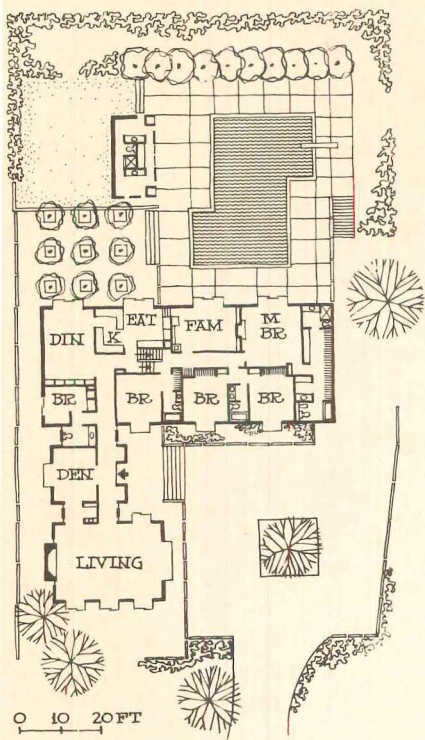
BAY WINDOWS on long side of living room are 5' wide, 10' tall. Frames are black aluminum.

Tall bay windows add space and elegance to a formal living room

The 10'-high windows function like French doors with sliding panels; they lead to terraces on three sides of the living room. And the bays provide more than just light and access: They add interior space as well. The large window (*plan*) encloses a 2'x10' section of floor, the four smaller ones each enclose 2'x5' sections. This extra 60 sq. ft. transforms the room's basic 20'x30' into something much more interesting than a simple rectangle.

The bay windows recur throughout the house: Two 10' bays open from the master bedroom and family room to the swimming pool terrace; two others open from the informal dining area and formal dining room to another terrace.

The house is on three levels. The main entrance opens to the middle level, with the family room and bedrooms a few steps higher. Below are servants' rooms, garage



FRONT ENTRANCE is recessed between jutting wall sections. Living room is left; main wing, right.

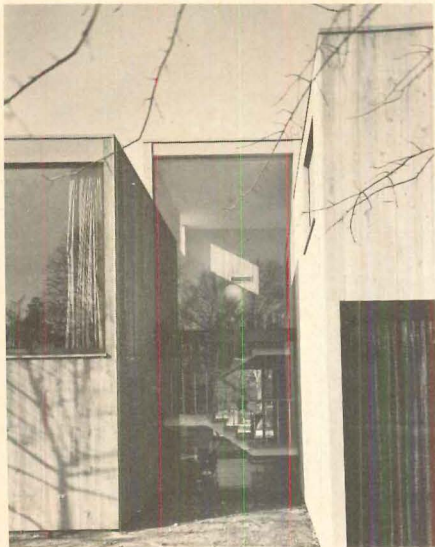
Award of Merit
Homes for Better Living

ARCHITECT: *Hugh Newell Jacobsen*
 BUILDER: *Jesse Dustin & Sons*
 LOCATION: *Washington, D.C.*

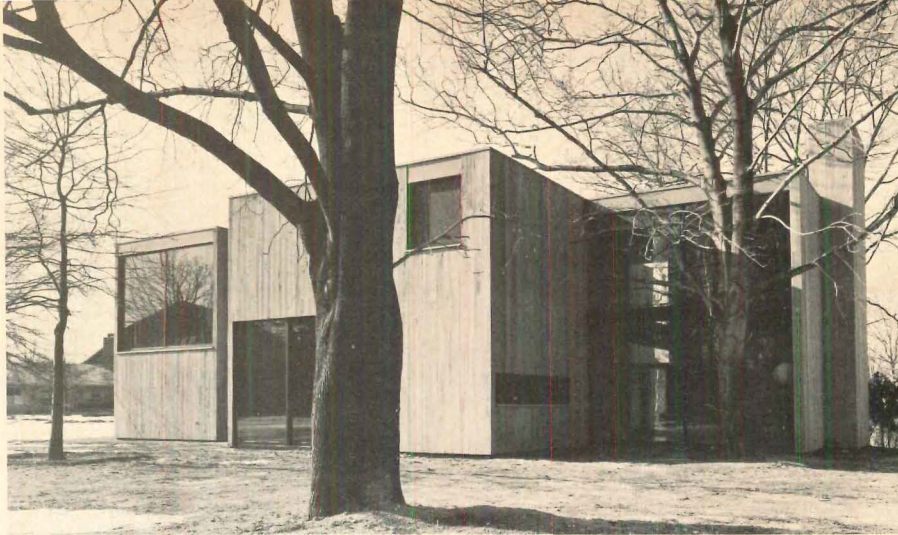
Photos: Robert Lautman



NORMAL TERRACES surround living room, left. Driveway leads to front entrance beyond living room and to left, then continues to below-grade garage.



GLASS-WALLED STAIRWELL separates master bedroom-study wing from family area.



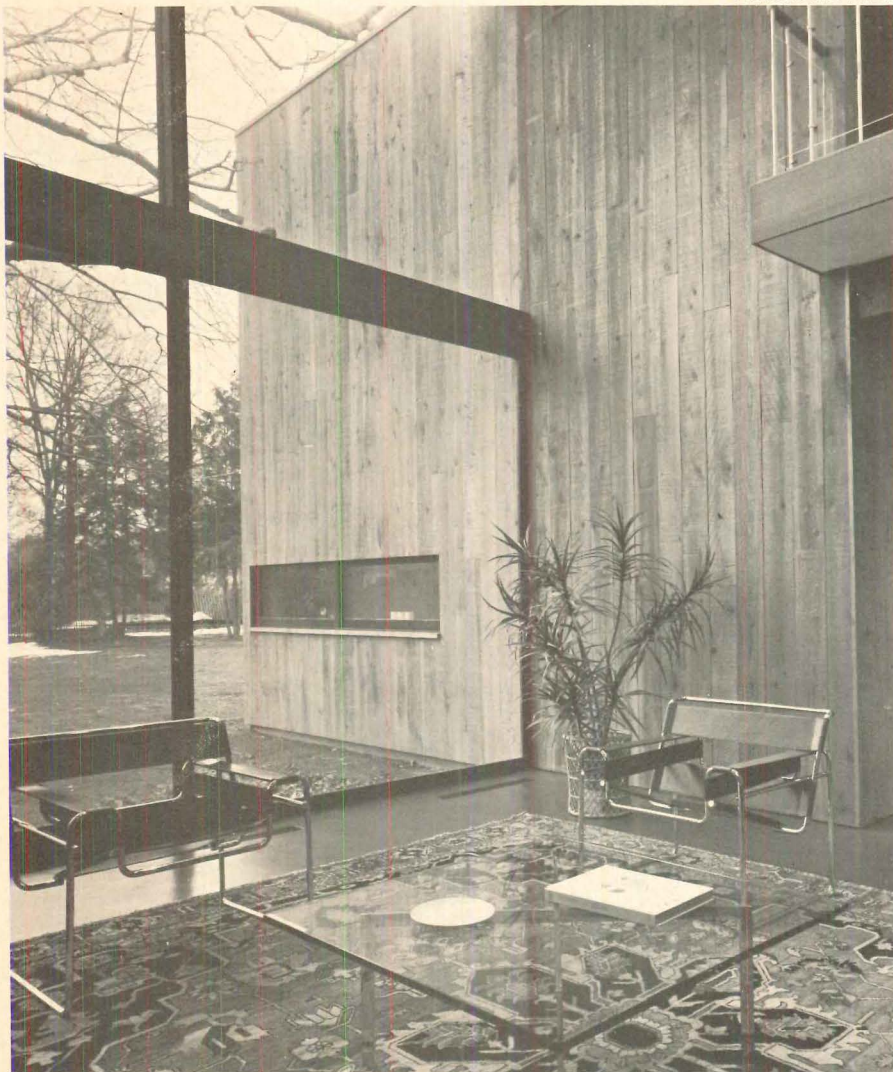
REAR ELEVATION shows glass-walled living room at right, master bedroom at far left.

A two-story window wall turns a small room into a spectacular room

The living room in this house is only 17'x20'. But it is two stories high, and this height is accentuated by a full window wall. Result: a room with excitement, a fine outdoor view and more than enough light—even though two walls that face the street and neighboring houses are left blank for privacy.

At the other end of the house, the second-floor master bedroom repeats the same concept of light and privacy: Its single exposure is a one-story wall of glass, faced the same way as the living room's. In between, the first-floor family room has a similar wall and exposure. Total living area: 3,550 sq. ft.

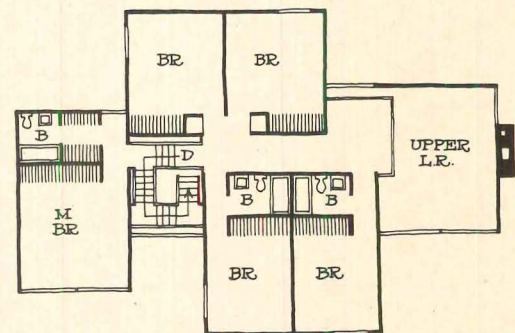
Photos: David Hirsch



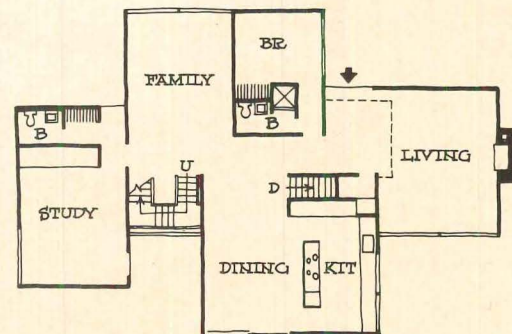
WINDOW WALL in living room includes sliding glass door. Small kitchen windows are beyond.

Honor Award Homes for Better Living

ARCHITECT: *George Nemeny*
BUILDER: *Aadne Asland*
LOCATION: *Woodmere, N.Y.*



UPPER LEVEL



LOWER LEVEL

0 5 10 FT



ADULTS' WING, left, juts out from rear of house. Family area is in center, service area at right.



ADULTS' TERRACE is accessible from living room, left, and from foyer. Family area has its own terrace.

Honorable Mention

Homes for Better Living

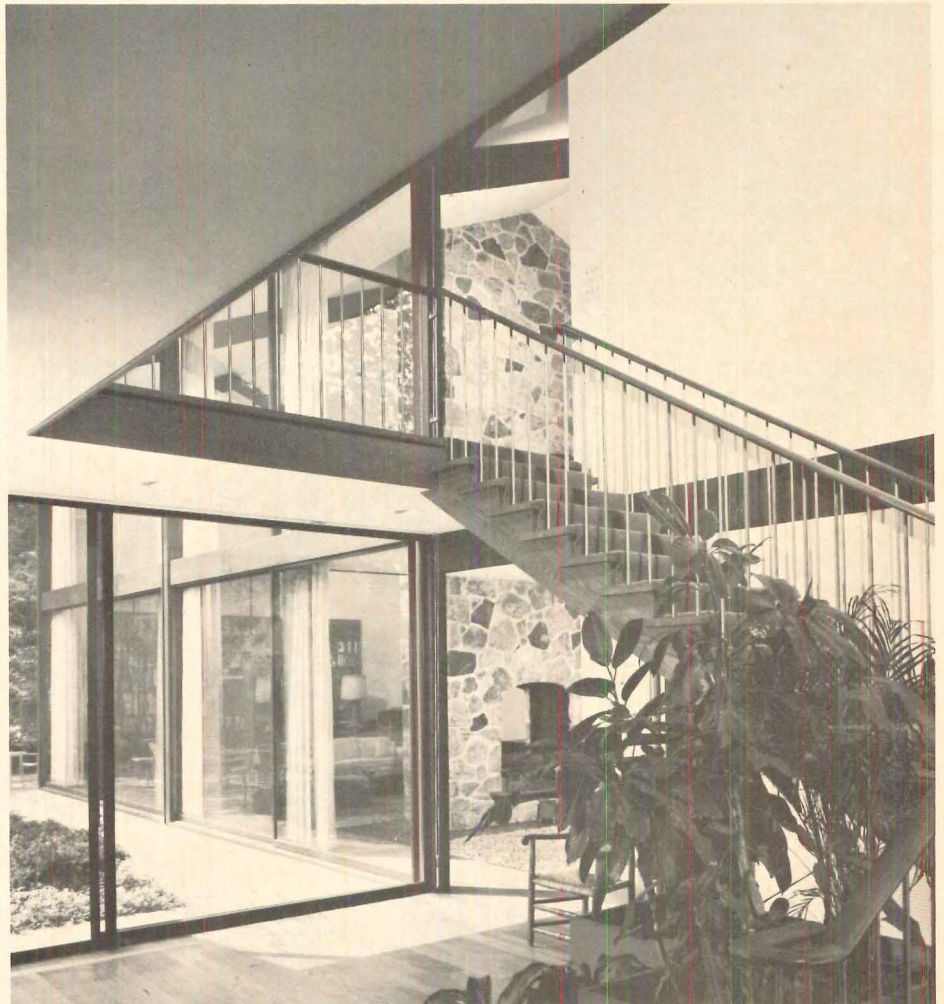
ARCHITECT: *George Nemeny*
 BUILDER: *Fetzer-Atwater*
 LOCATION: *Rye, N.Y.*

Photos: Ezra Stoller

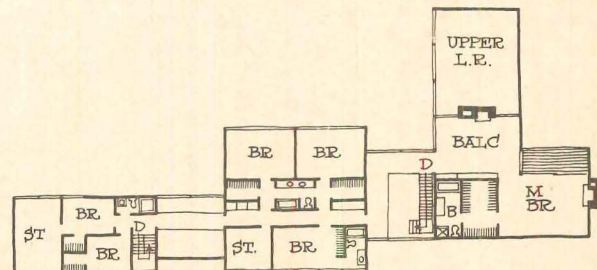
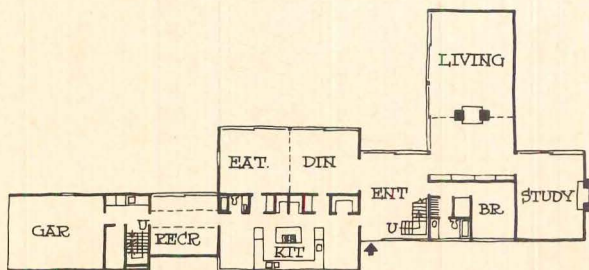
This adults-only wing centers around a large living room

The two-story, 700-sq.-ft. room sits almost by itself at the back of the house. Two of its three exterior walls are blank, but the third wall is all glass and opens onto a terrace. The room's dominant feature is a massive two-level fireplace serving the living room itself and a balcony-sitting room that overlooks the living room. The second-floor master bedroom and bath and a first-floor study, guest bedroom and bath complete the adults' wing.

A glass-walled stairwell connects the wing to the rest of the house: a family area with children's bedrooms above it (*center of plan below*); garage and service areas below the servants' quarters (*far left*). The children's rooms are reached by bridges from both the stairwell and the servants' quarters. Total living area: 5,000 sq. ft.



LIVING ROOM, seen here from foyer, has glass wall and two-way fireplace. Stairs lead to balcony.



