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This is Our Land -- Millions of Miles of It
By Dr. Mason Gaffney

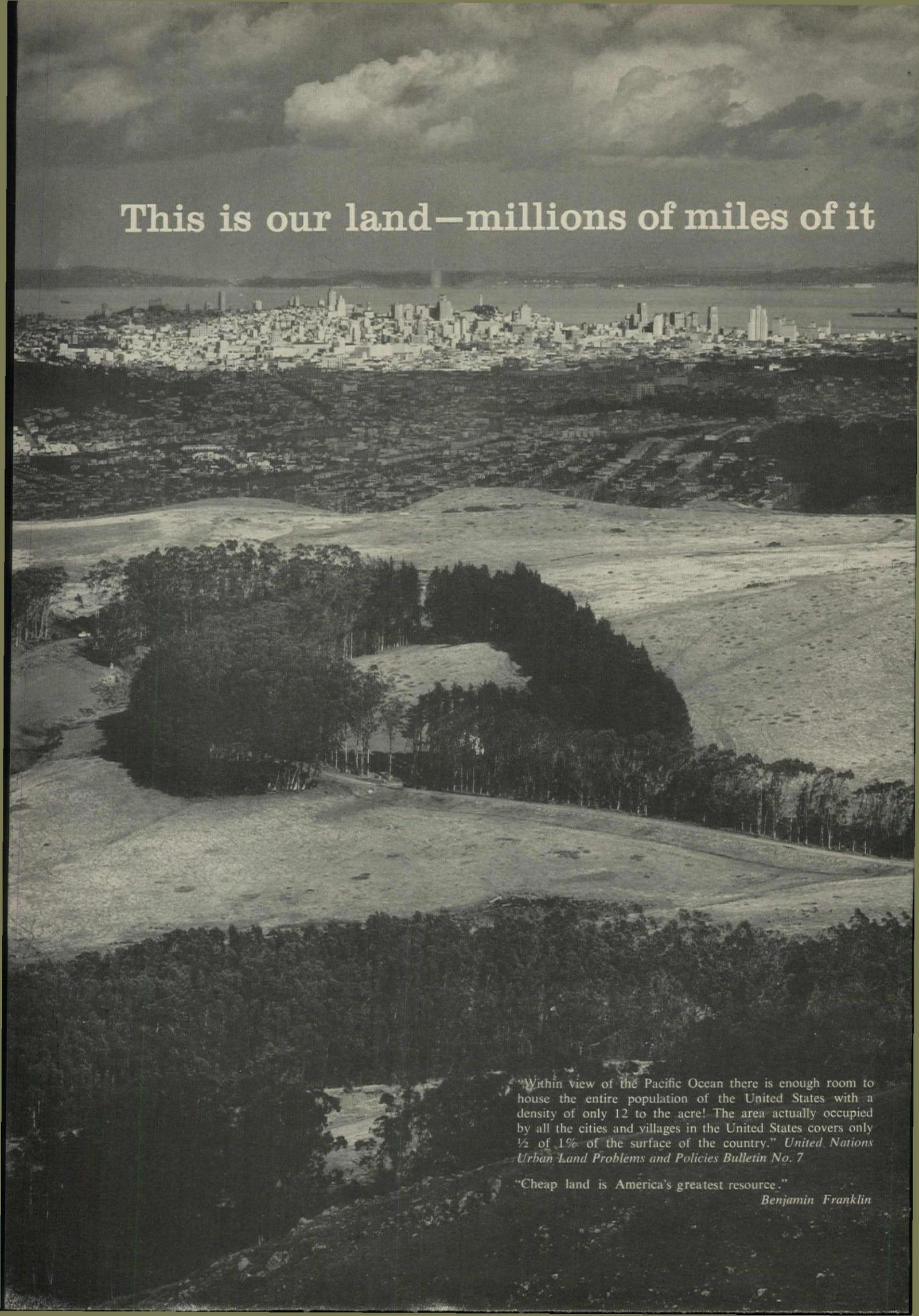
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RSF is particularly proud to offer free online access to the works of the late Georgist scholar Mason Gaffney, made possible through the generosity of the Danica Foundation and with the consent of the Mason and Letitia Gaffney Trust.

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"Within view of the Pacific Ocean there is enough room to house the entire population of the United States with a density of only 12 to the acre! The area actually occupied by all the cities and villages in the United States covers only ½ of 1% of the surface of the country." *United Nations Urban Land Problems and Policies Bulletin No. 7*

"Cheap land is America's greatest resource."
Benjamin Franklin



GAFFNEY

The land price, land economics, and land tax sections of this issue were researched and written in collaboration with America's No. 1 housing economist, Miles L. Colean, and two of America's foremost land economists—Professor Ernest M. Fisher of Columbia University and Professor M. Mason Gaffney of the University of Missouri. Much of the field research was done by Grady Clay.



FISHER

. . . but the homebuilders vote 4 to 1 that

LAND

is the most critical problem

Says MARTIN BARTLING, president of NAHB: "The average cost of raw land has at least quadrupled, the cost of development tripled. Here is a problem that will require all our ingenuity."

Says HHFAdministrator NORMAN MASON: "The land problem is becoming critical. Premium prices for desirable homebuilding sites are driving up the cost of housing and forcing development into areas that often compound the problems of growth."

Says JULIAN ZIMMERMAN, FHA commissioner: "FHA is deeply concerned over the way land prices are shooting up. The average land cost component in our valuations has climbed from $761 in 1946 to $2,362 in 1959."

Says PHIL WILL, president of AIA: "We are making frightening mistakes in land use and we are guilty of a criminal waste of the land that God gave us."

Says MAX WEHRLY, executive director of the Urban Land Institute: "Inappropriate, unimaginative, and outmoded site development requirements of public regulation bodies have produced disastrous consequences—excessive costs, inefficient land use, stereotyped plans, and the destruction of natural amenities."

Says W. O. DUVALL, president of the US Savings & Loan League: "Land has been the main villain in housing for a long time. Its high cost has become the No. 1 reason homes cost so much. Now we must work with the builders to educate landholders that the boom in land prices is over, and we must help the builders finance land acquisition and subdivision in a more orderly and therefore less expensive fashion."

Says B. B. BASS, president of the Mortgage Bankers' Assn: "Big speculators have been gobbling up land ahead, stifling competition, and putting the squeeze on builders."

Says NAT ROGG, NAHB economist: "Today's land situation is a killer for the builder. Land costs have climbed more than all other homebuilding costs combined."

Says United Nations Housing Adviser CHARLES ABRAMS: "The misuse of land is a worldwide problem and the failure to cope with it is a worldwide default. The US is lagging behind most countries in Europe in adopting a positive policy to correct it."

Said the economists and housing industry leaders at the HOUSE & HOME Round Table on inflation: "Steepest inflation of all has been the price inflation in land, but nobody is doing anything to stop it and we have no land policy designed to bring land onto the market when it is needed. The result has been a largely fictitious shortage of land for housing that has pushed prices far above today's values and is almost sure to end in a bust."

So this issue of HOUSE & HOME is researched, written, and edited to help the housing industry solve its most critical problem:

How to get better land for less . . . . . ***page 100***

How to use land better . . . . . ***page 144***

Ansel Adams, Wells Fargo Bank American Trust Co, San Francisco

Inflated land costs threaten to price good housing clear out of the market

In the suburbs sky-high land prices in good locations are driving homebuilding further and further out to find land cheap enough to build on profitably.

This further-out land costs twice as much to buy as land close in cost just a few years ago. It costs twice as much to connect to existing streets, sewers, and utilities. It takes a much bigger slice of the homebuilding dollar—19% today for far-out land vs 12% for close-in land in 1950. The high cost of getting home to this further-out land is a big new factor in housing expense—a bigger factor than mortgage interest for some new houses—and this in turn is driving many families who would like new houses to move to apartments or stay where they are.

So sky-high land prices are the No. 1 reason houses are harder to sell this year, the No. 1 reason merchant builders are finding it harder to offer good enough values in good enough locations to tempt second-time buyers out of their present homes.

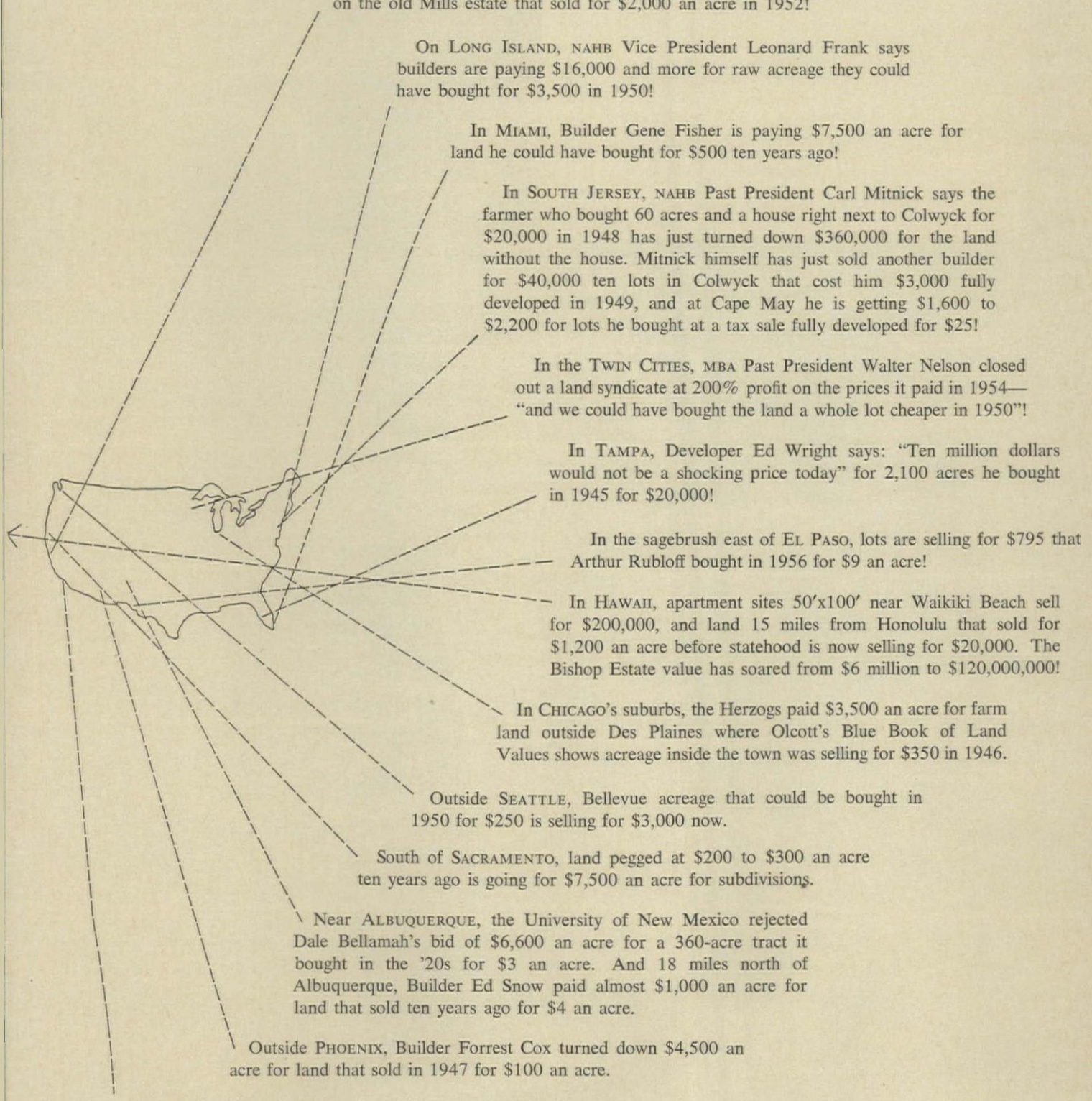
Homebuyers balk at paying $15,000 today for a house little better than the houses they could have bought five years ago for $12,000—with most of the price difference wasted to pay twice as many dollars for big discounts for less desirable (ie; higher-interest) money, and twice as many dollars for less desirable (ie, further-out) land.

In big cities high land prices are also the No. 1 reason private enterprise cannot build good new housing for middle-income families, so high land prices are the No. 1 excuse for subsidized public housing (in which the supposedly poorest families are housed largely at the tax payers' expense in apartments costing up to $17,500 per unit), and high land prices are the No. 1 justification for asking federal tax payers to subsidize slum clearance by buying out the slumlords at up to three times the re-use value of their land.

Any apartment builder who pays too much for his land has to pay too much for his building too, for 1) he has to build high-rise to spread his land costs over enough units and, 2) building high-rise costs much more per square foot than building low-rise. Says Jim Scheuer, America's second biggest redeveloper: "Walk-ups are the only apartments anyone can hope to build cheaply enough to serve the middle-income market, and you can't build low-rent family-size walk-ups on land that costs much more than $35,000 an acre (which would work out to about $1,000 per unit at FHA maximum density for family-size, two-bedroom apartments in three-story buildings)."

Since 1950, building material prices have climbed 24%; building trades wages have risen 60%; but . . .

Since 1950 land prices for homebuilding have soared anywhere from 100% to 3,760%



In SAN FRANCISCO, Big Builder Henry Doelger paid $580,000 for a tract that was offered for $15,000 in 1948; Peterson & Moretti are paying up to $10,000 a quarter-acre lot for developed land on the old Mills estate that sold for $2,000 an acre in 1952!

On LONG ISLAND, NAHB Vice President Leonard Frank says builders are paying $16,000 and more for raw acreage they could have bought for $3,500 in 1950!

In MIAMI, Builder Gene Fisher is paying $7,500 an acre for land he could have bought for $500 ten years ago!

In SOUTH JERSEY, NAHB Past President Carl Mitnick says the farmer who bought 60 acres and a house right next to Colwyck for $20,000 in 1948 has just turned down $360,000 for the land without the house. Mitnick himself has just sold another builder for $40,000 ten lots in Colwyck that cost him $3,000 fully developed in 1949, and at Cape May he is getting $1,600 to $2,200 for lots he bought at a tax sale fully developed for $25!

In the TWIN CITIES, MBA Past President Walter Nelson closed out a land syndicate at 200% profit on the prices it paid in 1954—"and we could have bought the land a whole lot cheaper in 1950"!

In TAMPA, Developer Ed Wright says: "Ten million dollars would not be a shocking price today" for 2,100 acres he bought in 1945 for $20,000!

In the sagebrush east of EL PASO, lots are selling for $795 that Arthur Rubloff bought in 1956 for $9 an acre!

In HAWAII, apartment sites 50′x100′ near Waikiki Beach sell for $200,000, and land 15 miles from Honolulu that sold for $1,200 an acre before statehood is now selling for $20,000. The Bishop Estate value has soared from $6 million to $120,000,000!

In CHICAGO's suburbs, the Herzogs paid $3,500 an acre for farm land outside Des Plaines where Olcott's Blue Book of Land Values shows acreage inside the town was selling for $350 in 1946.

Outside SEATTLE, Bellevue acreage that could be bought in 1950 for $250 is selling for $3,000 now.

South of SACRAMENTO, land pegged at $200 to $300 an acre ten years ago is going for $7,500 an acre for subdivisions.

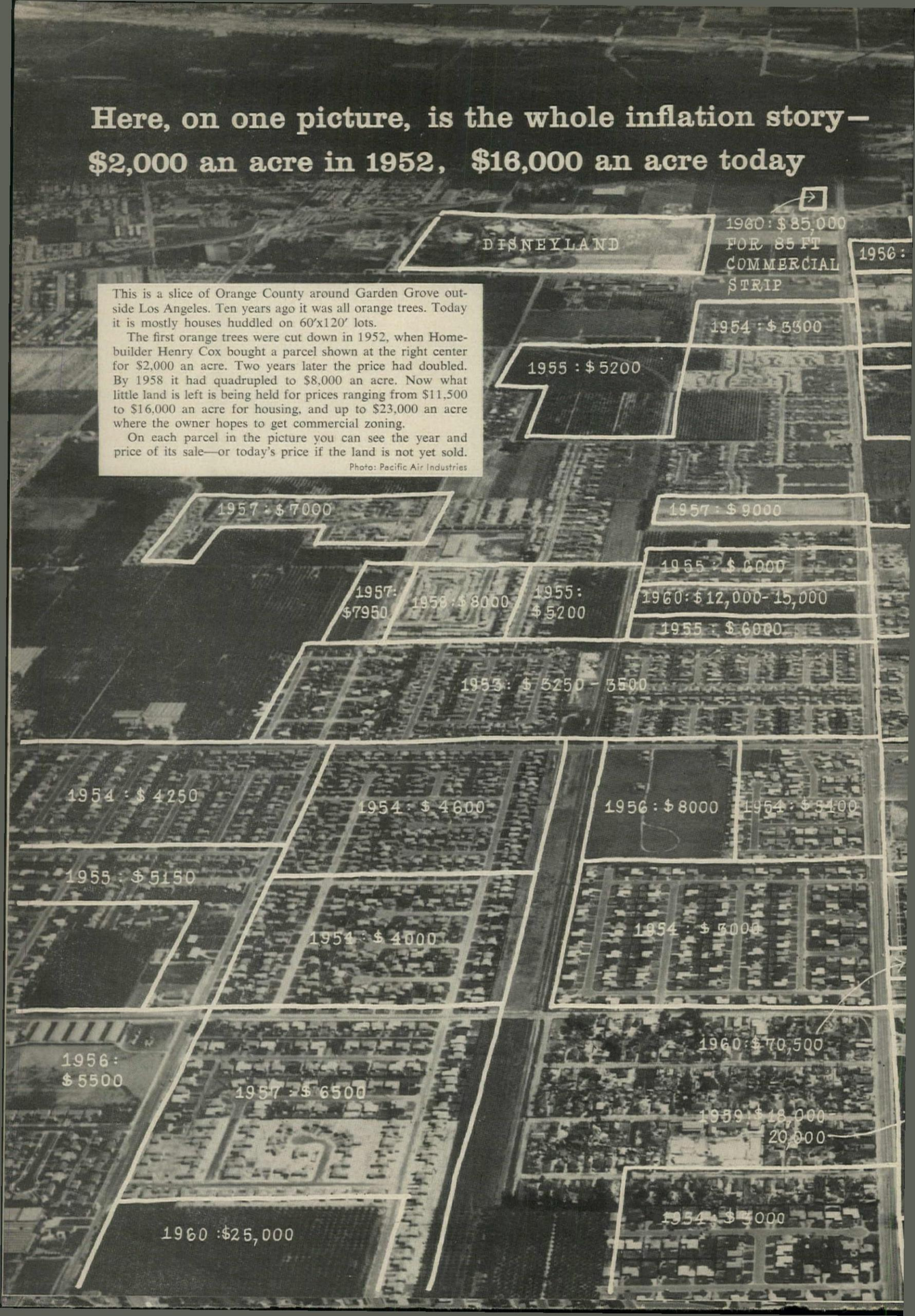
Near ALBUQUERQUE, the University of New Mexico rejected Dale Bellamah's bid of $6,600 an acre for a 360-acre tract it bought in the '20s for $3 an acre. And 18 miles north of Albuquerque, Builder Ed Snow paid almost $1,000 an acre for land that sold ten years ago for $4 an acre.

Outside PHOENIX, Builder Forrest Cox turned down $4,500 an acre for land that sold in 1947 for $100 an acre.

Forty miles from downtown LOS ANGELES the federal government got $19,000 an acre at auction for the Santa Ana Air Force Base it bought in 1942 for $350 to $500 an acre.

continued

Here, on one picture, is the whole inflation story— $2,000 an acre in 1952, $16,000 an acre today



This is a slice of Orange County around Garden Grove outside Los Angeles. Ten years ago it was all orange trees. Today it is mostly houses huddled on 60′x120′ lots.

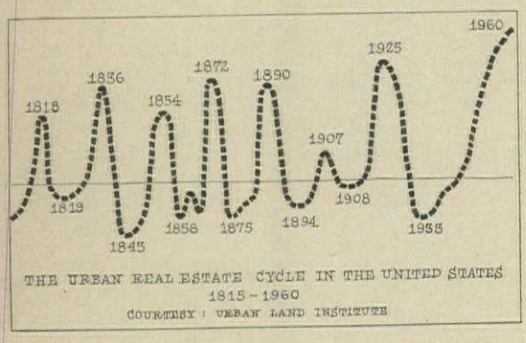
The first orange trees were cut down in 1952, when Homebuilder Henry Cox bought a parcel shown at the right center for $2,000 an acre. Two years later the price had doubled. By 1958 it had quadrupled to $8,000 an acre. Now what little land is left is being held for prices ranging from $11,500 to $16,000 an acre for housing, and up to $23,000 an acre where the owner hopes to get commercial zoning.

On each parcel in the picture you can see the year and price of its sale—or today's price if the land is not yet sold.

Photo: Pacific Air Industries


1960:
$20,000
1960:$12,500
1960:
$25,000
1953:$2590
1954:$5500
1956:
$6000
1956:$2000
1960:$15,000
1956:$6000
1952:$7000
1955:$4500
1960:$11,000
TOTAL AREA
1956:$7000
1954:$3150
1954:$5250
1955:$4000
1956:$5000
1960:$12,000
SCHOOL
1955:$6000
1955:
$4500

Land prices like these are your danger signal; take a look at this graph before you buy today



THE URBAN REAL ESTATE CYCLE IN THE UNITED STATES
1815 - 1960
COURTESY : URBAN LAND INSTITUTE

Ten years ago land was a bargain and builders were smart to buy land ahead. Hundreds of builders got rich, not because they built for less but because they bought land for less and cashed in on their land speculation.

Good timing is the key to speculative profits. There is a time to buy and a time not to buy. It's smart to buy ahead at the bottom of the market, before prices start up. But it is not smart to buy ahead at the top of the market, just before prices start tumbling down again. Suburban land is over-priced today. Just because land was a bargain in 1948 for $500 an acre does not make it a bargain today at $5,000.

Don't count on the "population explosion" to guarantee perpetual motion upwards in the price of land. From 1940-50 US population increased by 14%; from 1950-60 by some 20%. But don't forget that:

From 1810-20 population increased 33%. This did not sustain the land boom that busted in 1819;

From 1830-40 population increased 33%. This did not sustain the land boom that busted in 1837;

From 1850-60 population increased 36%. This did not sustain the land boom that busted in 1857;

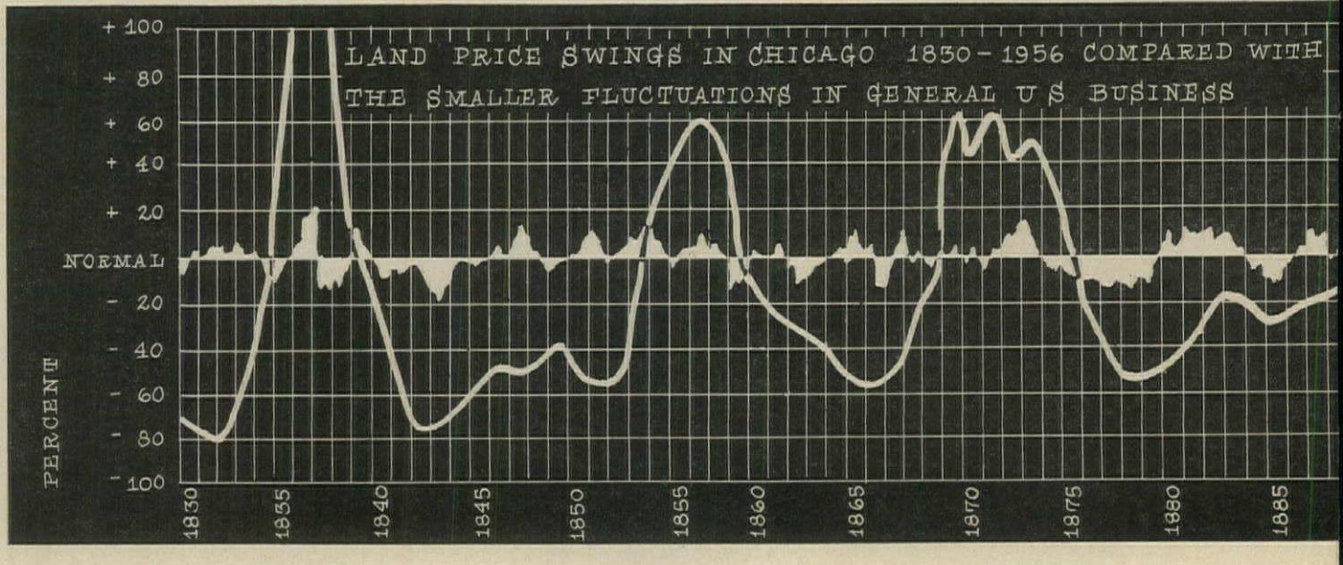
From 1870-80 population increased 30%. This did not sustain the land boom that busted in 1873;

From 1890-1900 population increased 21%. This did not sustain the land boom that busted in 1893;

From 1920-30 population increased 16%. This did not sustain the farm land boom that busted in 1920, nor the suburban land boom that busted before 1929.

Population increased, yes. But land development increased faster, anticipating more demand than ever materialized, bringing more land into the market than the market was ready to take at the prices asked.

The 100-year graph shows that land prices don't always go up; land prices also fall down. "Land prices go up and go down in bigger and wilder swings than any other prices in our economy," says Nat Rogg, economist for NAHB. Suburban prices have been going up for 27 years now—longer and higher than they have ever gone up in all our history. They are now overdue for a fall. Famed Realty Economist Roy Wenzlick has been warning his high-paying clients for years that the boom could not last much longer. Just because he cried "Wolf! Wolf!"



too soon does not mean the wolf will never come.

And the longer the price break is delayed, the more serious it will be.

Good land may indeed be worth twice what it averaged in 1952; ie, the true value of suburban land may have risen ten times as fast as the 10% rise in the consumer-price index. Good land may even be worth three times what it averaged in 1952; ie, its true value may have risen nearly twice as much as stocks in Wall Street rose from their 1952 peak of $107.25 to their present level around $205.

But take a good long look ahead before you let today's artificial and temporary land scarcity (see below) scare you into paying land prices you may soon have reason to regret.

Already farm prices outside the suburbs have leveled off and started to fall (see clipping, right). And don't forget that land prices in most central cities are lower today than they were in 1929!

Says Housing Economist Miles Colean: "Present land prices cannot be sustained unless we get a big new shot of inflation, because 1) cheap money did more than anything else to start land prices soaring and 2) today's 6% interest rate makes it much harder for homebuyers to absorb inflated costs (like today's land prices).

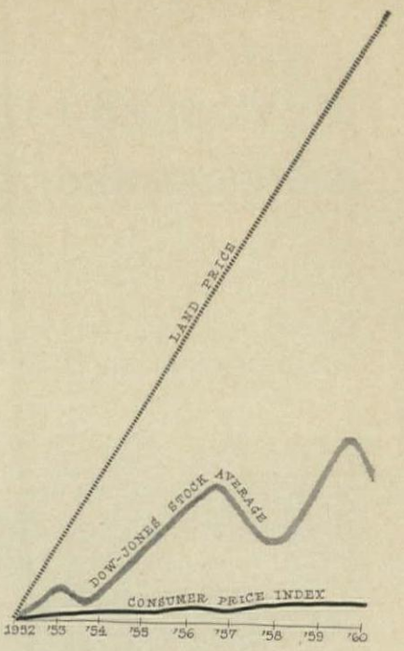
If you want to get better land for less, wait for the market to turn. Suburban land will sell for much less before it sells for much more.

Today's sky-high suburban land prices are predicated on an artificial and temporary scarcity—a scarcity created in the midst of plenty by holding off the market vastly underestimated miles and miles of land in anticipation that vastly overestimated future demands will drive prices still higher.

Today's fancy land prices can be kept high only as long as the illusion of scarcity can be preserved, as long as each buyer thinks the land he pays too much for today would cost more—and sell for more—tomorrow. But what will happen when the inevitable day comes when land prices can go no higher and speculators try to cash in on their paper profits? What will happen and who will get hurt when this land-price boom collapses—as every other land-price boom has collapsed?

Says Professor Fisher in his classic study of premature subdivision: "It takes nearly 30 years to produce a new generation that has to learn by pain and disappointment that while many fortunes have been made in real estate, many paupers likewise have arrived at their destination by the same route. That is one reason the price cycles in real estate are so long."

Says Roy Wenzlick unequivocally: "Land is not in short supply."





REAL ESTATE

Land Prices Reach a New High.. But the Return Has Dropped

100 Years of Farm Real Estate Values

Yields on Farm Lands

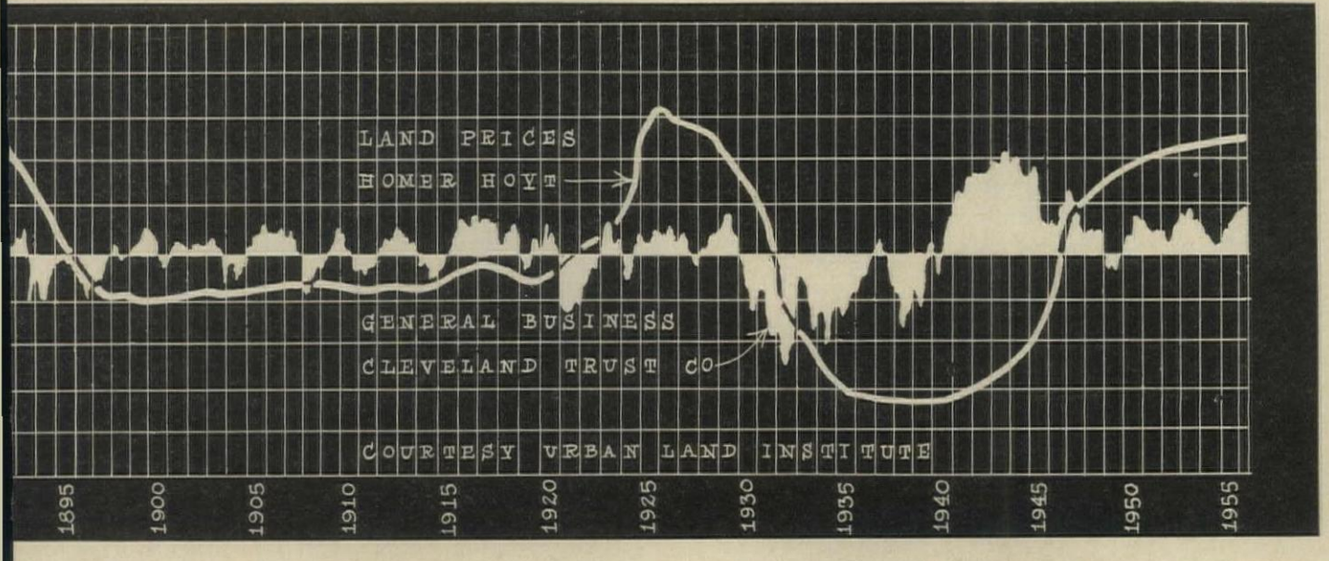
Has Long Rise Come to a Halt?

Slight drop in prices for farm land in Midwest and slackening of investor demand leads the experts to believe the 20-year price advance has run its course.

I. Signs of Change

Midwestern Decline

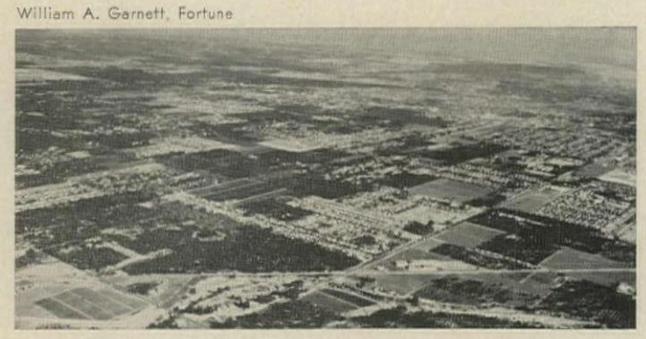
Ohio



Most of the land shortage talk you hear is nonsense: here are 7 big reasons why

The easiest-to-build-on big raw acreage of flat land just the right distance out in the right direction may be gone, but:

William A. Garnett, Fortune



1. There are millions of acres of by-passed land closer to town than most of today's new tracts—more millions of acres of by-passed land than the housing industry will need for many, many years. Around booming San Jose, for example, where builders have scattered their tracts one-or-more-to-the-mile over 200 square miles of the finest fruit land in California, they have actually used only 12 square miles, leaving 188 still to go. (Turn to the front cover of this issue if you want to see for yourself some of the land that is being by-passed there.)

Ray Johnson



2. New earthmoving equipment makes it practical to use millions of acres of hillside land that could not be developed economically in the last big boom. These new machines are so efficient that grading, filling, and compacting are the only homebuilding costs that are lower today than in 1929. Says super-Realtor Bill Zeckendorf: "The bulldozer is the best invention we got out of the war." Hillside sites offer pleasanter living than the flat fields where most recent homes have been built. For more about using hillside land see *page 151*. For more about the new earthmoving machines see *page 160*.

Carroll Seghers, Black Star, Fortune



3. Millions of premium homesites can be reclaimed from under water with today's new and more durable dredges—more land than even the Dutch have empoldered with all their dikes. Hundreds of dredges are at work making new land right now; they are filling in the shallows of San Francisco Bay, where the water resources board says 158,000 acres of tidelands can be reclaimed; they are draining the mango swamps along the Indian River, where Miami Beach (see photo, left) itself was an uninhabitable snake-island not so long ago; they are filling in the Louisiana bayous, where Murchison and Wynne have bought 32,000 swamp acres to add 175,000 new homesites to New Orleans; they are working in the Jersey meadows, in Jamaica Bay out beyond Brooklyn, along the shores of Oahu, in Tampa Bay, along Lake Erie and a hundred other lakes (see page *164b*).

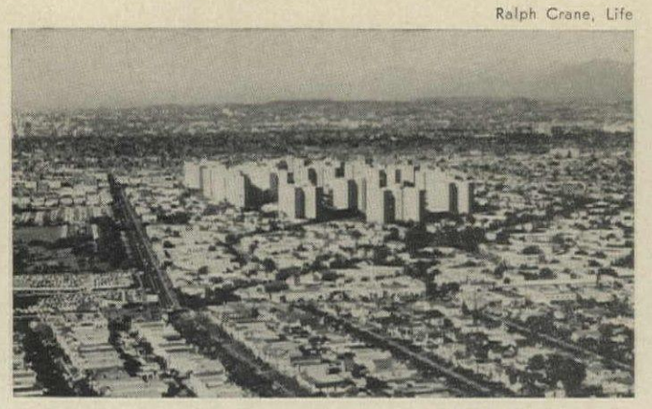
Walter Sanders, Life



4. There are millions of vacant lots in existing neighborhoods and developments (nearly 13 million vacant lots of record in 1955, according to the US Census of Governments). That is almost as many vacant lots as all the houses built from 1950 to 1960. When the last land boom collapsed Professor Fisher found that "in most urban communities the number of lots is nearly twice as great as the number in use."

5. Cities can and do grow upward whenever their growth outward is checked by high land prices. Scarcity breeds substitution, and the easiest substitute for cheap land on the outskirts is to add more floors over close-in land. One big apartment building (like the 1,570 units planned for the Dodgers' abandoned ballpark in Brooklyn) can house as many families as two square miles of suburban sprawl. Right now, half the new homes being built around New York and Los Angeles (see photo, right) are apartments; and more and more single-family houses are being built split-level or two-story in order to get more living space on less land.