0 10 20 30 FT

		PROFIT & LOSS STATEMENT					BALANCE SHEET ITEMS (000)			
1966 rank	1965 rank	Year to	Revenues (000)	Per cent change	Net income (000)	Per cent change	Income per share	Invested capital	Debt	
Building companies										
1	Levitt & Sons	1	Feb. '67	\$ 93,582	+ 25	\$ 3,983	+ 22	\$1.28	\$27,094	\$ 55,923
2	Del E. Webb Corp. (Housing & construction)	2	Dec. '66	165,883	+ 28	(762)	d	(.04)	22,409	130,961
			Dec. '66	79,317	+ 33	NA	NA	NA		
3	Kaufman & Broad	3	Feb. '67	43,978	+ 39	1,522	+ 42	2.49	6,323 ^m	13,211 ^m
4	Occidental (Homebuilding subsidiary only)	4	Dec. '66	34,625	- 30 ^{ji}	420	- 87 ^{ji}	ji	10,597	62,460
5	Jim Walter Corp. (Housing)	5	Feb. '67	165,273	+ 1	5,823	- 20	2.29	65,848	184,943
				29,413	NC	NA	NA	NA		
6	General Builders	6	Dec. '66	20,517	+ 33	(466) ^a	e	(.37)	4,649	19,000
7	Sproul Homes	7	Jan. '67	12,696	- 11	(699)	aa	(.58)	1,230	4,938
8	Kavanagh-Smith	9	Oct. '66	10,592	+ 13	(183) ^b	f	(.36)	2,381	4,536
9	Capital Building Industries	8	Dec. '66	9,447	- 9	32 ^c	k	.02	1,330	2,840
10	Presidential Realty	11	Jan. '67	8,326	+ 15	(646)	g	(.43)	1,794	45,656
11	Development Corp. of America	10	Dec. '66	7,781 ^{hh}	+ 7	82 ^{hh}	- 5	.12	1,316	3,545
12	Louis Lesser Ent.	12	Mar. '67	6,244	- 12	(6,525)	h	(1.63)	6,517 ^m	72,776 ^m
13	First National Realty	13	Dec. '66	NA	NA	(1,180)	i	(.89)	2,799 ^m	37,309 ^m
14	First Hartford Realty	14	Dec. '66	3,055	+ 46	(165)	j	(.28)	2,706	16,789
15	Nationwide Homes	15	Mar. '67	1,713	+ 13	239	+ 38	.40	2,695	1,773
TOTAL BUILDING*				\$583,662	+ 11.4	\$2,655	+ 45		\$156,889	\$619,351
Prefabrication companies										
1	National Homes	1	Dec. '66	\$70,141	- 5.0	\$ 71	- 91.0	\$.02	\$34,756	\$ 19,803
2	Modern Homes	2	Dec. '66 ^{ee}	26,312	+ 2.0	405	n	.24	7,408 ^m	53,079 ^m
3	Scholz Homes	4	Dec. '66	10,977	+ 0.159	79	- 81.1	.15	2,277	5,172
4	Albee Homes	3	Dec. '66	6,889	- 63.0	(1,626)	p	(.98)	8,280 ^m	24,698 ^m
5	Hodgson Houses	5	Feb. '67	6,314	+ 0.49	55	- 49.7	.06	1,102	580
6	Continental Homes	7	Mar. '67	4,148	NC	190	+ 3.0	.45	1,336	380
7	Inland Homes	6	Feb. '67	2,641	- 42.5	(417)	r	(1.25)	2,945	2,885
8	Admiral Homes	8	Feb. '67	2,328	- 17.0	(415)	ff	(1.08)	218	1,148
9	Techbuilt	9	Dec. '66	1,057	- 21.0	39	- 57.0	.093	25	207
TOTAL PREFABING*				\$130,807	- 11.7	(\$1,619)	gg		\$58,167	\$107,952
Land development companies										
1	Gulf American	1	Nov. '66	\$157,720	+ 23.3	\$21,092	+44.55	\$2.20	\$82,745	\$ 85,855
2	Sunasco	2 ^v	Mar. '67	68,311	NA ^v	2,340	NA ^v	1.31	42,515	271,776
3	Forest City Enterprises	3	Dec. '66	45,232 ^s	+ 9.9	1,009	+ 6.2	.42	19,673	37,356
4	General Development	4	Dec. '66	41,533	+ 25.3	4,029	+ 86.0	.54	51,638	47,721
5	McCulloch Oil	5	Dec. '66	23,267	+ 28.3	2,850	+ 35.0	.72	19,303	13,351
6	Deltona	7	Dec. '66	20,568	+ 31.8	1,734 ^w	+ 11.2	1.30	15,975	25,332
7	Horizon Land	8	Feb. '67	18,009	+ 39.8	1,966	+ 67.0	1.05	10,629	21,958
8	Arvida	6	Dec. '66	15,877	- 16	1,022 ^t	+ 97.0	.17	66,238	28,394
9	American Realty & Petroleum	14	Jan. '67	11,324	+110	2,089	+220.0	.83	11,987 ^m	6,983 ^m
10	Christiana Oil	11	Mar. '67	9,066	+ 41	247	- 70.0	.09	12,643	12,217
11	Cousins Properties	12	Dec. '66	7,990	+ 26.9	711	+ 26.0	2.26	3,182	10,726
12	Crawford Corp.	10	Dec. '66	6,543	- 7.3	10	y	.01	5,089	4,910
13	Lake Arrowhead	13	Oct. '66 ^{bb}	6,398	- 18	816	- 43.0	1.14	6,990	10,016
14	Southern Realty & Utilities	20	Mar. '67	5,663	+266	798	cc	.93	6,141 ^m	6,883 ^m
15	Holly Corp.	9	Jan. '67	5,598	- 43.9	913	+ 29.1	.09	16,326 ^m	11,377 ^m
16	Edwards Industries	15	Mar. '67	5,289 ^u	- 3	116	- 18.0	.39	1,599	NA
17	Canaveral International	16	Mar. '67	5,126	+ 36	1,786	+160.0	1.14	4,029 ^m	4,665 ^m
18	Laguna Niguel	18	Jan. '67	4,186	+ 45.2	19	- 91.0	.01	1,529	18,779
19	Royal American Industries	17	Mar. '67	1,915	- 42	(268) ^x	z	(.01)	24,408	13,468
20	Garden Land	19	Feb. '67 ^{dd}	735	NA	(123)	NA	(.08)	5,104	1,193
21	American Land	21	Dec. '66	66	- 92	(529)	kk	(.38)	813 ^D	1,830
TOTAL DEVELOPERS*				\$386,081	+ 19.6	\$40,294	+ 51.8		\$338,318	\$349,546
Industry composite*				\$1,100,550	+ 10.7	\$41,330	+ 37.7		\$553,374	\$1,076,089

()=(Loss)

NA— Not available or not reported by company.

NC— No change.

D— Deficit.

a— Including loss of \$363,633 on foreclosure of apartment.

b— After special charge of \$255,681.

c— Including \$44,701 profit from sale of factory building.

d— Loss of \$12,669,044 in previous year.

e— Loss of \$439,862 in previous year.

f— Profit of \$288,215 in previous year.

g— Profit of \$128,738 in previous year.

h— Profit of \$2,020,000 in previous year.

i— Loss of \$761,722 in previous year.

j— Loss of \$62,000 in previous year.

k— Loss of \$229,686 in previous year.

m— For company fiscal year ending earlier than H&H's constructed model.

n— Loss of \$326,606 in previous year.

p— Profit of \$592,000 in previous year.

r— Profit of \$101,922 in previous year.

s— Of which \$27.7 million came from materials sales.

t— Including income of \$647,000 from 50%-owned subsidiary, University Park.

u— Including materials, homebuilding and auto sales.

v— Earlier performance statements not available. No. 2 position on chart in previous year based on pro forma estimate of revenues.

w— Including \$579,582 net from 50%-owned non-consolidated MIDC, vs. \$868,637 in previous year.

x— After tax credits of \$223,465 and special charge of \$61,421.

y— Loss of \$1,275,820 in previous year.

z— Profit of \$227,552 in previous year.

aa— Loss of \$1,285,440 in previous year.

bb— Previously, H&H constructed fiscal year to Jan. Figures adjusted to altered base.

cc— Loss of \$268,903 in previous year.

dd— Previously, H&H constructed fiscal year to Dec.; adjustments unavailable. Company's own fiscal year, ending Aug. 1966, shows \$72,620 net profit, down 84% from Aug. 1965. Company projects \$500,000 profit for Aug. 1967.

ee— Previously, H&H constructed fiscal year to Sept. Figures adjusted to altered base.

ff— Loss of \$382,425 in previous year.

gg— Profit of \$1,648,000 in previous year.

hh— Figures for previous year restated by company. Previous year's figures restated by company to reflect merger of S. V. Hunsaker into newly acquired Deane Bros. to form new wholly owned non-consolidated subsidiary. Per-share earnings unavailable.

kk— Loss of \$456,000 in previous year.

*Group totals exclude companies with incomplete data. Comparisons are vs. same base constructed for previous year.

Publicly owned companies play a major role in housing because they are Wall Street's window on the industry. Now that the returns are in, how did they fare in tight-money 1966?

Developers prospered Builders survived Prefabbers suffered

Housing's money troubles of the last year touched publicly held land developers lightly, if at all, but harried builders and scoured the prefabbers.

Developers' 1966 sales would have been described as phenomenal in any year. HOUSE & HOME's group of publicly owned development companies raised earnings 52% to \$40.3 million, while revenues leaped almost 20% to \$386.1 million.

A few developers did show a decline in net income, notably those laboring in the glutted California market. And three companies actually showed a loss—but these were the smallest three. The average earnings for each member still came to nearly \$2.25 million.

By contrast, building companies were able to muster average earnings of only about \$190,000, although their gross revenues exceeded the developers' by some 50%. Eight of the 15 companies ended the year in the red. In fact, receding money tides left two builders, Eichler Homes and Dover Construction Co., on the rocks of bankruptcy. But the glowing performance of two others, Levitt & Sons and Kaufman & Broad, did refute the hoary claim that sales always drop when money is short.

Hardest hit of all were the home-manufacturing companies. Those who survived had little to cheer:

As a group, they actually lost \$1.6 million, compared to earnings of \$1.6 million a year ago. Sales dropped by 11.7% to \$130.8 million.

Two prefabbers were also caught with severe cash shorts and sought federal bankruptcy court protection: Madway Mainline Homes of Wayne, Pa., in 1965 the fourth largest prefabber in the country with sales of \$18.1 million, and Great Lakes Homes of Sheboygan, Wis.

Put another way, the two dozen builders and prefabbers together could muster earnings of only slightly more than \$1 million.

The one consolation in those bleak figures is that averages do not tell the full story. One severe loss—like highly leveraged Louis Lesser's \$6,525,000—can distort the industry's overall profit picture.

The averages also submerge the dramatic examples of companies that reduced large losses of previous years. Del E. Webb Corp., for example, cut a loss of \$12.7 million to \$762,000. Crawford Corp. went from red ink of \$1.3 million to a profit of \$10,000. And Canada's biggest builder, Consolidated Building Corp. of Toronto, was back in the black after a loss of \$1.2 million in 1965.

For the whys and hows behind the ups and downs of housing's publicly held companies, turn the page.

INDUSTRY COMPOSITE

PROFIT MARGINS (net as % of revenue)

Developers	10.6%
Builders	0.5
Prefabbers (Loss)	
All Companies	3.8

PROFITABILITY (net as % of equity)

Developers	11.9%
Builders	1.7
Prefabbers (Loss)	
All Companies	7.5

DEBT/EQUITY POSITION

Developers	103:100
Builders	39:10
Prefabbers	93:50
All Companies	97:50

continued

Land developers: lush profits in Florida — slimmer pickings

It was another brilliant year for most developers. As a group, they earned nearly 12% on equity of \$338 million and had a profit margin of 10.6% on revenues of \$386 million.

Florida provided a glamorous example in Canaveral International Corp. Its earnings shot up 160% to \$1.7 million, far outstripping its 36% rise in revenues. This virtuoso performance gave it the best profit margin (35%) and the best return on equity (44%) among publicly owned land companies.

The state's Big Three had a golden year: Gulf American's net was up 45% to \$21.1 million; General Development raised earnings 86% to \$4 million; and Deltona's Mackle brothers posted an increase of 11% to \$1.7 million.

The Southwest's big developers did splendidly. Top performer was unquestionably American Realty & Petroleum, raising profits 220% to \$2.1 million on a 110% rise in revenues. McCulloch Oil (Lake Havasu City, Ariz.) lifted its earnings 35%. And Horizon Land had a net gain of 67%.

The news from California was not as bad as it seemed. Laguna Niguel's net did drop 91%. But Holly Corp. raised earnings 29%, and Garden Land promises to post a \$500,000 profit for its fiscal year ending next month. Christiana Oil's 70% drop in income and Lake Arrowhead's 43% decline were apparently preparatory to a return to health.

Some key stories behind the arithmetic:

Christiana Oil got a new president, Jules Berman, who made several changes in the company's Huntington Harbour operation (average house price: \$65,000). He halted joint-venturing projects, which accounted

for 60% of sales, to "cut out competition in our own back yard and to stop the sharing of profits."

"We had exclusive sales rights," says Berman, "but it cost us \$212 a month in carrying charges on each house; so we had volume without profit." He has now cut his stock of houses from 93 to about 40 and has almost sold out 60 poorly designed condominiums that had cost \$100,000 to carry. His own company will do all building and developing in the unfinished three-quarters of the project. But for a quicker cash flow, he has started selling lots as well as houses.

Berman also sold off options for 36,000 acres in Hawaii to Signal Oil, earning \$200,000 as well as getting back \$700,000 of badly needed cash. He sold \$100,000 worth of unneeded heavy machinery. And he gave the company some "heavy paper losses" by writing off "old assets that should have been written off long ago."

With these changes, plus a good cash position and ample bank financing, Berman hopes to turn Christiana around.

Gulf American bought 55,000 acres of prime valley land for development near Tucson, Ariz., for \$3.5 million. It also started sales of "recreational" property in an 11,000-acre swamp tract called Remuda Ranch Grants. The company is building a \$5-million club complex there for property buyers. Sales since last fall, averaging \$1,500 for 1¼-acre lots, have passed \$7.6 million. Gulf bought the Remuda tract for about \$100 an acre.

The giant developer's pace did falter temporarily when it reported six-month earnings in February. Income fell to \$7.4 million from \$10.9 million, and revenues to \$64

million from \$73.7 million, compared with the same period the year before.

Joseph S. Maddlone, Gulf's secretary, gave two reasons for the decline. First, the face of tight money and higher interest rates, the company lacked "front money" for sales and commissions and reduced its force by 350 telephone salesmen. This resulted in lower sales. Second, the company simultaneously ran a program of accelerated cash payments to raise money by offering big 9% discounts on its lots. Gulf expected to collect \$3 million in cash, but got a whopping \$15 million. And the cost of the heavy discounts had to be written off against current earnings, reducing them.

Gulf did gain one advantage. It had \$22 million in debt due this year, much of it to be refinanced at higher rates. But the extra cash enabled it to pay off most of the debt.

General Development's remarkable progress is the result of major decisions taken years ago, says President Charles H. Kellstadt, retired chief executive of Sears Roebuck. Under Kellstadt's direction, the once beleaguered company went from a \$6-million loss in 1963 to its present condition.

Kellstadt's chief objective was to bring land development "to the same ethical standards as a mercantile institution." One of his first decisions was to stop mail-order sales, even though the immediate cost was \$20 million a year. He also went through considerable turnover in salesmen "to get them to present the product exactly as it is." The company reduced the number of franchised agents from 77 to 48 and increased its own branches from 13 to 22.

Correspondingly, Kellstadt reduced pay out on lot sales to ten years ("Earlier, w

Builders: _____ a rescue from the red despite a frayed money

Even when the pros lost money they gained ground, and not all lost money.

Two builders lighted the way to the industry's future by demonstrating that it is possible to break free from the swings of the economy. Levitt's net was up 22% on a 25% sales increase. And Kaufman & Broad's earnings rose 42% on a 39% increase in sales.

Less celebrated but equally important are the ledgers of those companies that began the year in the red and managed to reduce losses despite an acute shortage of credit.

Del E. Webb Corp., for example, nearly waded out of a sea of red ink, cutting its loss to \$762,000 after its dive to a \$12.7-million deficit in 1965. Sproul Homes

halved its loss from \$1.3 million to \$700,000. And Capital Building Industries actually came up with a \$10,000 profit after a loss of \$230,000 in 1965.

Because Webb cut its loss so sharply, the builder group's earnings rose by 45% to \$2.7 million. But the gain was only a third of what it could have been because of Louis Lesser's plunge to a \$6.5 million loss after a profit of \$2 million in 1965.

Highly leveraged (11:1) Lesser had debt troubles unique in the industry. At the end of his last fiscal year he was carrying a one-year debt of \$16.7 million—three times his gross income. Just as he appeared to run out of options, New York's City Investing Co. gave him another lease on life by agreeing

in principle to buy 49% of Lou Lesser Enterprises and take an option on the remainder for 51%.

Key stories behind the figures:

Del Webb is working into the black with its calculated property-disposal program. It has been selling everything that has been generating slow profits or producing losses, including Webb's farming business, a chain of motels and some less profitable hotels. At the same time, the company expanded widely in commercial construction.

Webb has also improved its forecasting of cash flow, giving management the foresight fast enough to head off problems. And it has balanced out its operations to offset the peaks and valleys in its construction schedule.

California

and an indeterminate payout, to be perfectly best with you.”), upgraded house prices and cut debts by \$22 million. He also bought in a talented, vigorous management through a system of attractive salaries, stock options and bonuses similar to the one at Mars Roebuck.

The Mackle brothers' 15,000-acre Deltona this summer becomes the first major planned community in Florida to sell out its lots. The Mackles will then gear up their rebuilding operation there. Simultaneously, they have begun developing another 10,000-acre community, Spring Hill, 45 miles north of Tampa.

The Mackles see themselves as primarily a building company, with lot sales only the exception. Their planning, says Executive Vice President Elliott J. Mackle, is geared to get to the construction as quickly as possible. First, they plan their projects for a maximum of 15,000 acres—large enough to support a national marketing program but small enough to keep the resale market from choking new-home sales as it does in many larger Florida developments. Second, they connect a central water main to every lot as soon as the lot is sold or prior to the sale. Third, their coordinated-growth plan for a project correlates cash flow with lot-development expenditures, as well as giving the buyer a choice of payments to fit his own means and pocketbook. Each project consists of a core of about 1,500 FHA-financed houses surrounded by three concentric belts of lots. The innermost belt has a two-year payout, the central belt a four-year payout, and the outer belt an 8½-year payout.

Last year the Mackles also beefed up the number of their sales outlets from 67 to 100.

BEST PROFIT MARGINS (net as % of revenue)

Canaveral International	34.8%
American Realty & Petrol.	18.4
Holly Corp.	16.3
Southern Realty & Util.	14.1
Gulf American	13.4
Lake Arrowhead	12.8
McCulloch Oil	12.2
Horizon Land	10.9
General Development	9.7
Cousins Properties	9.0
Deltona	8.4
Arvida	6.4
Sunasco	3.4
Christiana Oil	2.8
Laguna Niguel	0.5
Crawford Corp.	0.2
Garden Land	(loss)
Royal American	(loss)
American Land	(loss)

RELATIVE DEBT/EQUITY POSITION

Garden Land	1:5
Arvida	2:5
American Realty	3:5
Royal American	3:5
McCulloch Oil	7:10
Holly Corp.	7:10
General Development	9:10
Christiana Oil	1:1
Gulf American	1:1
Southern Realty	11:10
Canaveral International	12:10
Lake Arrowhead	14:10
Deltona	16:10
Horizon Land	2:1
Cousins Properties	17:5
Sunasco	32:5
Laguna Niguel	123:10

MOST PROFITABLE (net as % of equity)

Canaveral International	44.3%
Gulf American	25.5
Cousins Properties	22.3
Horizon Land	18.5
American Realty & Petrol.	17.4
McCulloch Oil	14.8
Southern Realty & Petrol.	13.0
Lake Arrowhead	11.7
Deltona	10.9
General Development	7.8
Holly Corp.	5.6
Sunasco	5.5
Christiana Oil	2.0
Arvida	1.5
Laguna Niguel	1.2
Crawford Corp.	0.2

PRICE VS. BOOK VALUE

	Per share	
	Book value	Recent price
Gulf American	\$8.61	\$10.75 †
Sunasco	24.07	11.50
General Development	6.86	9.80 †
McCulloch Oil	4.85	11.12 †
Deltona	12.05	14.12 †
Horizon Land	5.70	6.12 †
Forest City Enterprises	8.28	5.25
Arvida	11.07	6.75
American Realty & Petroleum	4.78*	7.50 †
Christiana Oil	4.80	3.36
Cousins Properties	10.11	15.25 †
Crawford Corp.	7.17	3.00
Holly Corp.	2.04*	1.50
Lake Arrowhead	9.79	8.36
Southern Realty & Utilities	7.15	2.36
Edwards Industries	5.40	1.80
Canaveral International	2.57*	7.50 †
Laguna Niguel	.85	3.12 †
Garden Land	3.51	4.25 †
American Land	0.59	1.00 †

*As of Sept. 1966 or before.
D = deficit.

†price in excess of book value.

Profile

Not the least of improvements, it fired out personnel to cut overhead and selected a new president, Robert H. Johnson. **Sproul Homes** started off to a profitable start but came up short under the impact of tight money. President Elmer Sproul reported all manner of complications: First, mortgage discounts rose from 2% to 8% and selling costs from 4% to 8% or 9%. Then the delivery on mortgage commitments stretched from 90 days to six months, rising interest and carrying costs considerably. Cancellations forced the company to sell houses two and three times, and also throw in price concessions as sweeteners. The final blow came when a debtor defaulted on a second mortgage and Sproul was

BEST PROFIT MARGINS (net as % of revenue)

Levitt & Sons	4.3%
Kaufmann & Broad	3.5
Jim Walter Corp.	3.5
Occidental	1.2 **
Devel. Corp. of Amer.	1.0
Capital Bldg. Ind.	0.3
Kavanagh-Smith	(loss)
Sproul Homes	(loss)
General Builders	(loss)
Del E. Webb Corp.	(loss)
Louis Lesser Ent.	(loss)

**Homebuilding only.

MOST PROFITABLE (net as % of equity)

Kaufmann & Broad	24.1%
Levitt & Sons	14.7
Jim Walter Corp.	8.8
Occidental	4.0 **
Capital Bldg. Ind.	2.4
Sproul Homes	(loss)
Del E. Webb Corp.	(loss)
General Builders	(loss)
Louis Lesser Ent.	(loss)

**Homebuilding only.

out \$291,000.

In response to the crisis, the company had moved more heavily into 221d3 housing. Then it suspended all homebuilding between September 1966 and April 1967. Now it has re-entered homebuilding and reports that sales in its Reno and Las Vegas tracts are averaging eight to ten a week without models.

"It's not good, but better than it was before," Elmer Sproul says. He plans on a minimum of 200 home sales this year.

Capital Building Industries, based in Windsor, Ontario, wound up with a profit by curtailing far-flung operations and selling off all excess land and houses. Building operations in Ottawa and Montreal were shut and inventory sold. Overhead was reduced. Chairman C. C. Lawson observes: "In view of the current conditions, our operations have been restricted to Windsor and Hamil-

ton (Ontario), where we are able to carry out a controlled building program."

Lawson says the company will go more intensively into the construction of multi-family units: "Tight money, government restrictions and increased costs of labor and materials have combined to force single-family housing out of the reach of a majority of potential buyers."

General Builders' revenues for the year were up 33% over 1965, but that was not enough to keep President Janis Risbergs from reporting a loss of \$466,000—slightly larger than his 1965 loss of \$440,000.

Risbergs attributes the loss partly to tight money, of course. But a foreclosure of an apartment building owned by a subsidiary in St. Petersburg, Fla., cost \$363,633. The company also got burned in its Florida operation by attempting to do work that subcontractors had formerly been doing.

"Unfortunately," Risbergs says, "our construction and labor costs exceeded our estimates, resulting in losses." This has not been corrected, and the company is back to fixed-fee contracts with subs.

To cut his losses, Risbergs reduced the company's assets and liabilities by 30% lowering costs. He also arranged a joint venture with U.S. Plywood-Champion Paper for the company's Atlanta operation.

Kaufman & Broad has been promoting successes heavily. Chairman Eli Broad says the company was highly successful in a dismal California market because 1) it sticks to readily available FHA financing, 2) it rarely builds without a firm commitment, 3) it never holds more land than it can use immediately.

Broad predicts a 50% growth for the company in two years. Yet he and Executive Vice President Donald Kaufman each

Prefabbers: gearing down and cutting back to assure survival

The most telling indication of the prefab group's condition came last month when Modern Homes disclosed that it was halting all house production.

This would have come as no surprise had the company been a marginal operator. But the Georgia concern, selling houses on installment contract, is No. 2 in revenue standing on HOUSE & HOME's 1966 list of publicly held prefabbers. Its profits made the largest percentage gain in a year when the publicly owned prefabbers, taken cumulatively, lost \$1.6 million.

Running counter to the downtrend, Modern moved from a loss of \$326,606 in 1965 to a profit of \$405,000 last year. It made this gain on a 2% increase in revenues, which were \$26.3 million in 1966.

President Edwin A. Locke Jr. explained that the decision to discontinue homebuilding was based on a study "of past operating results and future potential" by the company's accounting firm.

The study showed that, even though Modern was earning a profit, the profit was inadequate. The chief profit-cutting factors, according to Locke: scarcity and high cost of money, labor and capable supervision, plus competition from FHA and VA financing.

Modern's average house price rose from \$5,872 to \$10,220 between 1962 and 1966, but profit per house remained constant and unit sales fell nearly 50%, from 3,856 to 2,056.

The company will remain in the finance business for the time being. From this base, it hopes to make money "in better propor-

tion to the investment involved."

Great Lakes Homes, which had \$9 million in sales in its last year, listed debt at \$5.5 million at the time it entered bankruptcy. Trustee Pierce Bitker, a Milwaukee real estate broker, charged that the company had been "brutally mismanaged."

Madway Mainline Homes' revenues rose 91% to \$18.2 million in 1965, but its earnings were only \$310,000. Six months later it was in bankruptcy. Trustees Harold C. Stott and Peter F. Baughman said the company had been undercapitalized and over-leveraged. They had these observations about how business had been conducted:

"The sales program got out of hand in 1964-65 and became a cause, because of its drain on resources, of the company's failure. It was not a disciplined program but a vast outpouring of funds without measurement or control. The sales force was permitted to make many unsound deals on which money has been and will be lost."

Albee Homes dived the deepest into the red of any prefabricator and came back to tell about it. Its loss was \$1.6 million. The Ohio company survived after agreeing to re-finance \$17.5 million in short-term loans with 7½% promissory notes maturing in August 1967 or 1968. The terms of the agreement with 17 banks required the company to pledge all mortgage notes receivable for security, apply 60% of total revenue (but not less than \$400,000) each month against the principal, incur no new debt, pay no dividends and maintain stockholder

equity above \$6.5 million. The three principal officers, William, Alex and Sam Groves had to guarantee the company's obligations personally to a total of \$1 million.

Steel Crest Homes' securities were temporarily suspended from over-the-counter trading in May by the Securities and Exchange Commission after the Pennsylvania company failed to file a report for its fiscal year ending in August 1966. Vice President Frank J. Nash has since forwarded a report to the SEC.

"We have experienced numerous delay cut-backs and disappointments as a result of tight money," he said.

Techbuilt, unlike many other companies, had a great deal to cheer about even though it lost money. Last year was the first since 1955 when it had not had a stockholder equity deficit. The deficit ran to \$352,200 as recently as 1963. The \$25,000 equity currently on the books is smaller than Techbuilt's net, so it makes the company's profitability ratio look inordinately favorable (152%).

Techbuilt did not renew its contract with Armco Steel for steel Techbuilt houses because "they are too expensive to sell in limited numbers."

Continental Homes was an even rarer performer. It kept revenues at the same level as in 1965 and raised earnings 3%. Chairman Ralph C. Lester credits this result to larger territories and diversified production lines.

Swift Industries' vice president of operations, Stanley Britten, says revenues are

to sell 100,000 K&B shares on the open market. Their explanation: to broaden the base of stockholder participation.

Levitt & Sons expanded into Chicago and Baltimore, riding on a sixth consecutive year of rising profits. The company has been building townhouses and has just opened the first of 625 in Willingboro (formerly Levittown), N.J.

Levitt also branched into furnishings, opening the first of a chain of Levittmark stores; its goal is one in every Levitt community.

Says a spokesman: "The company began geographic diversification in 1961; now we're beginning product and housing diversification. It's part of a healthy expansion of a business."

Says President Bill Levitt: "Our position as No. 1 in the industry is without challenge."

RELATIVE DEBT/EQUITY POSITION

Kavanagh-Smith	19:10
Capital Bldg.	21:10
Kaufmann & Broad	21:10
Levitt & Sons	21:10
Devel. Corp. of Amer.	27:10
Jim Walter Corp.	14:5
Sproul Homes	4:1
General Builders	41:10
Del E. Webb Corp.	29:5
Occidental	59:10 **
Louis Lesser Ent.	56:5

**Homebuilding only.

PRICE VS. BOOK VALUE

	Per share	
	Book value	Recent price
Levitt & Sons	\$8.73	\$23.63 †
Del E. Webb Corp.	3.40	3.25
Kaufman & Broad	10.33	16.00 †
Jim Walter Corp.	25.91	27.00 †
General Builders	3.69	3.25
Sproul Homes	1.02	1.25 †
Capital Building Industries	.96	.45
Presidential Realty	1.19	9.75 †
Development Corp. of America	1.85	.63
Louis Lesser Ent.	1.63*	2.80 †
First Hartford Realty	4.62	6.63 †
First National Realty	1.87*	1.50

*As of June 1966 or before.

†price in excess of book value.

profits were only slightly below the company's 1965 gross of \$8.5 million and net of \$177,000. Swift had a backlog of screened customers and referrals, so our sales weren't put off so much by a bad-mouthed press about tight money." Even so, the company absorbed its customers' increased interest cost, as well as increased materials costs, and this cut into profits by 10%.

Swift scorns "sidelines" such as credit financing or diversification into prefab classrooms, apartments, etc. It attributes its inability to obtain financing during tight money to a single-minded concentration on the house-sales program.

Scholz Homes is one company that will disagree with Swift. After gearing down Scholz's operation to put it "on a profitable operation to current volume," President Don Scholz again expects apartments to provide competition with at least 25% of overall sales as they did last year.

A number of prefabbers are, in fact, working hard of diversification:

Inland Homes, having shut three plants during tight money, is considering a gamut of possibilities from vacation houses to mobile homes and commercial buildings. It recently upgraded its houses to get out of the low-cost market.

Hodgson Homes started an export business by shipping three model homes to locations in Europe.

Albee Homes introduced kitchen-sales and patio-pool departments, plus a line of garages and stables.

- MICHAEL BAYBAK

BEST PROFIT MARGINS (net as % of revenue)

Continental Homes	4.6%
Techbuilt	3.6
Modern Homes	1.5
Hodgson Houses	0.9
Scholz Homes	0.7
National Homes	0.1
Inland Homes	(loss)
Albee Homes	(loss)
Admiral Homes	(loss)

MOST PROFITABLE (net as % of equity)

Techbuilt	152.0%
Continental Homes	14.2
Modern Homes	5.5
Hodgson Houses	5.0
Scholz Homes	3.5
National Homes	0.2
Inland Homes	(loss)
Albee Homes	(loss)
Admiral Homes	(loss)

RELATIVE DEBT/EQUITY POSITION

Continental Homes	3:10
Hodgson Houses	1:2
National Homes	3:5
Inland Homes	1:1
Scholz Homes	23:10
Albee Homes	3:1*
Admiral Homes	53:10
Modern Homes	6:1
Techbuilt	83:10

*As of June 1966.

PRICE VS. BOOK VALUE

	Per share	
	Book value	Recent price
National Homes	\$7.36	\$3.80
Modern Homes	4.47	1.75
Scholz Homes	4.29	3.63
Albee Homes	5.00*	1.36
Continental Homes	3.13	3.36 †
Inland Homes	8.85	4.80
Admiral Homes	.57	.25
Techbuilt	.06	2.36 †

*As of June 1966.

†price in excess of book value.



Scheirich Royal® Birch and
 Bronzeglow® Birch Cabinets in
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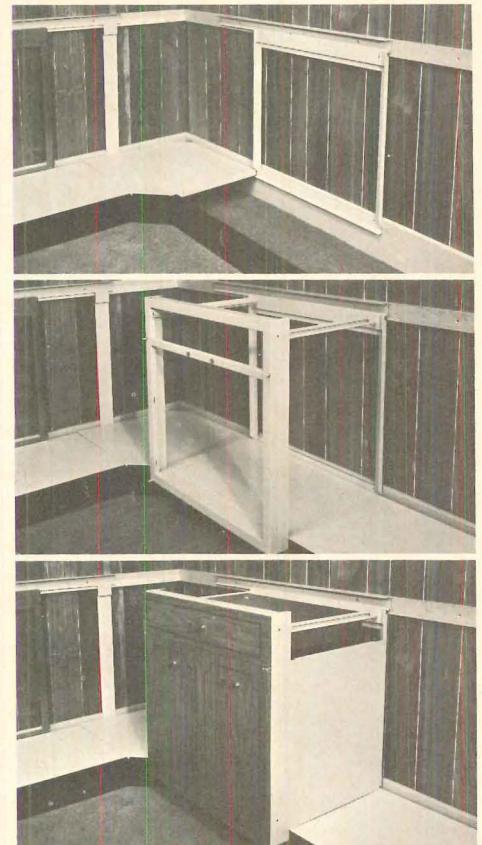
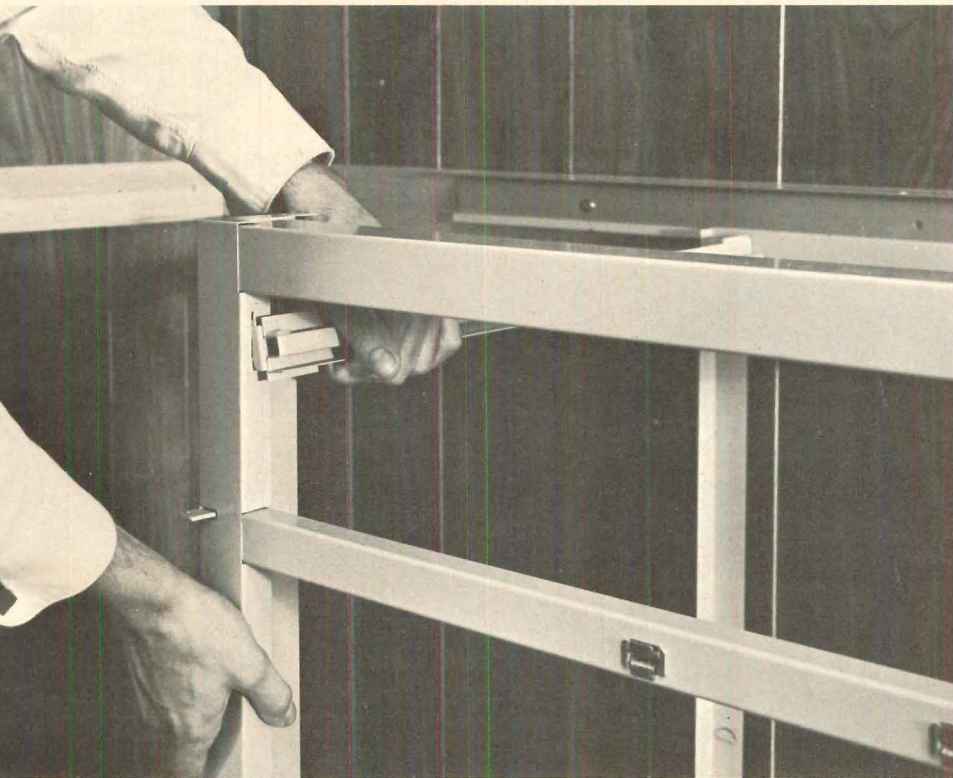
BRONZEGLOW® BIRCH

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MOONGLOW® VANITIES





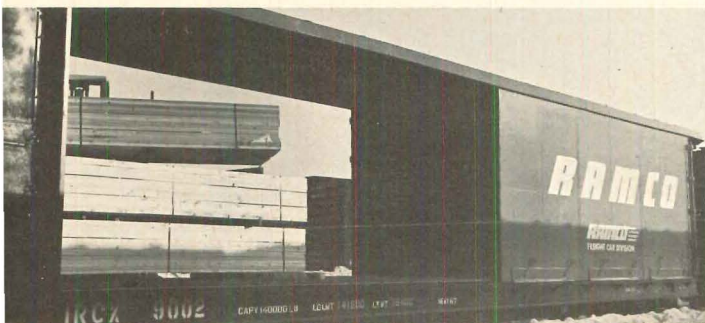
Snap-in kitchen cabinets cost less, ship easier

They're 20% cheaper than job-built cabinets, according to the maker, and install in half the time. Their all-steel construction eliminates warpage and features a simple assembly system that unskilled workmen can handle. No on-the-job painting is needed, because the steel components come with a baked-on enamel finish inside and out. Doors and drawers are faced with a variety of plastic laminates.

For shipping, the cabinets knock down to a quarter of the space taken up by conventional prebuilt units. This means that an 8' kitchen (the units are designed on a 12" modular system ranging from 12" to

48") will ship like a 17 cu.-ft. refrigerator.

Installation starts by securing the hanging rail and kick plates to wall and floor (*photo sequence, right*). Rear frames are positioned by tongue-and-groove joints. The drawer runners are tab-fastened (*above*), and connect the front and rear frames. The front frame keys into the top of the kick plate. Shelving is locked in by tabs and slots. A screwdriver does it all, says the manufacturer—Mott Mfg. Ltd., P.O. Box 1120, Brantford, Ontario, Canada. Distribution is now limited to Canada, but the company is seeking U.S. licensees.



A wider-opening boxcar gives lumbermen the loading ease of a flatcar

With six doors on each side, these cars can be opened to half their 50' length, or almost 25'. This means loading and unloading by forklift instead of by hand. It could also mean an eventual lowering of lumber shipping and handling charges, both

by shippers and lumberyards, once enough of the new cars are in circulation. But at \$25,000, they're \$10,000 costlier than conventional cars, so it may be quite a while before they make a major dent in charges to the builder.

"We've gotten savings of up to 80% in the four years we've been testing them," says the president of McCloud River Railroad Co., the U.S. Plywood subsidiary that recently ordered 100 of the cars from RAMCO, Chicago.

This is a test.

One of the many quality control tests our 394 furnaces go through before they leave our plant.

This test, in a pitch black room, is for heat exchangers. A high intensity light is put inside the furnace. The light shows up holes as tiny as 3/1000 of an inch. When a spot of light even this small shows up, the exchanger flunks the test and is rejected.

This blackout test is new. It's more effective than a pressure test with compressed air.

We test all the welding on our furnaces, too. We take a sample weld and stretch it mechanically. The weld must be stronger than the parent metal to pass the test. We check our welding machines at least once a day.

To make sure our furnaces are quiet, all blower components are tested using modern techniques. All completed assemblies are operated and tested before being installed in the furnace.

When we test all controls. For this, we use a multiple electronic testing device that registers a

computed analysis on the completed cycle of each control.

Finally, before any Bryant furnace is crated for shipping, we test the whole thing. The burners are fired. We further check the control assembly, and the blower.

Then comes the shake test. Every month we shake up a number of completed furnaces to see how well they hold up in shipping. One hour of shake testing simulates 600 miles of rough riding.