Ralph Crane, Life



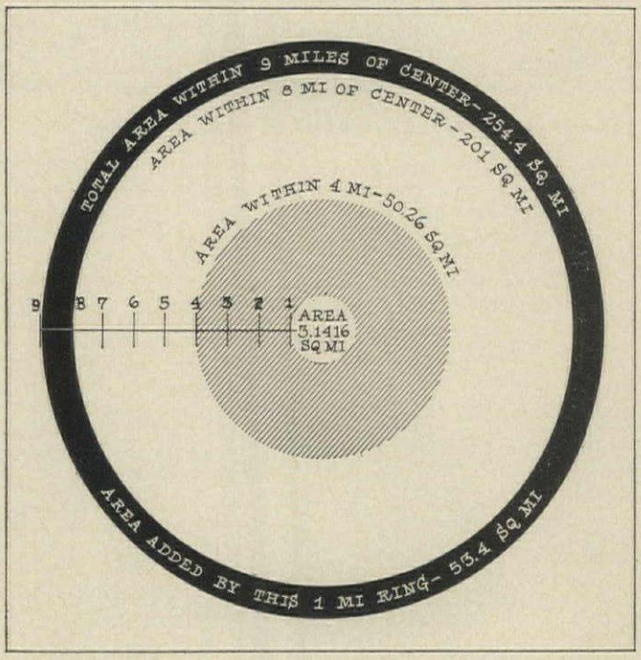
Gordon Sommers



6. Cities can also grow back inwards. Decentralization has deflated downtown land prices and made the most expensive land a bargain compared with outlying sites whose asking prices have multiplied. Downtown is starting to rebuild—and when downtown rebuilds it still has the primary advantage of location that made it downtown in the first place. Most of downtown is underused today. For example, Victor Gruen reports that in Fort Worth (see photo left) "the underused or derelict land reservoir was big enough to provide space for a belt highway, parking garages for 60,000 cars, green belts, a 300% increase in office space, 80% more hotel space, and new civic, cultural, and convention centers . . . Fort Worth is not a special case."

7. New highways from downtown are making millions of acres easier and quicker to reach than land much closer in was right after the war. With today's bridges and expressways it takes only a little longer to drive from San Francisco across the Golden Gate to the wide-open spaces beyond San Anselmo than it took to drive through rush-hour traffic to the Cow Palace near the city line in 1946. It takes only a little longer to drive out the expressway from Manhattan 30 miles to Oyster Bay than it took to drive through traffic 13 miles to Queens Village inside the city limits in 1930. When new roads increase the easy-to-reach radius of a city from eight miles to nine miles, that one-mile extension adds more easy-to-reach square miles than all the land within four miles of downtown! It adds 17 times as many square miles as all the land within one mile of the center.

More specifically, that one-mile extension adds enough easy-to-reach land to house nearly 200,000 more people at a density of two families per acre, or 400,000 more people at the usual tract density of four families per acre, or 2,000,000 more people at row-house density!



There is more than enough land in and around all our cities to meet all our homebuilding needs for years to come—more than enough land to let an urban population of more than 200 million get more use and enjoyment of the land than most urbanites and suburbanites get today.

If you don't believe there is still plenty of land left, just go up in an airplane and see for yourself—or take a good look at the next six pages of aerial pictures.



Chicago Aerial Industries

There is plenty of land left around Chicago

This is some of the open country commuters see between Chicago and its biggest new suburb, Park Forest. Says Morton Bodfish of Chicago's First Federal S&L: "An almost unlimited supply of easily accessible land is one of Chicagoland's greatest assets. The 6½ million people who live here today use only one-sixth of the land within the present metropolitan area boundaries. The rest is open or partially used farm land readily available for tomorrow's development."

There is plenty of land left around Washington

This picture looks over the Capitol and the Monument towards Montgomery County. If the camera pointed south towards Virginia it would have shown even more open land.

Fairchild Aerial Surveys



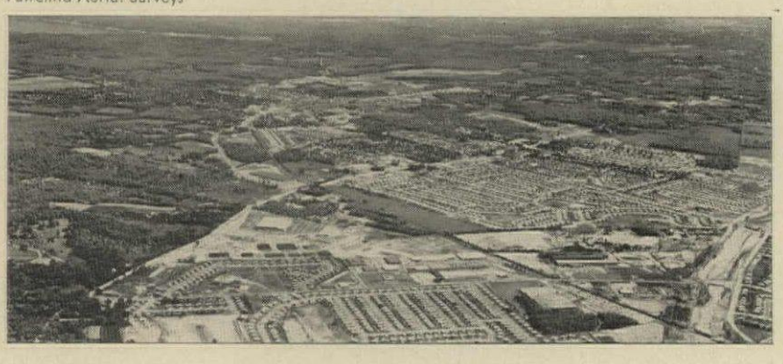


Bob Bailey

There is plenty of land left in Texas

This picture is looking towards Houston from the 1960 Parade of Homes.

Fairchild Aerial Surveys



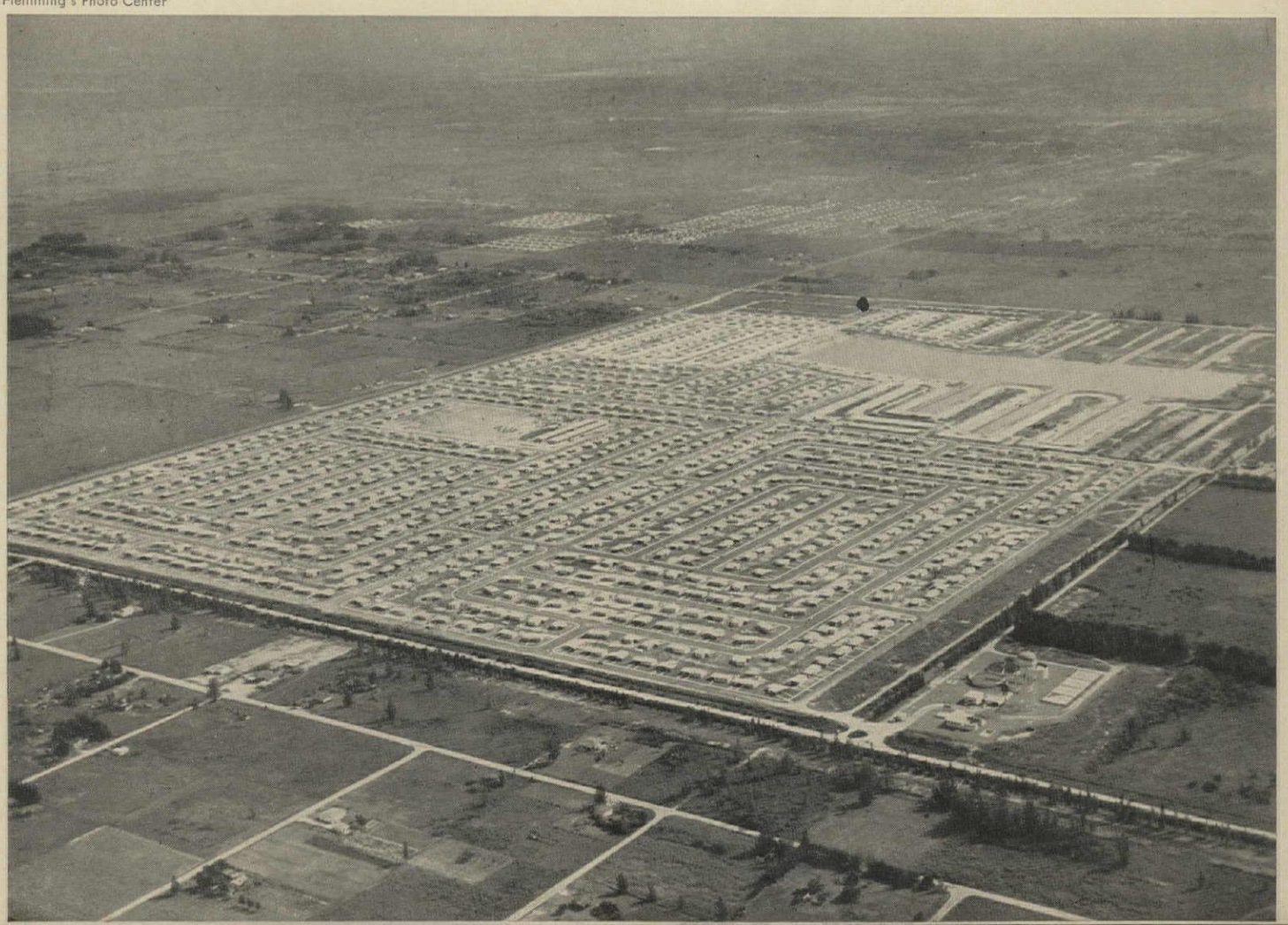
← There is plenty of land left around New York

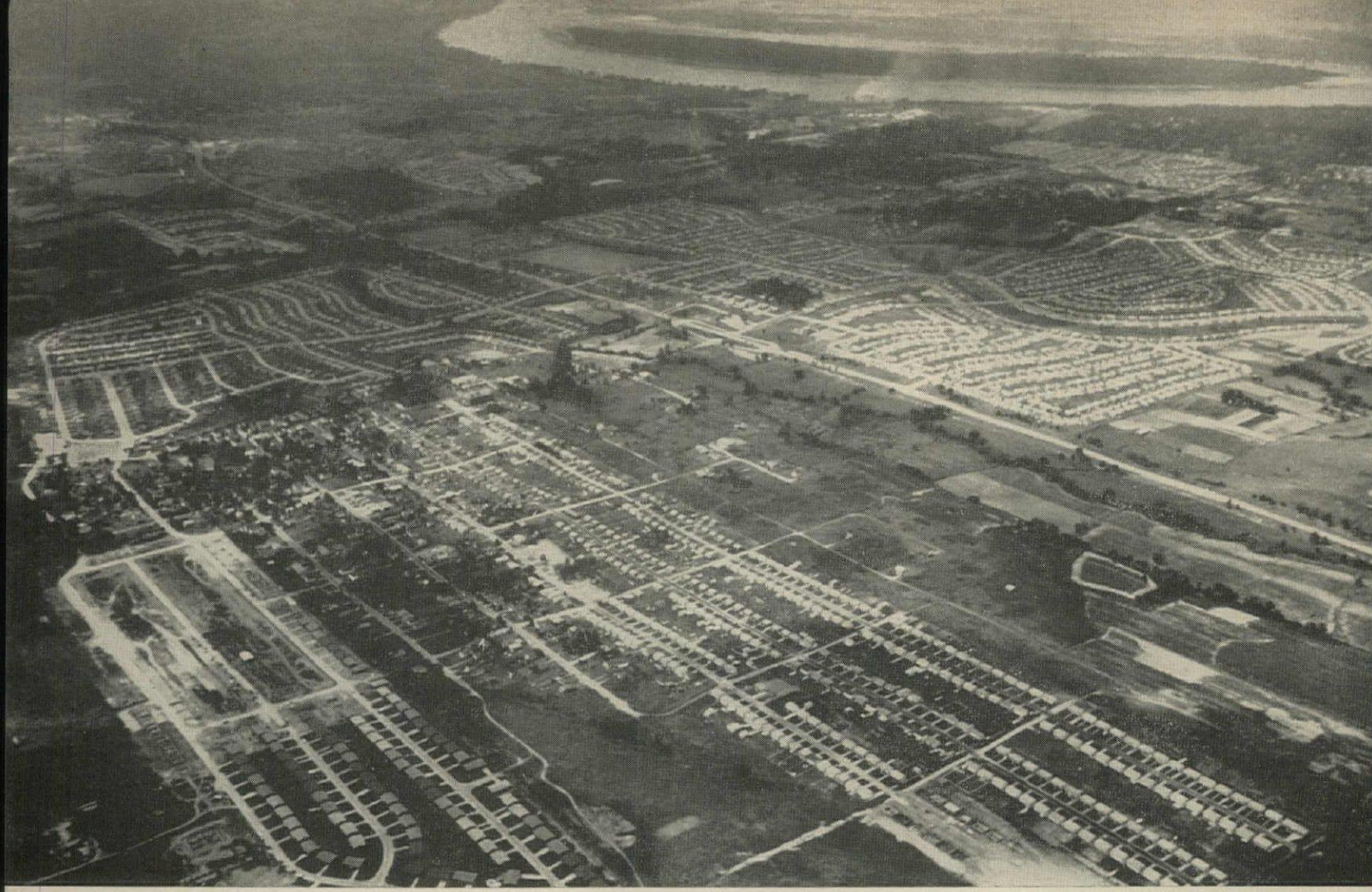
This picture shows where the builders' tracts have stopped on Long Island. In 1955 the Regional Planning Assn reported only 21% of the "suitable land" in the metropolitan area (or 16% of the gross) was developed for urban use. (They counted estates of two acres or more as undeveloped.) It listed as "undeveloped" 54% of Bergen County, N.J., 63% of Westchester County, N.Y., 81% of Fairfield County, Conn.

There is plenty of land left in Florida

This is Mackle's big Westwood Lake project just southwest of Miami.

Flemming's Photo Center





Photos: William A. Garnett, Fortune

There is plenty of land left between tracts around St Louis



There is plenty of land left around Baltimore

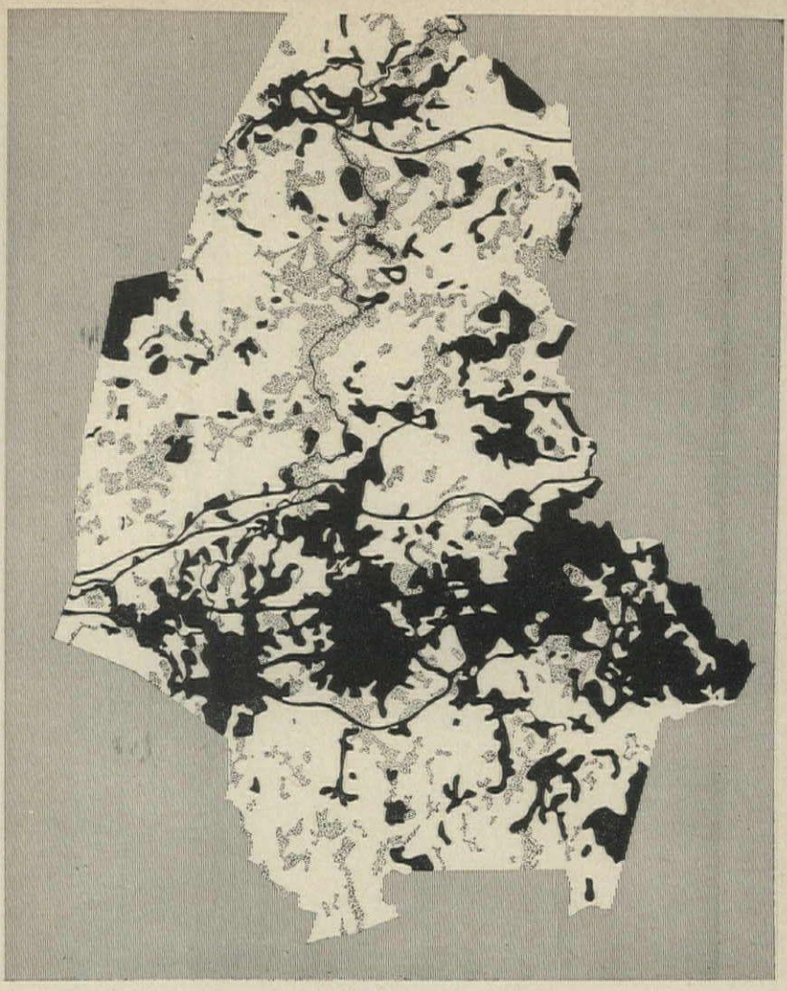
Says the Planning Commission: Southwest you can drive out to open country from downtown in 15 minutes. Northwest, where this picture was taken, it takes 30 minutes at the rush hour.



Cartwright

There is plenty of land left around Sacramento

(but not quite as much as when this picture was taken in 1955).

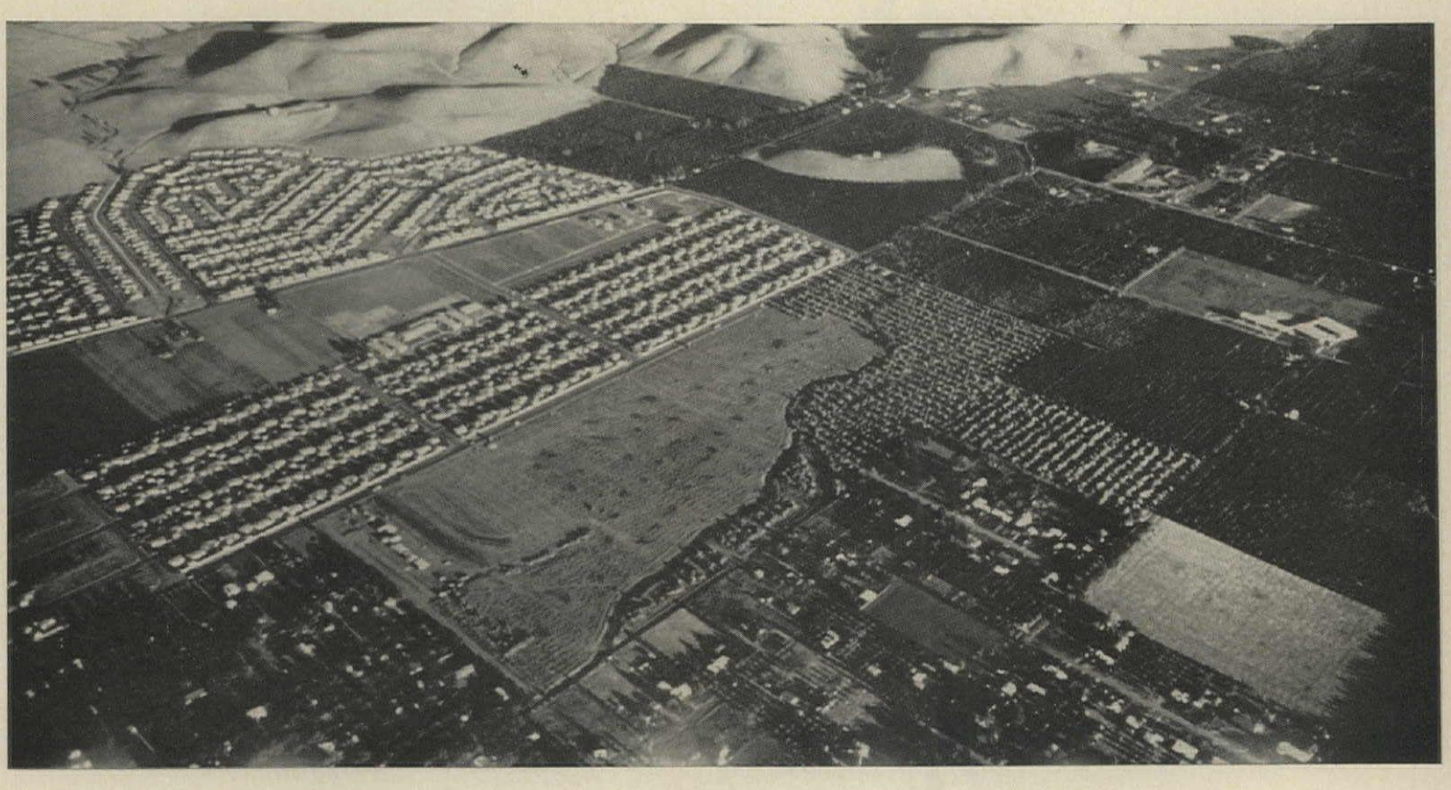


There is plenty of land left around Boston →

All the white area in this map is described as "suitable vacant land" by the Urban Land Institute. The black area is described as "land in use," the gray as "unsuitable vacant land." It is located in Wellesley, Natick, Weston, Needham, Sudbury, and other nearby suburbs 10 to 20 miles west of Boston Common.

There is plenty of land left around Los Angeles

In 1955 the California Water Resources Board said that only 35% of the "suitable land" in the Los Angeles hydrographic unit (ie, the city of Los Angeles, Orange County, and the enclaves like Beverly Hills) had been developed. This same report said that only 15% of the suitable urban land in the ten-county San Francisco Bay area had been developed for urban use, and in 1953 the Bay Area Rapid Transit Council found that there was suitable acreage there for 31 million people, allowing ample areas for recreation and industry.



From coast to coast the picture around every city is almost the same

There is plenty of vacant land for many times as many people, if only the land could be bought. Now let's take a big look from the air at a fairly typical city—fast-growing Louisville, population: 741,000.



There's plenty of land left around Louisville

This picture shows that nearly three quarters of the fringe acreage is being bypassed and/or left underused, even in the direction of the city's fastest growth. Right in the center, within 3½ miles of downtown Louisville, is a 1,270-acre pocket with a population density of less than one person per acre.

Local planners say the 186 sq mi "urban area limits" (119,040 acres) on the Kentucky side of the Ohio could house 1,350,000 people without any crowding—roughly twice the present population. And right across the river in Indiana (upper right) there are miles and miles of open country with a population density of less than 50 per square mile.

Photo: Billy Davis



There is nothing wrong with the air views–

which you saw on the last six pages

but there is plenty wrong with what they show

What they show is that none of our cities is expanding in an orderly, economical way. On the contrary, they are disintegrating and spreading the pieces over miles and miles of countryside.

What they show is not a shortage of suburban land, for there is no shortage. What they show is not shortage—but waste—the tragic land waste, dollar waste, and time waste of the checkerboard pattern of

SUBURBAN SPRAWL

Suburban sprawl is what happens when land developers cannot assemble at a profitable price the tracts they would like to buy first, so they have to leap frog out to find land cheap enough to build on here, there, and everywhere—often five or ten miles further out.

Suburban sprawl is what happens when owners whose land is wanted next for suburban expansion—the nearest land, the land that would cost least to connect up to existing streets and sewers and utilities—hold out for tomorrow's price today and fail to find a buyer willing to pay it now.

Suburban sprawl is what happens when estate owners hold out for capital gains of 1000% to 10,000% above what their acres cost to buy in horse-and-carriage days. (The Whitney estate preempted for a single family one-eighth as much land as all of Levittown five miles further out—population 65,000.) Millionaires pay almost no taxes to hold on to their estates; they can deduct up to 91.72% of the local levies from their state and federal taxes.

Suburban sprawl negates and frustrates the purpose of cities, which is to let more people live and work close together and so utilize and enjoy the maximum efficiency of community facilities and community enterprises, with easy access and cheap distribution. Cities exist to bring people together. Suburban sprawl, with its vacant and undeveloped land, keeps them apart. Even if suburban land had no alternative use for farming and market gardening, it would pay many a city to draw itself together.

*The best farm land in Iowa brings only $600 an acre; the national average last March was only $111.46 including buildings; the California average was only $326.70.

**HOUSE & HOME thinks "development easements" are the worst idea yet. They just aggravate and perpetuate the sprawl by using tax money to keep golf links, orchards, and cow pastures where houses should be built and push homebuilding out beyond to where the golf links, etc should be. Green belts should be planned for maximum, not minimum, public use and enjoyment of the land. The 1,200-acre Field estate will make a fine state park, but as fenced-in private property

Suburban sprawl is the direct opposite of planning satellite centers or self-contained new towns, each surrounded by its own green belt. Suburban sprawl is just the city spreading out over miles and miles that are neither fish, flesh, nor fowl—neither city nor county.

Suburban sprawl penalizes farmers who want to farm instead of speculate. It excites speculative hopes that inflate land prices far above the level farming can support.* It discourages farm improvement, for who knows how soon the orchards may be pulled, the barns leveled, the machinery auctioned? (Right now, thousands of acres of California's finest prune and apricot land in the Santa Clara Valley are being blighted because so many farmers, expecting soon to sell, have stopped replacing their aging trees.)

Suburban sprawl is what makes homebuyers drive past miles of unused or underused countryside to get home to their tiny 60′ x 120′ lots. (Open fields, cow pastures, private golf links, and millionaire estates are fine, but it is much better to drive out five miles *beyond* your home to enjoy seeing them when you want to see them than to have to drive five miles past their "No Trespassing" signs when all you want is to get home.**

Suburban sprawl is why Los Angeles homebuyers must drive 25 miles to Azuza while land much closer to downtown is being held off the market and farmed by land speculators who think they can sell it for ten times the 1950 price in 1970 instead of taking five times the 1950 price today.

Suburban sprawl defies good local land planning and mocks good local land planners.† The need of bigger and better planning is obvious everywhere. But what chance do far-sighted planners have against the profit motive working full blast in reverse and offering quick profits on bad land use? Without vastly increased authority how can the planners force speculators to release their land as it is needed if the speculators think they could double their profits by sitting tight? How can they check premature subdivision when speculators are gambling for big money? How can they keep farmers ten miles out from selling off their frontage to exurbanites and so messing up the neighborhood potential for orderly development later on? How can they keep developers from bulldozing the trees? How can they persuade each separate community to stop zoning out any land use that will not add more to the tax revenue than it adds to the budget?

continued

it was little or no good to anybody except the owners.

†Before one of the big Westchester tracts was built up, the Los Angeles planning board could not even persuade the Los Angeles school board to buy school sites at the developer's raw-land cost around $1,000 an acre or the park commission to accept land for playgrounds free, so scores of new houses had to be bought and moved later to clear the sites at $40,000 an acre! And few local planners anywhere, alas!, have been strong enough to get the state and federal governments to coordinate the new highways and their interchanges with the local areas' needs!

Suburban sprawl cries out for area zoning to assure a coordinated land-use pattern conceived in the public interest and to stop the premature urbanization of distant farm land. But area zoning would be just plain disastrous unless it is counterbalanced by a big enough tax increase on the land zoned for housing development to discourage hold-outs. To see how badly area zoning would work without this counterbalancing tax pressure, take a look at what happened in Louisville when the local water company applied its own area zoning to water service and the county health board forbad septic tanks in another big area where sewers were not available. This gave the owners of land already served with water and sewers a field day. Theirs was the only land builders could buy, so its price soared overnight. (In Australia, unimproved land is taxed up 12.4% a year on a valuation based on its "highest and best" use—see *page* 000).

Suburban sprawl is worse than ever today, thanks to the automobile. In our grandfathers' time the suburbs could sprawl no further than a man could walk to the train or the trolley and his wife could walk to the store, so yesterday's suburbs were tight little towns where only the carriage trade could live on the outskirts. Today, every suburbanite has one car; many have two; five miles mean not much more than five blocks; and the suburbs can sprawl from here to breakfast (provided, of course, nobody minds wasting gas, tires, and depreciation at 8¢ a mile).

Suburban sprawl is why almost every city is surrounded by a blight belt of by-passed land whose owners held out for too high a price and did not sell. *Suburban sprawl* is one big reason why downtown is stagnating and downtown stores are losing trade. *Suburban sprawl* is why almost every city spreads out over three to five times as much land as it uses. *Suburban sprawl* is why so many houses have to waste big money on septic tanks and disposal fields that will be junked when the sewer lines reach them. *Suburban sprawl* is one of the two big reasons why land development costs twice as much as it should—double the cost of more compact expansion with shorter street extensions, shorter sewer extensions, and shorter utility extensions. *Suburban sprawl* is one big reason why money is tight; ie, the money we need to build houses is being misspent to extend urban services far out into rural areas years before they should be needed.

Suburban sprawl, in brief: 1) costs billions of dollars a year, 2) blights millions of acres of countryside, and 3) makes homeowners waste millions of hours and millions of gallons of gas to get home to homes whose land cost they can afford.

There are five main reasons (all short-term) for today's seeming shortage-in-the-midst-of-plenty

Reason No. 1: **Speculation**

Countless acres are being held in "cold storage" by land speculators hoping for still higher prices tomorrow than their land would fetch today. (Some of these speculators are syndicates formed for the express purpose of land speculation; others are estate owners sitting tight for still bigger capital gains on their property, or farmers more interested in land prices than in crop yields.) This speculation is the No. 1 reason for expecting that great quantities of land will come on the market when the speculators decide prices can go no higher, so it is the No. 1 reason you can be sure supply will eventually overtake demand and bring prices down. (Outside Montreal, for example, the *Star* found that speculators were holding 610,000 acres—eight times as much land as the city's booming growth can use before 1970.)

Reason No. 2: **Time**

Countless acres now being developed will not be ready for homebuilding for another year or more. For example, the first 209 lots in the great Marin Bay project north of San Francisco did not go on sale until this month—four years after the land was bought by the developers.

Land development takes so long that the supply of land ready for homebuilding responds slowly to the stimulus of high prices, *but it responds massively.** In Florida, for example, FORTUNE found that more land is being developed right now than today's fastest-in-the-nation rate of population growth can absorb before 1980. When all this land hits the market, something is bound to happen to the sky-high land prices that invited overdevelopment.

Reason No. 3: **Overzoning**

Countless acres are being withheld from economic use today by communities deliberately using wasteful zoning requirements, wasteful street improvement requirements (see *page 171*), and wasteful building code requirements to keep out tract builders and small homebuyers whose children would cost the town more to educate than their parents would pay in taxes.

These towns hope these 'snob' requirements will one day attract upper-class residents who will pay high taxes, support local merchants handsomely, and send their few children away to school. This is a sort of municipal land speculation on a grand scale. How much longer it can continue is an open question, for two reasons:

1. The courts may not always agree that the health and safety of the people necessitate two-acre lots, 16″ truss spacing, worse-than-useless house traps, rigid-conduit wiring, and local streets wider than the transcontinental Lincoln Highway 25 years ago, and

2. The towns themselves may vote out the restrictions when enough local landholders are tempted by the higher land prices they could otherwise get. One New Canaanite has already carried his protest to the Supreme Court, arguing he could get $250,000 more for his acreage if his four-acre zoning were voided.

Reason No. 4: **Fragmentation**

Countless underused acres are bypassed because they are broken up into holdings too small for economical development (unless, of course, all the small owners agree to sell at once). Says Dave Bohannon's righthand man Ron Campbell: "Trying to get a big enough piece to develop is a nightmare." Often the land needed to integrate a tract is tied up in an estate and the heirs are scattered or divided. So Nate Manilow and Phil Klutznick had to go out 30 miles from the Chicago Loop to start Park Forest; Bill Levitt had to go 16 miles from Philadelphia and 15 miles from Trenton to start Levittown, N. J.; Frank Sharpe had to go ten miles from Houston to start Sharpestown.

Reason No. 5: **Misinformation**

Billions of dollars worth of land is bought and sold without either party having anywhere near enough market facts to support his price judgment. Both buyer and seller must grope to decisions by hunch and by guess, for America's biggest industry must get along with more inept and inadequate statistics than any other industry. The federal government spends more money for market research on peanuts than for market research on land and housing. Few communities compile even such simple statistics as the number of lots subdivided each year. Nobody keeps a running inventory of unsold lots; nobody publishes the price at which sales are actually made. So scarcity is exaggerated and prices are inflated by professional optimists spreading inside dope that cannot be checked.

*"The dynamic process of overexpansion seems to work something like this," Professor Gaffney wrote in *Land*.

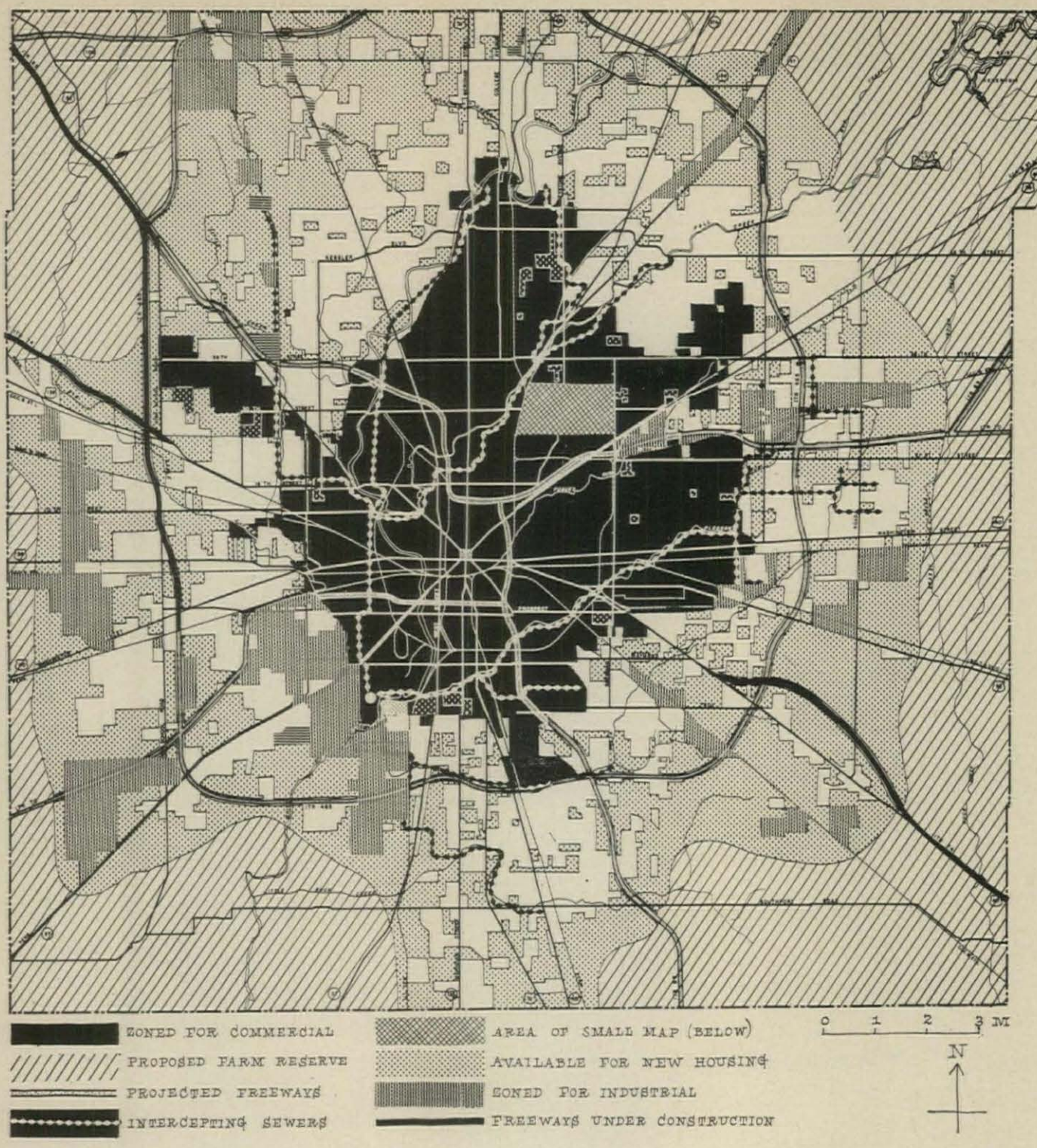
"High prices over the long period required for the response ultimately stimulate more new supply than the demand can absorb.

"Supply responds very slowly because the process of converting land to urban use involves many steps by several slowly moving, poorly coordinated, frequently reluctant, and sometimes downright obstructive public and private agents and because it usually takes land holdouts a long time to release and then develop most of the sites for actual service.

"Say a new state-financed freeway begins the process of bringing farmland into an urban market. Besides transportation, the land needs water, sewers, telephones, gas, electricity, schools, fire and police protection, etc.

"Many time-consuming steps must be taken to extend these several services from trunklines out through forks and branches to the ultimate distributive tracery that finally brings service to each parcel of land. Governments and utilities must decide to extend their lines and networks to individual parcels. Landholders must decide it is time to receive them—that usually means subdividing, dedicating lands for streets and easements for utilities, often paying for part of the utility extensions and street improvements, and perhaps being annexed and saddled with municipal taxes. The landholder today must decide also that his income-tax position is favorable for a sale.