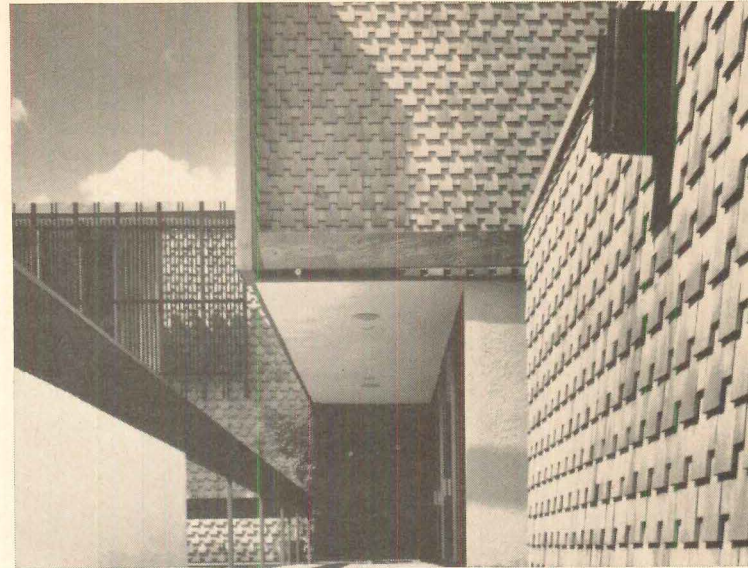
We do all this, and more, so that our 394 furnaces can pass the most important test of all — the test of time. And Bryant furnaces do. Bryant units built years and years ago are still working today.

For more information on Bryant 394 furnaces, see your Bryant dealer or write Bryant Manufacturing Company, 2020 Montcalm Street, Indianapolis, Indiana 46207.



Quietline® Gas Furnaces

People don't fall in love with the house.



They fall in love with something about it.

That something can be anything from a fine old tree in the yard to gold-plated knobs in the shower stall. Often it's the *line* of the house that gets prospects—the way it looks to them. And *at* them.

Red cedar shingles and handsplit shakes have a lot to do with line. Initially, their flexibility frees the hands of the architect to design, and the builder to build.

And once in place, these shingles and shakes speak a language of beauty and texture that homebuying prospects find easy to understand and difficult to resist. Solidly beneath the beauty lies the real sales clincher—red cedar's incredible wind-resistant

strength, insulative power and lifetime durability.

If you now build in an area where homes with red cedar shingles and handsplit shakes are being sold, you know what we're talking about, and if you don't, why not be the first in your area to find out?

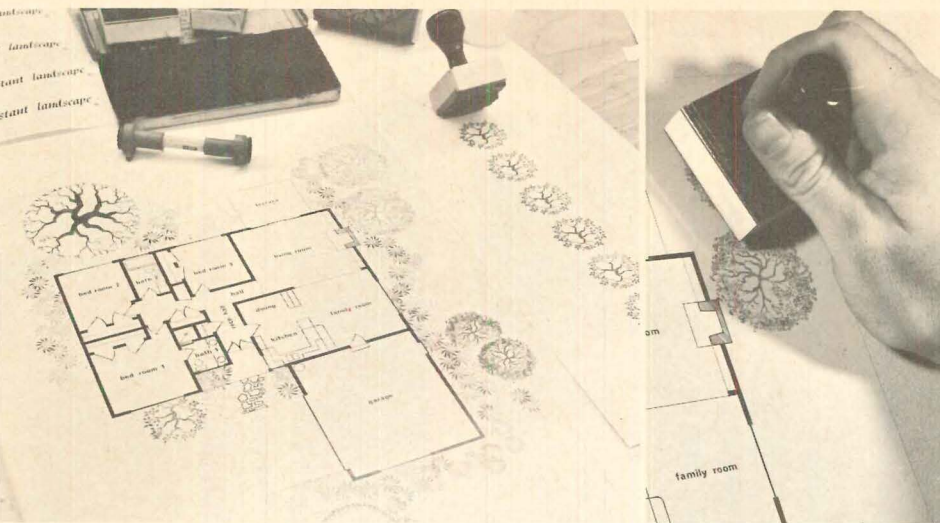
Full Certi-Split, Certigrade and Certigroove specifications and application information appears in our Sweet's Light Construction Catalog listing, 3d/Re. Or write or call us:

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One of these labels under the bandsticks of the product you buy is your assurance it was made, inspected and graded under regulations of the Red Cedar Shingle & Handsplit Shake Bureau. Insist on these labels.



Rubber stamps for architects cut down on drafting time

They print trees, shrubbery, strollers, autos you name it. There's even an instant gal in a bikini. With architectural draftsmen charging \$5 an hour in many areas, these rubber stamps make a lot of sense. They

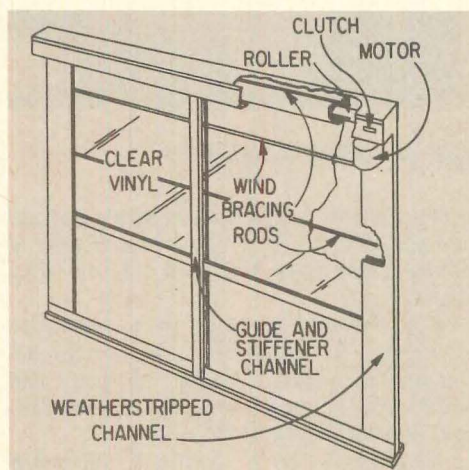
let anyone do a fast fancying-up of architects' plans. Four scale sizes are available— $\frac{1}{16}$ " , $\frac{1}{8}$ " , $\frac{1}{4}$ " and $\frac{1}{2}$ ". Instant Landscape, Sacramento, Calif. *Circle 287 on Reader Service card*



Electric motors roll up these patio windows

They're made of clear vinyl called Glastok that's guaranteed by the manufacturer for 10 years against cracking and discoloration. It's claimed to be as clear as glass. Those ripples you see in the photograph are in the nylon screening, not in the vinyl. Matching doors can be paneled with glass or vinyl, knee-walls with aluminum or enameled steel.

The vinyl is reinforced by rods and rides



between upright aluminum channels (*drawing*). It is operated by a wall switch and can be stopped at any height.

A typical 8'x10' patio enclosure built on an existing surface retails for about \$800. Much bigger units of up to 9' high, 20' projection and unlimited width can be built from in-stock components. Kenron Aluminum & Glass, Niles, Ill. *Circle 288 on Reader Service card*



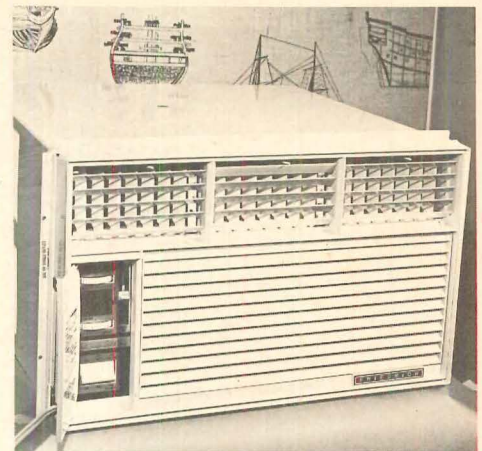
Rubber sealant makes the most of sound-deadening walls

Applied with a gun, this acoustical sealant will neither harden nor dry, says the manufacturer, and it's gun-usable at temperatures as low as 5°F. You shoot ribbons of it into ceiling and floor joints, window mullions, electrical box openings and so forth.

Why an acoustical sealant? Because without it, says the maker, sound will leak through the best wall system made. His

NEW PRODUCTS

For more information, circle indicated number on Reader Service card p. 105



For apartments—a really quiet air conditioner

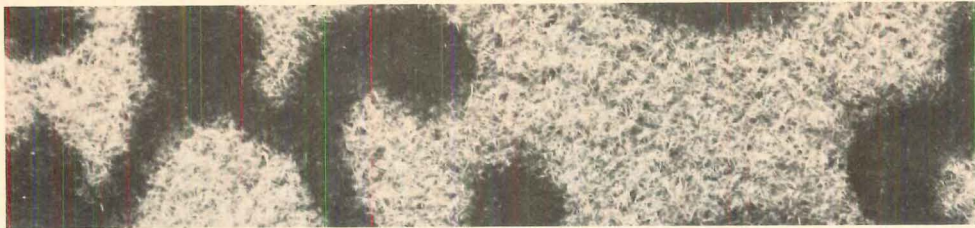
It's the quietest on the market, claims the manufacturer—an old-line regional firm now going national. But silence has a price—\$80 to \$100 higher than other makers' units of equal size. There's compensation, however, for that big first bite: a promised 30% lower operating cost, and lower yearly maintenance and repair bills. What accounts for such savings? High-quality components, says the maker—like a totally enclosed, single-wound fan motor, and extra-deep plenums.

A first-for-the-industry feature—solid-state circuitry—is another such component. It gives the user an infinite speed range on the unit's fan from low to high, rather than the five-position, fixed-stop choice found on most room air conditioners. The new circuitry, with its absence of moving parts, also means extra reliability and precision. Solid state is standard on the company's 8,000 to 13,500 Btu 1967 models, and will come with the rest of the line (6,000 to 33,000 Btu) in '68.

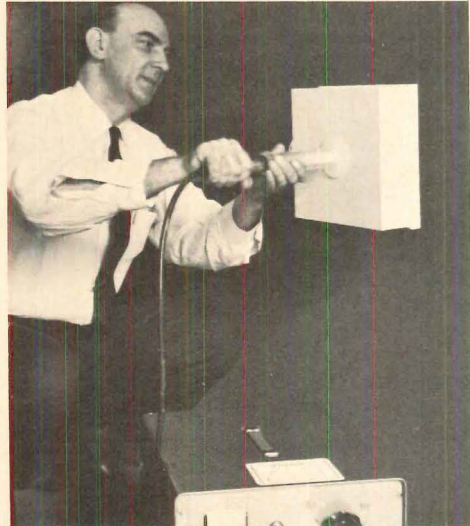
Units are flush-mounted, and made for double-hung and casement windows. Sleeve-mounting—a valuable maintenance feature—is standard on all models. Friedrich, San Antonio. *Circle 279 on Reader Service card*

recommendation: Any partition aiming for sound transmission class 40 (STC 55 is excellent) needs sealant. Otherwise, you might just as well use the cheapest wall available.

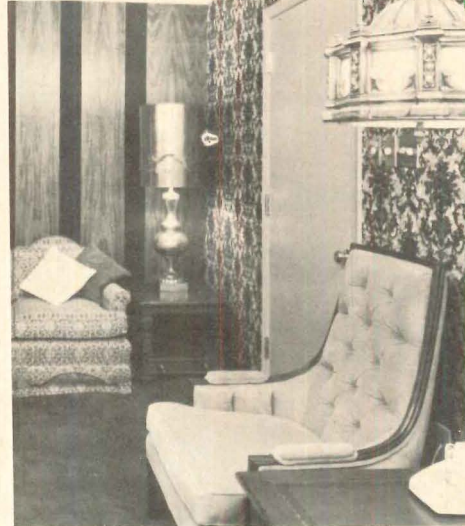
The compound adheres well to drywall, metal and concrete, claims the maker, who cites product approval by leading drywall manufacturers. Tremco, Cleveland. *Circle 289 on Reader Service card*



CUSTOM PATTERN of Velvetex (above and lower right) is achieved with mastic-coated roller.



Solid-color Velvetex is applied with electrostatic gun (lower left). Power pack is in foreground.



This velvety wall covering is applied with a gun

A special epoxy adhesive goes on first. Then an electrostatic gun and power pack like the one shown above shoots millions of tiny nylon fibers into the wall.

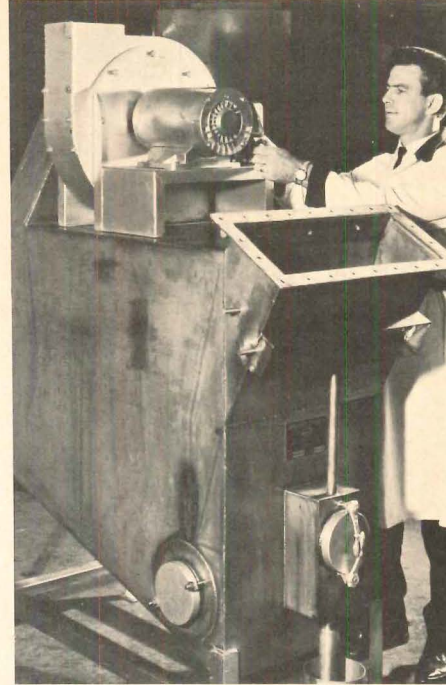
The secret of this new process is an electrostatic field that forces the charged fibers to penetrate the adhesive at right angles. The result is an ultra-dense pile, called Velvetex, with up to 300,000 fibers per sq. in.

Invented by a Detroit scientist, Velvetex takes to masonry, plaster, wood, wallboard, metal and even glass. It's available in 29 colors and can be applied in custom pat-

terns (sample, above). And many textures are possible—from a felt (short fibers) to a velvet (medium fibers) to a plush (long fibers).

But Velvetex is more than decorative surfacing. It requires only occasional vacuuming, doesn't object to soap and water, and has soundproofing, waterproofing, and insulating qualities.

Installation is by licensed applicants only. In-place cost averages from \$1 to \$2 a sq. ft., although special patterns may run a little higher. Velvetex, Detroit. *Circle 204 on Reader Service card*



For apartment incinerators —a dirty-smoke scrubber

Smoke enters the scrubber black and emerges white. Reason: The machine separates the dirt and fly ash produced by burning refuse.

The scrubber is made to order for apartment-house builders and owners facing with tightening air-pollution regulations. It was designed especially for New York City, where new pollution controls were to effect a few weeks ago.

Operating costs and upkeep are minimized by three design features: 1) the scrubbing agent is a constant pool of water instead of a steadily running spray stream, 2) no moving parts are in contact with untreated smoke and 3) the machine runs only when needed. It is made entirely of stainless steel, and can be installed on rooftops or in relatively confined interior spaces. Joy, Los Angeles. *Circle 217 on Reader Service card*



A round condensing unit cuts cooling costs

Specifically, the manufacturer says the round condensing unit will reduce installed costs of central air conditioning by \$75 to \$150.

The saving results directly from the condensing unit's radical new shape—cylindrical instead of rectangular (photo). Cylindrical design takes less metal, so it makes the unit lighter and cheaper to build. Furthermore, the manufacturer has eliminated some structural materials by molding the unit's refrigerant coil in the shape of its curved grille to make the coil double as structural support. Average weight reduction

is almost 40%—e.g., a 24,000 Btu model weighs 135 lbs. compared with 220 lbs. for old rectangular version.

Other advantages lie in the unit's appearance and operation. It is more attractive than the traditional box enclosure. And its horizontally mounted exhaust fan blows through top grille, directing sound waves upward instead of toward people at ground level and neighboring houses.

Models come in five sizes, 18,000 to 48,000 Btu, in standard and deluxe versions. Carrier, Syracuse, N.Y. *Circle 2 on Reader Service card*

ding wood window makers are
ng to our bottle.
hey're now offering it in windows
ead of single panes of glass, so
ne buyers will never need to put up
ake down storm windows. No extra
ies to wash. Our flat skinny

bottle is called Thermopane insulating
glass with the GlasSeal® edge.

We make it of glass fused to glass at
the edges. Then fill the space with dry
insulating air and seal it to keep the
dryness in and dirt and moisture out.

(Even old bottles won't leak.)

You can have Thermopane with the
GlasSeal edge in almost any size or
type of window you need.

Put a bottle in every window. The one
with Thermopane etched in the corner.

It says you build new-fashioned houses.
Libbey-Owens-Ford Glass Co. Toledo, Ohio 43624

**A bottle has made
storm windows old-fashioned.**

**The bottle with the name
Thermopane® etched in the corner.**

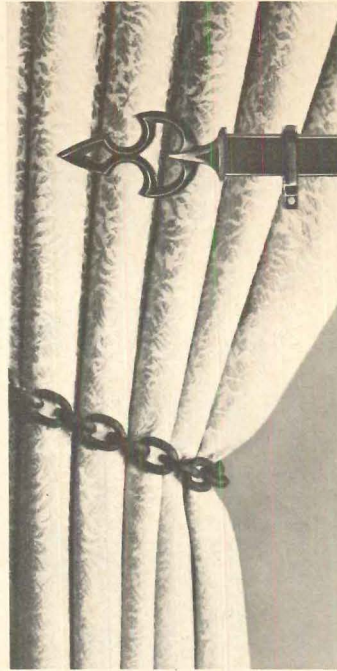


Only Libbey-Owens-Ford makes Thermopane in the U.S.A.

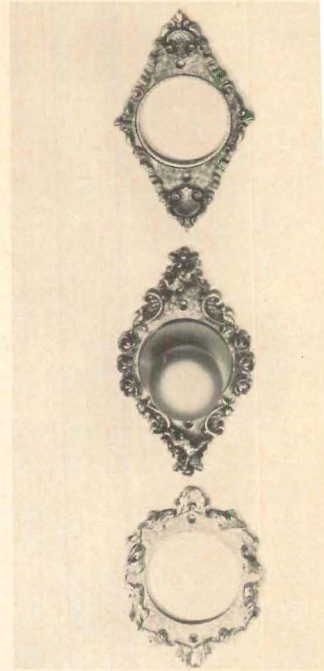
Hardware



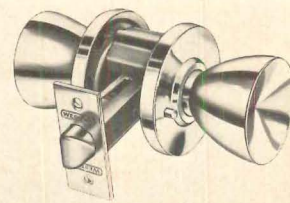
Built-in and cabinet line includes two pull and knob sizes, a key and backplate, and choice of three hinges—H flush, H with $\frac{3}{8}$ " offset, and H with $\frac{3}{8}$ " inset. Hardware is available in a variety of finishes. Amerock, Rockford, Ill. Circle 230 on Reader Service card



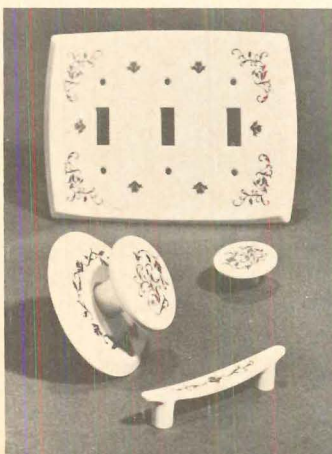
Ebony-link chain—to tie back draperies, to suspend lamps and mobiles or to serve as a towel bar—also comes finished in antique bronze. Chain matches a square traverse rod and is sold in 24" lengths or cut-to-measure. Kirsch, Elkhart, Ind. Circle 231 on Reader Service card



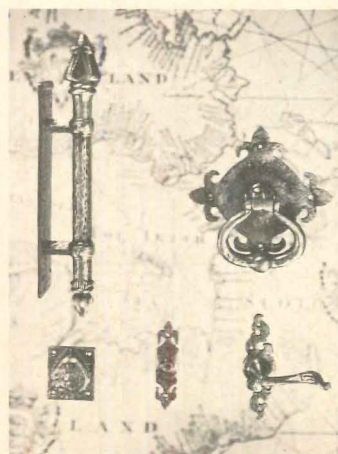
Handcrafted escutcheons fit around existing $2\frac{1}{16}$ " roses. Each comes with an adapter ring for backplates that measure $2\frac{1}{2}$ " or less. Choice of finishes include 18 karat gold plate, sterling silver plate and white-and-gold. Florida, Santa, Los Angeles. Circle 232 on Reader Service card



Privacy lock operates from inside by push-button, unlocking when inside knob is turned. It has an outside emergency release. Style shown is 2" in diameter and projects $2\frac{1}{8}$ ". Finishes include antique silver. Westlock, Los Angeles. Circle 233 on Reader Service card



Decorated melamine is non-corrosive, unbreakable and fire-proof. Two hand-applied designs—gold on white (shown) and ivy—come in single, double and triple switch plates; door knobs with backplates, knobs and pulls. Holton, Stamford, Conn. Circle 235 on Reader Service card



Solid wrought iron—fashioned in designs reminiscent of the middle ages—comes in choice of two finishes: matte black or metallic glaze. Some seven hundred pieces include entrance, door, gate and cabinet hardware. Cornell-Newton, Beverly Hills. Circle 236 on Reader Service card



Shelving package includes a walnut-colored shelf in choice of three lengths—24", 36" or 48"—two brackets, screws and anchors. Hardboard shelves have hollow-core construction to prevent warping. Dorflex, Portland, Ore. Circle 234 on Reader Service card

Give your client a sense of arrival, on a sensible budget.

Design a detailed entry that tells your client the building is his alone. And do it with these standards: Republic Frame-A-Lite Stick System, Full Flush Doors and Universal Door Frames.

With new Frame-A-Lite Sticks, you frame an entry approach, borrow light for an interior wall, illuminate an exit, or create patterns of light. Design possibilities are virtually unlimited.

Our Republic Full Flush Door is a standard door you can specify anywhere on the job without raising a client's cost-conscious eyebrow. And you'll appreciate the quality of our fully welded perimeter channel. It's one reason Full Flush Doors hang square, and stay square—won't sag, bind, warp, or split, ever.

For door frames without lites, match a Full Flush Door to a Universal Frame. In recent tests, this frame with its specially designed vertical seam, resisted corner loads up to 450 pounds.

Proof enough, Republic puts extra strength in standard products so your custom design won't fail.

MANUFACTURING DIVISION
REPUBLIC STEEL CORPORATION
Youngstown, Ohio 44505



The Man From Manufacturing*

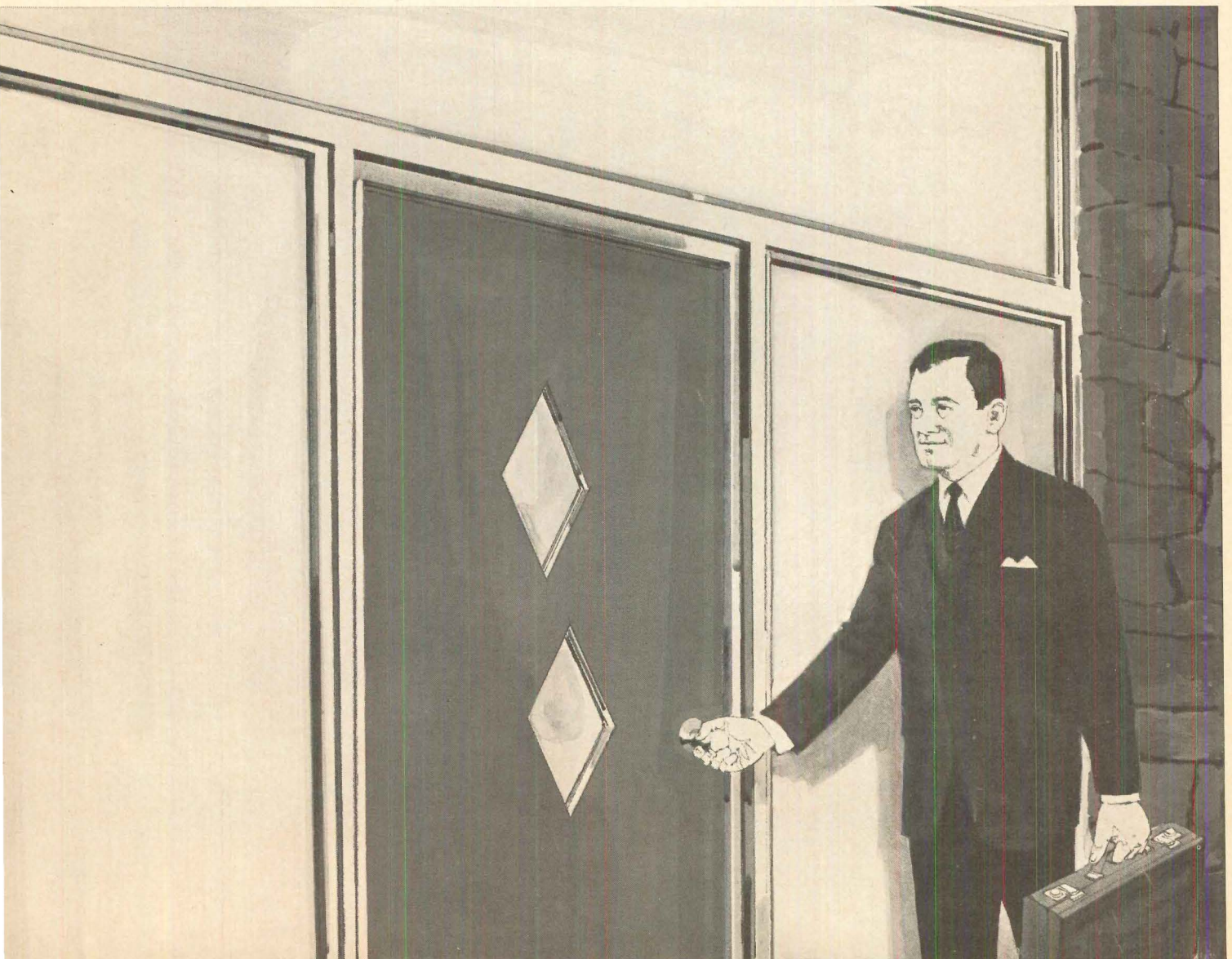


Tell me about Republic Door features like its fully welded complete perimeter channel, its five-step phosphatized rust-inhibiting process, baked-on prime coat, continuous hinge and lock reinforcement, interlocking corners and lots of other reasons to make clients approve my specs.


And send along information about the vertical seam in Universal Doors, and data on Republic's new Frame-A-Lite Stick System.

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**“Great plans.
And you want
financing.
Good.
That’s what
I’m here for.”**

**“You have to
sell me first.”**

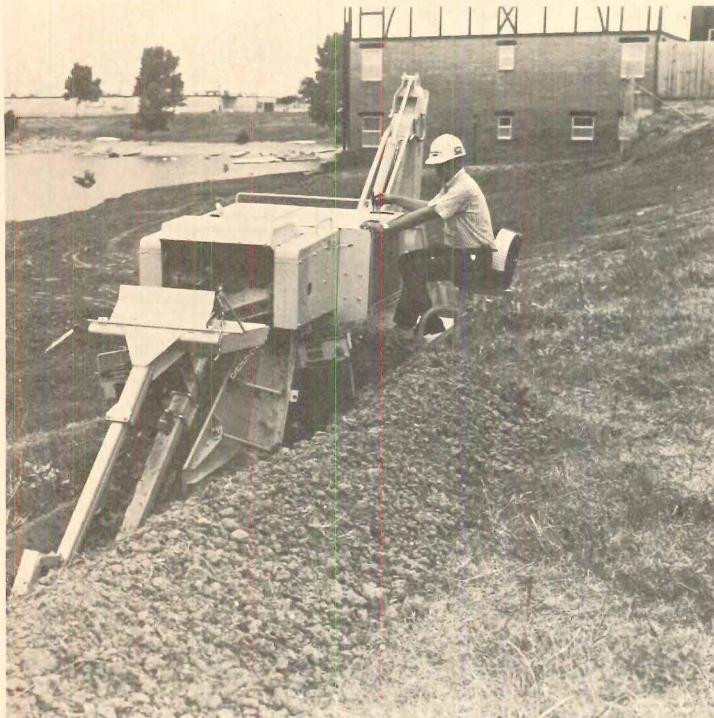
Your first sale has to be to the “money man.” And he’s a tough sale to make. You have to show him how good a builder you are. He likes to see plenty of quality in your plans; quality manufacturers in your specifications. For a good reason: it reduces his risk. He knows you’ll move your homes faster if you build with quality materials.

Take a little thing like locks. When you install Schlage locks on every home you build, you’re putting a little bit extra into them. That’s the kind of quality the finance man is looking for. And the kind of home-building he wants to give his backing to.

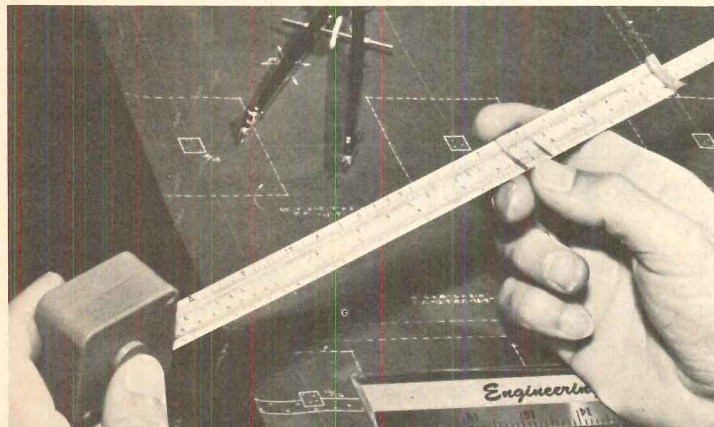
So, show him top quality materials, like Schlage locks. He’ll feel better about putting his cash behind your plans.

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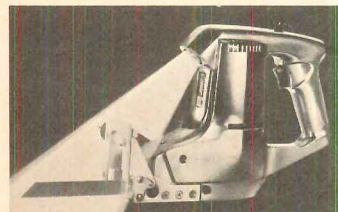
Tools and equipment



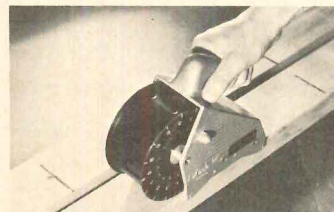
Tilt-top trencher digs vertically on up to 20% slopes. The design permits vertical trenching with tracks straddling a curb, and eliminates undercut on curves. A backhoe attachment also digs vertically. Davis, Wichita, Kan. *Circle 205 on Reader Service card*



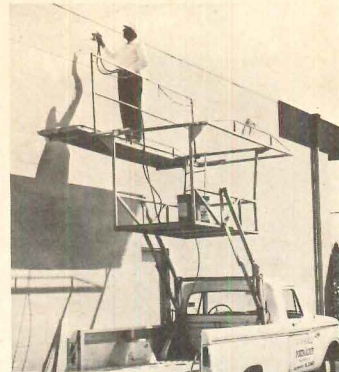
Slide rule and measuring tape features 10" A, B, C, D, Log, Sine, Tangent and Cube scales. The endless (double scaled) sliding B and C scales are folded for problems involving pi. Reverse side measures to 28". Cal-Tape, Roann, Ind. *Circle 207 on Reader Service card*



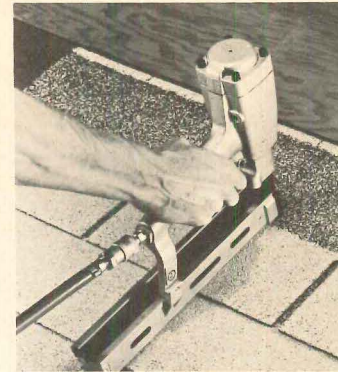
Reciprocating saw features a self-contained light. Operating speed is dial-adjusted, and constant torque is maintained throughout the 600 to 2,100 speed range. The motor is 3/8 hp, 115 v. Portable Electric Tools, Geneva, Ill. *Circle 294 on Reader Service card*



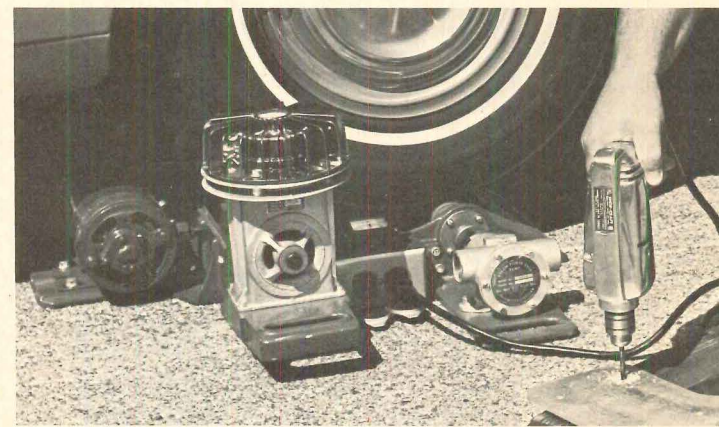
Marking wheel automatically determines setting of studs, rafters, roof trusses, etc., on centers of 8", 12", 16" and 24". Other settings are available in 4" modules. Ink does the marking on wood, steel or concrete. TECO, Washington, D.C. *Circle 295 on Reader Service card*



Truck-mounted lift rack serves as platform or materials hoist. It reaches 20' in 15 seconds, and has controls in both cab and platform. The unit is hydraulic, battery-activated, and its capacity is 800 lbs. Up-Mobile, Sacramento, Calif. *Circle 296 on Reader Service card*



Pneumatic stapler drives 1" wide crown staples for applying asphalt shingles. The magazine carries 140 of the 16-gauge staples in 3/4" to 1 1/4" lengths. Staples meet FHA application standards on a one-to-one basis. Spotnail, Rolling Meadows, Ill. *Circle 297 on Reader Service card*



Wheel-driven power source combines an electric generator, a compressor and utility pump in one package. Each component can be bought separately and the others added. Unit weighs 62 lbs., measures 2'x2'x1'. Rolon, Santa Monica, Calif. *Circle 206 on Reader Service card*



Forklift comes in capacities of 15,000, 16,500 and 18,000 lbs. There's a choice of oil clutch or automatic transmission and of gasoline, diesel or LPG power. Power steering, overhead and load guards are standard. Pettibone Mercury, Chicago. *Circle 208 on Reader Service card*

New products continued on p. 88

“that’s good enough”

“Innocent substitutions can so subtly sabotage building design!”

Commented Hugh C. Carter, president of the consulting engineering firm of Hugh Carter Engineering Corp., Long Beach, Calif., member of Consulting Engineers Council.

He further stated in the interview, “Mechanical and electrical systems required to achieve the desired Environmental Comfort Control in today’s complex building often represent 50% or more of the total investment. Is there a *best* way to achieve quality, low first cost and low upkeep in mechanical/electrical systems?”

“My office uses a base-bid-specification, which enables the Consulting Engineer to maintain cost and quality control for the owner’s benefit. Careful control of equipment selection and

installation is the most effective way of producing a quality building for the owner at the least cost. Competitive bidding is an integral part of the construction industry, however, it must be properly channeled to achieve the best over-all results for the owner.

“Our base-bid-specification combines the best elements of careful cost control, quality control and competitive bidding. Review of substitutions are made by the Consulting Engineer from submittal materials furnished only by the successful low subcontractor. This saves time for all the rest of the subcontractors; allows the Consulting Engineer to select the best equipment with the best value; and results in construction proceeding

approximately 20% faster than with past specification customs.”

The Consulting Engineer is uniquely qualified to perform this objective role as cost and quality control man as a result of his design and construction experience and training. The owner’s best interests of least cost and early building completion can be better served by employing a professional, financially disinterested, consultant to quarter-back construction. Investigate the benefits of a Consulting Engineer on your building team.

Bell & Gossett has specialized in hydronic circulation for half a century...a name you and your building team can trust.

BELL & GOSSETT **ITT**

Fluid Handling Division, International Telephone and Telegraph Corporation, Morton Grove, Illinois



What's the outside story on this

Bird solid vinyl siding, gutters and downspouts. Maintenance-free as can be!

Why did Ross Cortese specify Bird Solid Vinyl for so impressive a development?

Beauty, for one. But Mr. Cortese had in mind other benefits and advantages, too. Like construction economies that result in attractive prices for buyers. Though Bird vinyl is tough, it's light. Easy to handle. Cuts to size with ordinary tools. Goes up fast. And because it's so rugged, there's never any loss from stock

deterioration or damage.

And the famed developer also required absolute minimum maintenance. Bird vinyl never needs painting. Can't flake, peel or rot like wood. Doesn't rust, dent or dent like metal. Washes down with a hose, or in a storm. Can't conduct electricity, discourages fire and always looks great.

Any wonder Mr. Cortese went the Bird solid vinyl route? More than



new 30,000 unit Rossmoor Co-op?

of the siding — and all gutters
downspouts — in this strikingly
beautiful community near Princeton,
are Bird vinyl. This is the 5th
Cortese project. And more
planned.

Developer? Builder? Contractor? If
you are not putting up Bird Vinyl,
you are putting up with less than
some profits.