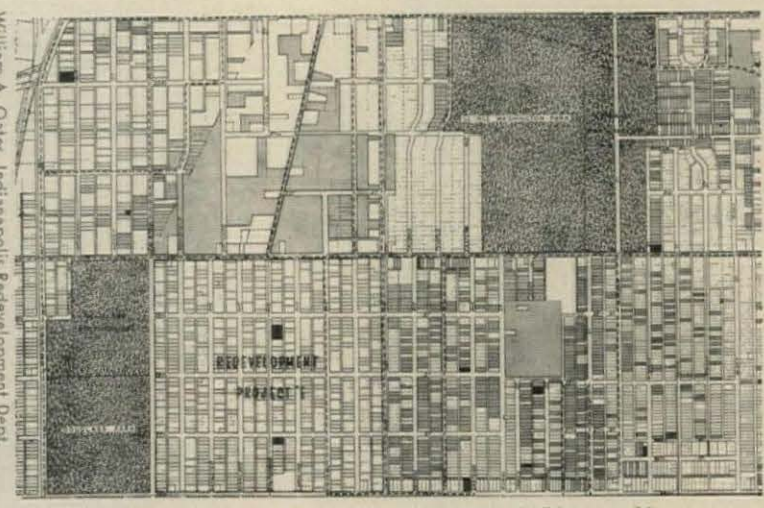
"It would be nice for each party involved if all the others would commit themselves to development before he did—or at least when he does. Then he needs only pluck the ripe fruit from the tree, instead of undergoing years of risk, interest, depreciation, and obsolescence while he waits for complementary investments to help his own pay out. The situation lends itself to a long impasse of after-you-my-dear-Alphonse. At every stage, there is inertia, nostalgia, fear, bargaining, and jockeying."





William A. Oates, Indianapolis Redevelopment Dept.

Here is what the by-passed downtown area looks like from the air and on the planning commission vacant-lot map. The area was by-passed, partly because it was platted for 40' lots in the 20s, but not much homebuilding was done here until after Word War 2, by which time homebuyers wanted wider lots, partly because several



big land owners held out for higher prices than builders could afford, partly because the development converged on the district from both north and south, but never quite reached the area from either direction. Not all vacant lots are shaded on the map—only those available in acre chunks.

In Indianapolis, thanks to these maps, land ripe for housing is easy to spot

The Indianapolis Metropolitan Planning Commission and its smart young Executive Director Calvin Hamilton are pioneering a brand new idea to keep the suburbs from sprawling.

In a special study for HOUSE & HOME, they have mapped all the open land inside the city and all the open land right around the city that is now ripe and ready for housing development.

"This is the best thing I've seen yet," said Realtor Robert E. Walker, past president of the Indianapolis Realtors: "None of us had any idea so much vacant land is available close-in until this map let us see it all at a glance."

Inside the city (black on the big map) the planners found 4,381 acres (nearly seven square miles) of unused level land zoned for homes, about two-thirds of it in 13,503 fully improved vacant lots. About 1,200 of these vacant lots are concentrated in a by-passed downtown neighborhood (see smaller map) where raw land is still available in plots as big as 23 acres and where a 32-block area (mostly vacant lots) is now being cleared and replatted in wider lots for redevelopment with single-family houses and a few apartments.

Right around the edge of the city the big map revealed 79,000 acres available for housing development inside the urban development boundary line that the Planning Commission is promoting. (The degree of availability varies, of course. Some owners don't want to sell; others who want to sell are asking exhorbitant prices.) These 79,000 acres, shown in light grey on the big map, add up to more land than Indianapolis can absorb in 35 years at the present rate of growth.

Hamilton hopes these maps will bring more of this close-in land onto the market at prices builders and developers can afford to pay.

"The maps will show everybody that there is plenty of land, so there is no reason why developers should pay crazy prices and no reason why speculators should expect to get crazy prices," he says. But Hamilton knows that tax pressure would make it harder for speculators to hold land underused, so he sent a copy of the map to the county assessors with a covering letter suggesting that "land taxation policies might be reconsidered to encourage the development of this vacant land readily accessible to our community facilities."

In another letter sent with the smaller map to individuals interested in urban development he said: "These left-over areas should be fully developed in order to utilize our capital investment in community services to the maximum extent. Urban growth should be discouraged from going into the hinterland until present community facilities are fully utilized. . . . It is earnestly hoped that this [map] will encourage the early development of these vacant areas."

The map has already stimulated the Indianapolis Board of Sanitary Commissioners to step up their program for extending sewers throughout the proposed development areas. In recent years Marion County has been building the equivalent of a new town of 2,500 population every two years on septic tanks, and many homebuyers who had spent $600 to $800 for septic tanks have balked at paying an added $1,000 to $1,200 assessment later to connect their houses to intercepting sewers.

The map also shows how land has been zoned for industry (dark grey) all around the city, partly to give each suburban township an adequate industrial tax base, partly to provide local jobs in each area and so minimize travel-time to work.

Outside the development line, Hamilton would favor ten-acre zoning and low taxes to reserve the land for farming.

continued



Robert W. Kelley, Life

Our great-grandfathers showed better sense than we do when they planned their village streets. In all the show towns of our past—in Williamsburg, in Charleston, in Nantucket, in Salem (see photo above)—even the stateliest homes stand only a few feet back from the tree-lined sidewalks. This left most of the lot for pleasant walks and gardens in the rear.

Wisely used, an 8,000 sq ft lot with privacy planting and fencing is quite big enough to let middle-income families get almost as much enjoyment of outdoors as the rich can get from acres of land, for nobody can actually use more than a few square feet. And a 10,000 sq ft lot is more land than most men want to keep up when they have to cut their own grass and tend their own flowers.

Land in good locations is too precious to waste on useless, archaic setbacks

The one worst way to waste a small lot is to center the house on the site and cut the already small ground area into four smaller pieces, each too small to be much good to anybody. But that kind of land waste is just what the archaic setback rules require in most suburban towns.

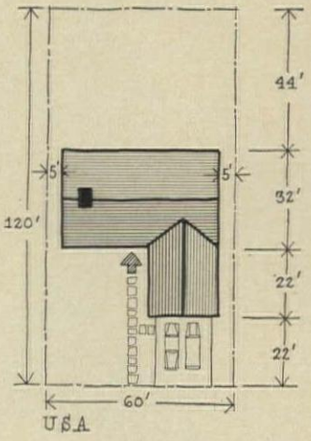
This kind of site planning may be fine for big estates where you drive half a mile from the gatekeeper's lodge to the mansion. It may have been all right for suburban living 50 years ago, when the family used the front porch and the front yard, leaving the back yard for clothes-lines, garbage pails, and stables. But it makes no sense at all for the way suburbanites want to live in this age of patios, rear living, garbage disposers, clothes dryers, and two-car garages. Says Max Wehrly of the Urban Land Institute, "The front yard is an anachronism." Nobody uses the front yard, and it is high time every community changed its setback rules to recognize that obvious fact.

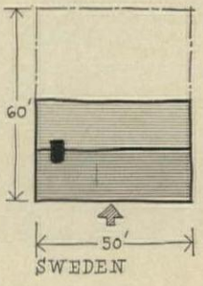
But today many a tract house on a tiny lot must be set 44′ back from the sidewalk because:

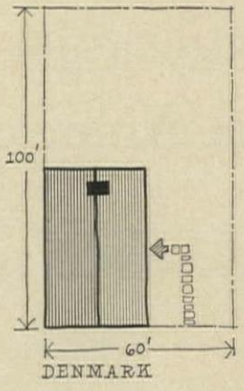
1. Not content with requiring local streets wide enough for moving traffic between cars parked on both sides, most towns require off-street parking in front of the garage, so the garage must be set 22′ back from the walk;

2. On a 60′ or 70′ lot with 5′ sideline setback there is no room for a two-car garage alongside the house, so the house must be set back another 22′ (unless it is a split level) to put the garage in front.

If the house itself is 32′ deep (today's most economical and desirable depth), the rear windows will be 76′ from the street, leaving only 44′ of usable depth for gardening and rear living on a 120′ depth! This is not much more usable outdoor space than the Swedes get for row houses on 40′x60′ lots with the fronts flush with the sidewalks. It is only a fraction of the usable space the Danes get for detached houses on 60′x100′ lots with the building set close to the street right up to the lot line on one side.







There is no good reason why one-fifth of a 60′x120′ lot should be wasted to provide guest-parking in front of the garage.

There is no good reason why the garage should not be permitted right close to the sidewalks. Los Angeles allows this on hillside lots, and the effect is much pleasanter, for the garages give some degree of privacy to the frontyards at the same time they make the frontyards smaller.

There is no good reason why each house should not be built flush with its lot line on one side and its garage flush with the lot line on the other side. The garage makes a better buffer between houses than the 10′ of wasted land most suburbs now require. That is what was done at Radburn 35 years ago, and Radburn is still recognized all over the world as one of the half-dozen finest examples of good land use.

continued



Culver

Sky-high land prices were no problem in America until quite recent times

The Dutch bought Manhattan Island from the Indians for $24-worth of baubles. Most colonies just took their lands free for nothing. We bought Louisiana, Arkansas, Missouri, Iowa, Minnesota, Oklahoma, Kansas, Nebraska, the Dakotas, Montana, and most of Colorado and Wyoming from Napoleon in 1803 for $15 million. We bought all Florida from Spain for less than you would have to pay for Key Biscayne today. We gave Mexico $15 million for California and most of seven other states. Seward paid Russia $7 million for Alaska, and many Senators thought he paid too much.

What the government got for so little it gave away almost free (unless some earlier government had already given it away in princely grants often exceeding 100,000 acres). We gave the railroads millions of acres free to make it worth capital's while to open up the West. We homesteaded 160 acres of good land free to anyone who would take it up and live on it.

Within the memory of men now living, land outside our cities had almost no price beyond the cost of clearing it; and even on Manhattan Island corner lots sold in our grandfather's time for less than the price of a front foot today.

So it is small wonder that America has given so little thought to developing a constructive land policy to moderate land price inflation.

Unless land inflation is corrected soon, the consequences could be very serious

Many of America's biggest panics and depressions were touched off by over-speculation in land and a bust in land prices that carried hundreds of banks and other lending institutions down with it.

The panic of 1836 came with the collapse of the land boom along the new canals. The panic of 1857 came with the collapse of the land boom along the new railroads; so did the panic of 1873. And the 80% drop in land prices that started late in the Twenties played a bigger part in the bank failures of 1932 and 1933 than the 89% fall in the price of stocks from the 1929 peak.

A land bust in the Sixties could be even more serious if nothing is done quickly to check the inflation, because this land boom is blowing up to such monstrous size. Paper prices for land now total close to half a trillion dollars—nearly twice the national debt, more than six times the federal tax revenue, nearly twice today's price of all listed stocks, more than twice the resources of all our commercial banks.

If this bubble can be deflated quickly and now, little harm will be done. The speculators will lose their unearned paper profits, but that is about all.

But

If we postpone the correction until much more of the land has been sold and covered with buildings mortgaged at prices that cannot be sustained, the credit structure of the country will be deeply involved, as it was before 1932.

So it is high time everyone recognized the need of thinking out coherent land policies that will put a firm land price foundation under our prosperity. No economy can be sound and stable as long as its biggest asset is careening up and down on a $500-billion roller coaster.

For 350 years our only land policy has been to give the public domain away free or almost free to anyone who would take it and then let him make as much money out of it as he could. This may have been all very well for a frontier nation with nearly two billion acres of wilderness to tame. But a highly industrialized and urbanized nation like America today needs a more positive policy to bring some order into the confusion our past lack of land policy is creating.

Today the misuse and overpricing of land add up to a national problem and a national danger of the utmost seriousness, but nobody is talking about it, nobody is thinking about it, nobody is worrying about it, and nobody is looking for even a short-term answer, let alone a long-term solution.

In fact, to quote the report of the HOUSE & HOME Round Table on money and inflation (H&H, Jan), nobody even seems to know the problem exists except the homebuilders it is helping to price out of the market.

Letting this land-price inflation price America's biggest industry out of the market is bad enough by itself, for a cutback in homebuilding throws more men out of work than a like cutback in autos, or steel, or oil. But . . .

How can we form any sound national policies without giving thought to a policy for land?

How can we have a sound, sense-making-anti-inflation policy without paying careful heed to the most runaway inflation of all?

How can we have sense-making tax policies—local, state, and national—without collecting enough taxes on our principal form of wealth—the only form of wealth whose use would be stimulated by higher taxes instead of curtailed? There would be little need or pressure for federal grants-in-aid for education, medical care, slum clearance, public housing, etc, if local governments were making better use of their exclusive power to tax land.

How can we have a sense-making farm policy without first giving careful thought to the top-heavy capital cost of farm land and adopting a sound land policy for farms? At today's land prices it takes a $20,000 investment to create one job on a good farm. If the farm problem is how to reduce farm acreage and how to get marginal farmers moved off their poor farms into industry, perhaps the best farm program would be to offer these marginal farmers up to $60 an acre to buy back and retire permanently up to 60,000,000 acres of not-too-productive land that was actually farmed this year.

How can we have a sense-making urban renewal program without first thinking through the problem of slum price inflation and adopting a sound land policy to rationalize urban land prices? Today most cities are subsidizing slums by undertaxation and discouraging improvements by overtaxation; and the federal government is making things worse by 1) letting slumlords take big depreciation write-offs on buildings that cannot possibly depreciate any further and 2) putting up land-purchase subsidies for redevelopment that push slum land prices still higher. The hundreds of millions these write-downs cost were supposed to be subsidies to give slum dwellers better homes, but they have been used as subsidies to make slum owners richer (*see page 140*).

How can we hope to have a scandal-free highway program without giving thought to what land for the highway should cost and what the highway program would do to land prices along the routes? Some highways are enriching landowners along the way with a windfall bigger than the whole cost of the road. The canny Dutch froze the price of land along the route first. We, on the contrary, are buying the right of way for many times what the land could have sold for without the highway program to inflate its price.

How for that matter, can we have a successful foreign policy until we recognize that on every continent except Australia the land problem is a critical issue ready-made for Communist exploitation—including, specifically, in Cuba, in Egypt, in Iran, in Iraq, in India, in black Africa, in much of South America?

Contrariwise, how can we have a realistic policy for the satellite states until we recognize that Communism is being entrenched in the rural districts of East Germany, Hungary, Poland, and Rumania by the confiscation of the great estates and the redistribution of the land among the peasants. It would be still more strongly entrenched if the Reds were not foolishly trying to force the new peasant owners to pool their new land holdings in big cooperatives.

The misuse and underuse of land and the evils of uncontrolled land speculation are urgent problems all over the world.

In this country the most direct and immediate dollar loser from these abuses is the housing industry, so the housing industry has the biggest stake in their correction, the biggest reason to study the problem in depth, the most to gain by promoting the adoption of sound planning and taxation policies to encourage better land use.

So the next 18 pages will give you a quick rundown on the land problem at home and abroad, reviewing the development of land policy over the years and reporting some of the solutions that are being suggested and tried today.

For so great a problem there is no one, there is no quick, there is no easy solution.

Part of the answer is better planning; part of the answer is better zoning; part of the answer (in special cases) is government acquisition; part of the answer is broader ownership; part of the answer is a complete overhaul of the tax system, local, state, and national.

No one answer will avail alone. But HOUSE & HOME *agrees with the rising chorus of expert opinion that the first point of attack should be to ease the too-heavy tax burden on houses and other improvements, multiply the too-easy tax load on unimproved land, and make the unearned increment in land prices provide much more of the tax money needed to provide the highways, streets, water, sewers, and schools without which unimproved land would be neither livable nor saleable.*

Two years ago HOUSE & HOME *said land speculation is Public Enemy No. 1 of the homebuilding industry and the homebuying public*

Winston Churchill said it much better and stronger forty years ago. Said he:

"Land monopoly is not the only monopoly, but it is by far the greatest of monopolies—it is a perpetual monopoly, and it is the mother of all other forms of monopoly.

"Unearned increments in land are not the only form of unearned or undeserved profit, but they are the principal form of unearned increment, and they are derived from processes which are not merely not beneficial, but positively detrimental to the general public.

"Land, which is a necessity of human existence, which is the original source of all wealth, which is strictly limited in extent, which is fixed in geographical position—land, I say, differs from all other forms of property, and the immemorial customs of nearly every modern state have placed the tenure, transfer, and obligations of land in a wholly different category from other classes of property. [Did you ever stop to wonder why property in land is called "real" and why land cannot be "personal" property? See *page 128*.]

"Nothing is more amusing than to watch the efforts of [the land] monopolists to prove that other forms of property and increment are similar in all respects to land and the unearned increment on land.

"They talk of the increased profits of a doctor or a lawyer from the growth of population in the town in which they live. They talk of the profits of a railway, from the growing wealth and activity in the districts through which it runs. They talk of the profits from a rise in stocks and even of the profits sometimes derived from the sale of works of art.

"But see how misleading and false all these analogies are. The windfalls from the sale of a picture—a Vandyke or a Holbein—may here and there be very considerable. But pictures do not get in anybody's way. They do not lay a toll on anybody's labor; they do not touch enterprise and production; they do not affect the creative processes on which the material well-being of millions depends.

"If a rise in stocks confers profits on the fortunate holders far beyond what they expected or indeed deserved, nevertheless that profit was not reaped by withholding from the community the land which it needs; on the contrary, it was reaped by supplying industry with the capital without which it could not be carried on.

"If a railway makes greater profits it is usually because it carries more goods and more passengers.

"If a doctor or a lawyer enjoys a better practice, it is because the doctor attends more patients and more exacting patients, and because the lawyer pleads more suits in the courts and more important suits. At every stage the doctor or the lawyer is giving service in return for his fees.

"Fancy comparing these healthy processes with the enrichment which comes to the landlord who happens to own a plot of land on the outskirts of a great city, who watches the busy population around him making the city larger, richer, more convenient, more famous every day, and all the while sits still and does nothing.

"Roads are made, streets are made, services are improved, electric light turns night into day, water is brought from reservoirs a hundred miles off in the mountains—and all the while the landlord sits still. Every one of those improvements is effected by the labor and cost of other people and the rate payers. To not one of those improvements does the land monopolist, as a land monopolist, contribute, and yet by every one of them the value of his land is enhanced. He renders no service to the community, he contributes nothing to the general welfare, he contributes nothing to the process from which his own enrichment is derived.

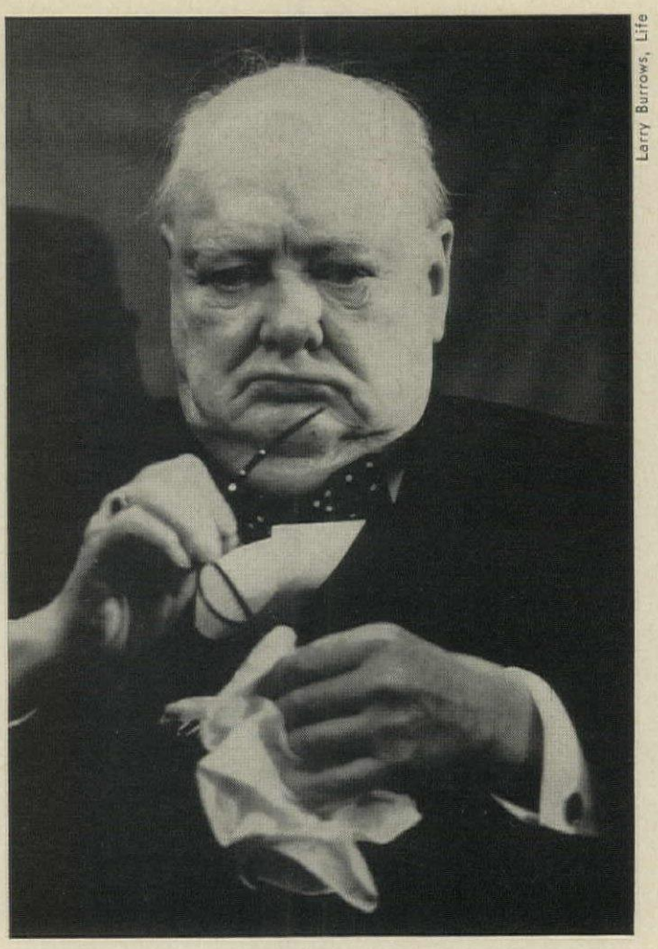
"While the land is what is called 'ripening' for the unearned increment of its owner, the merchant going to his office and the artisan going to his work must detour or pay a fare to avoid it. The people lose their chance of using the land, the city and state lose the taxes which would have accrued if the natural development had taken place, and all the while the land monopolist has only to sit still and watch complacently his property multiplying in value, sometimes many fold, without either effort or contribution on his part!

"But let us follow the process a little further. The population of the city grows and grows, the congestion in the poorer quarters becomes acute, rents rise and thousands of families are crowded into tenements. At last the land becomes ripe for sale—that means that the price is too tempting to be resisted any longer. And then, and not until then, it is sold by the yard or by the inch at ten times, or 20 times, or even 50 times its agricultural value.

"The greater the population around the land, the greater the injury the public has sustained by its protracted denial, the more inconvenience caused to everybody, the more serious the loss in economic strength and activity, the larger will be the profit of the landlord when the sale is finally accomplished. In fact, you may say that the unearned increment on the land is reaped by the land monopolist in exact proportion, not to the service, but to the disservice done. It is monopoly which is the keynote, and where monopoly prevails, the greater the injury to society the greater the reward to the monopolist.

"This evil process strikes at every form of industrial activity. The municipality, wishing for broader streets, better houses, more healthy, decent, scientifically planned towns, is made to pay more to get them in proportion as it has exerted itself

"We have an unreformed and vicious land system. Our system of local taxation today is vicious and wasteful—a harsh burden on the poor and an impediment to enterprise and progress."



Larry Burrows, Life

to make past improvements. The more it has improved the town, the more it will have to pay for any land it may now wish to acquire for further improvements.

"The manufacturer proposing to start a new industry, proposing to erect a great factory offering employment to thousands of hands, is made to pay such a price for his land that the purchase price hangs around the neck of his whole business, hampering his competitive power in every market, clogging him far more than any foreign tariff in his export competition, and the land price strikes down through the profits of the manufacturer on to the wages of the workman.

"No matter where you look or what examples you select, you will see that every form of enterprise, every step in material progress, is only undertaken after the land monopolist has skimmed the cream off for himself, and everywhere today the man or the public body that wishes to put land to its highest use is forced to pay a preliminary fine in land values to the man who is putting it to an inferior use, and in some cases to no use at all. All comes back to the land value, and its owner is able to levy toll upon all other forms of wealth and every form of industry.

"A portion, in some cases the whole, of every benefit which is laboriously acquired by the community increases the land value and finds its way automatically into the landlord's pocket. If there is a rise in wages, rents are able to move forward, because the workers can afford to pay a little more. If the opening of a new railway or a new tramway, or the institution of an improved service or a lowering of fares, or of a new invention, or any other public convenience affords a benefit to the workers in any particular district, it becomes easier for them to live, and therefore the landlord and the ground landlord, one on top of the other, are able to charge them more for the privilege of living there.

"Some years ago in London there was a toll bar on a bridge across the Thames, and all the working people who lived on the south side of the river had to pay a daily toll of one penny for going and returning from their work. The spectacle of these poor people thus mulcted of so large a proportion of their earnings appealed to the public conscience, and agitation was set on foot, municipal authorities were roused, and at the cost of the rate payers the bridge was freed and the toll removed. All those people who used the bridge were saved sixpence a week, but within a very short time rents on the south side of the river were found to have risen about sixpence a week, or the amount of the toll which had been remitted!

"And a friend of mine was telling me the other day that, in the parish of Southwark, about £350 a year was given away in doles of bread by charitable people in connection with one of the churches. As a consequence of this charity, the competition for small houses and single-room tenements is so great that rents are considerably higher in the parish!

"All goes back to the land, and the land owner is enabled to absorb to himself a share of almost every public and every private benefit, however important or however pitiful those benefits may be.

"I hope you will understand that, when I speak of the land monopolist, I am dealing more with the process than with the individual land owner who, in most cases, is a worthy person utterly unconscious of the character of the methods by which he is enriched. I have no wish to hold any class up to public disapprobation. I do not think that the man who makes money by unearned increment in land is morally worse than anyone else who gathers his profit where he finds it in this hard world under the law and according to common usage. It is not the individual I attack; it is the system. It is not the man who is bad; it is the law which is bad. It is not the man who is blameworthy for doing what the law allows and what other men do; it is the State which would be blameworthy were it not to endeavour to reform the law and correct the practice.

"We do not want to punish the landlord. We want to alter the law.

continued



The Bettmann Archive

Land paid all the costs of government in England until fairly recent times

There was no private ownership of land in England in the days of bad King John and Magna Charta. Every acre of England belonged to the king, which was the medieval way of saying all land belonged to the public domain. It was public or "royal" property.

That's why we call it "real estate"—the old spelling of regal or royal; and that's why land can never be your "personal" property. (*Did you think it was called real because all other property is unreal or imaginary?*)

That's why in English law there is no such word as "landowner;" the word is "landholder," which means a man who holds the land but does not own it. (*That's where our word "freeholder" comes from.*)

That's why we use the same word "title" to mean a title to land and a title of nobility. The king granted both titles, and usually a title to land went with a title of nobility: for example, the title Earl of Sussex carried with it title to all the land in Sussex, which the earl then parceled out on similar terms to lesser lords.

That's why the constitution of New York state still spells out clearly (Section I, Paragraph 10) that "The people of the state possess the original and ultimate property in and to all lands within the jurisdiction of the state."

In medieval times the king granted title to portions of his royal domain, but he did not grant it for nothing, nor did he grant it for keeps. He granted title in return for a big yearly rent called feudal dues—a rent so big that the revenue from land alone met all but a small part of the budget. This yearly rent was much too high to be paid in money in an economy where coin was scarce and paper currency unknown, so the rent was paid in kind. For example, the Earl of Sussex paid his rent 1) by taking on all the local costs of government, like preserving law and order in his county and maintaining the highways and 2) by assuming his full share of the national defense budget and sending so many thousand fully equipped archers, men-at-arms, and knights to fight for the king when needed, paying all their expenses in the field for up to 40 days a year. In addition, each lord paid a small amount of cash money each year to retain his lands, and made extra cash payments upon occasion. When the lord died, his oldest son had the right to succeed to the title when he came of age, but only upon making a substantial extra payment to renew the lease, so to speak. Until the heir was 21, the king took over the land and most of its income. If the lord died leaving only a daughter, the king took back the lands and granted them to someone else (usually for a sizeable consideration), but the new owner had to marry the dead lord's daughter as part of the deal. About a quarter of the land was held by the church which was expected to use its income from the land to support whatever scanty social services were then available, like almshouses, pesthouses, and a few schools. Population was sparse —less than 3,000,000 where 40,000,000 live today—so most of the land was vacant and any villager could use it for grazing. This vacant land was known as the commons, because it was for the common use of all the people. The king paid his own expenses and the expenses of his court with the income from the lands he kept for himself.

In brief, practically all the costs of

Land speculation and land taxation are hot political issues in England again today

government were met by the medieval equivalent of a very heavy tax on land. This was true as late as 1600, when all the money for local government and 81.5% of the traceable money for the national budget came from land (including all the money Queen Elizabeth I got by taking back the lands of such big holders as the Duke of Norfolk and the Earl of Arundel and granting their lands —for a price—to someone else).

But all this was changed after the civil war that cost King Charles I his head and thereafter made parliament supreme. Says Dr Gilbert Slater in the report of the 1913 Land Enquiry Committee: "After 1660 power was monopolized by the big landlords." Parliament could best be described as a landholders' convention. Only great landholders sat in the House of Lords; only landholders could be elected to the House of Commons, and only landholders could vote for Members of Parliament.

So guess what!

For the next 150 years this convention of landholders voted bigger and better tax relief for land and bigger and better property rights for landholders, relieving them of all feudal dues and passing some 4,000 "enclosure acts" to let big landlords fence in as private property, almost free for nothing, the common lands that had always belonged to everybody. The Duke of Sutherland grabbed off 1,358,546 acres, the Duke of Buccleuch 459,108, the Earl of Breadalbane 438,358, the Duke of Devonshire 196,665, the Marquess of Lansdowne 142,916, etc. (This fencing-in of the commons is one reason so many Englishmen came to America seeking new lands in the 17th and 18th centuries.)

In 1600 almost all the cost of government—local and national—was paid by taxes (or ground rent, if you prefer) on land. By 1800 rural land, as land, was completely tax exempt in England. It is still tax exempt today. Only the income or rent is taxable; if there is no income or rent there is no tax; idle land and unused property pays nothing at all.

"The good Lord has belatedly remembered the Labor Party and given them a prize rallying cry," TIME's London Bureau cabled.

The president of the Royal Institute of British Architects, Sir Basil Spence, helped the good Lord give Labor the issue. He opened the Institute's convention with a blistering attack on land speculators for "making our precious land a gambling casino, cornering the limited supply of building land, and holding the community up to ransom." Said he: "The money that should be going into better architecture and higher standards is being taken by people who have contributed nothing to the building process. This speculation has grown to the dimensions of a public scandal and threatens to make good planning prohibitively expensive."

Labor Leader Hugh Gaitskell snapped up the issue the very next day, alleging "a colossal scandal" and "a shocking and outrageous rise in the cost of land for building, all for the benefit of land speculators . . . a very ugly and unwholesome situation."

"People are beginning to realize what is happening and are getting angry about it," Gaitskell continued in a later speech. "There is a powerful case for the local authorities acquiring the freeholds in the land which is to be developed. There is also much to be said for other fiscal measures, such as a tax on site values, a tax on capital gains, or the imposition of a development charge."

Next the London *Times* reported that the Tory government is at work on "plans to discourage land speculation," and Liberal MP Donald Wade made it a three-party uproar by demanding "a modified form of site-value taxation. Speculators are deliberately holding back land for development, and land is changing hands at increasing prices without any building taking place."

Land taxes were the hottest political issue in England 50 years ago, when Winston Churchill made his famous Edinburgh speech reprinted on page 126. The Liberal Party won the bitter election of 1910 on a land-tax platform, but the big landholders in the House of Lords defined the popular mandate and stalled the reform—even though the king threatened to create enough new landless peers to give land reform a majority.

Then came World War 1 and land reform was forgotten. The Liberals lost their party identity in a coalition government with the Conservatives, who were anti-land tax. After the war the Labor Party took the Liberals' place as the second big party, and Labor wanted Socialism with government ownership instead of land-tax reform with private ownership.

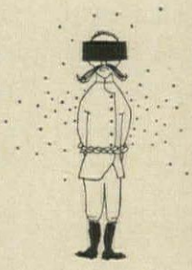
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Other countries are trying five ways to stop the abuse of private ownership of land

1. The Communist countries did it by executing the landowners.

The Bolsheviks killed off or chased out most of the big landowners in Russia 40 years ago and starved most of their middle-sized landowners to death 30 years ago. They eliminated the satellite and East German landowners in 1945. The Chinese Reds are still busy killing off their landlords, either by starvation or by shooting them in the back of the head.

This kind of land reform has not been a success on the Russian farms, although in the Russian cities it seems to have worked fairly well for everyone except the dead landowners. In the cities it has permitted more orderly land planning than any US city can hope to get as long as thousands of landowners can profiteer on every public improvement and hold up every effort to assemble big enough land parcels for large-scale rebuilding. It has permitted more orderly land planning than you can find anywhere in Western Europe except Rotterdam and Le Havre, in both of which cities all the downtown area was taken over by the government after it was leveled by wartime bombing.



On the farms the Communists seem to have thrown out the baby with the bath water; ie, they have thrown out what was good in private ownership along with what was bad. They threw out a lot of landowners who were living high on their rents without doing enough to earn them, but they have failed to set up a substitute system that would stimulate the good management and the hard work you see on American farms. The Russians are ashamed of their farm failure and try to keep visitors from seeing it; but a cultural exchange of American farmers in 1958 reported that it takes 200 peasants on a mechanized cooperative farm to do the work ten men would do here. And the lag in farm production is one of Khrushchev's big headaches.

2. Other countries are redistributing land more humanely.

They are expropriating the big landowners peacefully (with or without equal compensation) and redistributing the land to small owners who are expected to farm it themselves. For example:



CUBA is trying to force idle land into use by breaking up the big estates and dividing them up among the peons. That is one big reason Castro is still popular despite all the mistakes he has made, and James Reston reports in the New York *Times* that: "In the other Latin American republics there is a great deal of popular support for Castro's land reform."

EGYPT is likewise breaking up the big holdings and parceling them out in small pieces to the fellahin. That is one big reason Nasser is still in power there.



IRAN's handsome Shah is giving big pieces of his own vast estates to the peasants who work them, hoping his example will inspire some of the other big landowners to do likewise. Today 300 families own all the land in Iran, which is twice the size of Texas. The 300 families count their wealth, not in acres, but in villages. The other 15 million people in Iran are landless and most of them have very little property to worry about in case of a Communist take-over.



MEXICO has broken up many great haciendas since the revolution.

ITALY is buying up some thousands of acres to resell on easy terms to small holders. And perhaps the most successful land distribution program of all has been pushed through by Chiang Kai-Shek in Free China (TAIWAN).

Breaking up big estates into small holdings is an ancient but doubtful cure for the land problem. Small farms are becoming more and more uneconomic



and before long slip back into big estates again. The canny Dutch are working on just the opposite tack. HOLLAND's government is pressuring farmers to combine their too-small properties and compensating the farmers so displaced with land newly empoldered on what used to be the Zuyder Zee. The DANES have built the world's most successful farm economy on middle-sized farms.

3. Some countries are freezing land prices arbitrarily.

Commonest method of land-price control is rent control, as applied in FRANCE for nearly 50 years. This is also the worst method, for it also discourages maintenance and inhibits improvements. Housing in France has been decaying for years.



The Dutch have rent control in the cities, but they apply direct price control in the country. When the Dutch extended their national freeway system they took the right of way at the fixed agricultural valuation of the land.

4. Some countries guide land use by purchase.

In SWEDEN, for example, the municipal government of Stockholm bought ahead of the city's growth more land inside and outside the city limits than all the land inside the city. Most of this land was bought before World War 1; ie, it was bought far below today's prices. That explains why Stockholm can afford such wide open spaces between its suburban apartment houses. The city rents peripheral land to farmers until it is needed for housing.



In HOLLAND, almost every city over 20,000 population has a land reserve policy; Amsterdam alone owns some 8,300 acres ahead, partly "that the increase in land values may inure to the community." BRITISH cities are empowered to buy land, and some like Liverpool have long owned corporate estates. Land reserves are also owned by cities in GERMANY, AUSTRIA, FINLAND, and DENMARK. Municipal acquisition of raw or blighted land on the outskirts is authorized by the US Housing Act of 1949, but this power has never been used.

5. Some countries use tax pressure. For example:

DENMARK imposes a perpetual 3% a year tax on increased land values. This is such a heavy tax that on a once-only basis it would be roughly 100%. Denmark taxes land at steeper rates than it taxes improvements. And Denmark is making the big landowners pay for the breaking-up of their own estates by imposing a special added inheritance tax on large land holdings.



PAKISTAN has imposed a special 3% tax on unused land, in order to force it into productive use. This was suggested to the Pakistan government by Charles Abrams of New York and Otto Koenigsberger of London, United Nations advisers on housing.



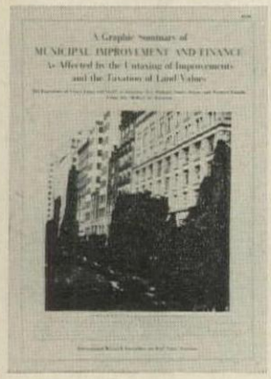
JAMAICA, where most of the land is owned by a few families and most of the people are shockingly poor, is taking advantage of its new dominion status to shift the whole tax load off improvements onto land, in the belief that this will 1) bring much more land into production to earn its carrying charges, and 2) stimulate faster development (waterfront property with a hotel on it will pay no more taxes than the same land paid without the hotel). Four parishes have already been reassessed and put on the new tax basis and two more will be added every year until all 14 are covered. If the Jamaica experiment succeeds its example could have a profound effect in Latin America, where land ownership is similarly concentrated and the landless are similarly poor.