Send for the profitable facts right
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| <input type="checkbox"/> Bird solid vinyl siding | <input type="checkbox"/> Bird solid vinyl shutters |
| <input type="checkbox"/> Bird solid vinyl gutters
and downspouts | <input type="checkbox"/> Bird solid vinyl soffits |

Name _____

Company _____

Street _____

County _____

City _____

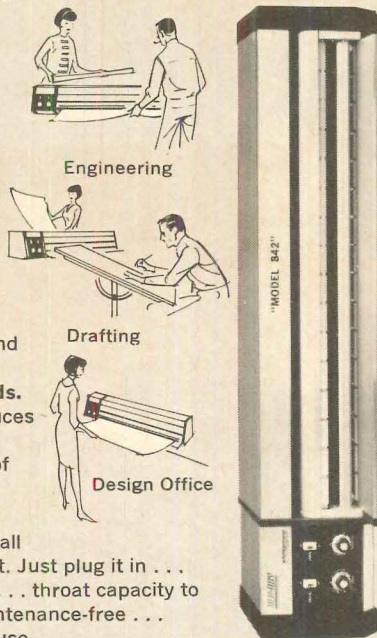
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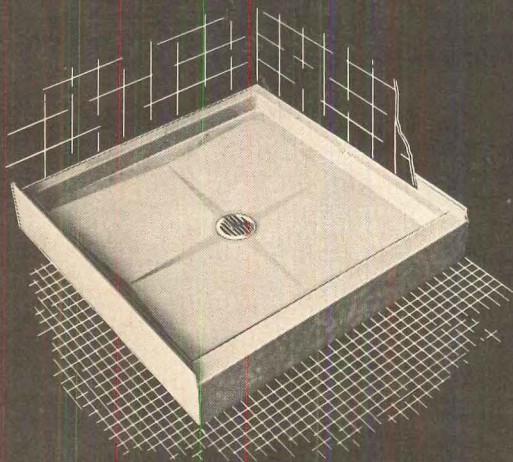
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Circle 68 on Reader Service card

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- watertight drain is factory attached, tested
- molded one-piece—nothing to come loose, leak
- exclusive Molded-Stone is strong yet flexes; gives with building settling—won't crack or chip



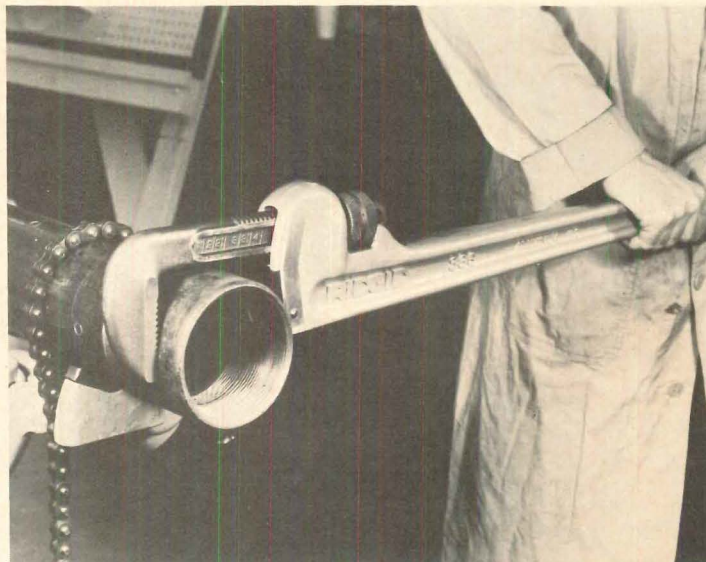
Write for Descriptive
Literature

FIAT

FIAT METAL MFG. CO., INC.
Michael Court, Plainview, L.I., N.Y.

Circle 69 on Reader Service card

Tools and equipment



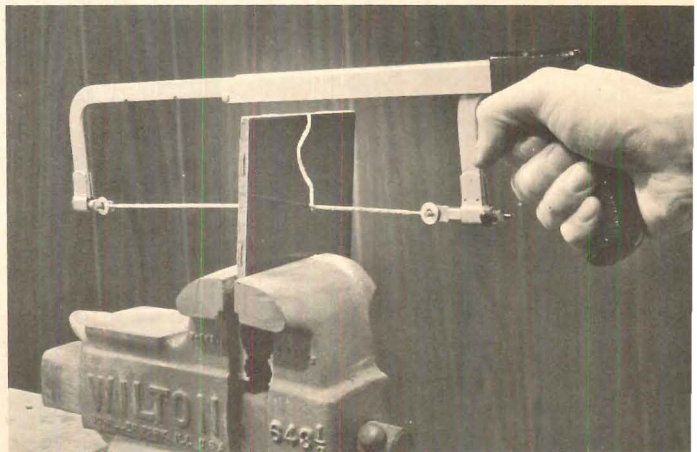
Aluminum-handled pipe wrenches are nearly 50% lighter than forged-steel types, yet meet government heavy-duty standards. They come in five sizes from 10" to 36". Jaw mechanisms are steel. Ridgid Tool, Elyria, Ohio. *Circle 220 on Reader Service card*



Portable masonry saw has heavy-duty features (welded steel frame, continuous duty motor, non-priming electric water pump), yet can be easily carried, claims the manufacturer. Available in 1½ or 2 hp. Eveready Briksaw, Kansas City, Mo. *Circle 221 on Reader Service card*



Chemical fire extinguisher has barrel that unscrews from head, is replaced with factory fresh unit. Increased UL rating, fire-killing capacity is cited, a unit has indicator to show replacement need. Weighs 2½ lb. Ansul, Marinette, Wis. *Circle 222 on Reader Service card*



Tungsten carbide forms cutting edges of this saw blade. Fits hand saw, works like a coping saw. Materials like tool steel, stainless steel, titanium, glass, tile, etc., said to be easily cut. Dillon Tile, San Francisco. *Circle 223 on Reader Service card*

New products continued on p.

Circle 70 on Reader Service

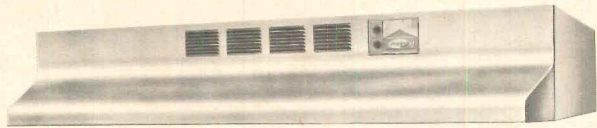
NEW PRODUCTS

start on p. 87

itchens



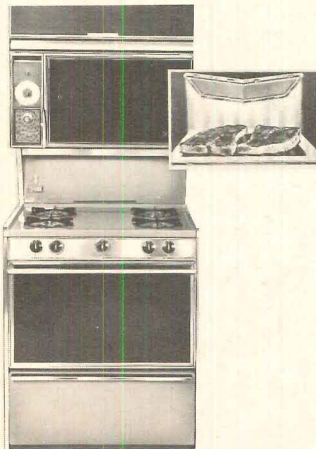
Stainless cart/cabinet rolls out for serving, tucks away in 18"-wide counter cavity. Cart's wooden front matches style and finish of kitchen cabinets. It has 17"x23" top with two 7" drop leaves. Six styles. Hamilton Beach, Portland, Ore. Circle 210 on Reader Service card



Flon-coated range hood comes in four widths from 24" to 42". All are 21" deep. Model shown is offered in antique white or shaded chrome. Plus sapphire, sand, avocado, lemon and aqua. Hamilton Beach, Racine, Wis. Circle 211 on Reader Service card



Heavy-duty disposer has reversible turntable with stainless steel impellers that swivel 360° for above-average grinding ability. Model is wrapped in outer polystyrene jacket with sound-absorbing polyfoam insulation. Hamilton Beach, Anaheim, Calif. Circle 212 on Reader Service card



Double-oven gas range has optional MicroRay broiler (insert) that heats to 1600°F, gives off 3-micron infrared rays. Heat comes from gas-air mixture inside ceramic broiler surface, rather than from exposed flame. Cooktop lifts off. Hamilton Beach, Cleveland, Tenn. Circle 213 on Reader Service card

New products continued on p. 110



Two more of over 100 decorator models

CLASSIC
Grote-quality cabinet with exquisitely carved gold frame in basic oval shape lovely in any setting.



ANTOINETTE

Cabinet with superbly sculptured gold frame reflecting both the good taste and the affluence of a golden era.

FROM **Grote**

All the magic of mirrors

without sacrificing that needed storage space

How can you sell your home or rent your apartment weeks earlier? With the opulent touches you can provide with decorator bathroom cabinets at less cost than with anything else. And with more opulence for fewer dollars from Grote than from any other.

Not to mention the space-enlarging effect with mirrors that will make a compact bathroom look twice as big... without sacrificing the needed extra storage space provided by the cabinet.

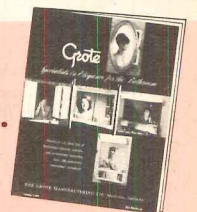
Grote has bought a whole mirror plant (Hagemann of Shelbyville, Ind., famous in mirrors since 1892) to bring you the most in mirror sales-magic. Mirror-doors on bathroom cabinets, rolling or fixed wall mirrors, decorator mirrors for every room in the house.

This complete integration of our mirror manufacturing gives us something most important to you, the builder: complete quality control from selection of glass through silvering, backing, framing, and mounting devices.

Count on Grote for all the sales magic you can work with mirrors. Get the formula from our new 32-page full color catalog.

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P O Box EM-766, Madison, Indiana 47250.

Sure, we want the formula for mirror-magic in bathroom cabinets, to sell or rent weeks earlier. Send us your new 32-page full color catalog.



Firm Name _____
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 Signed _____ Title _____

Honeywell Electronic Air Cleaners, Total Comfort, coming on fast. May be "standard" soon.

"We're the only local builder with the Air Cleaner standard, so we attract a lot of attention."

**Harold Grabow, Builder
Developer of Waterford Village
Waterford, Connecticut**



"Every home in Waterford Village is a Total Comfort Home. Heating, air conditioning, humidification control and the Honeywell Electronic Air Cleaner are all standard. Our Total Home Comfort system plays a major role in our advertising and literature. It has given Waterford Village a real comfort image with the public.

"Many of our prospects are already familiar with the Honeywell Electronic Air Cleaner. We deal with sophisticated clients who readily understand the benefits of air cleaning from reading the Honeywell advertising. Of course, if there are any allergies in the family, we have really hit the bullseye. Total Home Comfort is the new "hot item."



"Have one in my own home... I know its value."

**Mr. Walter R. Zimmerer: Clover Hill Estates,
Colts Neck, New Jersey**

"My father and I are custom builders. We both have Honeywell Electronic Air Cleaners in our own homes. We know their value from firsthand experience.

"In our homes we offer humidity control, air conditioning and the Honeywell Electronic Air Cleaner.

"About 60% of our customers order an Electronic Air Cleaner right away and our plumbing and heating contractor sells the other 40% within a year or so after they move in.

"I really stress the Electronic Air Cleaner because my homes are my sales exhibits, and I want them to look as good in five years as they do now."

"Sell more Electronic Air Cleaners than air conditioning..."

**Mr. Richard Tomko
Vice President, Keyes-Treuhaft
Cleveland, Ohio**



"Our firm is currently developing Landerwood Estates in Pepper Pike, Cleveland's finest suburb. Neither air conditioning nor the Honeywell Electronic Air Cleaner is standard equipment, but we do install a Honeywell Air Cleaner in a blank frame so the Air Cleaner may be added later. We familiarize all our clients with the benefits of both.

"We sell more Honeywell Electronic Air Cleaners than we do central air conditioning installations, and air conditioning is receiving a lot of publicity as a big item in building today. Customers readily understand the health aspect of clean air plus the fact the Electronic Air Cleaner cuts redecorating and drying expenses."

"Total Comfort sold homes so I used it in office building."

Mr. Francis Koenig, Builder
McLean, Virginia



Previously, I have built homes in the Washington, D.C. suburbs. Each of my homes had a Total Home Comfort package consisting of central heating, air conditioning, humidity control and Honeywell Electronic Air Cleaning. The Honeywell Electronic Air Cleaner kept homes cleaner and made them easier to maintain. When I began building a 55 x 155 ft.

office building which I own, I wanted to give my tenants the same cleanliness which I gave my home buyers. They are mostly professional people and they want the best. I installed six banks of Honeywell Electronic Air Cleaners and had no trouble leasing the entire building. People are the same all over. Give them something with real value and they snap it up."

"...like air conditioning was a few years ago."

Mr. Jack Monroe, Builder
Atlanta, Georgia

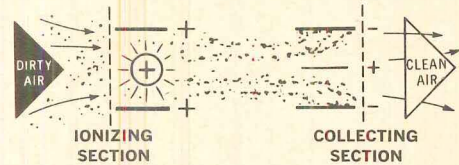
We are developing one 48-lot unit, each, and most of our homes are con- jobs. Consequently, the different needs of the home are negotiated. We have no standard features as such, but Honeywell Electronic Air Cleaner in most of our homes. In the homes where it doesn't go in, we usually include a Honeywell blank frame, because we know the air cleaner will be added later. We tried to leave space for air conditioning because the power unit was usually added later; now all our homes are air conditioned. We feel that this is the same as when the Honeywell Electronic Air Cleaner is in now. It will soon be standard.

We have literature on the Honeywell Electronic Air Cleaner, but we find most of our clients are already familiar with it and we even bring it up before we do. I have two Honeywell Electronic Air Cleaners in my own home, so I can give you a testimonial if it's needed."



Honeywell Electronic Air Cleaner removes 95%* of the dust, dirt and pollen passing through it.

The Honeywell Electronic Air Cleaner fits in the return air duct of any forced air heating-cooling system and traps up to 19 times as many particles as ordinary mechanical filters.



In the Honeywell Two-Stage Electrostatic Precipitator, particles receive a strong positive charge in the ionizer section. As they pass into the collector, the electrical field created by the alternately charged positive and negative plates hurls the particles onto the negative plates, out of the airstream.

Only the large airborne particles can be seen, but the invisible particles do most of the real damage. They can irritate allergies, soil windows and drapes, and leave a dingy haze behind mirrors and pictures.

The Honeywell unit traps particles so tiny that it would take about 7,000 of them to stretch across this (.) dot!

In a new home, the Honeywell Electronic Air Cleaner may be included in the mortgage for under \$2.00 per month.

For more complete information and literature, write Honeywell, Dept. HH 7-419, Minneapolis, Minn. 55408.

*As measured by the National Bureau of Standards Dust Spot Method.

Honeywell

IT'S GASOLINE—IT'S ELECTRIC—IT'S BOTH!

SPEE-FLO AIRLESS SPRAYER

Slimline 35 PowrTwin \$795⁰⁰ Includes gas and electric power units.

Now...
for the first time you can have complete versatility and airless quality in one compact unit.



Add up these features:
Compact — weighs only 125-lbs. Siphon operated direct from 115V-15 amp outlet or 4-HP gasoline engine. Quick change from gas to electricity in 5 minutes. Completely portable, goes up stairs, scaffolds and roofs. Comes complete with patented H-Gun, hose, and two power units.

SINGLE POWER
(gas or electric) optional at **\$695⁰⁰**

1½ H.P. Electric Convert-o-kit

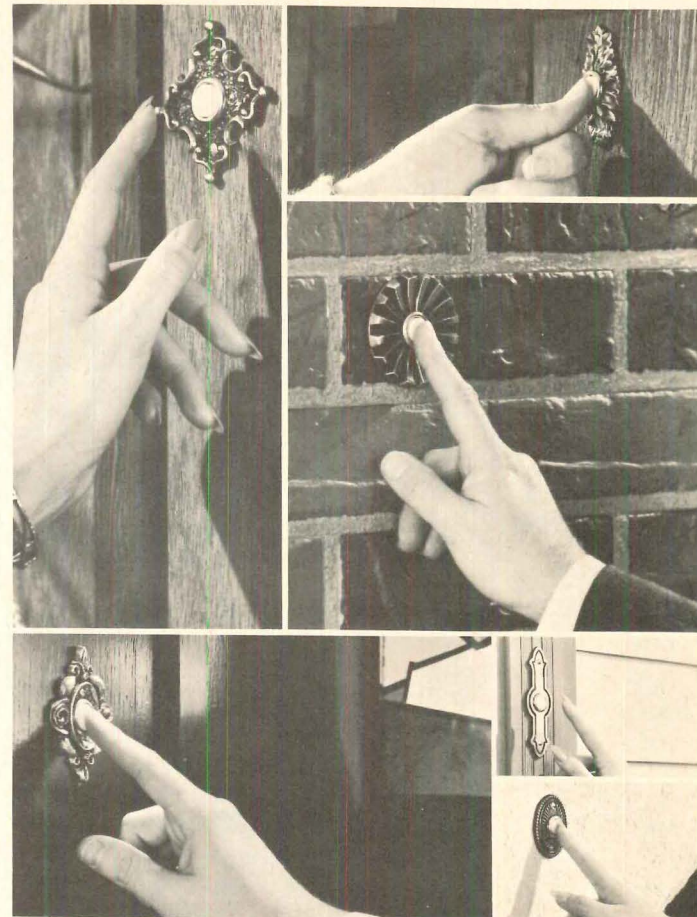
Have the unit to do any job, anywhere. Get the Spee-Flo PowrTwin demonstration or case histories on request.

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Sets new standards for quality finishing



Circle 73 on Reader Service card

Electrical fixtures



Lighted push buttons are offered in six styles finished in choice antique pewter, gold or silver. The 10- to 16-volt units range in design from traditional to Spanish. Emerson Electric, St. Louis. **Circle 260** Reader Service card

MAGNETIC CATCHES

designs to meet every need for doors and cabinets



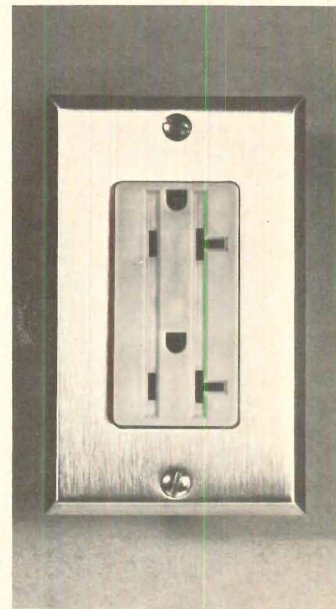
EPCO

Each is designed for neat appearance, to mount easily in a variety of ways, and to last a lifetime. Magnets are self-aligning to enlarged strikes. There's a style and size for every need.

See Sweet's Catalog under Arch. File 19g-En and light Const. File 7b-En for the complete EPCO line of magnetic catches, track for sliding doors, pulls and knobs.