The best examples of how tax pressure works can be found in AUSTRALIA, NEW ZEALAND, SOUTH AFRICA, and Western CANADA.

continued

Australia and New Zealand are untaxing improvements to tax land values only

"Undeniably impressive" is HHFAdministrator Norman Mason's comment on the great tax-reform experiment in Australia, New Zealand, South Africa, and western Canada as reported by the International Research Committee on Real Estate Taxation. This 50-page printed-and-illustrated report by Research Director H. Bronson Cowan says (Harpers, $3), among other things:


A Graphic Summary of
MUNICIPAL IMPROVEMENT AND FINANCE
As Affected by the Untaxing of Improvements
and the Taxation of Land Values

"Site-value taxation (ie, exempting improvements from taxation and taxing only the unimproved value of the land) reduces taxes on the majority of homes.

"Site-value taxation reduces taxes where improvement values are high and so benefits all well improved properties.

"Site-value taxation aids the improvement of central business areas.

"Slums and blighted areas are among the first to improve when a municipality adopts site-value taxation. The removal of taxes from improvements encourages the renovation of old buildings and the erection of new ones. The increased taxes on land values reduce speculation in slum properties. Thus new and powerful forces commence to operate with results that effect a noticeable improvement in such areas . . . So many new buildings have sprung up among the old ones that former slum and blighted areas would scarcely be considered slums today by American and British standards. Population densities (in slum areas) are declining."

The report quotes the town clerk of Sydney, Australia as saying: "The removal of rates [taxes] on buildings encouraged their improvement as well as the erection of many fine new structures. Something in the nature of a transformation took place . . . The major benefits since this tax came into force include a great expansion in residential, apartment, and industrial building . . ."

The report also quotes the opinion of the Chamber of Commerce of Johannesburg (South Africa), where land is taxed four times as heavily as improvements, that: "this system has had a great deal to do with the development of Johannesburg into the premier city of the South African subcontinent . . . It discourages sites being held vacant or undeveloped and encourages the owner to construct a better building."

The conclusions of the International Research Committee are summed up as follows by Lord Douglas of Barloch, chairman of the British section:

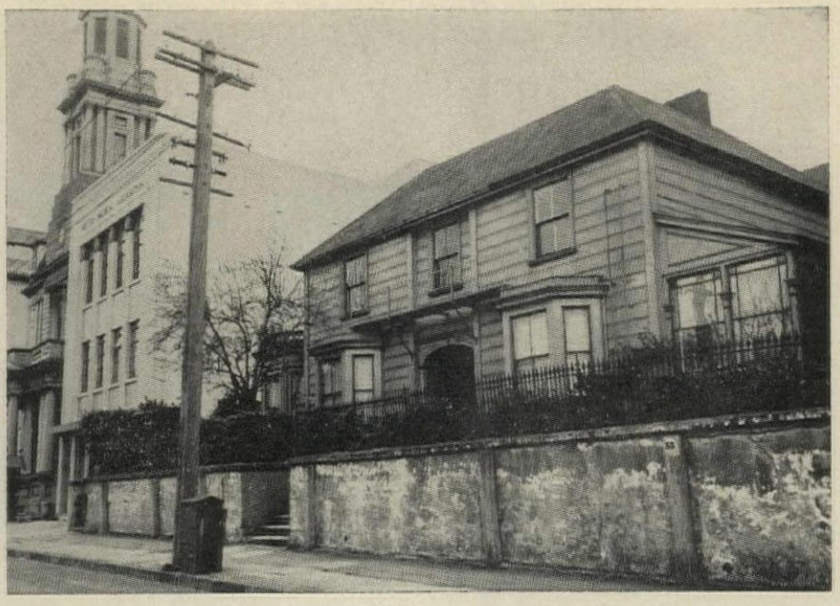
"One of the outstanding lessons of this study is that where local taxes are based on site values a constant pressure is exerted on owners of land to develop its productive capacity and, on the other hand, the development of land is not discouraged by attracting taxation on the improvements. This is so far admitted that it is sometimes said that taxation on site values will lead to overdevelopment. This is, however, a fallacy; the demand for building is not unlimited; buildings will simply be placed in those situations in which there is the greatest demand for them. In any case systems of town planning and control of land use are in operation everywhere, and the danger is not that building will not be controlled but that it will be stifled by controls."



If only land were taxed in Kew, Victoria, this nice home would be taxed 55% less.

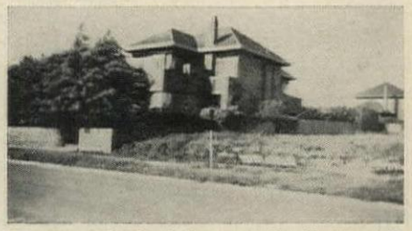


Because only land is taxed in Camberwell, Victoria, the owner of this good house was taxed 61% less.



Because only land is taxed in Wellington, N.Z., the owner of this run-down house was taxed 112% more.





Because only land is taxed in Camberwell, this vacant lot is taxed 289% more.

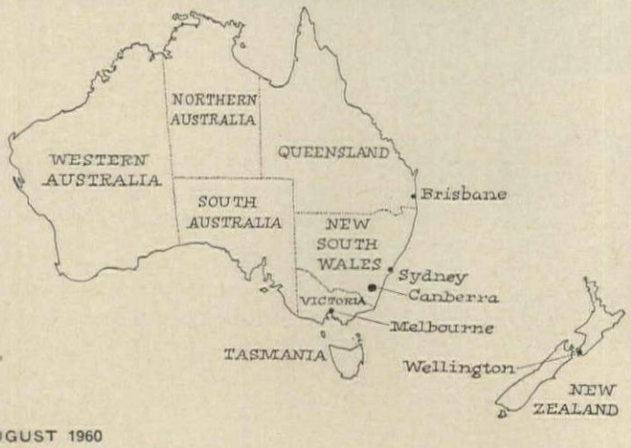
Because only land is taxed in Wellington, N.Z., this old building on a good corner was taxed 132% more.

Here is how site-value taxation spread

The state of Queensland exempted houses and other improvements from local taxation by state law in 1890; only the unimproved value of the land is taxed. In Brisbane a £500 lot pays a local tax of £47 a year, or 9.4%. In addition, there is a graduated state tax on land holdings, scaling up to an additional 3%.

The state of New South Wales followed Queensland's lead in 1906, but on a local option basis. Since then every local government but four has voted to exempt all improvements and tax only unimproved land values. As in Queensland, there is a graduated state tax on larger land holdings.

The state of Victoria followed with enabling legislation in 1920. Half the municipalities in greater Melbourne have now voted to tax only land; so have 13 scattered towns. (The pace of homebuilding in those Melbourne suburbs that tax only land is much faster than in the suburbs where homes are taxed too.)



Western Australia began letting local governments shift their whole tax burden to land in 1902, and this system is now widely used. In addition, there is a graduated state tax on land, with a 50% surcharge for absentee owners. Result: it now costs about 9% a year to hold undeveloped land.

The capital district of Canberra (corresponding to our District of Columbia) and the territory of Northern Australia both retain ownership of all land, but rent it out on 99-year leases.

South Australia gave municipalities power to adopt site-value taxation in 1893, but under severe restrictions that have hindered its general adoption.

New Zealand began exempting houses and other improvements from taxation on a local option basis in 1896. This plan has now been adopted by 75 of the 125 counties, 118 of the 146 boroughs, and 12 of the 20 independent town districts.

All cities in Natal and the Transvaal in South Africa either exempt improvements from any local taxation or at least tax land much more heavily. In Johannesburg, for example, the tax rate on land is four times the tax rate on improvements.

continued

Many great lawgivers and economists have said landed property is different


Culver

MOSES (1400 BC): The land shall not be sold forever; for the land is Mine; for ye are strangers and sojourners with Me. *Leviticus XXV.*


Culver

BARUCH SPINOZA (1632-1677): The whole soil should be public property.

JOHN LOCKE (1632-1704): God gave the world in common to all mankind. Whenever, in any country, the proprietor ceases to be the improver, political economy has nothing to say in defense of landed property. When the "sacredness" of property is talked of, it should be remembered that any such sacredness does not belong in the same degree to landed property.



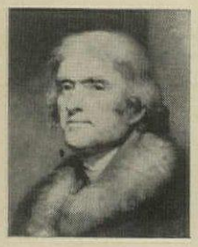
WILLIAM BLACKSTONE (1723-1780): The earth, therefore, and all things therein, are the general property of all mankind, from the immediate gift of the Creator.



ADAM SMITH (1723-1790): Ground rents are a species of revenue which the owner, in many cases, enjoys without any care or attention of his own. Ground rents are, therefore, perhaps a species of revenue which can best bear to have a peculiar tax imposed upon them.



TOM PAINE (1737-1809). Men did not make the earth. . . . It is the value of the improvement only, and not the earth itself, that is individual property. . . . Every proprietor owes to the community a ground rent for the land which he holds.



THOMAS JEFFERSON (1743-1826): The earth is given as a common stock for men to labor and live on.



JOHN STUART MILL (1806-1873): Landlords grow richer in their sleep without working, risking, or economizing. The increase in the value of land, arising as it does from the efforts of an entire community, should belong to the community and not to the individual who might hold title.



ABRAHAM LINCOLN (1809-1865): The land, the earth God gave to man for his home, sustenance, and support, should never be the possession of any man, corporation, society, or unfriendly government, any more than the air or water, if as much. An individual, or company, or enterprise requiring land should hold no more than is required for their home and sustenance, and never more than they have in actual use in the prudent management of their legitimate business, and this much should not be permitted when it creates an exclusive monopoly. All that is not so used should be held for the free use of every family to make homesteads, and to hold them as long as they are so occupied.


Elliott & Fry

HERBERT SPENCER (1820-1903): Equity does not permit property in land. . . . The world is God's bequest to mankind. All men are joint heirs to it.


Culver

LEO TOLSTOI (1828-1910): Solving the land question means the solving of all social questions . . . Possession of land by people who do not use it is immoral—just like the possession of slaves.


Keystone

HENRY GEORGE (1839-1897): Our primary social adjustment is a denial of justice. In allowing one man to own the land on which and from which other men must live, we have made them his bondsmen in a degree which increases as material progress goes on. It is this that turns the blessings of material progress into a curse.



DR SUN YAT-SEN (1866-1925): The (land tax) as the only means of supporting the government is an infinitely just, reasonable, and equitably distributed tax, and on it we will found our new system. The centuries of heavy and irregular taxation for the benefit of the Manchus have shown China the injustice of any other system of taxation.

Unimproved land differs in three ways from any other kind of private property

1. Unimproved land is the only kind of private property that the owner did nothing to create. He just found it ready-made (or bought it from someone who found it ready-made).

2. Unimproved land is the only kind of private property whose value grows, not because of anything the owner does, but because of what thousands of other people do. Said the great Victorian economist John Stuart Mill: "Landlords grow rich in their sleep." Suburban land would command only a small fraction of today's price if the city had grown up somewhere else.

3. Unimproved land is the only kind of private property anyone can own for years without doing anything or assuming any responsibility to maintain and protect his investment (other than paying a tax which is usually small and is always deductible).

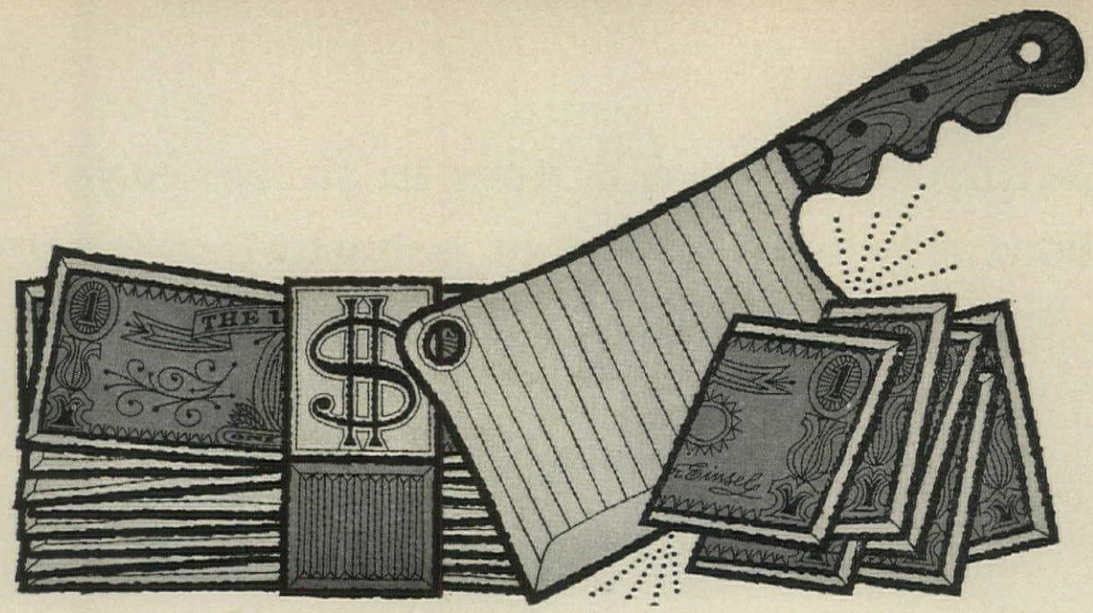
> If you invest your money in a building, your investment will crumble and decay within 20 years without constant upkeep.
>
> If you invest your money in machinery, it will be obsolete within 20 years.
>
> If you invest your money in stocks they will soon be worthless unless the company is well managed year in and year out.
>
> If you write a bestseller book, your copyright and its renewals cannot run longer than 56 years. If you perfect a great invention, your patent (which is not renewable) can run only 17 years. After that you have no more legal claim to your own brainchild than anyone else.

But unimproved land, which was there for a million years before the Pilgrims landed, will still be there a million years after you are dead, regardless of what you do or do not do about it.

The moral foundation for private property rests on our belief that in a free society every man owns himself and therefore is entitled to own whatever he himself creates. This foundation is very shaky indeed under the private ownership of unimproved land (unless, of course, the owner performs at least some of the essential functions of the land developer, who is surely worthy of his hire). That is why moralists and law givers from Moses to Jefferson and Lincoln have questioned any man's right to hold more land than he can use.

By definition, unimproved land is land whose owner has done nothing to earn a profit. So it is a strange paradox that our laws not only give private ownership of land all the protection they give the private ownership of other property; they go further than that to give the ownership of unimproved land the most favorable possible tax treatment and greater permanence-without-effort-than any other form of private property.

continued



Walter Einsel, The Travelers Insurance

Land speculation gets a better tax break than any other kind of business activity

Ours is a tax-activated, tax-accelerated, tax-directed, tax-dominated economy. Every business decision must be checked and rechecked against its tax consequences. Tax exemption is the No. 1 reason 5¾% FHA mortgages cannot compete with 4% municipal bonds; 52% tax-deductibility is why corporations can afford 8% interest easier than homebuyers can afford 4%. Tax allowances for depreciation make apartments a tempting investment even if they lose money. And many builders, alas!, find it much more important to get a good tax adviser than to get a good architect!

Almost everything is overtaxed. Incomes are overtaxed beyond the point of diminishing return. Corporation profits are so overtaxed that small business is in big trouble and many a big business must depend on accelerated depreciation. Good homes are overtaxed. Homebuilding is overtaxed; nearly 600 hidden taxes inflate construction costs, and some tax experts say all these taxes add up to one-third the cost of building!

But land as land is hardly taxed at all (see page 138).

Under our tax system, said FORTUNE ten years ago, it is no longer possible for anyone to get rich by hard work. The income tax has killed that great American dream that brought millions of eager workers to our shores and inspired the conquest of a continent. The harder a man works today the more of his earnings the Government takes. From the hardest and smartest workers the Government takes up to 91% of what they earn.

But our tax system—local, state, and national—gives land speculation so many special breaks that land speculation has been by far the easiest way to get rich.* So since World War 2 land speculation has made more millionaires than any other form of business or investment.

Said the first Marshall Field, who made most of his $100 million fortune in land speculation: "Land is not just a good way to make money; it is not just the best way to make money; it is the only way to make money." If that was true before today's big taxes on ordinary income, it is twice as true today.

* The extraordinary tax treatment allowed the oil wildcatter may be justified by the chance he takes of drilling nine dry holes before he strikes a gusher. But land speculation in the suburbs involves no such risk. If the speculator picks his time and picks his land wisely, the double prospect of continuing urban expansion and continuing inflation almost guarantees him a good capital gain.

Today's taxes harness the profit motive ɐbɹɐwʞɔɐd (backwards); they abet speculation, but penalize development

Today's taxes often make it more profitable to misuse and underuse land than to develop it and use it properly.

They penalize land development, land improvement, and homebuilding by 1) multiplying the local taxes the owner must pay as soon as new houses are built on his land or existing buildings are improved, and by 2) taxing away most of the profit from land development and homebuilding at ordinary income tax rates.

But they subsidize land speculation by 1) undertaxing the land as long as it is left idle or underused, and 2) taxing the profits of land speculation less than half as heavily as the profits of land development and homebuilding are taxed.

"The only cure for land speculation is to eliminate the extraordinarily favorable tax treatment now accorded the land speculator," says Professor John Henry Denton, in charge of real estate studies at the University of Arizona. "No justification for this can be found in economic theory. Unlike speculation in commodity futures or common stocks, land speculation does not support a market or provide a stimulus to production. In fact, it has just the opposite effect. It destroys the marketability of large areas of land by pricing them out of the reach of immediate users. It deprives our communities of many facilities needed for good living (such as parks and playgrounds) by driving the price of land beyond what communities can afford. It limits competition by holding a large part of the land supply off the current market. It channels capital funds away from productive investment into sterile adventures and may be responsible for the present day dearth of private risk capital.

"But our tax system grants this nonproductive and destructive activity the most favorable tax treatment of all.

"There is no way to outlaw land speculation in a free economy, but . . . the principle of public intervention to raise the yields on desirable uses of capital and lower them on undesirable uses is well established by our countless subsidies and tax preferences. The capital gains tax is in itself one of those preferences, but its application to the profits and recouped expenses of buying and selling vacant land is clearly in support of a most undesirable economic activity. Preferential taxation should be reserved for activities that aid the growth and development of a free enterprise system and not for those that are destructive of it."

Says Professor Fisher: "The plain fact is that our present system of real estate taxation, like the whole system of local government finance of which it is the chief part, is obsolete, inadequate, and unsuited to present-day political, social, and economic conditions.

"The need to re-examine and overhaul this whole complex is urgent and imperative, not only for the sake of real estate and housing, but also and a fortiori to save our local governments from bankruptcy—if possible."

continued

Here is how our tax system aids and abets land speculation and suburban sprawl



Aid

Underassessment makes it cheap and easy for speculators to hold underused land for years.

Farms and acreage were assessed at only 20.2% of market value in 1957, the census of governments showed. They were assessed further below the market than any other real estate. (Vacant lots were assessed at 22.7%; non-farm homes at 31.5%; business properties at 40.8%.)

Underassessment must be even worse today than in 1957, for assessments have lagged far behind soaring suburban land prices. In New York's booming Westchester County, for example, assessments rose only 10% while land prices doubled and tripled.

Here are some not-too-untypical examples of underassessment:

Outside Salt Lake, NAHB Past President Alan Brockbank bid $7,000 an acre for a farm assessed at $300 an acre.

Westhampton, Long Island (and many other New York State villages), tries to assess land at 10% of market value as long as it is idle. (If a house is built on the land, the land assessment is tripled, in addition to the house assessment.)

In Contra Costa County, Calif., a farmer sold three one-acre lots for $10,000 each while he was litigating an assessment increase to $350 an acre!

In San Francisco, a lot on Telegraph Hill assessed at $3,800 sold last November for $60,000.

In Truro (and other Massachusetts towns) a big percentage of the land is not even registered. Nobody knows who owns it, so it cannot be assessed or taxed at all.



Aid

Land speculation profits are taxed not more than half as heavily as ordinary income, with a maximum rate of 25%; ie, they are taxed as capital gains instead of as ordinary income.

Said Professor Gaffney in the 1958 Year Book of the US Department of Agriculture: "To qualify for capital gains treatment, the speculator must establish that he is not 'in the real-estate business,' but is a passive 'investor,' neither improving land for sale nor soliciting buyers. Or he may establish that he is 'using the land in his trade or business' (other than real estate).

"Should he lose on one sale he can offset the loss against other capital gains. Better yet, if he establishes that he is using the land in his trade or business, he can offset losses against ordinary income, even though any gains would not be taxed as such.

"Still better, if it is his residence that he sells, and he puts the proceeds into a new residence within the year, the entire gain is tax free—and with a little effort a commuter may learn to 'reside' over a considerable investment.

"Best of all, one who buys land years ahead of his own needs never pays a tax on the rise of value so long as he does not sell—something

many large corporations, with huge reserves 'for expansion,' have little expectation of doing. Wilbur Steger, writing in the National Tax Journal for September 1957, estimates that 90% of all capital gains were thus left tax free from 1901 to 1949.

"The result of all this is a virtual scorched-earth policy for many lands around cities. Why risk any improvement or overt sales effort that might land you 'in the real-estate business' and thus disqualify your increments from 'capital gains' treatment?"



Aid

Most states forbid local governments to tax land more heavily than they tax improvements.

Exception is Pennsylvania, whose graded property-tax law lets second- and third-class cities levy all their realty taxes on land if they prefer, provided they do not try to get more money from land taxes alone than the tax limit set for land and improvements combined. No third-class city has yet availed itself of this chance, but Pittsburgh and Scranton, the two second-class cities, have taxed land twice as heavily as improvements for more than forty years and seem pleased with the results. Said Pittsburgh's Mayor David Lawrence (now Governor Lawrence): "There is no doubt in my mind that the graded tax law has been a good thing for Pittsburgh. It has discouraged the holding of vacant land for speculation and provides an incentive for building improvements."



Aid

Land carries a much smaller share of the realty tax load and a very much smaller share of the total tax load than ever before.

Fifty years ago land carried two-thirds of the realty tax load; homes and other improvements carried only one-third. Today the proportions are almost exactly reversed. Improvements carry two-thirds of the realty tax load; land carries only one-third.

Fifty years ago land carried nearly half the total tax load—state, national, and local. That was before the income tax, the inheritance tax, the corporation tax, the gasoline tax, the taxi-ride tax, and most of the other nuisance taxes were piled on. Today land—which is one-third of our total national wealth—carries less than 5% of the total tax load.



Aid

Even the small tax carried by land is fully deductible from state and federal income taxes (and from state and federal corporation taxes). So a land speculator can offset his land taxes against his ordinary income. This is another way of saying a rich land speculator in the 75% bracket can deduct 75% of his land tax from his income tax, thereby making the federal government reimburse him for 75% of his tax. Says Professor Denton (*see page 000*): "One of the simplest tax law changes that should be made immediately would require that interest and taxes on vacant real estate should be capitalized and should not not be deductible from the taxpayer's ordinary income. This would recognize the obvious economic fact that the expense of carrying a nonproductive investment over a period of years are, in fact, part of the investment itself."

continued

Cities subsidize slums by undertaxation, penalize improvements by overtaxation

Most cities are generating new slums faster than they can salvage and rebuild their old slums. Urban decay and blight are spreading into new areas faster than all the billions we are spending for urban redevelopment and public housing can salvage existing slums.

This is bound to happen as long as our urban tax system subsidizes slums by undertaxation and discourages improvements by overtaxation. Overuse of land is easy to stop by zoning, but in a free enterprise economy like ours the only way to stop underuse is to put the profit motive to work and make it more profitable to improve a property than to let it decay.

Says Housing Administrator Norman Mason: "There is a close relationship between our prevailing real estate tax system and our problems of slums, blight, and urban renewal. This question of taxes—tax advantages and tax disadvantages—is inextricably intertwined with the problem of community development." And Mason goes on to quote Professor Frederick G. Reuss of Goucher College that: "By overtaxing good housing we first take away much of the incentive to keep values up; but once an area is blighted we reassess it at a low value and thus pay a premium for poor upkeep."

More than 50 years ago Lloyd George warned the British Parliament that low-rent (public) housing bills "will never be effective until you tackle the taxation of land values." And about the same time Theodore Roosevelt said: "The burden of municipal taxation should be so shifted as to put the weight of taxation upon the unearned rise in the land value, rather than upon the improvements."

Heavy taxation on *good* new city apartments is one of the two biggest reasons for not building them today (the other reason is too-high land prices). Says the ACTION report on rental housing: "Among the costs which determine rent, real estate taxes are among the most important." In FHA apartments around New York City local taxes take four times as big a bite out of each rent dollar as the landlord's profit.

But low taxation on run-down old buildings and slums is one of the biggest reasons why blight is spreading. Said the HOUSE & HOME Round Table on money and inflation:

"Heavier land taxes would make slumlords improve their property to get enough added income to pay their added taxes."

Echoed the HOUSE & HOME-ACTION-Pittsburgh Round Table:

"One big reason slums are so profitable and slum land prices are so high is that slumlords pay such small taxes per unit. They pay such small taxes because their buildings are so nearly worthless that they carry a very low appraisal; the worse the building the lower the appraisal and the smaller the tax. The average slum unit in Pittsburgh is taxed only $50 a year—less than one-sixth of what the city has to spend for police, fire, schools, health, and other services in the slum areas (where the cost of municipal services always runs higher per capita than in better neighborhoods).

"Don't buy slum property for redevelopment without deflating its bootleg value—even though the federal government stands ready to subsidize a big write-down.

"There is no more excuse for asking federal taxpayers to buy up slums at prices based on the outrageous profits of overcrowding, undermaintenance, filth, and misery than for asking them to buy up a red-light district at a price reflecting the profits of prostitution. "If you increase the tax load on land and lighten the tax load on improvements, you could, at one stroke,

"1. Help deflate the bootleg value of slum property by making the slumlords pay more taxes and so make less profits;

"2. Help harness the profit motive to slum improvement, for you would, in effect, be giving partial tax exemption to any money spent modernizing or rebuilding the slums."



Jacob Riis Collection, Museum of City of New York

Because our tax system makes slums so profitable, slums today are bigger and almost as bad as they were in 1888 when this famous picture of New York's lower East Side was taken by Jacob A. Riis.

New York City subsidizes its worst slums by assessing the valuable land under fit-only-for-demolition buildings at almost exactly the same land-to-buildings ratio as the Manhattan average (37% land in twelve redevelopment areas, vs 40.6% average).

Says the Tax Policy Committee of the Citizens' Housing and Planning Council of New York Inc: "Any long range program for increasing and improving housing should have as one of its primary objectives the reduction of land costs. . . . The idea of exempting all improvements from taxation has much to commend it." And the Panuch report on *Building a Better New York* sums it all up in three sentences:

> ***"The seemingly unstoppable spread of slums has confronted the great cities of nation with chronic financial crisis. . . . The $2 billion public housing program has not made any appreciable dent in the number of slum dwellings. . . . No amount of code enforcement . . . will be able to keep pace with slum formation until and unless the profit is taken out of slums by taxation."***

continued

Speculators are subsidized by our system of public improvements for private profit

Suburban land would have little value if someone did not spend millions of dollars to build roads and highways and make it accessible, water and sewer lines to make it habitable, and schools and other community facilities to make it livable.

These essential improvements cost so much money that land speculation would be much less profitable and much less attractive if the speculators had to pay for them. The big profit in land speculation comes when the speculator can take the gains and get the bill paid by someone else—other tax payers and/or future owners.

In 1937 the National Resources Committee urged a study of the increment tax on real estate, "to see whether such a tax would make possible the financing of public improvements more nearly through tax revenue derived from the increased values which these improvments create, and whether such a tax would aid in combating speculation in land. Or the same result could be achieved by a vigorous system of betterment assessments coupled with detriment payments to landowners whose property was depreciated by the improvement (such as farmers whose farm is cut in two halves by a freeway). The Erie Canal, which multiplied land values in upstate New York was financed by a special tax on the land that benefited.

Most obvious example of public improvements that rebound to the land speculators' private profit is the new network of thruways and federal highways. Land values near interchanges along their routes have soared, but their entire cost has been paid by tolls and/or increased gasoline taxes; the landowners who got the windfall pay not a penny. On the contrary, many of them were directly enriched by selling their land for the right of way for far more than it could otherwise have brought.

Less obvious but equally important is the way acreage sellers escape paying more than a small part of the cost of building the new schools without which their acreage would not be worth much for homes. Most of the money for these schools is raised by taxes on houses, for under our local tax system the taxes on houses add up to many times as much as the taxes on raw land. So the owners of existing homes, who get little or no benefit from new houses on the edge of town, pay most of the taxes to provide the schools and other community facilities needed to make the speculators' land salable at a big profit!

Most of the homebuilders' community facilities problems would be eased if raw land were taxed more heavily, so that more of the cost of improved facilities would be paid by the landowners whose land prices are multiplied by the improvements.

"The only way land price inflation can be prevented is to tax land more heavily"

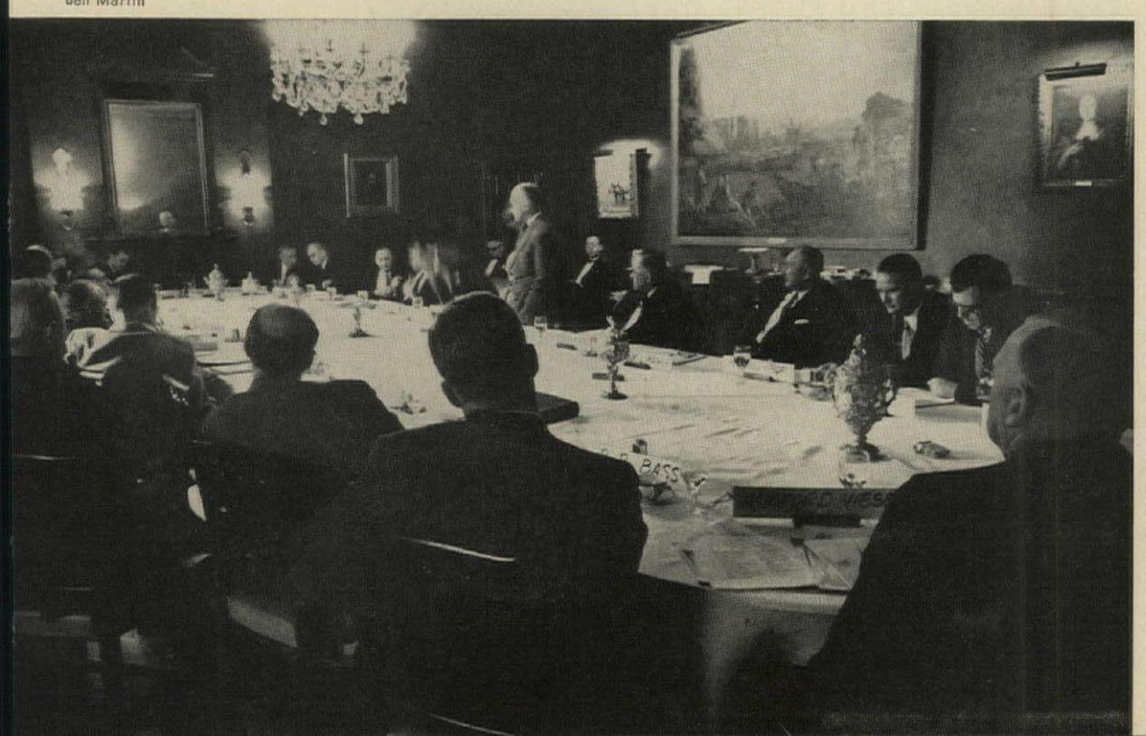
So said the consensus of the topflight economists, mortgage lenders, realtors, homebuilders, and manufacturers at the HOUSE & HOME Round Table on tight money and inflation (H&H, Jan). And they went on to say:

> "A substantial part of the local tax burden now carried by improvements (like houses) should be shifted to the land itself.
>
> "Taxes are the only important costs a land speculator must pay, so taxes are the only brake on the price of land, which reflects the capitalized margin between the rent the land can be expected to earn and the tax burden it can expect to carry. The bigger the land tax the smaller this margin will be and the less chance of big profits in land speculation. [In much of Australia and New Zealand improvements are not taxed at all; almost the whole cost of the local government is paid by taxes on land alone. *See page 00*]
>
> "Taxing land more heavily would make the unearned increment in suburban land values pay the cost of schools and other community improvements needed to convert raw land into housing.
>
> "Taxing land more heavily would let homebuilders offer better homes for less money.
>
> "Taxing land more heavily would reduce the taxes on good homes by increasing the taxes on vacant and underused land.
>
> "And incidentally taxing land more heavily would cut the cost of highway extension by cutting the land costs for the right of way.
>
> "The steepest price inflation of all has been the price inflation in land, but . . . We have no land policy designed to bring the land needed for our population growth on the market when it is needed. On the contrary, we make it easy [by undertaxation] for land speculators to hold their land off the market in anticipation of still higher prices later."

Twenty-three years ago the report of the National Resources Committee pointed out that taxes on improvements discourage building by reducing the profits the building can earn, whereas taxes on land stimulate building by decreasing the price the builder has to pay for the land he builds on. Its report continued:

"State and local authorities should consider reducing the tax rate on buildings and increasing the rates on land, in order to lower the tax burden on homeowners and stimulate the rehabilitation of blighted areas and slums."

Ben Martin



Now let's get down to cases on how to use land better . . .



Photos: Ansel Adams

Look at this big tract of ranch land and see a new town in the making

It is located only 48 miles south of downtown Los Angeles.

It stretches back from the Pacific for seven miles and sprawls out over 7,000 acres of rolling range land.

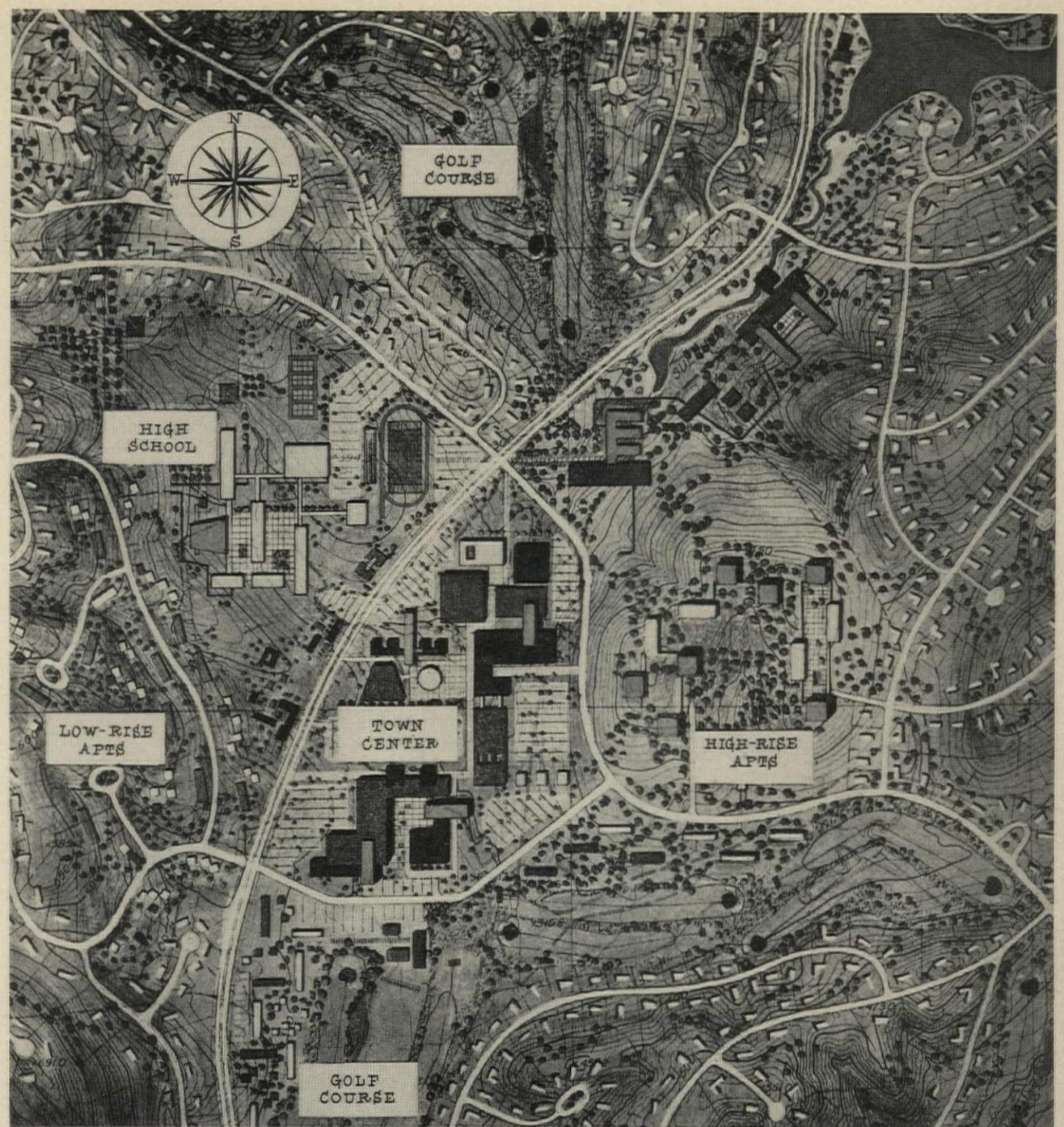
It will be developed into a balanced community where, in the years ahead, some 30,000 people will live and work and play. There will be 10,000 houses, seven garden apartments, two high-rise apartments, motels, and hotels. There will be seven shopping areas, nine schools, seven churches, 600 acres for research and light industry, and an array of recreation facilities that the owners hope will make it the "ideal community for Southern California."