THE ENGINEERED PRODUCTS COMPANY
P. O. BOX 108 FLINT, MICHIGAN 48501

Circle 74 on Reader Service card



Grounding receptacle has stainless-steel wall plate with brushed-satin finish. The heavy-duty receptacle eliminates a prime cause of shorting by increasing the gap between contacts and molded body. Slater, Glen Cove, L.I., N.Y.
Circle 265 on Reader Service card



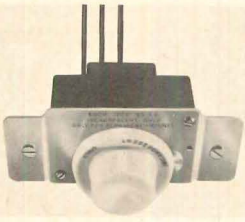
Template for making out box openings in lamina plastic panels is used with router. It helps cut accurate-size openings with correctly radiused corners. Double-faced tape tents it to wall. Consoweld, V consin Rapids, Wis.
Circle 266 on Reader Service card



Colonel Logan STANDARD SIZE

ORNAMENTAL IRON

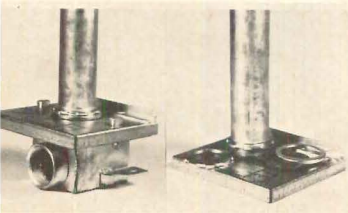
...sparks home sales!



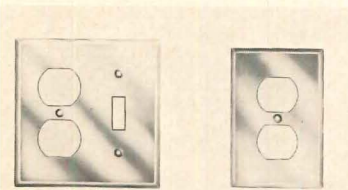
Electronic dimmer switch for incandescent lamps can be preset at any light level. Push-on, push-off control comes in either single-pole or three-way and fits standard single-gang box. Unit is rated at 600 watts, 120 volts. Circie F, Trenton, N.J.
Circle 261 on Reader Service card



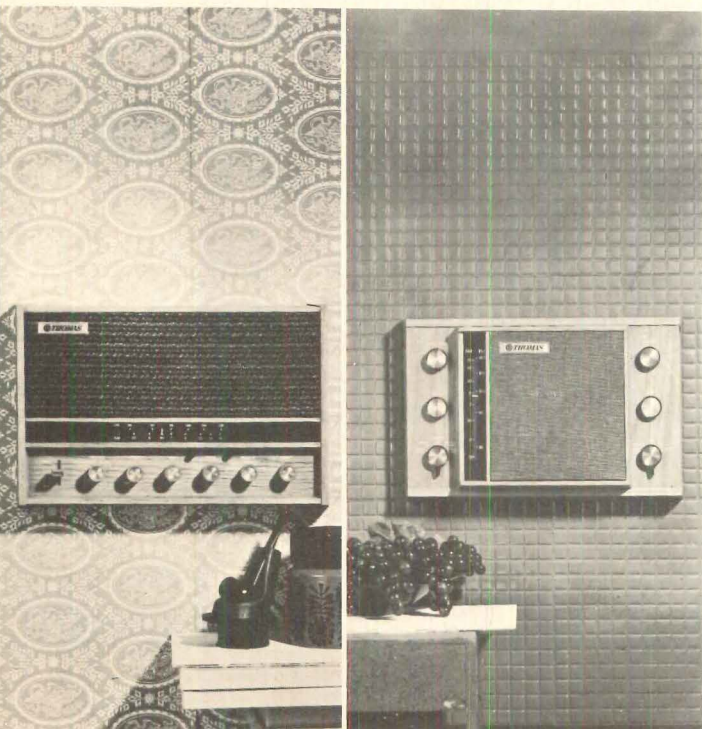
Weatherproof cabinet with locking door encloses controller for automatic sprinkling systems. Both chassis and panel are interchangeable with current models, so cabinets now in use can be replaced with new design. Rain Bird, Glendora, Calif.
Circle 262 on Reader Service card



Shielding adapter for threaded-conduit connections eliminates need to weld joints. Only a wrench is required for installation, and joints can be disassembled (near left) and re-used. Unit includes RF gasket and cup washer. Danex, Clark, N.J.
Circle 263 on Reader Service card



Oversized wall plates are large enough to conceal wall damage and deep enough to assure a flush fit. Plates are 3/4" wider and taller. They are suggested for mobile homes, prefabricated units or any thin-wall construction. Leviton, Brooklyn.
Circle 264 on Reader Service card



Radio-intercom systems, in two surface-mounted models, need no rough-in framing. Systems include master control centers (shown), three room stations and a door speaker. Finishes are walnut or silver oak. Thomas, Louisville. Circle 267 on Reader Service card

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New products continued on p. 112

Adhesives



Expanding mortar—compounded for use with brick, stone, concrete and masonry—expands as it sets, forcing itself into cracks to form a tight seal. Also: It waterproofs when brushed over stone and brick. X-Pando, Long Island City. Circle 243 on Reader Service card



One-part sealant adheres to most materials and can be applied without priming even to soiled or damp surfaces. The acrylic sealant requires no preheating. Characteristics: high elasticity, low shrinkage. Rutland Products, Rutland, Vt. Circle 244 on Reader Service card



Floor sealer, for preserving resilient and stone floors, is compatible with water-based waxes. The acrylic-emulsion sealer is nonflammable and dries to a hard, nonyellowing film. It restores color and gloss to worn floors. Simoniz, Chicago. Circle 245 on Reader Service card



Long-term waterproofing for masonry seals from within rather than by surface coating. Ingredients penetrate block, concrete and mortar, chemically form a moisture barrier. Prime both oil- and water-based paints. Chemstop, Burbank, Calif. Circle 246 on Reader Service card

New Literature starts on p. 11



CHOOSE Swanson BUILT-INS FOR KITCHEN GLAMOUR



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Matt Jetton calls his new model "VARIATIONS IN COPPER"

Thompson-Brown Co. named its new model "THE COPPER CENTURY HOME"

Good ideas get around.



"VARIATIONS IN COPPER" by Sunstate Builders in Tampa, Florida, is a superb example of homebuilding fashion that makes sense. Impressively eye catching throughout. A copper coach lantern at entrance. Etched copper wallpaper in bathroom. Copper wall tiles in the kitchen. An antique copper-and-cypress hood over an island range. Solid brass and bronze hardware. And, of course, all copper plumbing, wiring and flashing for enduring service where the eye doesn't see it. Successful opening was highlighted by a special exhibit of copper, brass and bronze sculptures from the Sculpture Center, N.Y.C.



"THE COPPER CENTURY HOME" in Detroit, Michigan, has copper, brass and bronze where they belong in a quality home. Superior hydronic heating with a copper boiler and all copper tubing. Copper gutters, spouts, flashing and bronze weatherstripping for enduring protection from time and weather. All copper water lines, waste lines and electric wiring. And fireplace hood, roof cupola, hardware, switch plates, light fixtures, plumbing trim... all of copper or its alloys. Even the copper industry's prototype car, the Mercer-Cobra, was on hand to help build capacity traffic on the snowy opening weekend.

No other building material combines the beauty, durability and freedom from maintenance that are inherent in copper, brass and bronze. These metals add far more selling value to a home than they cost. And today's customers know it.

COPPER
DEVELOPMENT
ASSOCIATION INC.

405 LEXINGTON AVENUE, NEW YORK, N.Y. 10017

How long will cedar shingles last over a plywood roof deck?

Frankly, we don't know. Our records only go back to 1938.



And here's what the records show:

Durability: A cedar shake or shingle roof over plywood decking will last for decades. For instance, we've tracked a house that was built in 1946, with 5/16" plywood sheathing over wood shingles. After 21 years, the owner remodeled. When shingles were taken up to change the roof configuration, the whole roof was found in perfect shape. Shingles were intact, and the plywood was as sound and solid as when it was laid. That same plywood deck is still in perfect service, reroofed with cedar shakes, more than a quarter-century after it was laid down.

Numerous studies confirm the durability of cedar shingles over a solid plywood deck. A few years ago, Purdue University sponsored a survey of 650 red cedar shingle roofs with an average age of 23 years. Conclusion: no significant difference in performance of shingles applied over either solid plywood or plywood sheathing.

Red Cedar Shingle and Handsplit Shake Bureau in its Certigrade Handbook specifically recognizes plywood sheathing "graded and applied according to specifications of American Plywood Association."

There's a great deal more to the plywood record than durability.

Protection: Plywood protects against dust, dirt and snow penetration without need for building paper. A tight plywood roof eliminates air infiltration, enables attic ventilation to be controlled.

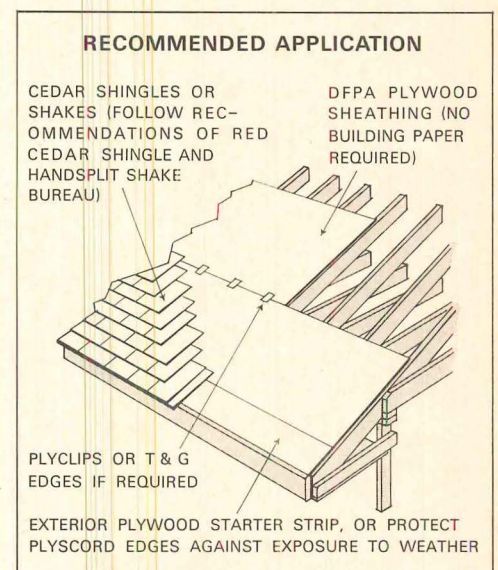
And plywood sheathing braces any structure against the forces of earthquakes and hurricanes. Tests by the American Plywood Association and by independent agencies, plus repeated field inspections, prove plywood's superior bracing strength.

Economy: In-place costs of plywood roof decks are low—almost always lower than other materials. That helps account for plywood's predominance in the residential roof-sheathing market. It is used on about 70 per cent of all new homes. There's less waste and labor costs are lower. Also, plywood is available in thicknesses which permit efficient material use for any rafter or beam spacing.

And when you take into account the years of trouble-free service a shingle or shake roof with plywood deck will give—with no need for repairs or replacement—plywood's cost savings are even more impressive.

Nailability: Plywood has superior nail-holding ability. Even 5/16" or

3/8" plywood will hold nails permanently and securely in place—and even under wind forces of hurricane intensity. Laboratory and field studies after 5 to 8 years of exposure showed withdrawal resistances averaging 50 lbs. for 3d shingle nails in plywood sheathing. Normally, two nails are used per shingle or shake.



For more on nailing and support spacing recommendations, send coupon. Or get in touch with us in Tacoma or at one of our regional offices: Atlanta, Chicago, Dallas, Detroit, Los Angeles, Minneapolis, New York, San Francisco, Washington, D.C.

AMERICAN PLYWOOD ASSOCIATION

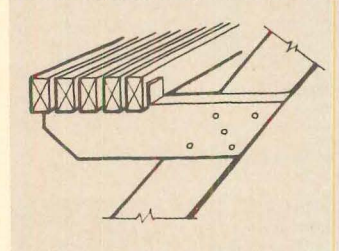
American Plywood Association
Tacoma, Washington 98401, Dept. H

Please send me (free) more facts on plywood decking under shake and shingle roofs.

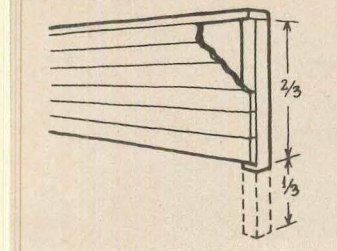
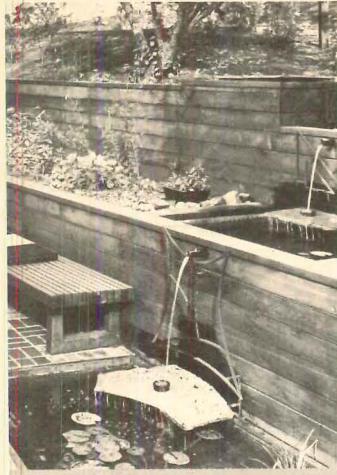
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 Firm _____
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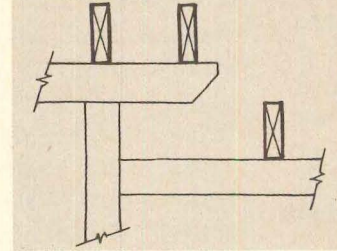
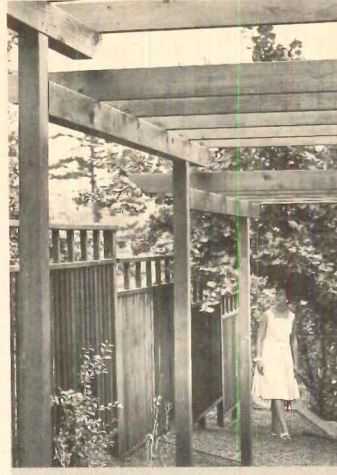
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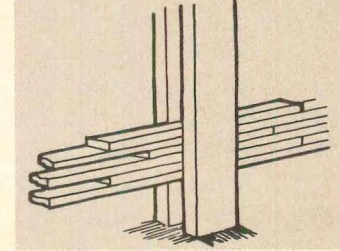
RAILINGS AND BENCHES



PLANTERS AND WALLS



FENCES AND SCREENS



GARDEN STRUCTURES

Here are four ways to use western softwoods for landscape structures

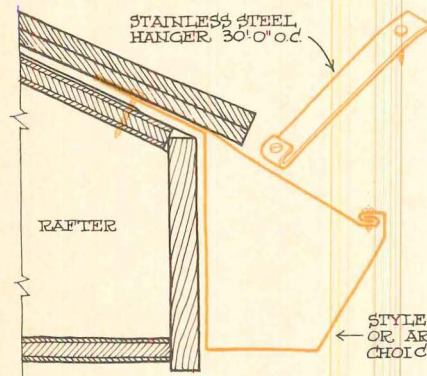
The photos and drawings above are samples of what you'll see in a new booklet on decks, railings, fences and garden units—one of nine titles in a technical library published by the Western Wood Products Assn.

Some of the booklets are product catalogs; others are sources of ideas like those

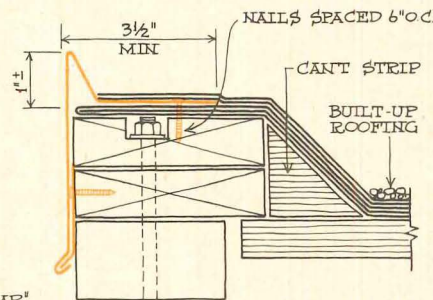
shown here. As a group, the nine booklets supersede WWPA's technical manual. Other subjects covered: structural framing, sheathing and decking; machine-rated lumber; laminated and solid posts and beams; exterior siding; interior paneling; mouldings; doors, and a guide for selecting, specifying and using wood products in

construction.

WWPA split up its old manual to make it easier for architects and builders to find information on specific construction uses. You can obtain any or all of the booklet free from the Western Wood Products Assn., Yeong Building, Portland, Ore. 97204.



GUTTER FOR NEW CONSTRUCTION



GRAVEL STOP DETAIL

For stainless-steel users: Here's a new how-to manual

Any builder who's using—or considering using—stainless steel for roofing, flashing, copings, fascia, gravel stops or gutters will find practical data in this manual.

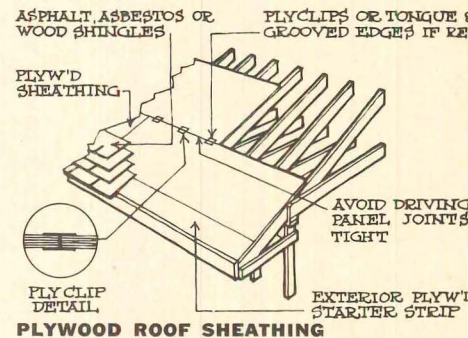
The 28-page booklet not only touts steel as a building product but also tells how to use it for different applications.

Diagrams, like the two above, show application details plus alternate patterns

and profiles.

Tables show typical properties and composition of stainless steel, suggested minimum thicknesses, and expansion coefficients for other building materials.

Data came from manufacturers, roofing contractors and architects. American Iron and Steel Institute, New York City. Circle 302 on Reader Service card



PLYWOOD ROOF SHEATHING

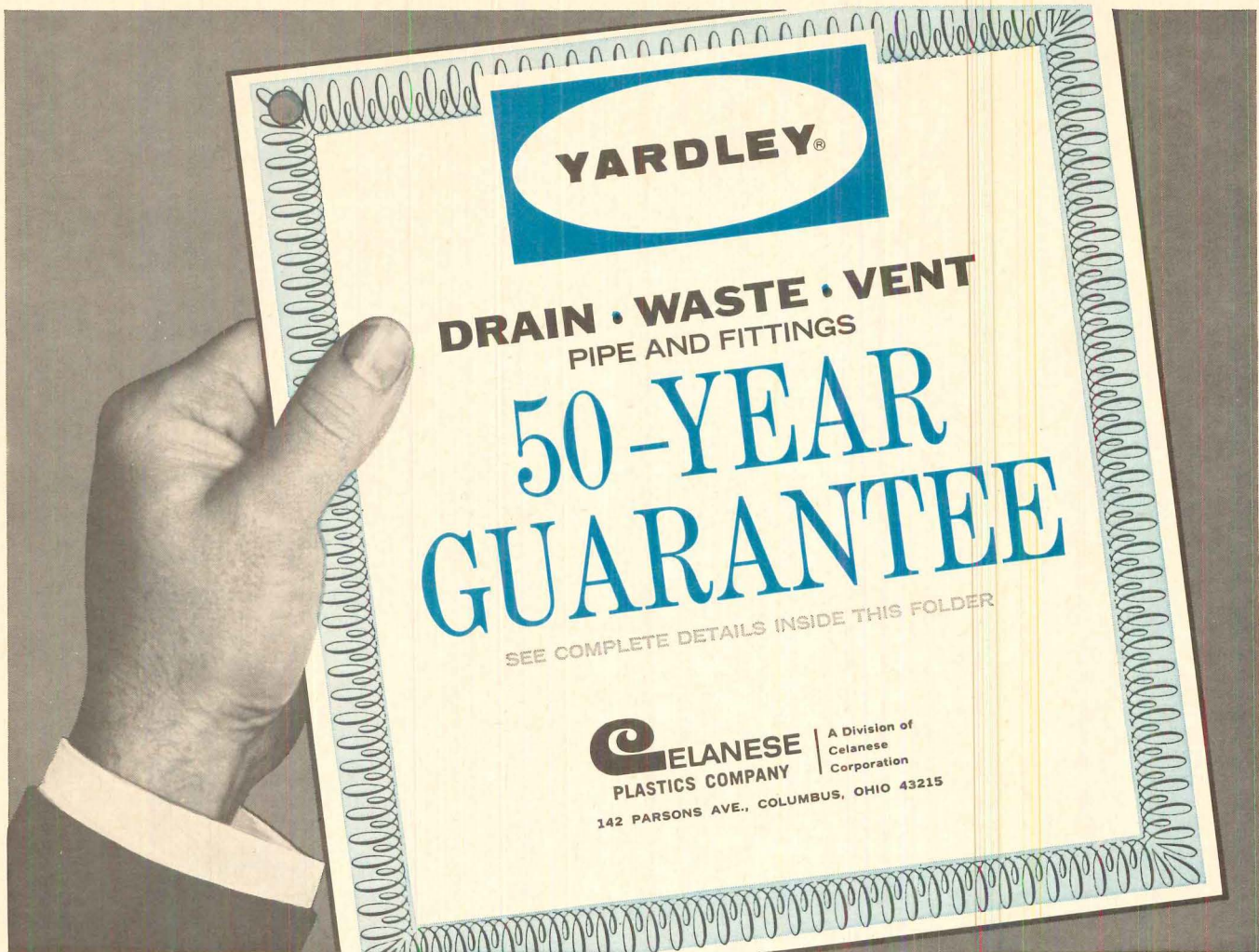
New guide shows how to select and use plywood for any job

The 28-page guide summarizes grade-selection data in a two-page table and also tells how to use new identification numbers of plywood sheathing.