The new town will be called Laguna Niguel. Its owner and developer is the Laguna Niguel Corp of Santa Ana, Calif., a publicly owned company formed by Cabot, Cabot & Forbes of Boston, a 50-year old firm specializing in real estate development. Says Gerald W. Blakeley, Jr (president of both firms): "The development of an integrated, large parcel of real estate today calls for techniques as dissimilar from the past as those required to pilot a jet compared to flying an ancient Jenny. We are no longer flying by the seat of our pants. Rather we proceed on instruments perfected by master technicians."

The new methods include market analyses—by Larry Smith & Co and Harris, Kerr, Forster & Co—and the use of basic economic data developed in an Orange County report prepared by the Stanford Research Institute (to study location, population growth, family income, industry potential, etc), a master plan for the whole project by Victor Gruen Assoc (to assure that the scope of the community concept matches the potential of the land), and public financing (to raise $8,200,000 capital to finance the land purchase and improvements).

The first houses will be built this fall, will be on ocean-view lots, and will be priced at $35,000 to $60,000. Less expensive houses, apartments and facilities will be built later.

ROLLING HILLS looking much as they did when the Spaniards first saw them several hundred years ago make up the 11 square miles of ranch land that will become Laguna Niguel. Primary aim of the developers is to preserve as much of this natural beauty as possible. Overleaf fold-out shows the master plan for the development of this huge tract.



TOWN-CENTER SECTION of master plan at left shows some of the varied housing, school, and recr eation facilities. Streets follow land contours.

The master plan grows out of the land

When Victor Gruen worked out this master plan for Laguna Niguel, he did his original layout on a greatly enlarged aerial map which showed every topographical feature of the entire 11 mile tract. His objective was to plan a community that fits hand-in-glove with the terrain.

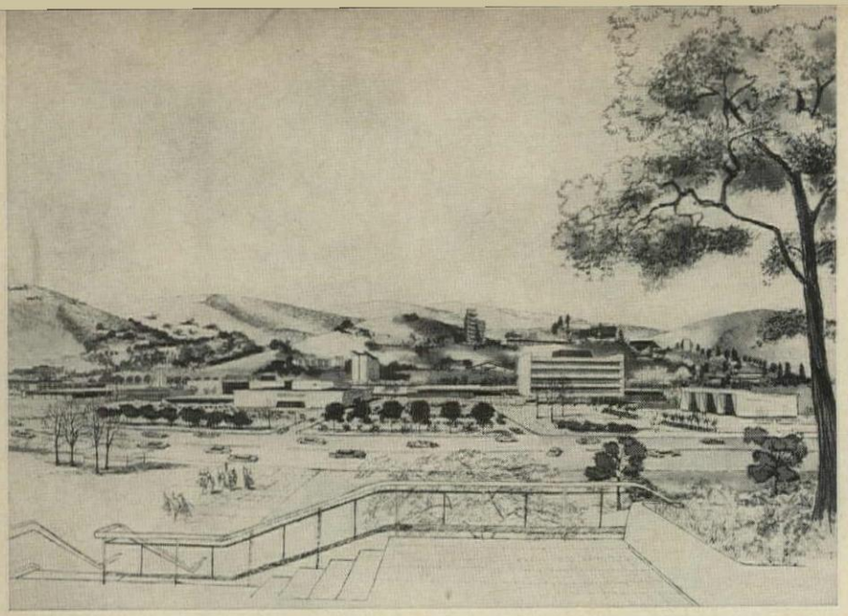
The rolling hills and the softly contoured valleys not only determined street and highway locations, but the siting of all the major elements shown on the fold-out relief map opposite.

The small residential neighborhoods, each close to a school and a shopping center, are located throughout the area. Most apartment groups are near the town center (and the main shopping center), others are along main roads near smaller shopping centers, one is on a lake shore.

The research park is in a self-contained area isolated from houses. The industrial area, still farther from the residential districts, is located along a railroad (at lower right on plan opposite). Recreation facilities play a major role in the plan, and the location of two golf courses, the parks, and the man-made lakes was dictated by (and takes advantage of) the terrain.

Photos:
Marvin Rand

continued



TOWN CENTER will have stores, theatres, office buildings, and other "downtown" facilities.



Business district is hub of town

Laguna Niguel's "downtown area" (left) will be centrally located, built on 118 acres of the relatively flat valley shown above. Vehicular and pedestrian traffic are separated; cars will be parked in pockets between perimeter roads and main buildings, shoppers will use malls and walkways.

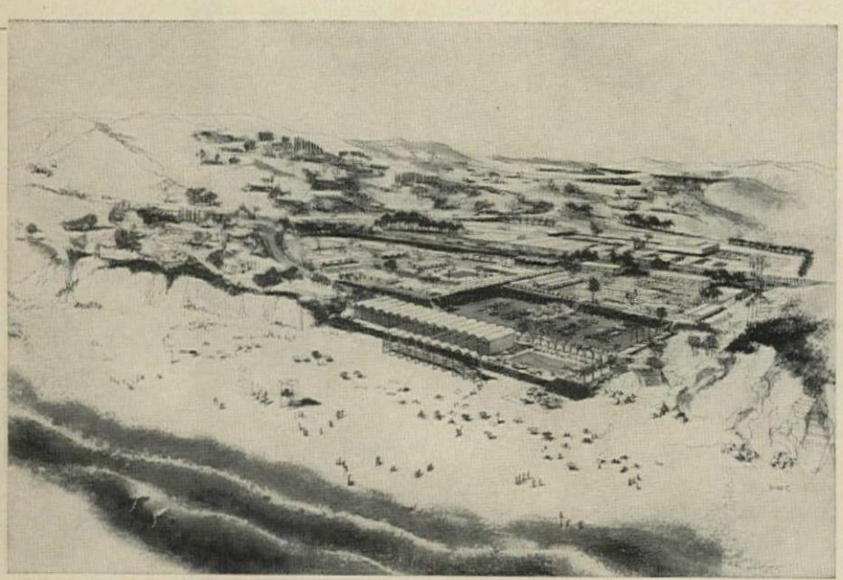


LAKE-SITES like this are a sought after rarity in California.

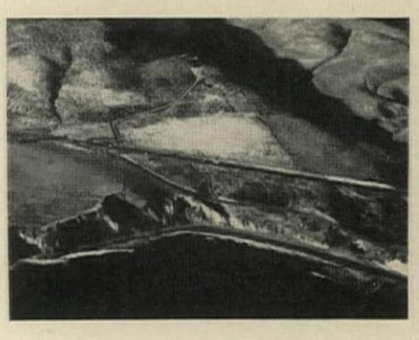


Lakes create valuable lots

Hundreds of choice waterfront or water-view lots will be provided by enlarging the existing lake in photo above and creating two new lakes. Many of the highest priced houses, and one apartment group, will be located around these lakes, sited to disturb the land as little as possible.



PRIVATE BEACH will have full water-front facilities for year-round use.



Beach club is major attraction

The beach facilities shown at left (and located on 1,000′ of private ocean front shown above) will be a major sales feature. This beachfront complex will include motels and other rental units for transient guests. First houses in Laguna Niguel will be built on nearby hillsides.

Photos: Ansel Adams

END



H&H Staff

MODEL HOUSE, in Sterling Forest near New York City, is being built on most difficult site developers could find to dramatize beauty of land.

Look how you can now build on land that others wouldn't buy

You could hardly find a more difficult site for a house than the rocky ledge shown above. Yet more and more built-for-sale houses (as well as custom houses) are being built on difficult land like this. There are two main reasons:

1. The difficult land is frequently closer in and lower priced than available flat land. And with today's know-how in design, technology, and earthmoving, the total cost of houses built on difficult sites is often no higher than houses built on flat sites.

2. Builders also are finding that buyers like the special attractions inherent in many problem sites—views from hillsides, rugged natural landscaping, plenty of trees, water views.

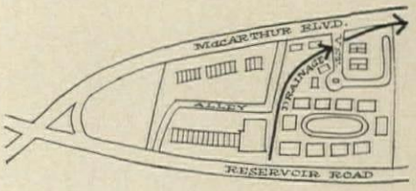
So more builders are learning that—with imagination, courage, and know-how—they can build profitably on many kinds of land they once by-passed because they considered it unbuildable.

Some builders are creating terraces high on mountainsides, others are building on sand and muck pumped up from rivers or tidelands. Some are building in rocky woodland, leaving the land almost as nature created it; others are making beautiful sites out of dreary acreage. Some are designing houses to fit special sites, others are custom-building sites to fit their models.

For eight examples of good use of bypassed land, begin overleaf

FOUR-FAMILY APARTMENTS were built along one edge of a sharply sloping triangular tract in Washington, D.C. (see plot plan below).

These houses were built on a hilly five-acre tract inside a city



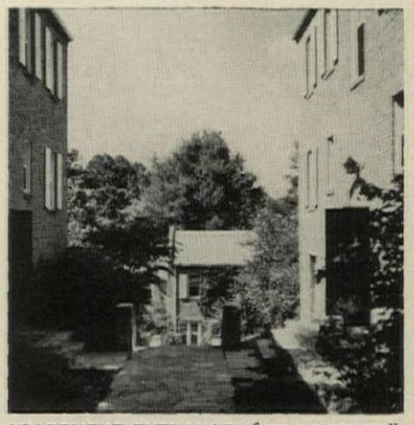


GEORGETOWN LOOK was achieved in design of these houses along cul de sac.

Apartments, row houses, single- and two-family houses were all built on a small triangle of Washington, D.C. land that Builder Ed Carr bought after other builders had passed it up. "It was so steep and presented so many problems that even I passed it up twice before I bought it," says Carr.

But he adds: "I've built many tracts—big and small—yet this is certainly one of the most successful."

After Carr bought the five acres, he put in sewers, a cul de sac, and alleys; soon sold a small part of the land for what the whole tract cost originally; then went on to build the variety of houses shown in the photos. Since they were built, they have commanded high prices because they are so close to the Capital's business and government centers.



APARTMENT ENTRANCES face a stone walk leading down to a landscaped mall at rear.

HOUSES ON STEEP TERRACED LAND show the kind of development possible with today's market for higher-priced houses and today's earthmoving techniques.

. . . and these houses were built in canyons long considered unbuildable

These houses, built on pads carved out of steep slopes behind Los Angeles, are typical of developments now being built on difficult land all along the California coast.

Until fairly recently it was seldom practicable to develop land like this, even though big, close-in tracts were often available at less than $1,000 an acre. But with today's new machinery such development is both practical and profitable; especially since the market demand for handsome sites has hiked the retail price of some finished mountainside lots as high as $30,000 or more.

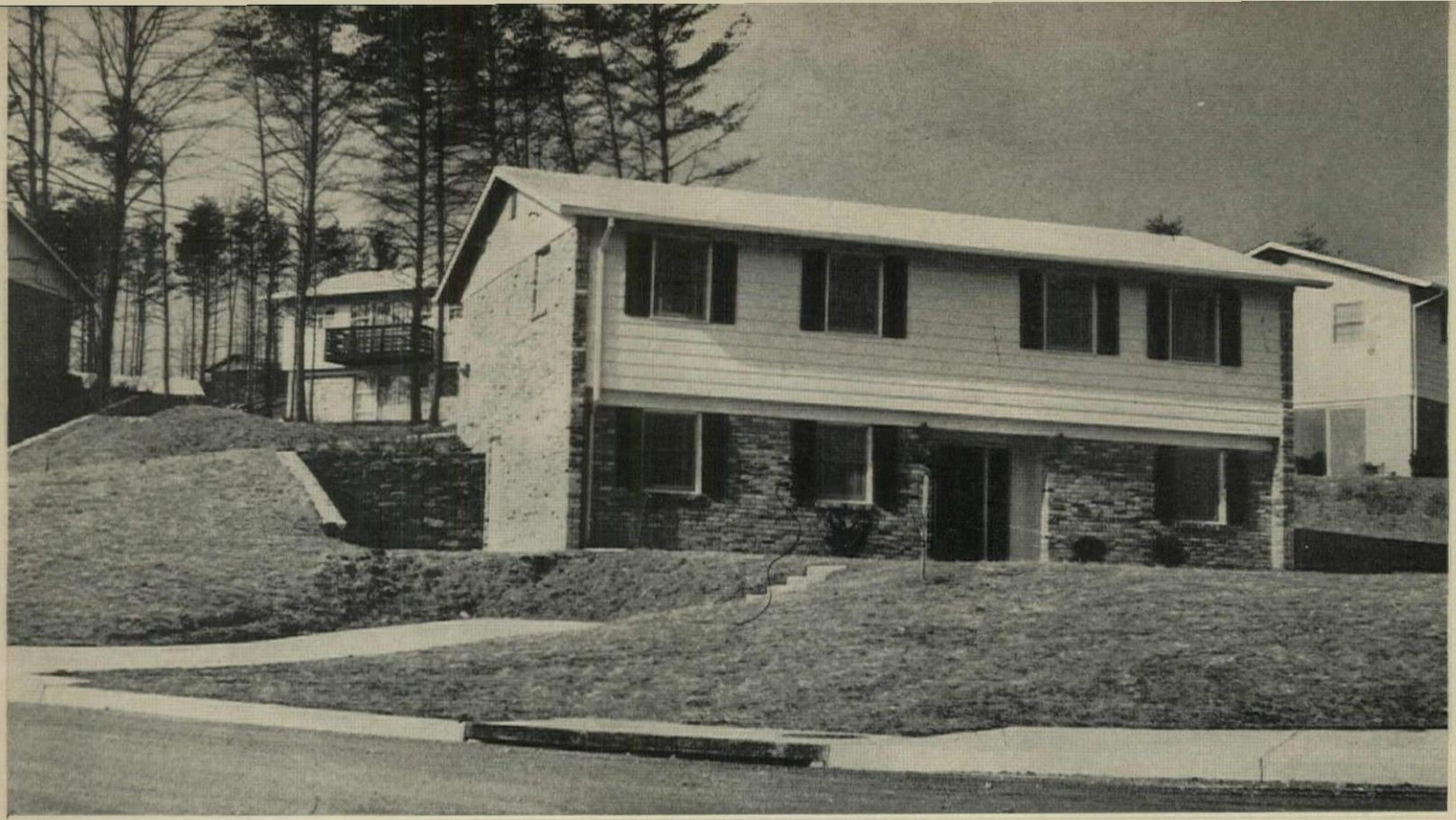
In California, this land is being developed largely by well financed syndicates. But, in other parts of the country and on a smaller scale, the same kind of job could be done by a group of cooperating builders.

Photos: H&H staff



HOUSE BEING BUILT ON CLIFF overlooking Los Angeles was designed for terraced lot by Architect Pierre Koenig. It is *Arts & Architecture's* Case Study House No. 22.

continued



Photos: H&H staff

TERRACING shapes hillside lots to fit four standard models, provides outdoor living at the rear of all houses and at the sides of some.

These houses were built on land bypassed because it was "too steep"



CURVING STREETS, contoured land, and trees help give streetscapes a "custom look."

Builders long spurned this 150-acre tract because it is steeper and harder to build on than most land in Fairfax County outside Washington. So Community Builders were able to buy the land at a much lower price than surrounding acreage, which has been developed mostly into a prestige area of $40,000-class homes.

"This was handsome land," says CB's Herman Greenberg, "and we did our utmost to save the natural contours and the trees." This helped avoid a look-alike problem which might have been troublesome because CB builds only four standard models. Says Greenberg: "The land and the streetscapes presell buyers even before they put foot inside our models. We've sold 250 houses in the past 18 months (at $23,750 to $25,750). These are far and away the best-selling houses in this price range in the Washington area."



In Pittsburgh, building on steep land is matter-of-course

Nearly all the thousands of houses built year after year in the Pittsburgh market are built on the kind of rough land that builders pass up in other cities. Here are two examples:

Sampson Bros, Pittsburgh's largest developers, spend $200,000 a year for earth-moving equipment to create 1,000 lots a year. Land can be bought for $1,000 an acre, and adding development costs, a 60′ lot can be produced for $3,600.

Builder Ralph Scherger is building $28,000 to $50,000 houses like those at left on a 39-acre site that falls off 135′ across its 1,000′ width. To create 105 lots he has moved 350,000 cu yds of dirt, coal, and rock; brought in 7,500 tons of native stone to build terrace walls; and planted 11,000 creeping rose plants on big embankments. He bought the land for $1,000 an acre; rough development cost $10,000 an acre; and finish grading, terracing, and landscaping cost $5,000. Total cost (at an average of 2½ lots an acre): $6,500 per lot.

STREET IS CARVED OUT on 12% grade through rocky woodland for tract of $18,500 to $20,000 homes built on half-acre lots valued at about $4,500.

. . . and these were built on land "too rocky and rugged to bother with"

Builder Sy Schwartz makes a specialty of building modest-priced houses on by-passed land like this in New York's high-cost Westchester County. Because he is so skillful at low-cost development of difficult land into handsome sites, he has become one of the area's biggest builders (80 houses a year).

"With careful planning," says Schwartz, "you can develop rocky or steep land for only $1,000 an acre more than level land. But you can do it only if you save natural contours and as many trees as possible. It costs money to move earth, rock, and trees, so it makes sense to leave the land alone except where streets and utilities go in."

Schwartz works long and closely with his engineers and Planner Lee Moore in laying out streets and siting houses. Says Moore: "Schwartz invests heavily for land planning, and follows the advice he gets. He is interested and knowledgeable about good land use, and it pays off for him."

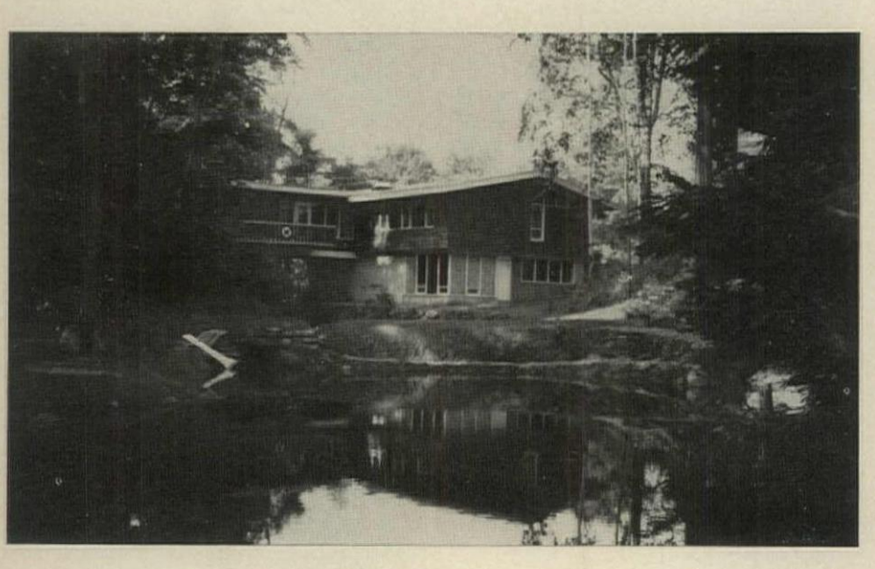


SPLIT-LEVEL ON STEEP LOT required little earth moving. Driveway slopes up gently, and big trees are left untouched.

continued

NATURAL LANDSCAPING was preserved for group of eight 2,500 to 3,000 sq ft contemporary houses located only 35 minutes from midtown Manhattan.

These houses were built in woodland on the edge of a swamp



Architect Harry Wenning fitted his designs to the land when he built six houses like these (price: $45,000 to $70,000) in suburban Hartsdale, N.Y. The only change he made in the land was to dredge a swampy stream and dam it to form two 10′-deep swimming ponds (cost: $4,200).

Says Wenning: "It is easy to find buyers for the exciting houses you can build on this kind of land. Most builders won't touch land like this. They worry about earthmoving and about water. There is no real problem if you know how to design for the site, how to move earth, and how to waterproof houses. Our building costs are actually little higher than they would be if we built on flat land —and raw flat land would cost a lot more."

PONDED STREAM, deep enough for swimming, continues under the upper living-room wing of this contemporary house.

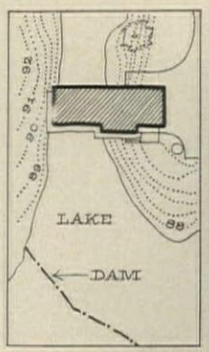
HOUSE ON A LAKE east of Cleveland has 1,880 sq ft on the main level, plus a study above the living room and a family room below almost at the lake level.

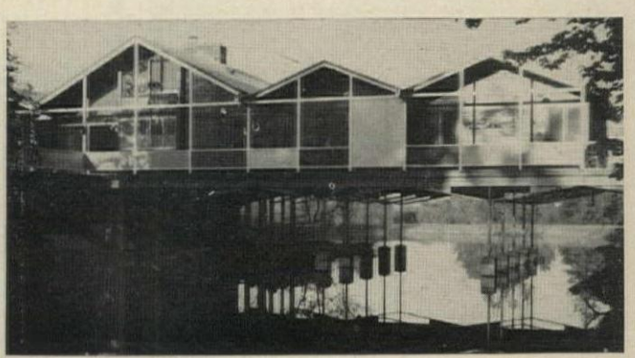
. . . and this was built over a ravine on a lot with "no place for a house"

This exciting way to live—for a family that enjoys swimming, fishing, ice skating, and boating—was achieved on an Ohio site once thought unbuildable.

The lake you see covers what was recently a deep marshy ravine in the center of a five-acre lot so zoned that the only possible location for a house would be in the ravine.

Architect Bruce Huston's solution was to erect an 18′ dam and build the house as a bridge over a narrow part of a lake that filled up from small springs. The dam cost only $3,000, far less than it would have cost to fill the swampy ravine. Total cost to the owner: $56,000, including $8,000 for the five-acre site.





SITE PLAN AND PHOTO show how house straddles lake on piers supporting five 30′ I beams.

NEW HOUSES, NEW LAND, NEW LAGOONS now exist outside the former shore (indicated by the older houses at rear) of Alameda, Calif.

These houses were built along lagoons on choice land added to a city

Photos: Karl H. Riek

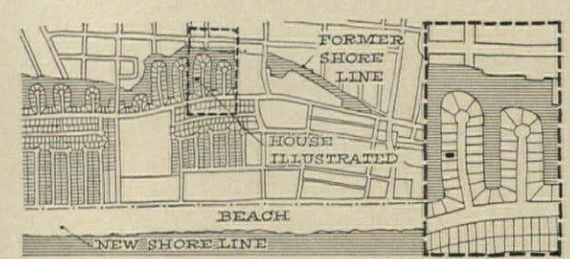


REAR YARDS are 20′ deep, slope down to bulkhead lagoon. Lots are 4′ above water level.

They are the first of more than 200 to go up on $11,000 lagoon-side lots in Alameda, Calif.

The land, which in all includes 400 acres for residential, shopping, and recreational facilities, was created by pumping 9½ million cubic yards of sand from San Francisco Bay onto the south shore of water-encircled Alameda. Utah Construction Co used its own $2½-million dredge to pump sand fill onto tideland and turn a rundown waterfront into valuable new land in the heart of the Bay area.

Architect Benson Eschenbach designed the 40′x42′ houses (shown above and right) to make the most of 60′x100′ lots. Each has a 20′-wide side yard facing a brick-walled side of the next house.

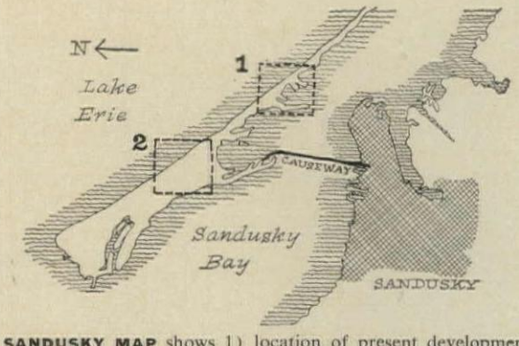


PLAT OF 400-ACRE TRACT shows lots on fingers extending into lagoon, landlocked so it will not be affected by tides.



LUXURY HOUSES stand on land that, except for narrow rim at rear, was filled in by the builder's dredge. He moved 100,000 cu yd at 30¢ to 35¢ per yard.

. . . and these were built on land that until recently was useless marsh

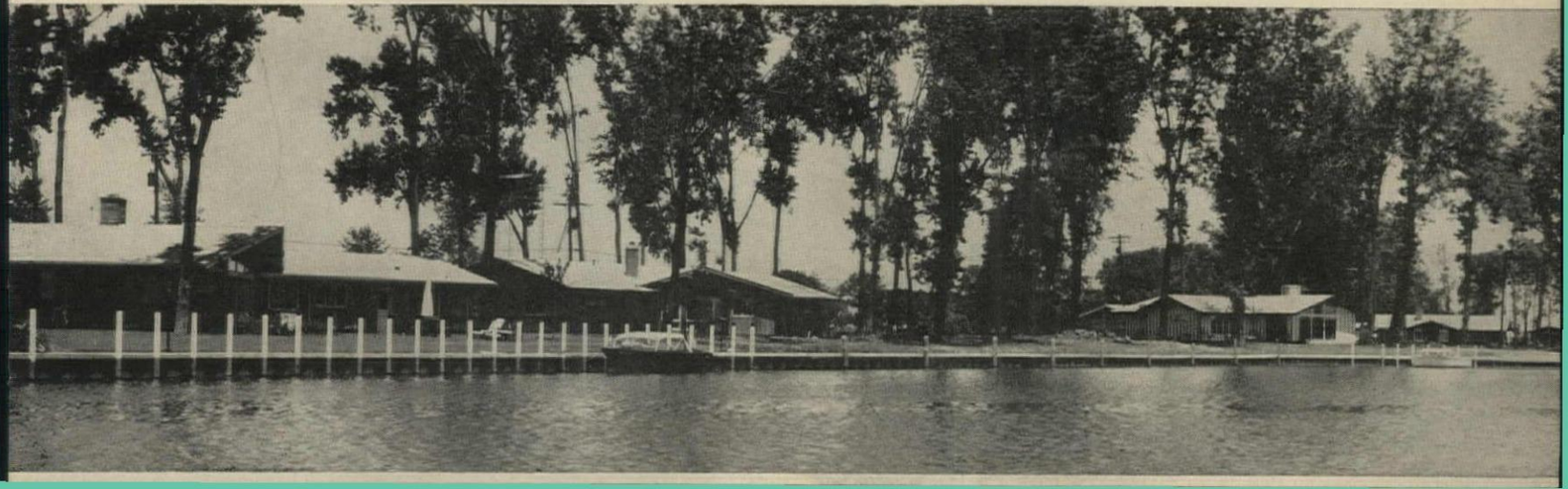


SANDUSKY MAP shows 1) location of present development (close-up below) and 2) site of new project now being filled.

The picturesque development you see above looks like one of Florida's plushiest—but it is only a few minutes drive from downtown Sandusky, Ohio.

Until four years ago it was just a swampy sand-spit extending into Lake Erie. Then Sandusky Development Co bought an $80,000 dredge and started pumping sand and silt, and building steel bulkheads, to create quarter-acre lots now worth $6,000 to $12,000. Since the 35-acre tract was filled in two years ago (H&H, Apr '58), the builder has completed or started about 60 houses priced at $50,000 to $75,000. And now he is dredging another 140-lot tract farther out on the spit. /END

Photos: Alden





Look how you can cut land cost if you know how to profit from today's earthmoving machinery

Your actual costs will be lower, and—what is more important—you will be able to use cheaper land.

Your actual costs will be lower because earthmoving machines are now more productive than ever. They can handle massive quantities of material—some scrapers now carry up to 100 cu yds of dirt. They can work at astonishing speeds—some trenchers now dig a 100′ ditch in one minute. And they can do a surprising number of specialized jobs—some inexpensive utility tractors now take attachments that do everything from clearing raw land to cutting the grass around model houses.

You will be able to use cheaper land because earthmoving machines now make it economically feasible to build on land that has been bypassed as too costly to develop. Today's machines can make attractive homesites on rocky hillsides, reclaim cheap marshland, and even create valuable waterfront lots where there was nothing but water before.

All these opportunities offered by today's machines raise an important question:

How big does a builder have to be to profit from owning earthmoving equipment?

He has to be big enough to keep his equipment busy a good part of the time. To translate that answer into the number of houses a builder builds per year, C.E. Hooper Inc asked the opinions of HOUSE & HOME's panel of "builders other builders follow." Here is what they said about owning three basic machines—a tractor, a grader, and a power shovel:

To own a tractor, 38% of the 265 builders who gave a house-production figure said you have to build at least 100 houses a year; 26% said 50 to 99 houses; 18% said 25 to 49 houses; 16% said 10 to 24 houses; and 2% said less than 10 houses.

To own a grader, 65% of the 213 builders who gave a house-production figure said you have to build at least 100 houses a year; 17% said 50 to 99 houses; 10% said 25 to 49 houses; 7.5% said 10 to 24 houses; and only one builder said less than 10 houses.

To own a power shovel, 72% of the 195 builders who gave a house-production figure said you have to build at least 100 houses a year; 18% said 50 to 99 houses; 7% said 25 to 49 houses; 3% said 10 to 24 houses; and no builder said less than 10 houses.

So this much is clear:

If you are a medium-size or large builder, it can pay you to own earthmoving equipment

Chances are you can cut your earthmoving costs by doing the work yourself instead of subcontracting it. For example: Orrin Thompson, who built 1,450 houses last year in Minneapolis, never paid less than 25¢ a cu yd when he subcontracted his earthmoving. Now he does his own work at well under 20¢ a cu yd (including the cost of owning about $375,000 worth of equipment).

But even if you cannot save the way Thompson does, you can still benefit by owning equipment. Here is why:

1. You can save time—and time is money—because you can get work done when you want it done. Most earthmoving is seasonal, so every builder in town wants the subcontractors' equipment at the same time. If you have to wait your turn, your whole building operation is likely to be thrown off schedule.

Says Builder Bob Schmitt, who builds 100 houses a year in Berea, Ohio and owns about $250,000 worth of earthmoving equipment: "The actual cost of grading land and moving earth is not high. But the hidden cost of not having it done when you need it done is pretty horrible."

2. You can estimate costs more accurately because you don't have to worry about contractors' fluctuating prices —high when the subs are busy, lower during slack periods. Builder Thompson's estimates were off as much as $300 a lot when he used subcontractors. Now he says he can estimate "within a few dollars of actual cost."

3. You can get a break on taxes because depreciation allowances let you write off 64% of the cost of all but the heaviest equipment in two years. So in two years you can trim your tax bill by more than 30% of the cost of your equipment. And at the end of two years, the equipment's resale value is still 60% of its original cost.

Predicts Builder Thompson: "Competition will soon force more and more builders to reduce their land costs by using more and more earthmoving equipment."

To see what you can do with today's machines, turn the page

Alex Rodsater



TWO-WHEEL SCRAPER, pulled by one tractor, is pushed by another to speed job. Scrapers dig, carry, and spread dirt in one working cycle.

With today's machines, you can still dig, move, and dump earth at 1930 prices

So says H. A. Radzikowski, an official of the US Bureau of Public Roads.

Why has earthmoving—unlike almost every other home-building cost—resisted the rise in costs? Because technological improvements of earthmoving machinery—mostly in the last five to ten years—have offset cost inflation.

For example:

Today's machines are bigger. Ten years ago a scraper that could carry 20 cu yds was considered large. Today some scrapers can carry 100 cu yds.

Today's machines are more powerful. Ten years ago the heftiest tractor engines were rarely more than 175 hp. Today some tractors have 600-hp engines.

Today's machines make more efficient use of their power. Torque converters—introduced four or five years ago—match the power to the load so there is no loss of speed as the load gets heavier.

Today's machines have better controls—power steering on heavy machines, hydraulic controls (they work faster and are easier to maintain) instead of mechanical controls, pushbuttons instead of levers for lowering scraper blades, and a single joystick instead of multiple levers on big shovels.

All these improvements (and many others) cut costs by speeding up output. So they make it possible to do things with land that you never dreamed of doing before.

For example: Now you can slice off mountaintops and use them to fill in swamps and ravines (see *p 174*); you can carve out terraces on steep slopes (*p 153*); you can turn marshes into lakes (*p 156*). In short, you can use the higher productivity of today's earthmovers to transform problem land into valuable land.

Here are the best ways to use different machines

Use a bulldozer for short dirt moves. Moving dirt 150′, a dozer (digging and pushing blade) mounted on a new 235-hp tractor, can handle about 185 cu yds an hour. Approximate cost (including tractor operation and depreciation): 7½¢ a yard.

Tractors vary widely—not only in power but also in type. Crawlers are best for work in wet clay and on hillsides, must be hauled to the job on trailers. Rubber-tired, wheeled models are best for work in sandy or rocky soil and on level land, can be driven to the job.

Dozer blades also vary widely. Use a straight blade for digging and straight backfilling; an angling blade (it can be moved 25° to either side of the tractor) for hillside work and backfilling trenches; a U-shaped blade for pushing extra large quantities of dirt.

Use a scraper for medium-length moves —no more than a mile. Scrapers dig, carry, and spread dirt in one working cycle. You can use them to strip and stockpile topsoil, cut high grades and fill low areas, dig out foundations, and spread topsoil around finished houses.

Scraper capacities range from 10 to 100 cu yds. Most practical sizes for a builder or developer: 15 to 30 cu yds. Owning and operating costs of a 20-yd scraper (based on a 12,000-hour life) are slightly more than $15 an hour.

Although scrapers are self-propelled or tractor-pulled, it often pays to add power by using a second tractor to push them through their cutting cycle (photo, opposite). Reason: to cut costs by doing the job faster.

Use trucks for long moves—more than a mile. You can load the trucks with tractor shovels, stick shovels, or even conveyors.

Tractor shovels work well if dirt is not too tightly packed. You can use them to dig and (like a dozer) to shove dirt into piles for easier loading.

Power shovels work better in hard-packed earth—can dig the load and dump it in one swing.

Conveyors are designed for mass loading. Dozers push the dirt onto the conveyor belt, which carries it into trucks (example: a California contractor conveyor-loaded a 23 cu yd truck in 17 seconds).



F. R. Arver

BULLDOZER clears and shapes building site. Dozers' best use: short dirt moves.



FOUR-WHEEL SCRAPER hauls topsoil to new lots. Scrapers strip and stockpile topsoil before building starts.



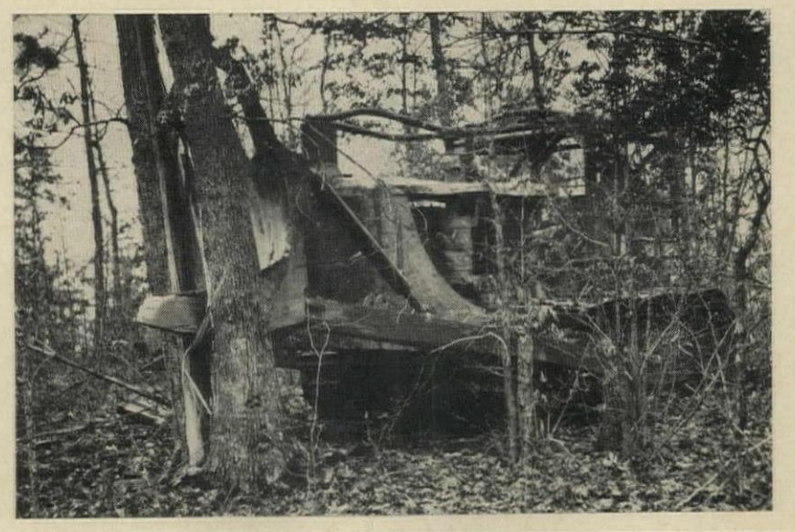
TRACTOR SHOVEL loads dirt into dump truck after digging and piling it.

With today's machines, you can remove trees selectively

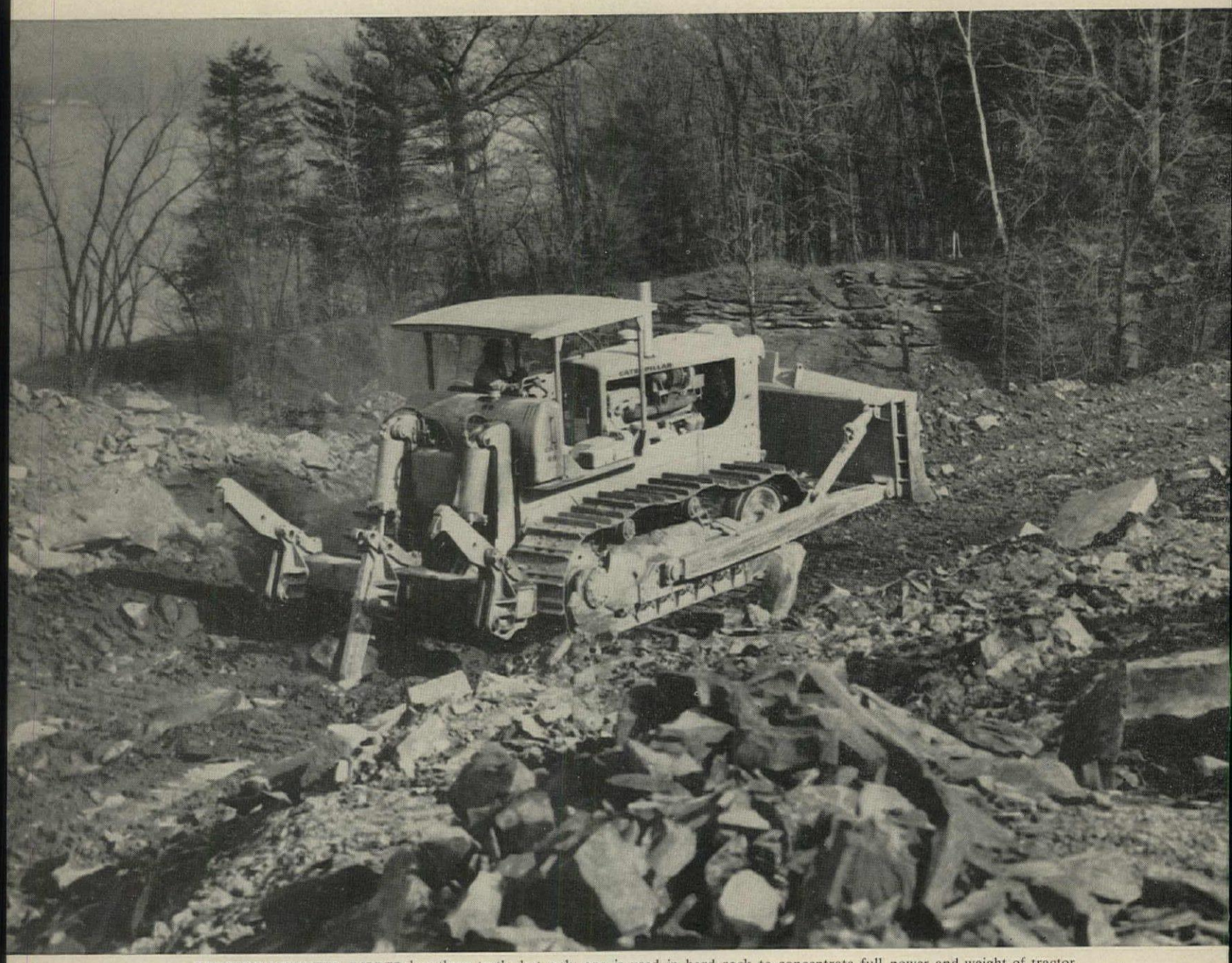
The tractor-mounted equipment at right makes fast work of taking out trees one by one.

A 30″ stinger splits the trunk and weakens the tree. Then a sharpened dozer blade shears the tree at ground level and piles it for burning. A ripping attachment (it looks like a large rake), also tractor-mounted, pulls out the stump.

If you are clearing large areas, you can remove trees with an anchor chain dragged between two heavy tractors. The chain's weight (50 lbs or more a ft) topples small trees and pulls out large ones (up to 30″ in diameter).



STINGER ATTACHMENT on dozer blade splits tree. Sharpened blade then shears trunk at ground level.



TRACTOR-MOUNTED RIPPER has three teeth, but only one is used in hard rock to concentrate full power and weight of tractor.

With today's machines, you can rip out rock without the high cost and hazards of blasting

So it is now possible to create desirable homesites (like those on *p 155*) on land that was once bypassed because of prohibitive rock-removal costs.

By ripping instead of drilling and blasting, you can cut the cost of breaking up rock by 50% or more. For example: Caterpillar compared ripping and blasting costs on eight widely scattered jobs (table, opposite) and reported a 65% average saving by ripping. Blasting costs on the eight jobs average 22.2¢ a cu yd. Ripping costs averaged 7.7¢.

By using a new electronic instrument, you can now get an accurate idea of rock-removal costs before you tackle a job. The new instrument, a refraction seismograph (photo, opposite), helps you decide if it will pay to remove rock and what ripping equipment you will need. It shows how hard, how deep, and how widespread the rock is.

Rock rippers—steel teeth mounted on or towed by tractors—are not new (their family tree goes back to the horse-drawn plow). But they are now more effective than ever because tractors are heavier and more powerful than ever.

Can all rock be ripped with today's equipment? No. You can rip sedimentary rock like sandstone, limestone, and shale, or decomposed granite. You can also rip frozen ground and thus avoid a midwinter halt in excavating. But hard rock like solid granite, marble, and trap rock must usually be blasted. One easy-to-make, preliminary test: if only a sharp knife will scratch rock, it cannot be ripped; if a nail will scratch it, a good portion of it can be ripped; if a penny will scratch it, all of it can be ripped.

Here is how a seismograph probes rock formations

Shock waves travel through different materials at different speeds—rapidly through hard rock, for example, and slowly through loose soil. A seismograph measures how fast a shock wave travels underground and so how dense (and how rippable) the ground is.

A sledge-hammer blow on a 1″ steel plate (photo, top right) will send a shock wave as much as 50′ deep. The wave travels through the ground to the seismograph receiver which records the time of impact and the time and pattern of the wave. With this data—and the known distance between the recorder and hammer—the density and depth of the material can be read from a set of tables.

HOW RIPPING AND BLASTING COSTS COMPARE ON EIGHT JOBS

Location	Material	¢ per cu yd Rip	Blast
Tulsa	Limestone	7.3	17.3
Dallas	Limestone	5.2	15.1
Merriam, Kan.	Sandstone	2.1	11.7
Nelsonville, O.	Sandstone	5.7	13.8
Philadelphia	Limestone	11.5	19.3
Carbo, Va.	Sandstone	8.6	15.7
Hibbing, Minn.	Paint rock	6.1	54.5
San Francisco	Sandstone	15.0	30.0

Source: Caterpillar.



F. Kirschner

SEISMOGRAPH reveals rock's hardness and depth by analyzing shock waves set off by hammer blow.

Here is why tractor power determines what to rip

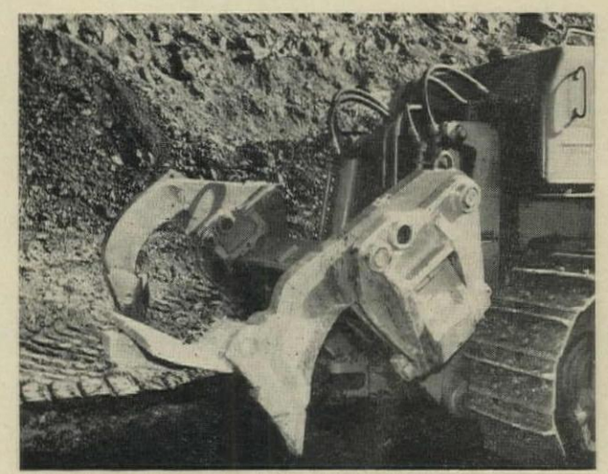
The tractor not only pulls the ripper but also powers the hydraulic ram that holds the ripper shank in the ground.

The heavier and more powerful your tractor, the harder the rock you can rip, the deeper you can rip (up to 28″), the larger your ripper can be, and the more teeth it can have.

Most rippers are mounted on the rear of tractors and have one or two teeth. But some bigger ones have three teeth. And some are separately mounted and tractor-towed, or where extra power is needed, pulled by one tractor and pushed by another.

Ripper shanks, to which the teeth are attached, vary in design. Some are designed for breaking rock into small pieces, others for dislodging boulders.

Any choice of ripping equipment depends partly on how the ripped rock will be handled—by dozer, scraper, or power shovel. For example: a dozer can handle large chunks, but rock should be broken into small pieces to be moved by a scraper.



TWO-TOOTH RIPPER is raised and lowered by hydraulic rams.



DOZER clears ripped rock. Ripper dislodged boulders or broke them in big chunks.

Don't overlook these byproducts of rock removal

You can use ripped rock to fill in nearby swamps or for deep filling. Or, if there is a ready market for aggregate in your area, you can crush the rock and sell it—crushed rock (1½″ size) sells for about $2.70 a ton. Small crushers like the one at right cost $20,000 to $25,000, can be brought out to your job and loaded with a power shovel. Best uses of aggregate from ripped rock are for gravel driveways and neighborhood streets. Because the rock is sedimentary, it is usually too friable for use in concrete.



SMALL ROCK CRUSHER, towed to site and loaded by tractor shovel, reduces ripped rock to salable aggregate.



SMALL DREDGE dislodges and sucks up underwater soil with cutter head, foreground, and pumps it through tailpipe, right, to reclaimed site.

With today's machines, you can reclaim marshland and even create land where there was none before

It now makes economic sense for builders to reclaim swamps, tidal marshes, and low land along lakes, bays, and rivers because:

1. Prices of buildable waterfront land—particularly close-in land—are skyrocketing (waterfront lots with seawalls sell for $10,000 in St Petersburg).

2. New dredges (like the one above) are scaled to builders' needs. Their prices are relatively low (start about $50,000). They are small enough (draw as little as 18″) to work in shallow water and ride a flatbed trailer to the site.

There are at least four ways you can use small dredges to turn valueless low land into valuable homesites:

1. You can build up swamps and sandspits. In the Florida Keys, Builder J. P. Sadowski reclaimed submerged land for luxury homes. His direct and indirect costs for landfill: about 30¢ a cu yd (for another example, *see p 159*).

2. You can build up land around lakes. Miami Builder L. W. Rozzo dredged a lake to bring the surrounding land up to grade. His direct costs for landfill: 5¢ a cu yd. And he paid for his dredge by selling excess fill for 50¢ a cu yd.

3. You can dredge deep canals in swamps and build up fingers of filled land between the canals so all houses have waterfront sites. New Jersey Developer George Freibott bought a swampy tract for $800 an acre, spent $1,500 an acre for dredging and improvements, to create land valued at $12,000 an acre. Total landfill costs: 25¢ a cu yd.

4. You can add to shorelines of lakes and bays. In North Palm Beach, Developers Bob and Dick Ross created 300 acres of new lakeside land now valued at $10,000 an acre. Their landfill costs: 25¢ a cu yd (for another example, *see p 158*). Reports the California Water Resources Board: The San Francisco Bay area has 158,000 potential acres of reclaimable tidelands (not including marshland).

Here is how a small dredge builds up marginal land

Dredges are floating vacuum cleaners. Their basic parts: a suction pump, a cutter head (foreground, opposite), and a tailpipe (background, opposite).

In one continuous operation, a dredge does three jobs:

1. It sucks up mud, silt, and sand from the bottom of a swamp, pond, or bay (also cleans out muck holes, a good source of valuable topsoil).
2. It pushes the waterborne materials as much as a mile or more through the tailpipe. The length of the push depends on the size of the dredge (rated by tailpipe size) and the power of its pump. For instance: an 8″ dredge with a 145-hp pump can push material about 2,000′ but needs a booster pump for longer pushes.
3. It spews the material into a settling area (top, right) formed by throwing up a dike around the site to be filled. The sand, silt, and mud settle into a compact base, and water drains back to the swamp, pond, or bay. When fill builds high enough in one spot the tailpipe is moved.

Here is why a small dredge builds up land at low cost

1. It keeps labor costs down. One operator runs the dredge, and an unskilled laborer moves the tailpipe when necessary.
2. It eliminates transportation costs. The dredge deposits earth exactly where required; there is no need to truck in fill.
3. It works fast. Hourly output of a 6″ dredge (smallest made) is more than 75 cu yds. A 12″ unit can handle almost three times that much. In West Palm Beach, Perini-Westward is using two big (16″) dredges to fill a 5,000-acre site at 20¢ to 30¢ a cu yd (H&H, Mar).
4. It can cope with tough materials, hardpan and even some kinds of rock, that are broken up by whirling blades in the cutter or by high-pressure jets.
5. It eliminates need for mechanical tamping or piles to support foundations (the draining fill is self-compacting).

Is dredging always the best way to do the job?

No. Sometimes a dragline crane like the one at right is more practical.

A dragline is the only answer where there is not enough water to float a dredge or where underwater material cannot be pumped through a pipe. And it is often more efficient where marshy areas are small and scattered or where fill can be used close at hand.

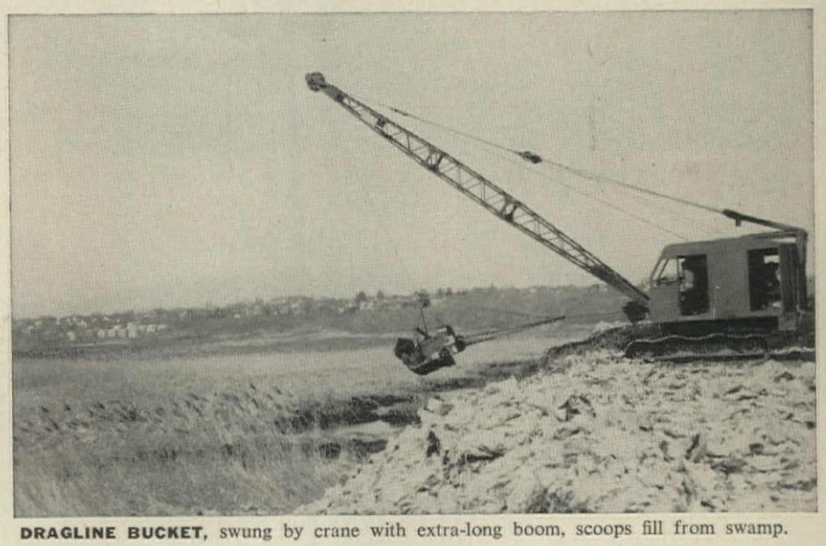
Dragline cranes have extra-long booms so the bucket can be cast the way a fisherman casts a fly. Buckets, which usually range in size from 3½ to 5 cu yds, break up and scoop up underwater soil. They are especially effective in tough material like peat bogs and for digging deep channels. Dragline fill, unlike dredged fill, needs mechanical packing and binding. Compacting equipment includes sheepsfoot rollers and rubber-tired compacters (photos, right), vibratory rollers, steel rollers, and plate-type compacters.



DREDGE TAILPIPE spews fill into dike-enclosed settling area. When fill is high enough, pipe is moved.



DREDGE CABIN houses pump, foreground, and controls, rear.



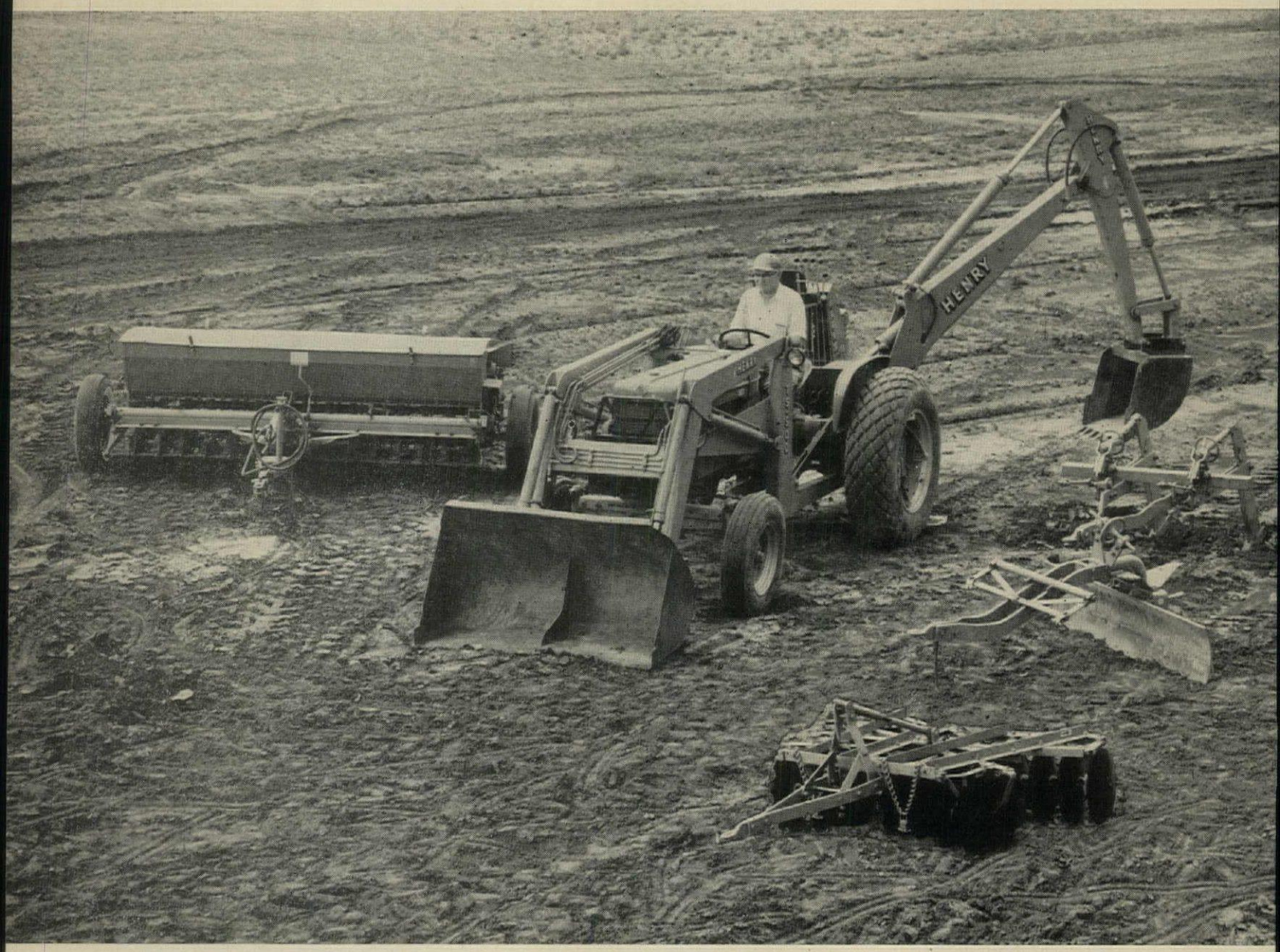
DRAGLINE BUCKET, swung by crane with extra-long boom, scoops fill from swamp.

TOWED COMPACTERS—sheepsfoot roller, left, and rubber-tired compacter, right—pack and bind new fill.





continued



UTILITY TRACTOR with front loader and backhoe also takes other attachments.* Photo taken for H&H at Allis-Chalmers proving grounds.

With today's machines, you can slash costs on scores of run-of-the-field jobs

"You just cannot find guys to dig ditches any more."

So says Builder Bob Schmitt of Berea, Ohio, a former chairman of NAHB Research Institute. Many other efficient builders agree—and go a step further. Even if you can find manual labor, they say, it no longer makes sense to use it on even the smallest or most specialized earthmoving jobs.

With the mechanized equipment now available to builders, you can do almost anything far faster—and at far lower cost. Most useful for most builders: utility tractors, like the one above, which take a wide variety of attachments for a wide variety of jobs. (Some attachments are also available for tractor shovels, which are larger than utility tractors.)

With a utility tractor and the right attachments, you can dig sewer, water, and gas mains; dig and backfill foundations; bring utility lines from the street to your houses; spread topsoil and finish-grade your lots; seed your lawns; dig holes for trees and fence posts; and final-grade your streets.

Utility tractors are inexpensive. Prices start at $1,500 although the models most practical for builders run from $2,500 to $4,000. Attachments are also inexpensive. For example: Trenchers are priced at around $3,500. Backhoes range from $2,500 to $4,000; front-end loaders from $500 to $2,000; grading blades from $150 to $250; dozer blades from $325 to $700; rototillers (which pulverize hard ground) from $500 to $1,500.

Utility tractors are fast workers. For example: A tractor-mounted trencher can dig a ditch 14″ wide and 2′ to 4′ deep at 400′ an hour; a tractor-mounted backhoe can dig a ditch 24″ wide and 4′ to 5′ deep at 100′ an hour. (Says Builder Schmitt: "I don't think any builder of any size can do without a small backhoe.")

If you want still higher production on specialized jobs, you can use bigger special-purpose machines like the patrol grader, big backhoe, and big trencher on the facing page.

* Including (clockwise from upper left): grass seeder, scarifier, grader blade, disk harrow.

Here is what you can do with tractor attachments

With a backhoe, you can open up utility trenches from the curb to the house, dig out curb lines and catch basins, and even take on tougher work like excavating basements. Some backhoes can be mounted in line with either rear wheel as well as between them, can thus dig a trench right along a wall.

With a chain trencher, you can open up narrow (3" to 6") trenches—for example, to carry electrical conduit.

With a front-end loader, you can take dirt and other loose materials out of hard-to-get-at places, like basements. The tractor is light enough to move over lumber or new concrete without breaking it and maneuverable enough to move in tight quarters without hitting walls.

With other attachments, you can do most of your landscaping. For instance: 1) a bucket or blade distributes topsoil; 2) a disk harrow cultivates and readies the ground for seeding; 3) a mechanical seeder, run by the tractor's power take-off, sows the seed; 4) a tractor-towed rake spreads straw over newly seeded lawns; 5) an auger digs holes for trees and fence posts; 6) a tractor-towed mower cuts the grass around model houses.

When you are not using the tractor for digging, grading, and landscaping, you can hook up a fork-lift attachment for moving building materials and lifting sheathing and shingles to roof height. (One contractor even uses a fork lift for seeding lawns. He sets a 500-gal tank of seed and liquid fertilizer on the forks, pumps out the mix in 25′ swaths, and seeds three acres an hour.)

Here is what you can do with specialized equipment

For almost every utility-tractor attachment, there is a special-purpose machine that can do the same job a lot faster.

With a big tractor shovel (100 hp or more), you can scoop out dirt in bucket bites up to 4 cu yds. Tractor shovels (now used more than ever for excavating basements) can dig, backfill, load, and grade. They can also be fitted with a few attachments, including backhoes, light-duty rippers, and fork lifts.

With a big wheel-type trencher, you can dig utility trenches up to 10′ deep and open a 6′-deep trench at up to 100′ a minute (fast-working chain-type trenchers are also available).

With some wheel trenchers, you can dig catch-basin holes up to 5′ wide. (A hydraulically controlled boom swings from side to side of the machine while digging.)

And with some trenchers, you can dig a plumb trench across a hillside with one track as much as 8" higher than the other. (The digging wheel can be tilted up to 6½° from the vertical.)

With a new electronic grader-blade control, you can grade a street in half the usual number of passes, reduce the number of grading stakes needed and the labor to set them. The grader operator simply dials the required grade. From then on, the blade holds the grade no matter how uneven the terrain. /END



Carl Rickard

LARGE BACKHOE digs deep trench for water main.



SMALL BACKHOE on utility tractor undercuts steep bank.



LARGE TRENCHER, wheel type, digs sewer main.



SMALL TRENCHER, chain type, digs narrow service trench.



TRACTOR SHOVEL excavates house foundation.



AUGER digs holes like this for posts, poles, or footings.

PATROL GRADER spreads and levels topsoil, maneuvers easily between nearly finished houses.



The best of our land planning

It is setting a new, and much higher, standard

The year 1960 may well mark a turning point in American land planning.

Until now, when visiting Europeans asked to see our best planned towns, they were taken to three communities inspired by famous planners Clarence Stein and Henry Wright: Radburn, N. J., Chatham Village in Pittsburgh, and Baldwin Hills in Los Angeles. All are at least 20 years old and, according to most critics of US homebuilding, nothing newer has been worth seeing.

But right now, and for the first time since these great experiments of the 1920s and 1930s, dozens of new towns and subdivisions are being built that not only use the principles taught by Stein and Wright, but are designed to solve new problems in land use that did not exist 30 years ago.

Communities like Laguna Niguel near Los Angeles, Greenhaven in Sacramento, Holly Hills in Portland, and University City in San Diego are being built with the open green parks, varied types of housing, and visual privacy that make Radburn a fine place to live even today. These 1960 new towns are being built with fresh street patterns that preserve the character of the land, break big neighborhoods into small neighborhoods, keep the auto in its place, and provide safety for children.

What is the reason for this sharp increase in the number of well planned communities being built? The reason is simple:

The advanced towns of 30 years ago were built only because there were a few far-seeing men who were willing to back them financially to set a good example for American housing.

But the best of today's communities are being built to high standards of land use because builders and land developers have recognized that, with good planning, they can *manufacture* the prime requirement for success in today's competitive market—a good location.

Moreover, builders and developers are commissioning planners because they have learned that good land planning — far from requiring unrealistic development costs—can save money on earthmoving and street paving and utilities at the same time it produces a better looking and more salable community. And builders and developers are commissioning planners to help them create value that will last. Says Banker Clinton Loucks of Syracuse: "The better the land plan, the better the chance a builder has to get mortgage money. . . . The better the plan, the better the long-term value."

Today's new communities are better because they provide varied housing for a cross-section of the population.

Up to now, many experts feel, we have been building too many houses for the much-publicized "average family" and not enough housing for the hundreds of combinations of richer or poorer, younger or older, whose requirements are not "average."

AIA President Phil Will has said: "Today, all pressures seem to force builders into putting up whole communities of the same kind of single-family, detached houses . . . This is patently silly for 90% of our population . . . I don't care how you curve the streets, when you've got 500 houses in a subdivision . . . with uniform down payments, you know you are going to attract only a certain kind of buyer" (H&H, June).

Recently, a committee of housing specialists, appointed by the Royal Architectural Institute of Canada, traveled throughout their country trying to find out what was good and bad about Canadian housing. Their findings probably would not have been far different had they been studying US housing. And their report ("The Design of the Residential Environment") points out that "No repetitive pattern of housing development can be expected to meet even a good part of the residents' proper choices through the years . . . To correspond with the variety of households, there must be a wide range of dwelling types." The committee found (as has been discovered elsewhere) that only one-third of all families are "typical"—ie, parents with dependent children living at home.

Obviously, in the design of a well balanced community, there must be a preponderance of one-family houses. But there should also be some row houses, some patio town houses, some garden apartments, and (when they make sense) some high-rise apartments. All of the best new communities include this better balance of housing. These new communities are evidence that row housing can be handsome and can blend in with

is now very good indeed

of land use that no builder or developer can ignore

single-family houses, and that when row-houses are renamed "patio town houses" they sell well. (Many builders have resisted row housing because they have assumed it must look like the worst housing in our older cities.)

Today's new communities are better because they provide green space for all the residents to look at and to use.

"The climax of a neighborhood," says the Canadian report, "is well planned open space." Radburn, Chatham Village, and Baldwin Hills are fine places to live today because of their open, park-like environment.

Despite today's high land costs, builders are dedicating green belt parks and recreation areas to municipalities. Open areas are provided to give the uncrowded feeling that neighborhoods 50 years ago achieved from vacant lots and the custom many families had of buying "the lot next door." Builders are finding new ways to finance recreation facilities, and new ways to work with cities, counties, and states in setting up quasi-public recreation districts.

These open green spaces are all the more pleasant and usable because, in the best planned communities, the land planning keeps the auto in its place. Says the Canadian report: "We do not intermingle picnic parks with rifle ranges; but that could hardly be more lethal than to tangle city ways for wheels with those for feet. [We must] deal more efficiently with the car and more graciously with space for living."

Many critics who have made invidious comparisons between European and US land planning have failed to realize that even the best European land plans cannot be applied in the US because of the automobile. Any land plan for the US must take into account the dominance of the auto in the American way of life. The best new land plans do this: but they also, with carefully planned street layouts and house siting, isolate the auto from the green space and from the paths children use on their way to school.

Today's communities are better because they overcome the public's greatest criticism of housing—monotony.

When AIA's Phil Will refers to the "slums" we are creating, he is speaking of "monotonous sameness . . . which imposes its own pattern and rigidly dictates a way of life for the inhabitants."

When the Canadian research team reports that "many buyers have misgivings about the character of their housing," they mean that people find their housing monotonous. Says the report: "The intensity of dismay is evident in statements made on behalf of hundreds of housewives." The report quoted from several of the groups interviewed.

Said the National Council of Women: "Monotonous, boring, dull, rubber-stamp similarity are some of the terms used to describe developments where the same (or very nearly identical) house is repeated over and over . . ."

Said the Victoria Council of Women: "To create the best and most useful environment, greater attention should be given to scientific and aesthetic planning . . . There [need] not have been the development in some areas of monotonous rows of similar houses."

Said the University Women's Club of Ottawa: "These places [built in 1954] looked like slums almost before they were occupied . . . ugly, unimaginative, the same plan used for every exposure . . ."

Today's best new communities are not monotonous because instead of being rows of look-alike houses on look-alike streets, they fit Phil Will's definition of a well balanced community (H&H, June):

"It must begin with an overall concept. It must provide for a wide range of income levels. It must provide for a wide variety of human interests and ways of life. So it needs a variety of housing types—single-family, multi-family, town and court-type houses—mixed together in a thoughtful pattern. It needs all the amenities like parks, stores, squares with fountains, playgrounds, courts, and plazas. And it must take its plan, its form, its being from basic human facts—the root of all good design."

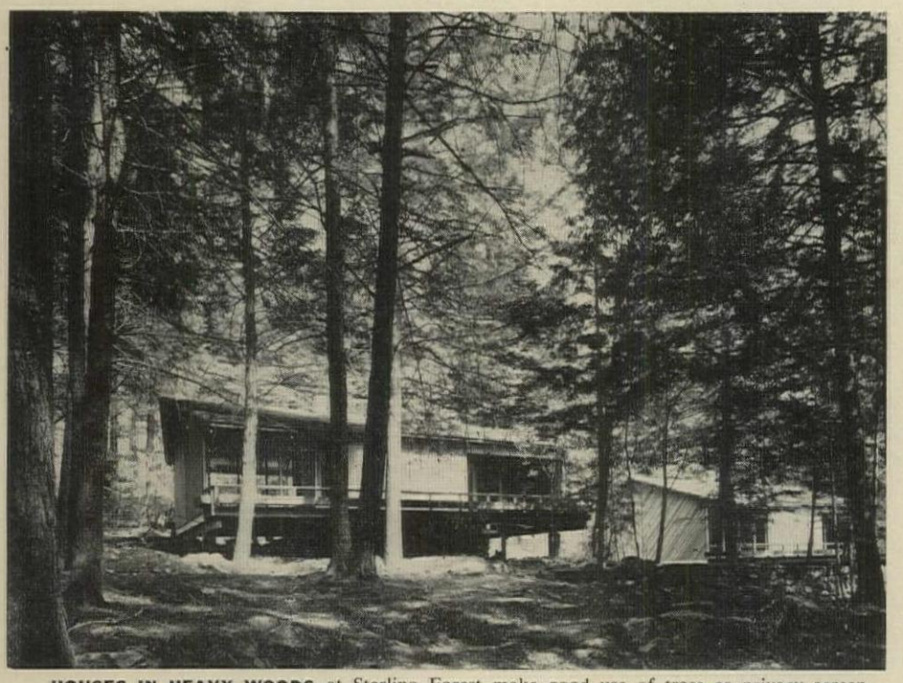
On the following pages you will find 13 rules for good land planning; rules based on the best new work of some of the country's best land planners; rules that will help you make better use of land, help you create communities that will be better places for family living for many years to come.



Panda

STREET LAYOUT AND HOUSE SITING at Toronto's Don Mills are carefully planned to save the most trees, conserve the natural beauty of the area.