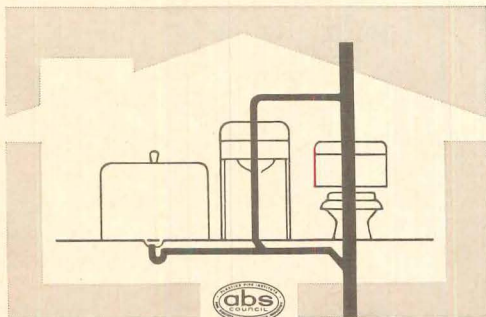
Other sections cover the use of plywood in two roofing systems (*one is shown above*), five flooring systems and six wall systems. Tables show how much plywood is needed and specify the proper thickness.

Also included: information on soffit trusses, nail holding and sound control. American Plywood Assn., Tacoma, Wash. Circle 301 on Reader Service card

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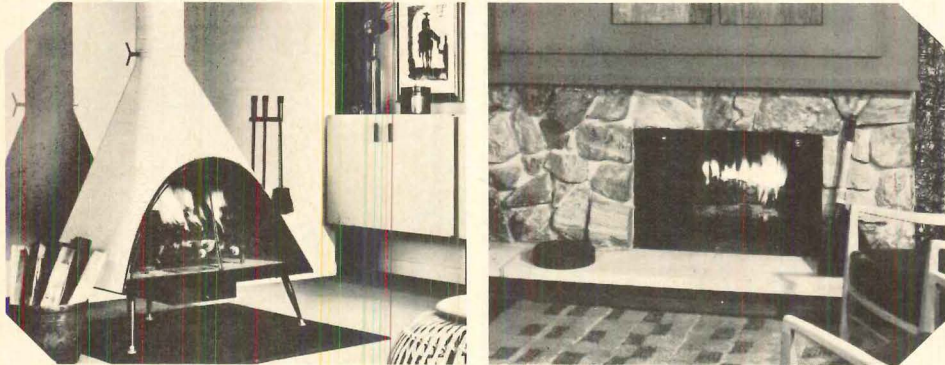


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NEW LITERATURE

starts on p. 116

For copies of free literature, circle the indicated number on the Reader Service card, p. 105.

COMPACT REFRIGERATORS AND FREEZERS. Suggested for home bars, small apartments and kitchens, compact 24" units are covered in product sheet. Revco, Deerfield, Mich. Circle 377 on Reader Service card

STEEL DOORS. Factory-fabricated access doors—for valves, electrical systems and other service points—are equipped with cam locks. Designed for wall or ceiling use, all styles fit flush with surface. A data sheet includes specification. Miami-Carey, Cincinnati. Circle 379 on Reader Service card

BATHROOM CABINETS. Full-line of cabinets and accessories is described and illustrated in full color. Thirty-one pages. Philip Carey, Cincinnati. Circle 380 on Reader Service card

THE BATHROOM. The much publicized study co-sponsored by Cornell University and American Standard is now available, wrapped in a special designed cover that indexes its contents and illustrates experimental bathroom models being developed by the manufacturer. American Standard. Circle 381 on Reader Service card

INTERIOR PLYWOOD PANELING. Six design sheets in a color portfolio show how texture panels fit a wide range of applications. Also: how to install and finish. American Plywood Association, Tacoma, Wash. Circle 382 on Reader Service card

HEATING/AIR CONDITIONING UNITS. Warm air units for residential and commercial installations are presented in a full-line brochure. Lutz, Elyria, Ohio. Circle 383 on Reader Service card

CAST-ACRYLIC SHEET. Twelve-page catalog shows both residential and commercial applications in full color. Also contains specifications and lists new colors and patterns. American Cyanamid, Wakefield, Mass. Circle 384 on Reader Service card

CIRCUIT BREAKERS. Two- and three-pole models in ratings from 5 to 100 amps are presented in a technical bulletin. Includes dimensions, drawings and ordering information. Heineman Electric, Trenton, N.J. Circle 385 on Reader Service card

SCAFFOLDING. A new line of 1½"-diameter scaffolding—end frames, braces, guardrails and accessories—is presented in a product sheet. Deere, Easton, Pa. Circle 386 on Reader Service card

ROOM DIVIDERS. Full-color brochure shows 1) how to create rooms by dividing space, and 2) how to close off closets and utility rooms with folding doors. Also: installation guides and specifications. New Castle, New Castle, In. Circle 387 on Reader Service card

GROUND RECEPTACLES. Designed for use with air conditioners, heaters, power tools and equipment, receptacles meet all applicable codes and standards. Bulletin describes complete line. Sier Electric, Gardena, Calif. Circle 388 on Reader Service card

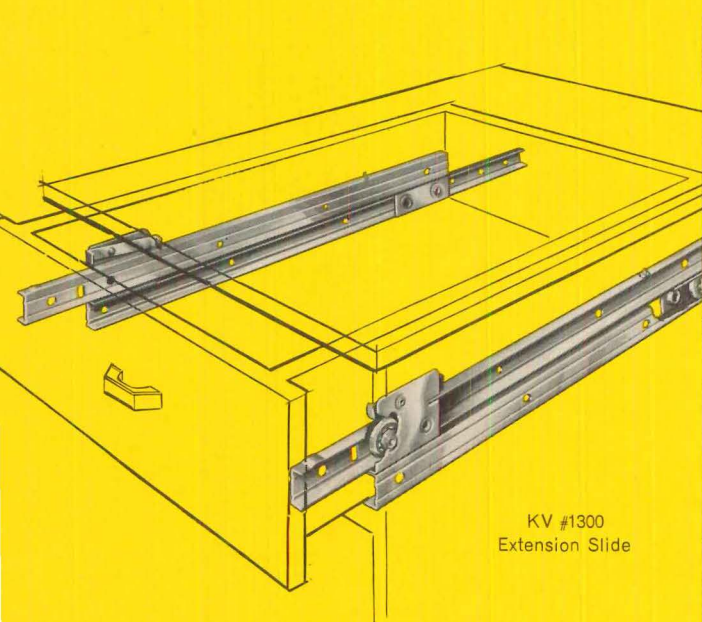
DOOR PULLS/CABINET HARDWARE. Product sheet describes and illustrates selection of decorative cabinet hardware. Includes ordering information. Art Cast, Pomona, Calif. Circle 389 on Reader Service card

PORTABLE AUTOMATIC DISHWASHER. Offered in white or copper tone, model has fully insulated lid finished in wood-grained plastic laminate—adds 4 sq. ft. of counter workspace. Product sheet lists features. Philco, Philadelphia. Circle 390 on Reader Service card

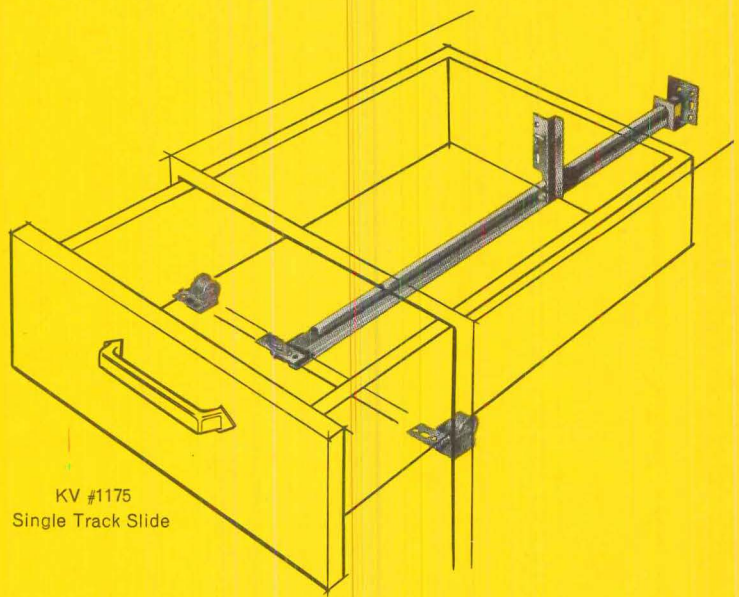
LAWN TRACTORS AND MOWERS. Full line utility vehicles is examined in a full-color catalog.

New literature continued on p. 1

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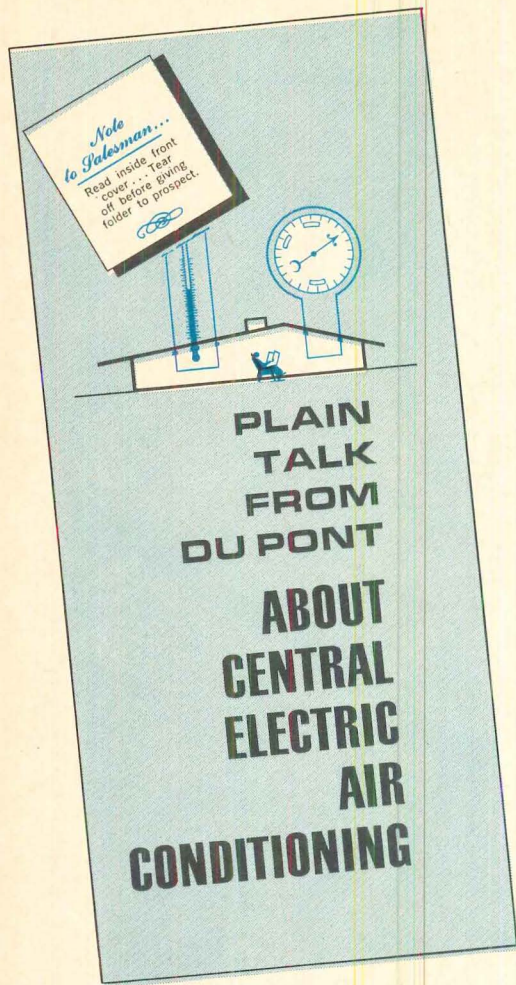


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Included are tractor attachments. Twenty-eight pages. Toro, Minneapolis. *Circle 391 on Reader Service card*

PANTRY CUPBOARD. High-impact-plastic cupboard mounts in the wall between studs and holds more than 50 cans. All hardware is factory installed. A product sheet illustrates and tells how to install the unit. Pagebar, Miami. *Circle 392 on Reader Service card*

LIQUID ROOFING. Brochure examines elastomeric systems and includes guide specifications for use by architects. Included: physical properties and test standards. Glidden, Wilmington, Del. *Circle 300 on Reader Service card*

VERTICAL AIR CONDITIONERS. Line of self-contained air-cooled units is the subject of an illustrated brochure that discusses capacities and installation techniques. Hupp, Brooklyn. *Circle 301 on Reader Service card*

VINYL-ASBESTOS TILE. Twenty-page catalog displays a variety of tile colors and patterns: travertine, slate, cork and embossed pebbles. Flintkote, East Rutherford, N.J. *Circle 302 on Reader Service card*

PLASTIC ROOFING. Poured plastic—a long-lasting waterproof coating for roofs, walls and concrete decks—is poured out, then spread with large rollers. It can be walked on in less than two hours. A specification sheet tells the story. Permalume Plastics, Vancouver, Wash. *Circle 315 on Reader Service card*

ADHESIVE BONDING ALUMINUM. Illustrated hard-cover handbook discusses wide range of applications—including building products. Chapters discuss surface preparation, adhesive selection and physical properties. 106 pages. Alcoa, Pittsburgh. *Circle 316 on Reader Service card*

ACRYLIC CEMENT. How to use a two-component cement to bond parts of Plexiglas acrylic plastic is described in a seven-page technical bulletin. The cement will also bond Plexiglas to other materials like wood, metal and glass. Cadillac Plastic, Detroit. *Circle 350 on Reader Service card*

SEAMLESS FLOORING. The advantages—positive adhesion and no odor—of manufacturer's poured flooring are enumerated in a four-color brochure. Phelan-Faust Paint Mfg., St. Louis. *Circle 351 on Reader Service card*

LAWN ATTACHMENTS. Data and specifications of attachments for lawn and garden tractors are presented in 11 product sheets. Allis-Chalmers, Milwaukee. *Circle 352 on Reader Service card*

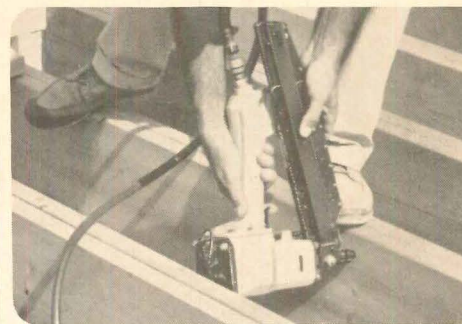
SEAMLESS RESILIENT FLOORING. Elastomeric liquid flooring offers a wide range of color possibilities. A selection aid includes samples of base coat and flake designs, lets architects and designers select custom designs. Poraflor, Woodside, N.Y. *Circle 353 on Reader Service card*

PLASTIC-FINISHED PANELING. Wall and ceiling paneling in a wide range of colors and patterns is illustrated and described in a full-color catalog. It includes specifications and accessories. Marlite, Dover, Ohio. *Circle 354 on Reader Service card*

VACATION HOMES. Varied cluster designs based on standard individual units highlight a 112-page plan book. Guide contains renderings and floor plans for 130 designs. For a copy send \$1 to: Home Planners, 16310 Grand River, Detroit, Mich. 48227.

TROWELING TOOLS. Catalog for contractors in the cement-finishing, tile-setting, lathing and plastering trades lists more than one-thousand tools. The full-color catalog contains 64 pages. Goldblatt Tool, Kansas City, Kan. *Circle 306 on Reader Service card*

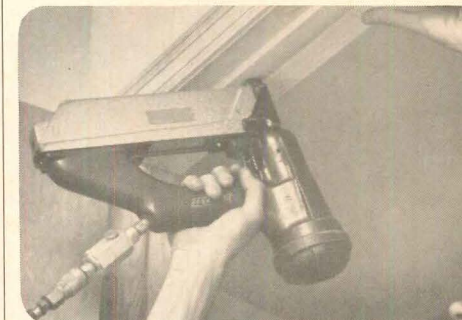
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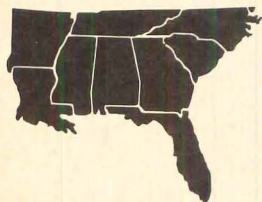
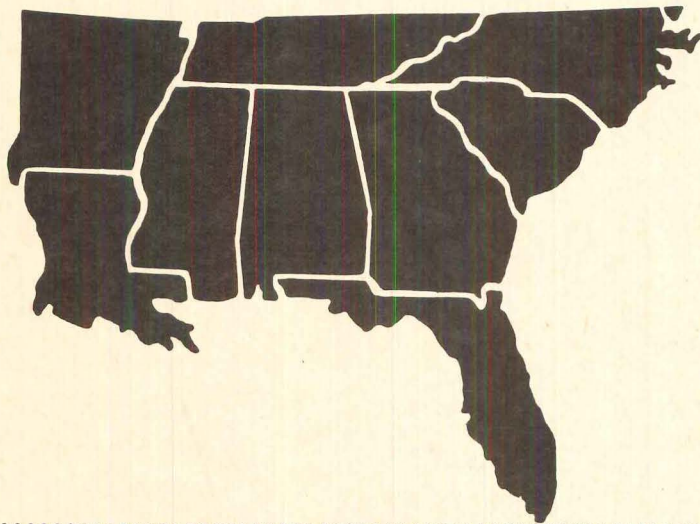
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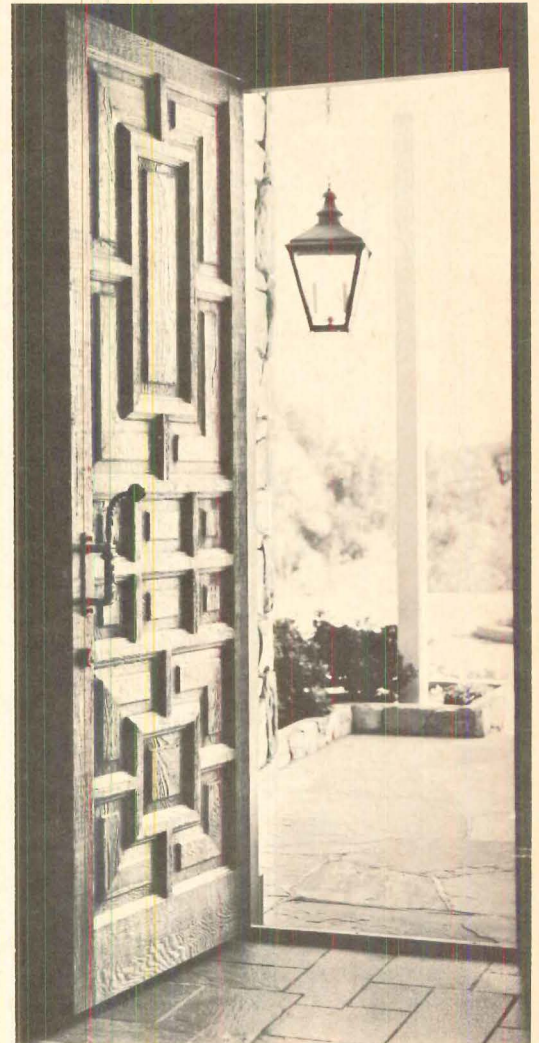
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