1. Site each house to save the best trees

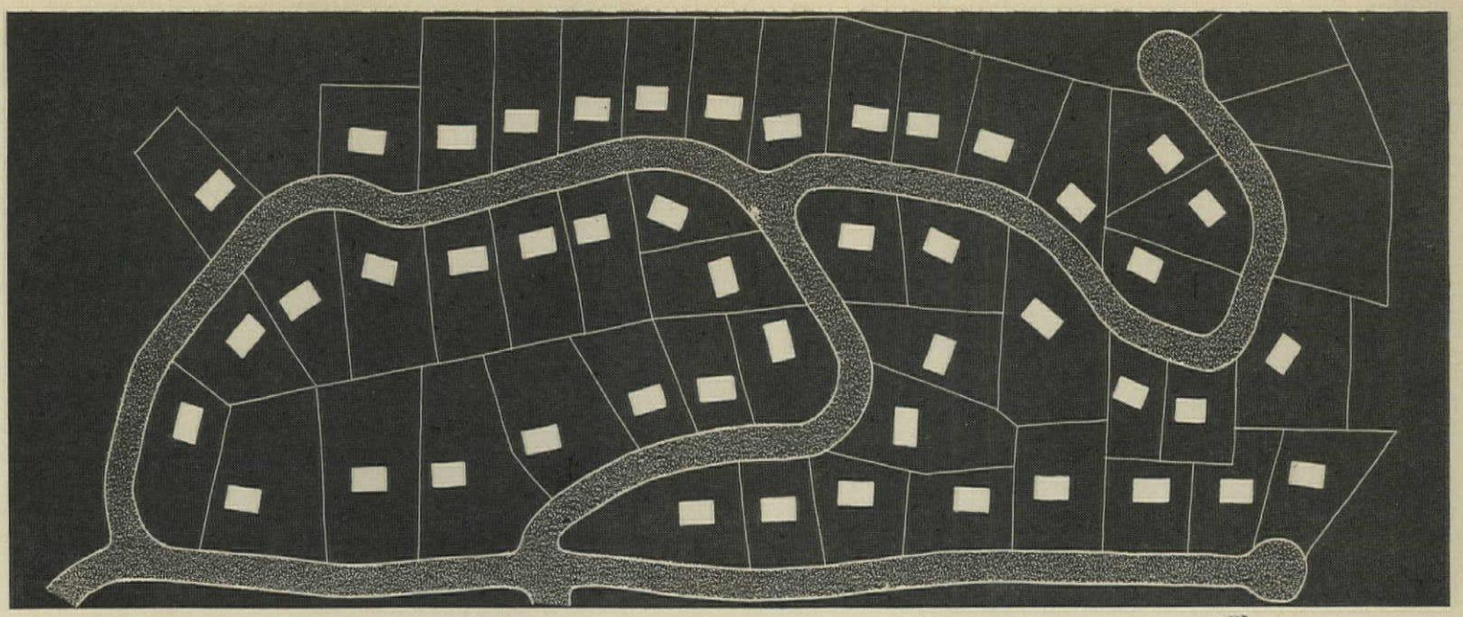


HOUSES IN HEAVY WOODS at Sterling Forest make good use of trees as privacy screen.

That is a good beginning in planning of any piece of land, small or large.

Nothing beautifies a neighborhood more than trees, which is why people buy wooded lots first and cheerfully pay more for them. Nothing has made more people angry at more builders than avoidable destruction of trees.

"More trees have been destroyed in recent years by building operations than killed by disease," says NAHB's *Home Builders Manual for Land Development*. Many fine trees are destroyed by builders who think it is cheaper to build on completely cleared land—which is seldom true (see *p 155*). Many fine trees are destroyed by careless bulldozer operators in the course of clearing brush and excavating. To save trees, careful developers send an architect or landscape architect to the site to help stake out the house, mark trees to be taken out and/or saved.

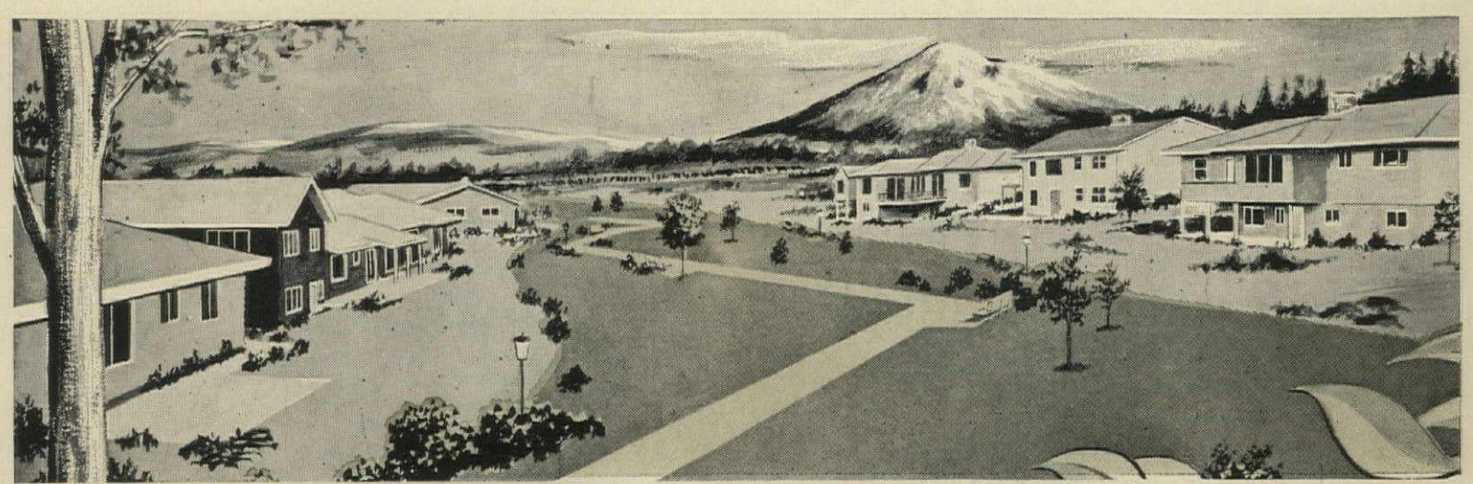


STAGGERED SETBACKS along curved streets, in 23,000-acre Sterling Forest, N.Y., avoid monotony of houses lined up like wooden soldiers.

2. Vary your setbacks for better looking streets

The greatest sales asset of the huge Sterling Forest community is its rolling, heavily wooded, unspoiled land (lower photo, opposite). To help preserve this natural beauty, each house is sited by the architect or land planner—not just to provide variations along streetscapes by varying setbacks; but to screen houses from street, to give each house maximum privacy and best view, to save trees, and to require a minimum of bulldozing or blasting. Large lots (averaging over 100′x150′) make this siting easier.

Robert Dowling, president of City Investing Co, which owns the land, hopes to make Sterling Forest "the country's best planned community." To attract visitors, he built 125 acres of landscaped gardens and a music center, plans other cultural features.



NO POWER POLES mar Holly Hills, a new garden village in Portland, Ore. planned by Architects Balzhiser, Seder & Rhodes.

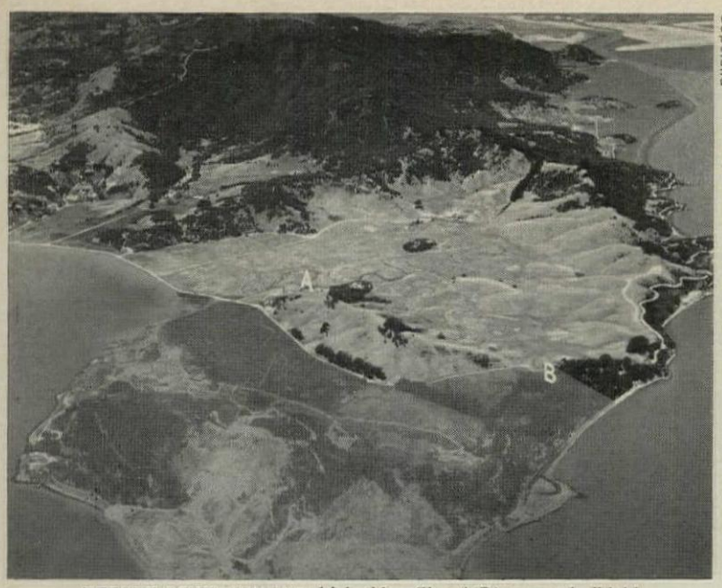
3. Put all your wiring underground

The worst eyesore in most flat, treeless subdivisions is a string of tall power poles draped with wires.

So in areas where it is economically practical (eg, in areas where soil conditions do not make trenching costs prohibitive) the best new land plans call for underground wiring.

Getting your wiring underground is a matter of convincing the utility that it should be done. In some areas like Chicago the utility makes no charge to the builder if the houses meet requirements of siting and equipment (H&H, Apr). Other utilities say they charge anywhere from a moderate $200 (in an area of sandy farm land) to a prohibitive $900 per house.

continued



Copeland

BEFORE DEVELOPMENT, high ridge (line A-B) was unbuildable.



Aero

RIDGE TOP was flattened to create plateau for houses.



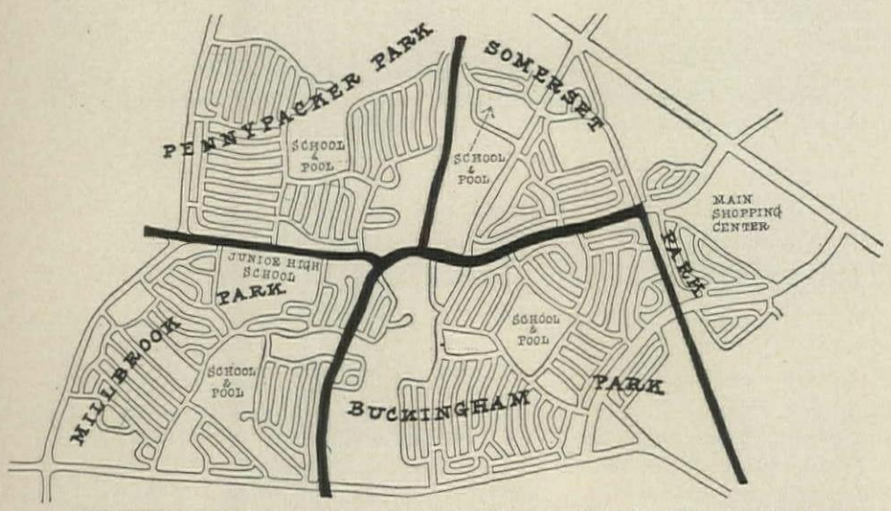
SIDE VIEW OF RIDGE, photographed from great distance, shows how careful bulldozing saved natural contours and original vegetation of the hillside.

4. Let your plan follow the nature of the land

In developing land, it is always better —as well as cheaper—to work with nature, not against it.

That rule has been followed carefully in the development of 2,200-acre Marin Bay subdivision, 15 miles north of San Francisco (see photos). The contours determined the master plan: streets run parallel with and along the tops of ridges and the bottoms of valleys. The ridge tops are graded to create level, usable plateau areas without hillside scarring. Sidehill contour streets are kept to a minimum, confined if possible to non-wooded areas so that later the planted slopes will blend with the hillsides. Streets are sited to create views over the water or over natural lakes, wooded areas, or a golf course. Developer: Latipac-Perini Co.

5. Divide a big plan into smaller neighborhoods

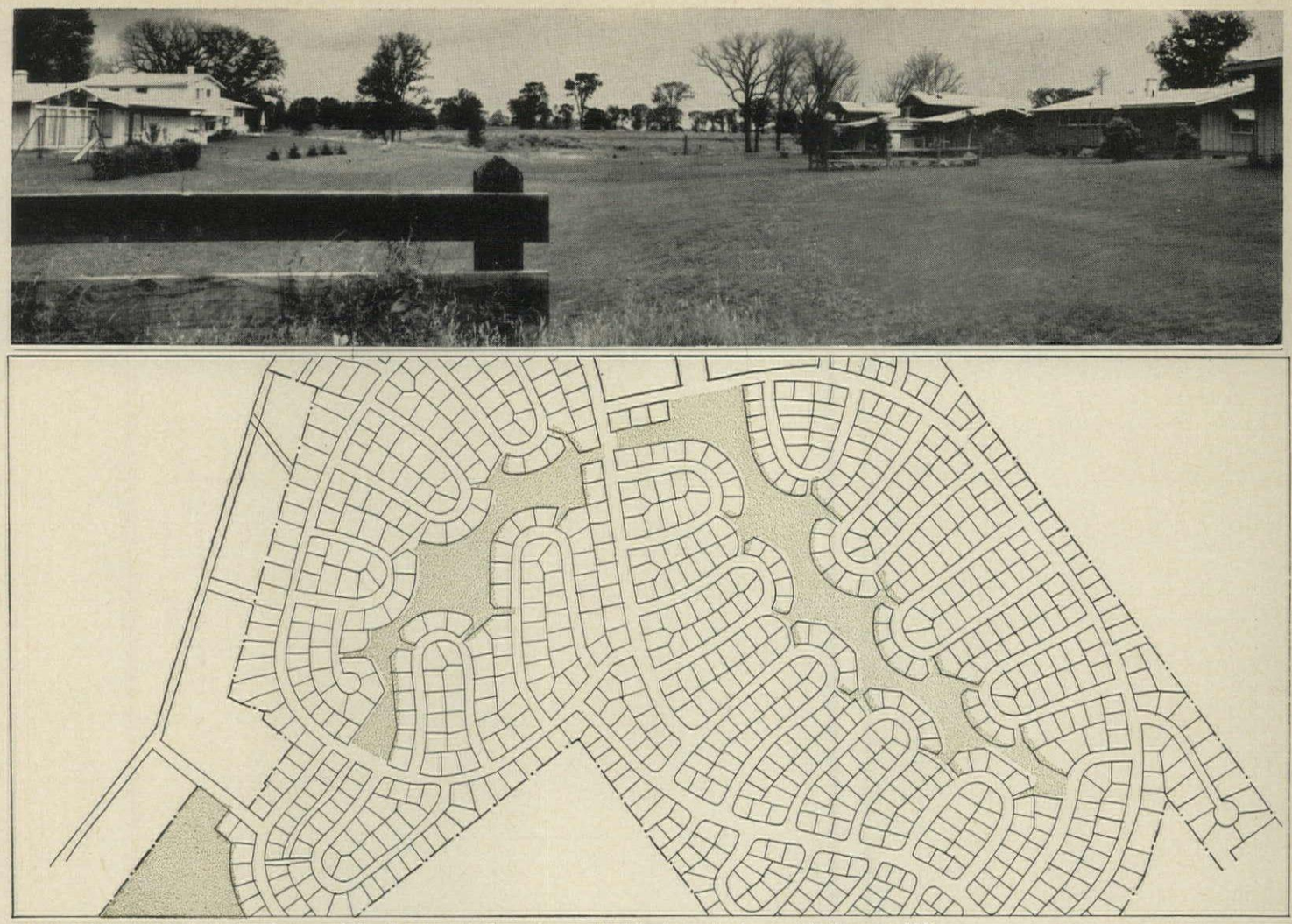


LEVITTOWN, PA. is divided into 800- to 1,200-house neighborhoods, each with school.

In his first Levittown on Long Island, Builder Bill Levitt learned that people do not want to live in a big, sprawling town: they prefer to be identified with a smaller, more intimate neighborhood.

So, in his next two Levittowns (in New Jersey and Pennsylvania) he divided the total development into groups of 800 to 1,200 houses separated by major collector streets (shown at left). Each neighborhood has its own name, and each has a centrally located school and swimming pool (see plan, left).

Levitt builds and gives to the town grade and high schools and pools; donates land for churches.



OPEN GREEN SPACE is the key feature of the plan (and the key sales asset) at Bayberry development in Syracuse, N.Y.

6. Dedicate some open space for common use

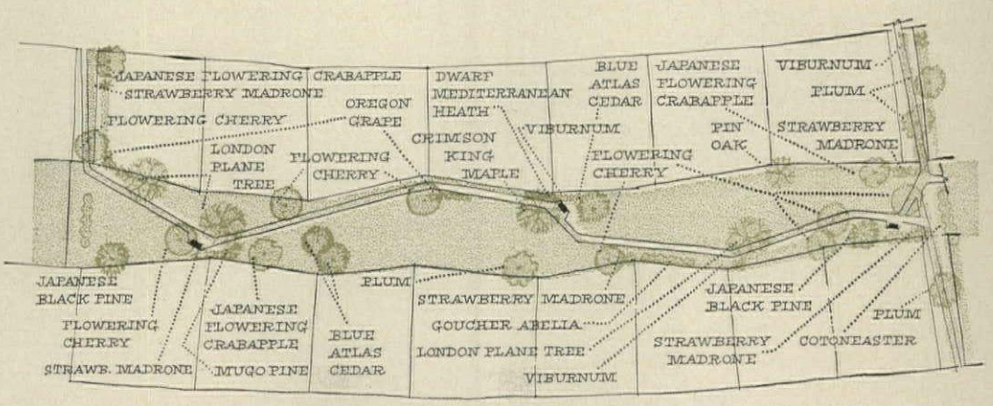
The subdivision shown in photo and plan refutes the common notion that a developer cannot afford to give away valuable land for green-belt parks.

Bayberry subdivision in Syracuse, laid out by famous planners Mayer, Whittlesey & Glass for Builders Howard Berman and Joseph Prisant, has proved so popular that sales are running far ahead of construction of the $18,000 to $23,000 houses. Says S&L official Ben Glowacki: "Open land like this makes a community desirable from both the buyer's and lender's points of view. We like it very much."

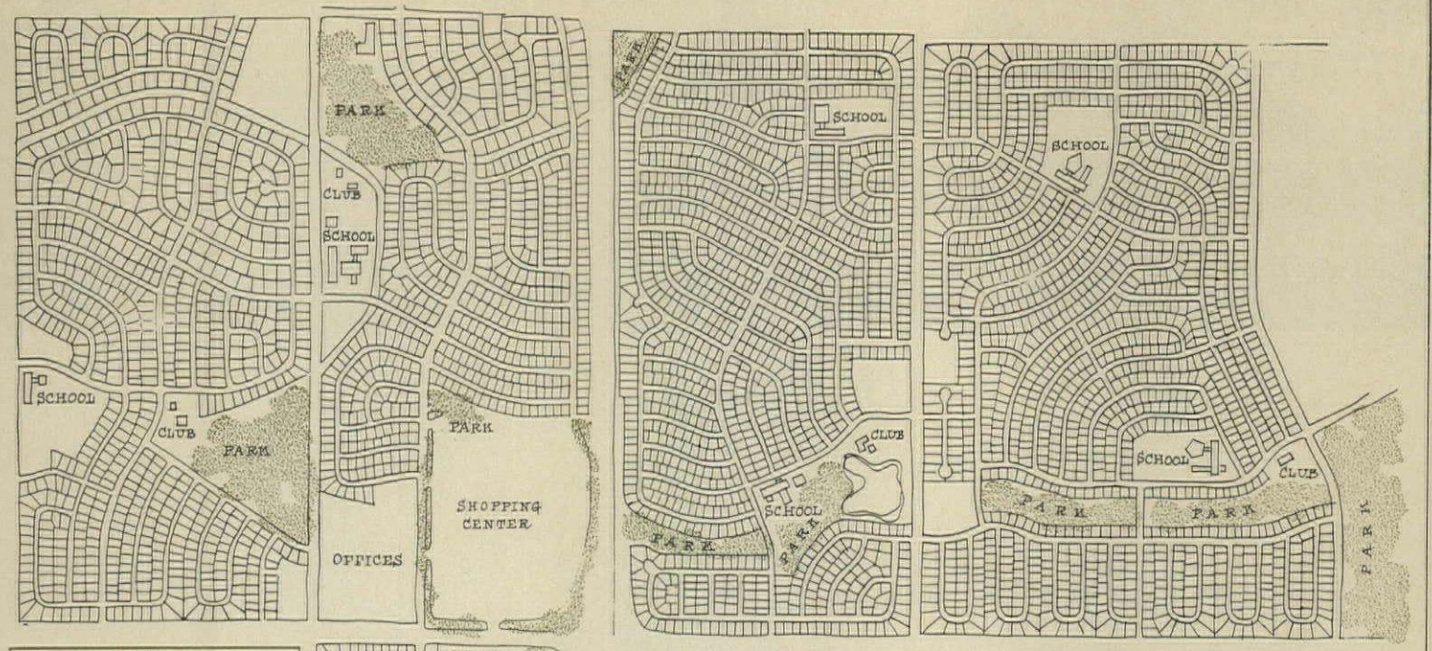
7. Beautify your open space with landscaping

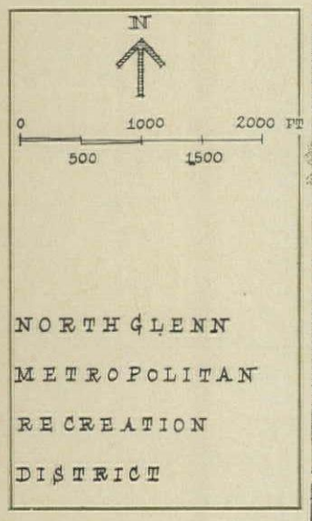
Almost any open space can be made more beautiful and more usable if it is skillfully planted according to a well thought-out plan.

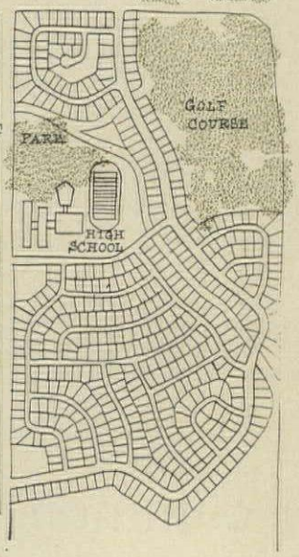
In the new Holly Hills subdivision, Portland, Ore. (see rendering *p 164*), the green belts were once just cleared farm land. The landscape architect used native trees and shrubs which he selected to be attractive and to be hardy enough so that children or dogs could not easily destroy them. These green belts have automatic sprinklers, photo-electrically controlled lights, underground wiring.



LANDSCAPE PLAN shows planting chosen by Landscape Architect Lloyd Bond for Holly Hills.







PARK & RECREATION IMPROVEMENT SCHEDULE

YEAR	CUMULATIVE NO OF HOUSES	POPULATION	RATE OF DEVELOPMENT OF CAPITAL IMPROVEMENTS	ESTIMATED CAPITAL COSTS
1ST YEAR & 2ND YEAR (1960)	900	3,300	1 SMALL PARK 1 COMMUNITY CLUB 1 SCHOOL-PARK PLAYGROUNDS	$ 25,000
3RD YEAR	1,600	5,920	2 TENNIS COURTS 2 SOFTBALL FIELDS LANDSCAPED COMMUNITY PARK	10,000 4,000 25,000
4TH YEAR	2,300	8,512	2 SCHOOL-PARK PLAYGROUNDS 1 BASEBALL FIELD	8,000 10,000
5TH YEAR	3,000	11,100	1 SCHOOL-PARK PLAYGROUND PICNIC TABLES & STOVES COMMUNITY CLUB	8,000 1,500 13,500
6TH YEAR	3,700	13,690	1 SWIMMING POOL 2 TENNIS COURTS 2 SOFTBALL FIELDS	140,000 10,000 4,000
7TH YEAR	4,250	15,725	1 SCHOOL-PARK PLAYGROUND 1 TENNIS COURT 1 SOFTBALL FIELD	8,000 5,000 2,000
8TH YEAR	---	---	1 COMMUNITY CENTER	75,000

RECREATION AREAS, built or planned, are shown in green on this plan for Denver's Northgate subdivision. The table gives the completion schedule.

8. Make a long term plan for recreation areas

Particularly in larger subdivisions, some parks and recreation facilities need not be developed for several years. But these facilities should be planned, and a system set up for financing them, at the early stages of development.

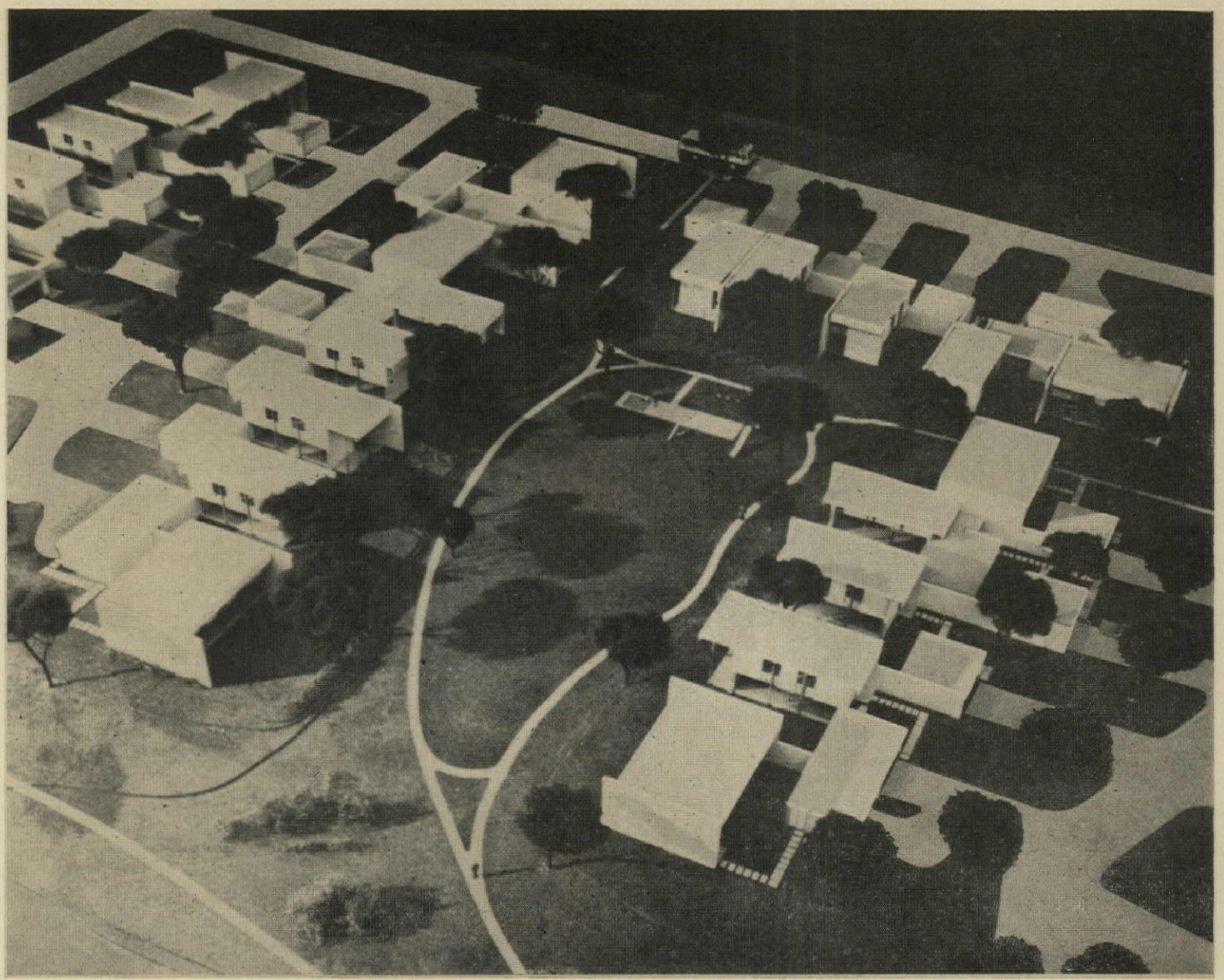
Here is a three-step program used by Perl-Mack Construction Co in developing recreation areas in its 1,800-acre Northglenn subdivision in Denver.

Step 1: A detailed plan of all recreation facilities and equipment was drawn up by Perl-Mack's land planners (Harman, O'Donnell & Henninger). Their proposal included a schedule of dates by which each new section of recreation land would be needed, and the costs of each.

Step 2: To finance the plan, a recreation district was set up, with authority to issue bonds. Northglenn Metropolitan Recreation District, a quasi-municipal corporation, owns the recreation land and facilities, has taxing power of up to four mils yearly. Last spring the District asked Northglenn homeowners to approve a $150,000 bond issue, only $25,000 of which would be issued in 1960 (to pay for a swimming pool).

Step 3: Owners were sold on the overall plan. Northglenn homeowners approved the $150,000 bond issue three-to-one. The vote was so favorable, Perl-Mack feels, only because homeowners had been sold on the bond issue by a monthly newspaper which explained the recreation plan, its advantages, and the financing system.

The success of this plan shows the importance of commissioning an experienced land planner. Perl-Mack's planners conceived the plan and wrote the 30-page recreation study, worked out the details of the financing, and worked closely with the builders on every phase of the operation.



ROADS AND GREEN SPACES are separated in this cluster scheme by layout of streets and by siting of houses and garages.

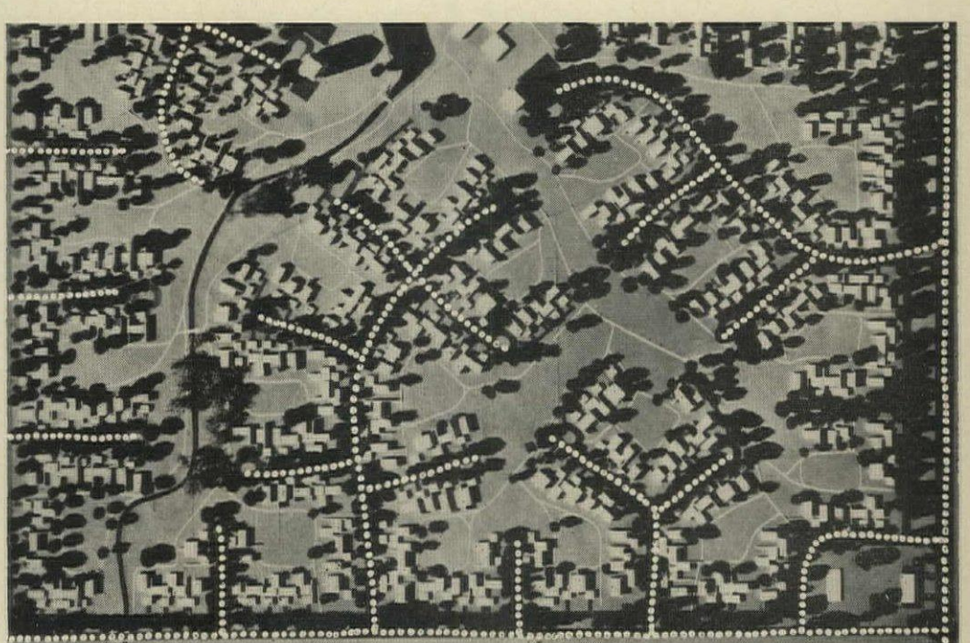
9. Put the automobile in its place

Separation of cars and people is a mark of today's good land planning.

This problem which is most acute in the US because of the role of the auto in American family life, is difficult to solve. But it has been solved in the plan shown in model form above and again in plan at right (this plan won second prize out of 4,000 entries in the Mastic Tile land-planning competition).

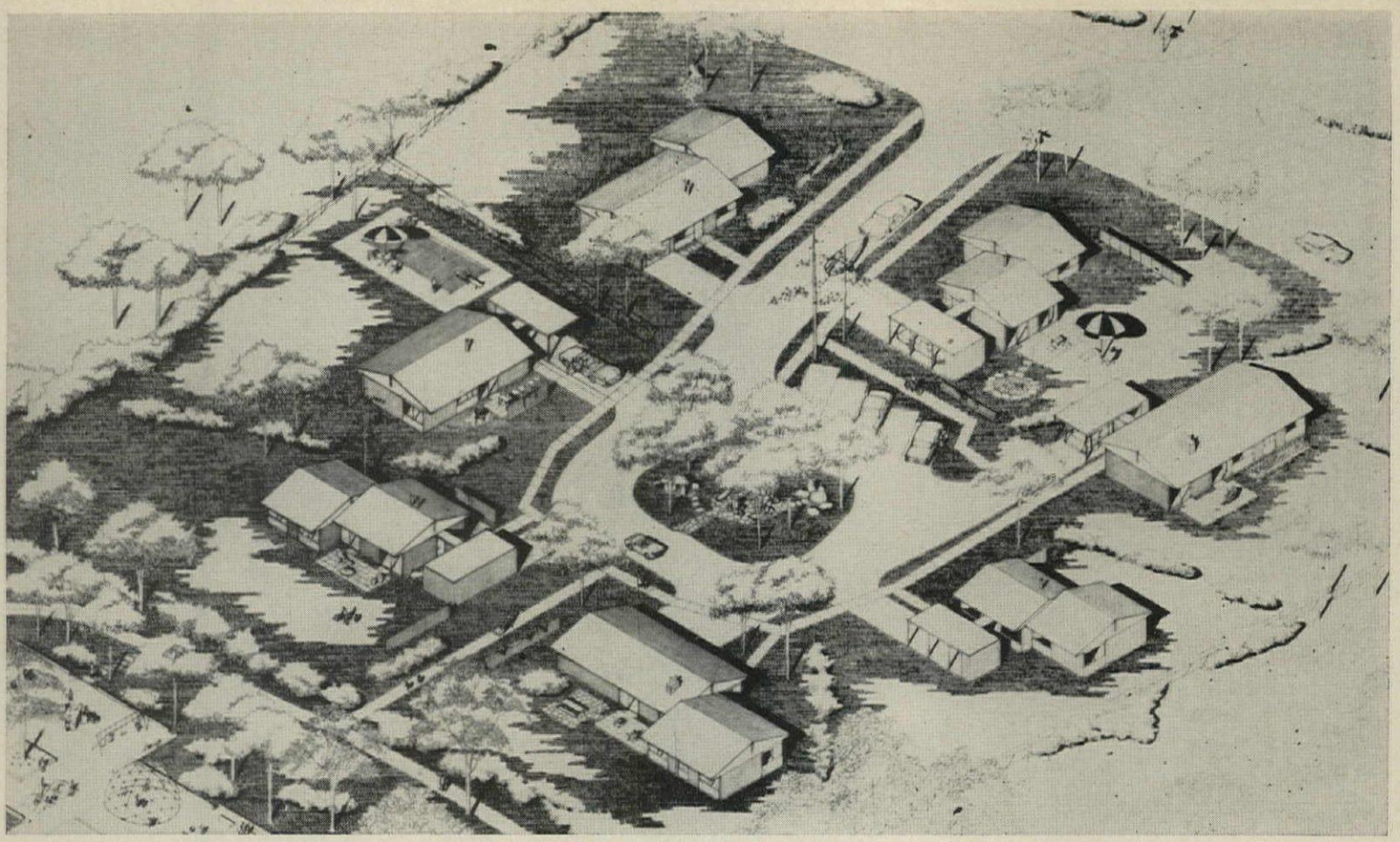
In this cluster plan, family life turns away from the streets (shown as dotted lines on plan at right) and inwards to the large, "Radburn-type" green park in the center of each cluster. Garages provide a barrier between side-yard gardens and street traffic.

This plan was developed by Manuel Dumlao, John Buenz, Robert Burley, and Edward Kovach of Birmingham, Mich.

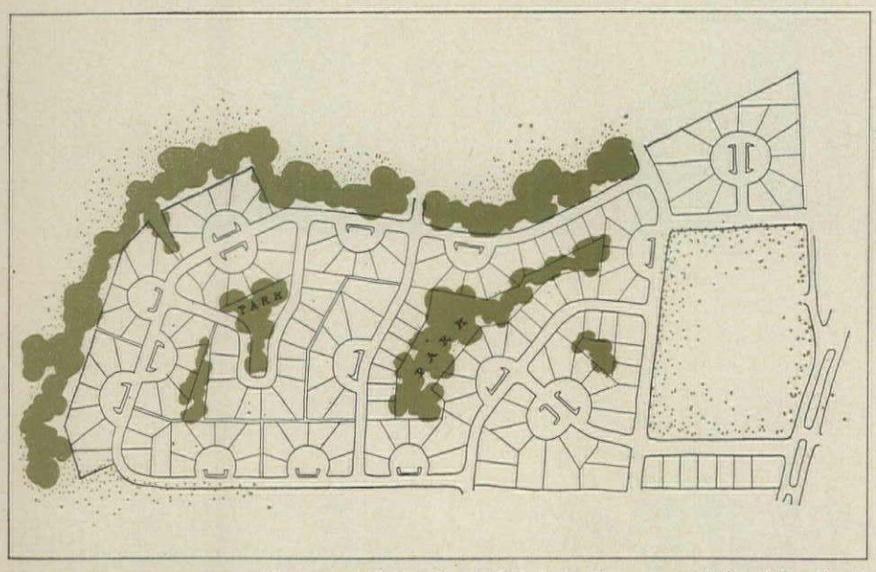


PLAN shows layout of streets (dotted lines), and how park spaces interconnect.

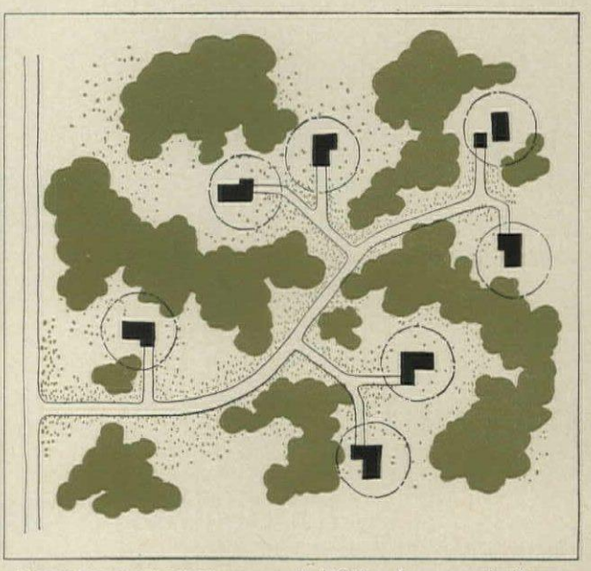
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OFF-CENTER CUL-DE-SAC for houses on ¼-acre lots won Mastic Tile merit award for Hayahiko Takase and Kyosuke Yoshioka of Detroit.



CLUSTER PLAN with green parks, half- and full-circle clusters was designed for Goodwin Housing Corp by Stephen Sussna Assoc, Trenton, N.J.

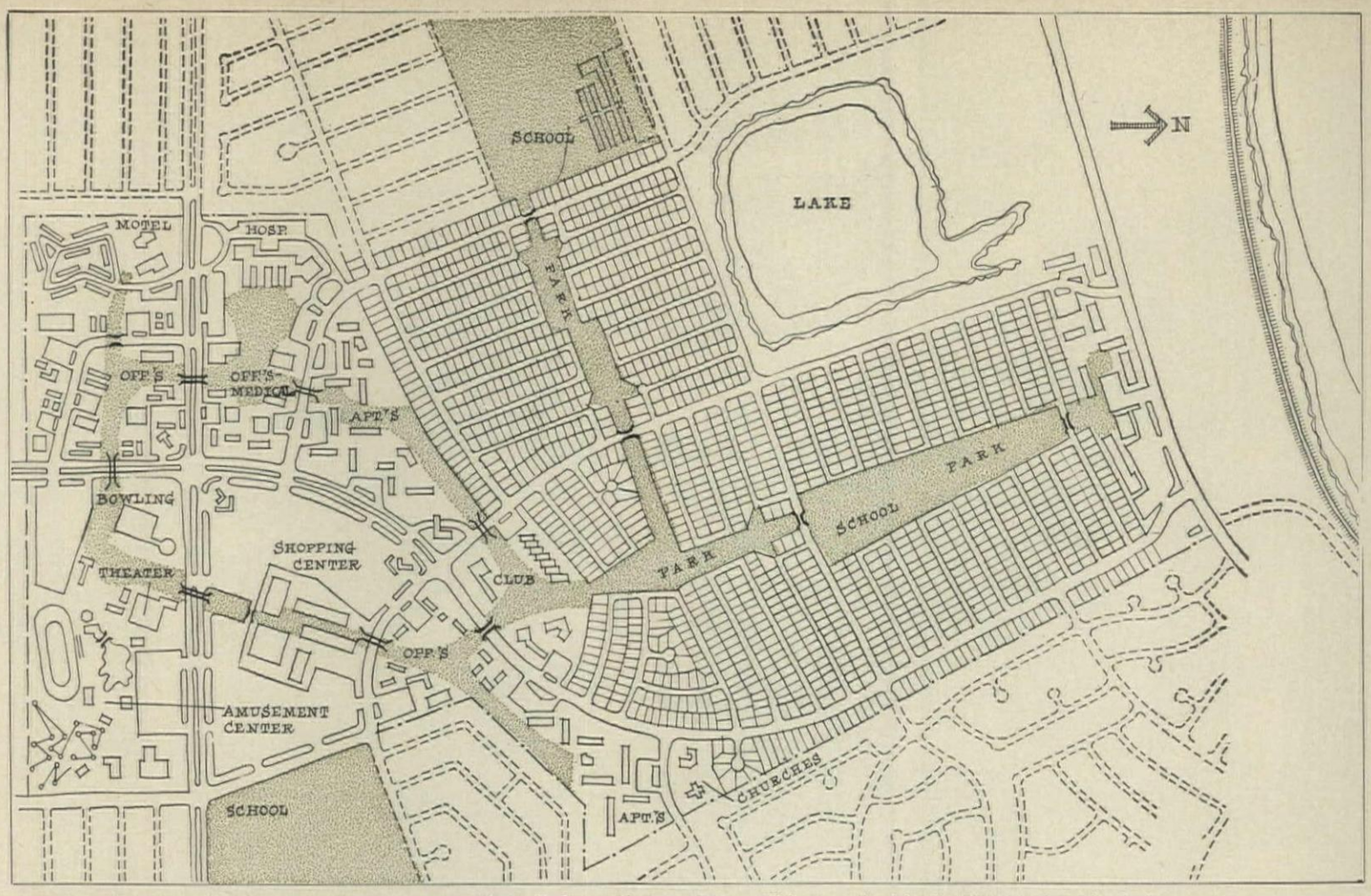


CIRCULAR LOT PLAN on wooded Colorado mountainside was designed for Castle Pines by Harman, O'Donnell & Henninger.

10. Don't settle for old-fashioned street plans

These three plans show some of the fresh ideas that planners are developing to create better family living. Conventional curvilinear street patterns are being modified into patterns like these, as well as other new layouts like long and short cul-de-sacs and loops (see plan opposite), and micro-neighborhoods (see *p 164*).

The round-lot plan above, perhaps the most unorthodox of any, is an imaginative way to site houses with minimum disturbance to the land. It was conceived for Castle Pines, a 900-acre site with fine trees and a striking view of the Rockies. When the planners tentatively laid out conventional curvilinear streets, it was clear to them that this layout would destroy much of the character of this site. An interior park with perimeter lots was next studied and discarded. Since the developers wanted bridle trails and other common park land, the planners suggested that all land should be placed in a state park and recreation district, with a fire and water district to provide a mil levy to pay for upkeep. The state accepted the idea. Then Planner Bob O'Donnell worked out clusters of 17,000 sq ft circular lots and 20′ approach streets, all located to leave a maximum of land untouched.



GREEN BELTS, accessible from short loop streets, provide traffic-free path for children walking to school in Greenhaven subdivision in Sacramento.

11. Plan so children can walk to school safely

One of the biggest assets of a well planned green-belt community is its safe pedestrian paths between houses, schools and other community facilities.

The plan above shows how the park areas in Greenhaven are all linked by underpasses or pedestrian bridges so children need never cross a street.

Because Sacramento is renowned for its parks and encourages builders to include them in their plans, Greenhaven's developers were able to get the city to accept dedication and continuous maintenance of the open space in this development. The cost of land used in this way, say the developers, "is recouped by simplification of street design, engineering, and improvements."

Dan Owen



Panda



UNDERPASSES connecting park areas provide safety for children in Bayberry development, Syracuse (left photo), Don Mills in Toronto (right).

continued



GRAND PRIZE WINNER among 4,000 land plans entered in Mastic Tile's 1959 contest, this plan includes four types of houses (opposite) grouped in 56 "micro neighborhoods." One-third of the houses are row houses. Plan is by Dallas Architects Howard Meyer, James Pratt, and John Box.

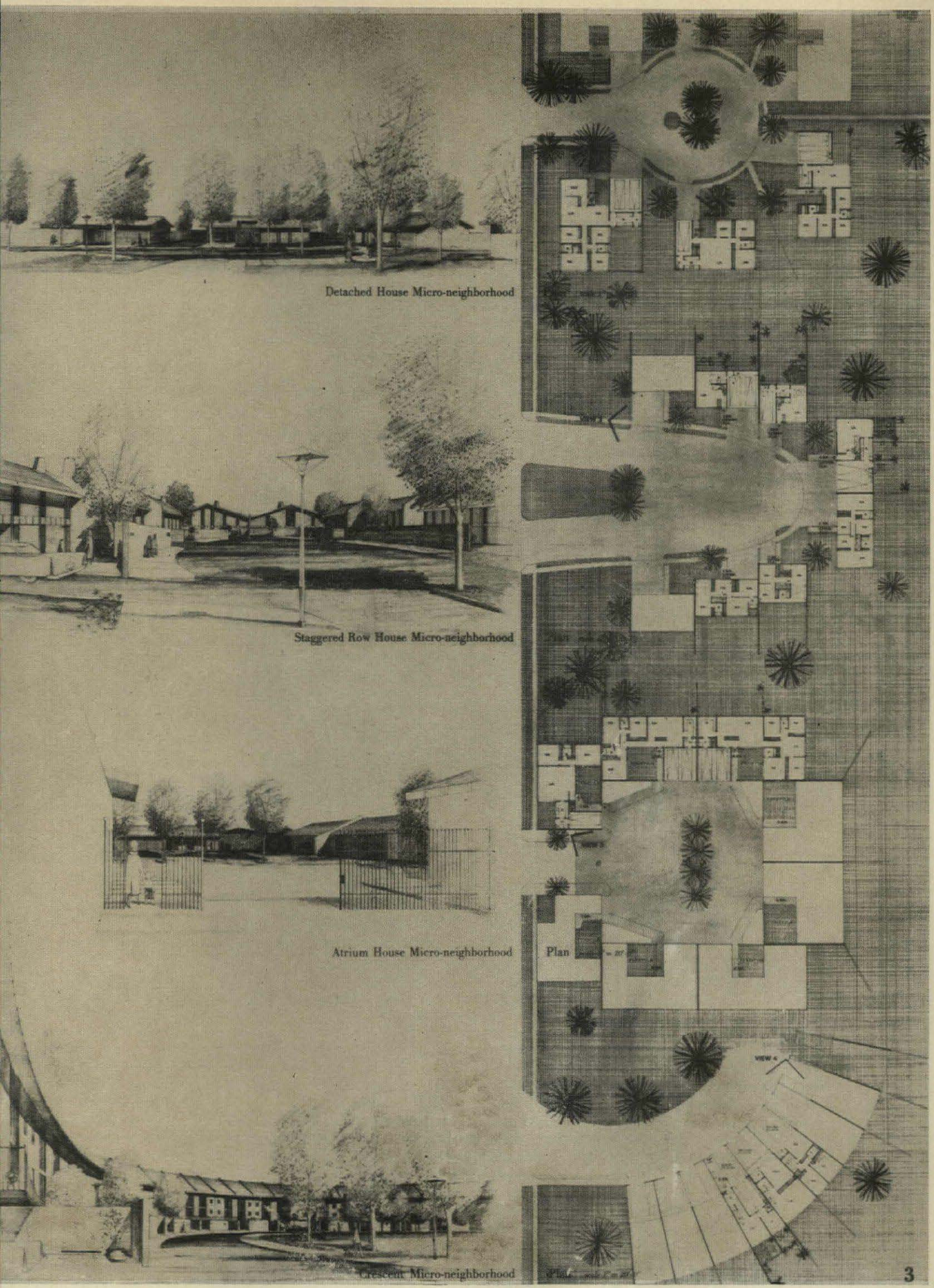
12. Use several types of housing to avoid monotony

When you do, you also avoid the commonest criticism of US housing: too many subdivisions have only single-family houses, appeal to a single age and economic group.

The subdivision plan above is designed to include four different kinds of housing. It won the grand prize in Mastic Tile's land-planning competition, and the jury—headed by MIT Dean Pietro Belluschi—points out that the plan provides for ". . . a community of varied texture in which many tastes and modes of living can be happily achieved. It solves the problem of internal traffic while maintaining peace and serenity for the grouped houses."

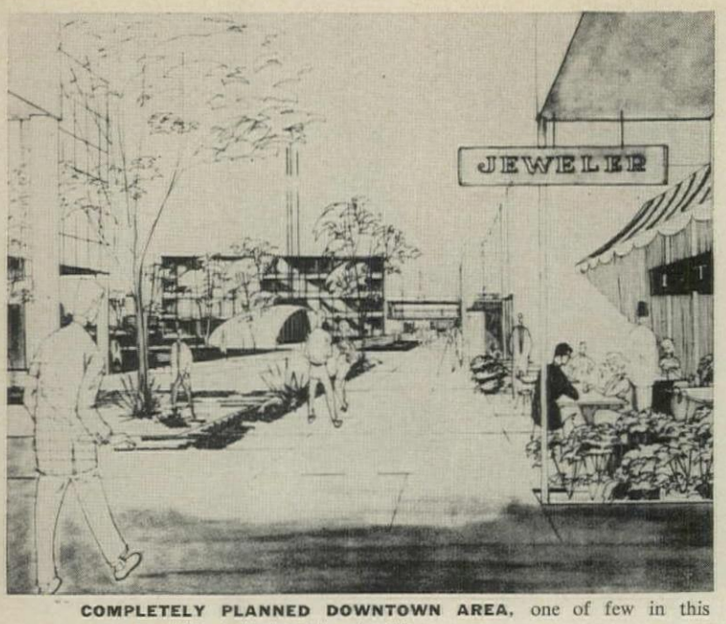
Designed for a 160-acre tract, this plan has 614 units—3.83 per acre. Sixty-eight percent of the units are one-family houses, 32% row houses. The planners also developed a typical grid-iron plan for comparative purposes, computed that the plan above would produce a builder's profit of $1,020,000 (vs $903,000 for the grid plan) and a return of 160% (vs 141%) on land-cost investment. The main reasons for this bigger profit: the micro-neighborhood plan has more housing units (614 vs 544) and fewer streets (25 acres vs 37.5 acres). This plan has 32 acres of parks (vs none in the grid development) but single-family house lots are smaller (65′x120′ vs 75′x120′).

FOUR HOUSE TYPES (right) are suggested for use in land plan above. Row houses and apartments will give variety to the subdivision, which is mostly single-family houses.

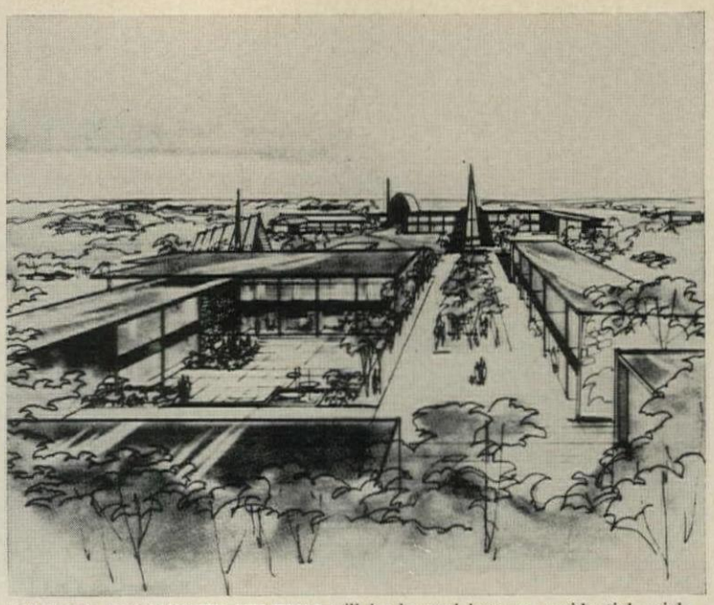

Detached House Micro-neighborhood
Staggered Row House Micro-neighborhood
Atrium House Micro-neighborhood
Plan
Crescent Micro-neighborhood

3

continued



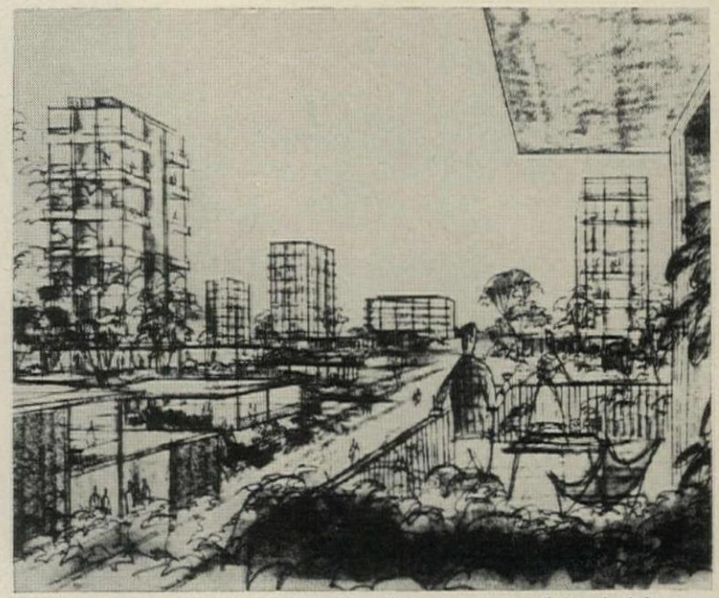
COMPLETELY PLANNED DOWNTOWN AREA, one of few in this country, will be built in University City.



SEVERAL COMMUNITY CENTERS will be located between residential neighborhoods, will have shops, churches, clubs, and libraries.



GARDEN APARTMENTS arranged around central greens in "park-village residence groups" of 15 acres each will house 50 persons per acre.



HIGH-RISE APARTMENTS (16 to 30 units an acre), semi-detached houses (5 to 15 units an acre), single-family houses (3.5 an acre) will be combined.

13. Tie your plan in with a master plan

This rule is responsible for one of the best planned new towns in the country.

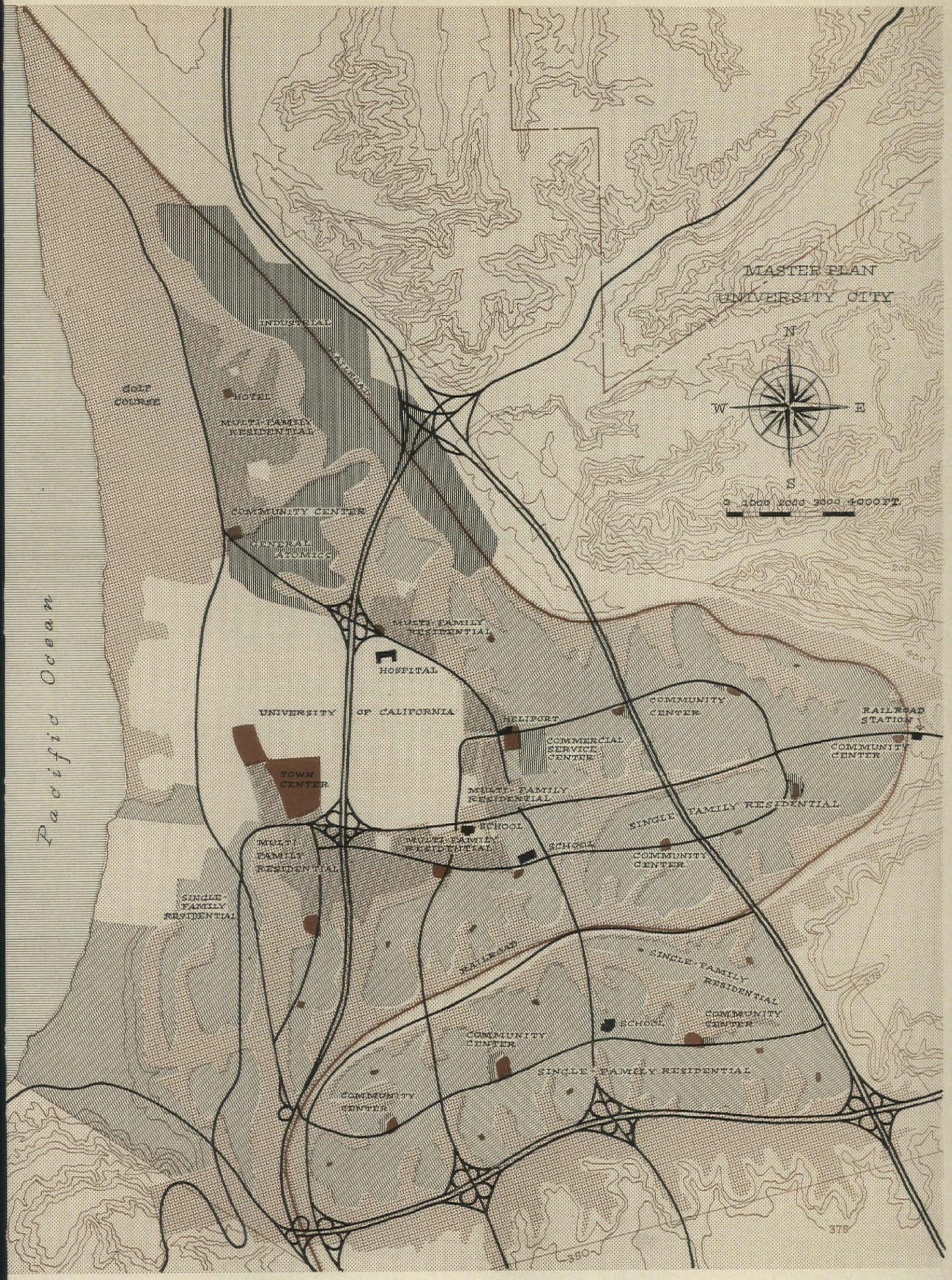
The "new town" is the result of close cooperation between a team of land developers and a city planning department. The city is San Diego and the developers are Irvin Kahn, Carlos Tavares and Norman Smith (who are also homebuilders). The new town is University City, to be the home of a new branch of the University of California. In another ten years the new community, with the university as a hub, may have a population of 100,000.

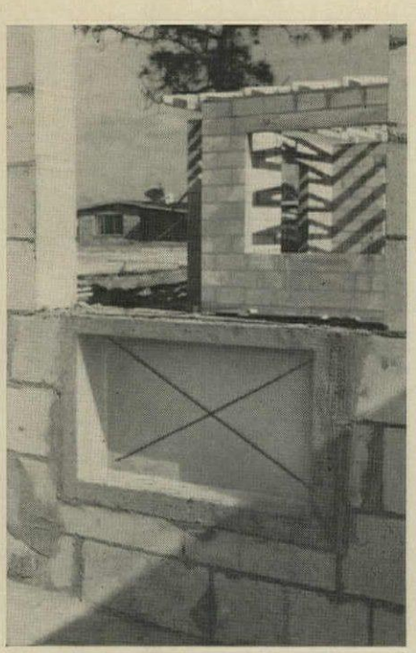
Its first 22 model houses, built by the developers (though other builders have already bought lots) will be open next month when the first few hundred students will also start classes. Some 2,000 students are expected in five years and eventually there may be 25,000 students and a staff of 8,600 on the 1,100 acre campus (shown in plan opposite).

University City will be more than a college town. It will be a balanced community of research labs (General Atomics, with a $10,000,000 campus-like establishment, is already located in the area), light industrial plants, hospitals, churches, schools, theatres, hotels, and a wide variety of shops and service facilities. In addition to single-family houses, the developers will also build garden and high-rise apartments like those shown in sketches above. This variety of housing is intended to attract a cross-section of population.

When the city and the university began talking about a San Diego campus four years ago on city-owned land ten miles north of downtown, they soon got together with the Kahn-Tavares-Smith group which owned some 4,500 acres of adjoining land. All three groups worked closely together, but the master plan opposite is largely the work of the San Diego planning department. Approved by the City Council, it will be carried out as shown here.

MASTER PLAN of University City shows how residential community, and industrial areas will surround town center and university.


MASTER PLAN
UNIVERSITY CITY
N
W
E
S
0 1000 2000 3000 4000FT.
Pacific Ocean
INDUSTRIAL
RAILROAD
GOLF COURSE
HOTEL
MULTI-FAMILY RESIDENTIAL
COMMUNITY CENTER
CENTRAL ATOMICS
MULTI-FAMILY RESIDENTIAL
HOSPITAL
UNIVERSITY OF CALIFORNIA
TOWN CENTER
HELIPORT
COMMUNITY CENTER
RAILROAD STATION
COMMERCIAL SERVICE CENTER
COMMUNITY CENTER
MULTI-FAMILY RESIDENTIAL
SINGLE FAMILY RESIDENTIAL
SCHOOL
MULTI-FAMILY RESIDENTIAL
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SINGLE-FAMILY RESIDENTIAL
SCHOOL
COMMUNITY CENTER
COMMUNITY CENTER
SINGLE FAMILY RESIDENTIAL
COMMUNITY CENTER
200
400
375
350



1. "This pre-cast concrete form makes an ideal start for installing the General Electric Built-In *Thinline* in cement," Charles LaMonte says. To install the unit, merely tap out this outside shell.



2. After the all-aluminum case is permanently sealed into wall with mortar, the drawer-type chassis slides easily into place. No nuts, bolts or screws needed. Outside louver installs from room side.



3. Next, attach the interior baffle. It's adaptable to any room decor. Paint, paper or panel it. Or hang a picture over it. All that's left is to plug in the Built-In *Thinline* and let it run.

1...2...3...and they're built in

and one General Electric Built-In cools Florida builders' whole five-room house



Left to right: Charles LaMonte, Mandell Shimberg and James Shimberg.

"ONE General Electric Built-In *Thinline* really does the whole air conditioning job!" says Charles LaMonte, "and in Florida that's *quite* a job." LaMonte, in partnership with the Shimberg brothers, Mandell and James, owns Everina Homes, Inc., builders of Town 'N Country Park in Tampa, Florida.

Everina offers home buyers an optional choice of other appliances, but finds that the majority of people want the General Electric Built-In *Thinline*. It's one of the top selling attractions of the homes.

The Florida builders went on to say that they especially like the *Thinline's* easy installation and design. "With the inside baffle, it is so easy to furnish any room attractively. You can paint, paper or panel the baffle to match the decor. And, you don't have to worry about avoiding drafts when you arrange furniture."

Everina is partial to General Electric for other reasons, too. LaMonte listed three important ones. "The top acceptance of the General Electric brand name, the national advertising campaign that helps to sell the *Thinline* and the good product service that General Electric offers locally."

General Electric has the *Thinline* for your air conditioning needs, *whatever* the problem.* Your General Electric dealer will be happy to give you all the details. General Electric Company, Room Air Conditioner Department, Appliance Park, Louisville 1, Kentucky.

*Cooling capacities are tested and rated in accordance with NEMA Standard CN 1-1958.

Progress Is Our Most Important Product

GENERAL ELECTRIC

Be sure to see

NEW WAYS TO BUILD BETTER

A monthly report on home building ideas, products, and techniques

Starting here

What the leaders are doing





Here is a low-cost way to finish block-walled rooms

It takes the painter above just 30 minutes to finish a basement recreation room for Gordy Enterprises, New Castle, Del., by spraying the walls with fleck-size, multi-color paint. Cost: $12 for paint and labor.

Other builders—John Long in Arizona and Bill Levitt in New Jersey, for example—are using the same low-cost finish for above-grade block walls.

Says Gordy's Project Manager Ken Freemark: "The small flecks make the mortar joints inconspicuous at 15′ in artificial lighting. This is perfectly acceptable to our buyers, who also like the recreation room we give them 4′ below grade level."

Gordy's below-grade rooms are waterproofed with a parge coat and tar on foundation walls and a polyethylene barrier under the slab. This will prevent damage to the painted walls.



RECREATION ROOM in Gordy Enterprises' $13,500 house has block walls covered with heavy coat of sprayed-on multi-color paint. Gordy is developing a 1,200 unit tract.

And on the following pages

Technology

Circular roof spans 42′ with light framing. . . . How orientation and roof overhang affect heat gain. . . . Plywood goes up faster with new gluing system.
page 165

More **What the leaders are doing**

Production control board shows at once where all jobs stand. . . . Magazine house with nine good ideas. . . . Wooden jigs speed foundation layout.
page 173

New Products

New modular fireplace takes many shapes. . . . Door panels with decorative styling. . . . Modular windows, built-in hardware, bath fixtures.
page 185

Publications

How to apply tile to gypsum drywall. . . . How to start a market survey. . . . Catalogs on lawn sprinklers, electric heat, decorative tile.
page 208

LEADING KNOXVILLE BUILDER REPORTS ON ANDERSEN STRUTWALL*



"A top quality window unit that gives us remarkable savings in material and labor

. . . beats even very low-cost conventional windows"

No need to tell you what today's home buyer wants. He wants recognized quality at a good price.

To meet the demand for quality—and to keep costs as low as possible—today's successful builders are taking advantage of Andersen Strutwall window units.

John Fiser, builder of 125 homes in Knoxville last year, expresses it this way . . .

"Strutwall is a top quality window installation with remarkable savings when total installed cost is compared with even very low cost conventional windows.

"There are substantial direct material and labor savings which more than offset the slight additional basic cost of the Strutwall unit. And, the fact that the unit comes completely assembled and requires no application of outside trim or extension jambs, further simplifies warehousing and handling," Mr. Fiser states.

Because Andersen Strutwall helps him achieve faster erection time of each shell with a smaller crew, Mr. Fiser reports the additional advantages of less supervision and fewer errors. This, he emphasizes, helps him make all around better use of his organization.

Why don't you take advantage of Strutwall? Saleable quality and lower installation cost add up to a big bonus benefit for you—*greater profit.* See Sweets File, your lumber dealer or write for all the facts.

Andersen *Windowalls**

*Trademarks of Andersen Corporation

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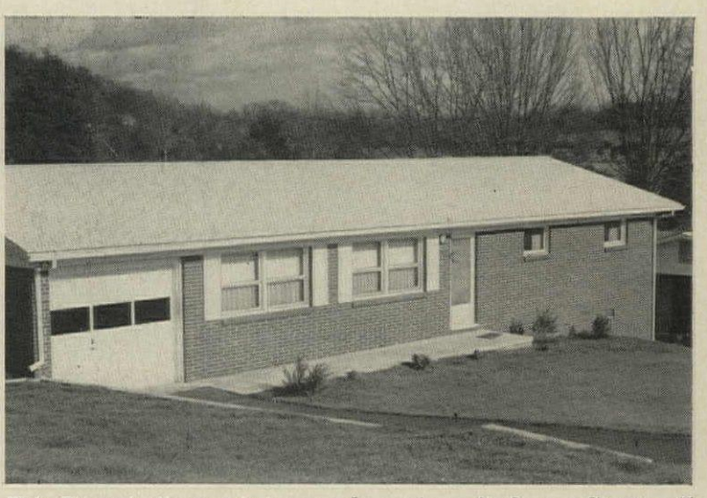
ANDERSEN CORPORATION · BAYPORT, MINNESOTA

"We have used **STRUTWALL** almost exclusively in everything we've built"

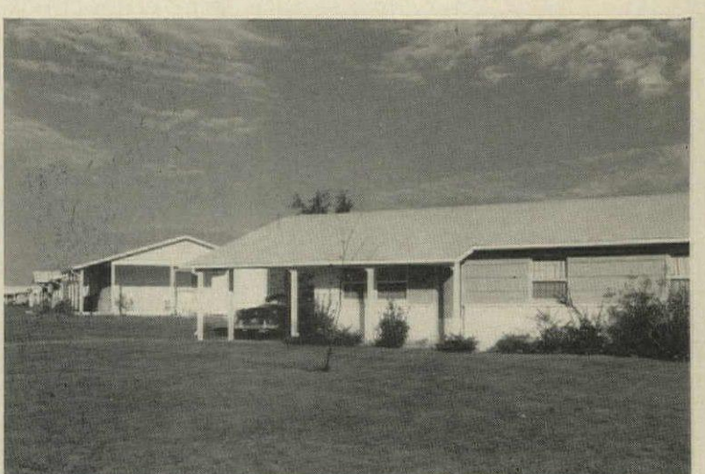
says John Fiser



Here you see Andersen Strutwall—a complete structural wall component with window unit—being tipped into place at the Fiser Development. Strutwall cuts window installation time from 30 to 50%.



This Fiser-built ranch house shows how Andersen Strutwall combines beautifully with brick. Use versatile Strutwall with any type of construction, any type of siding. Easily pre-paneled.



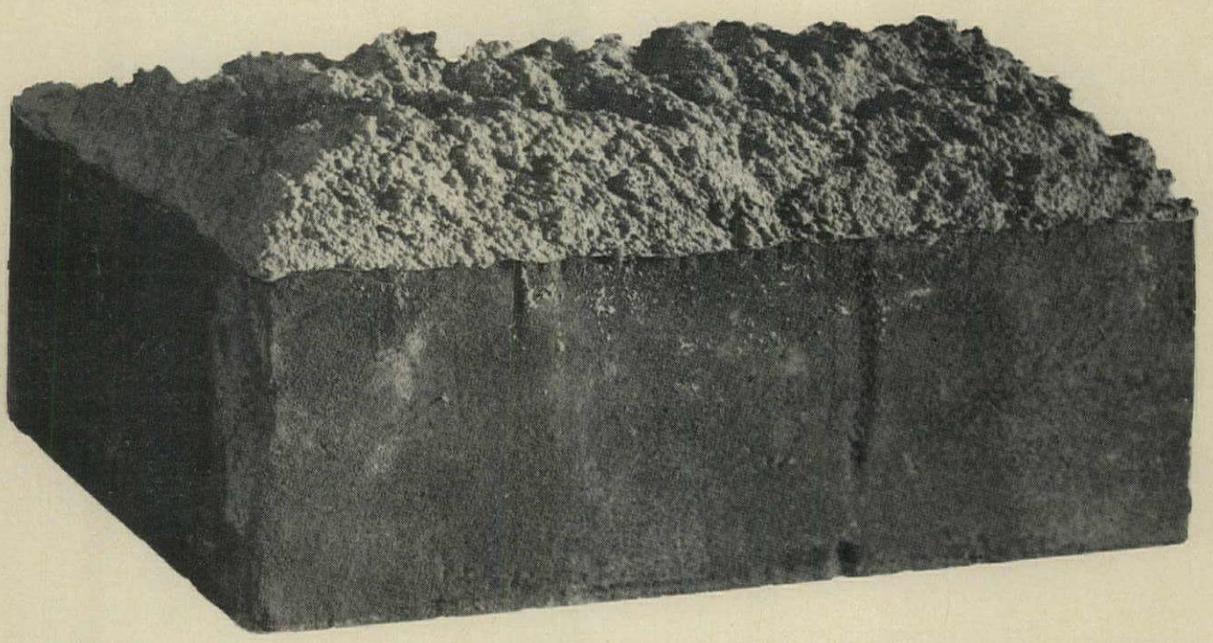
No "for sale" signs in a neighborhood like this. "The name brand Andersen, the beauty, quality and practical features of Strutwall give us numerous sales features," reports Mr. Fiser.



Meet builder John Fiser, Knoxville, Tennessee. "We're an enthusiastic supporter of Andersen Windows, and especially the Strutwall system," says Mr. Fiser.



Successful Advertising is Built Brick by Brick



...in House Beautiful

To tell the story of brick, to remind prospective home buyers of the beauty, function and durability of brick, to make the most of each advertising impression, the Structural Clay Products Institute advertises in HOUSE BEAUTIFUL.

Month after month SCPI ads in HOUSE BEAUTIFUL reach more than 4 million readers, including HOUSE BEAUTIFUL'S 900,000* Pace Setter families – high income leaders (average: $15,715) in communities across the nation. Pace Setter families are prime prospects for homes, home furnishings, home products of all kinds. When they see what they like, they buy. And when they buy, their example encourages others.

That's why SCPI uses HOUSE BEAUTIFUL to emphasize the safety, economy and versatility of brick. And, that's why more manufacturers of home products than ever before use HOUSE BEAUTIFUL'S pages to influence this influential audience.

House Beautiful

572 MADISON AVENUE, NEW YORK 22, N. Y.

ONE OF THE 13 KEY HEARST SELECTIVE MARKET MAGAZINES

*PUBLISHER'S ESTIMATE, LAST 6 MOS., 1960



CIRCULAR ROOF is made up of 12 triangular folded plates fastened to 12 joists (3x6s). Plates and joists converge at center steel compression ring which frames skylight. Twelve buttresses (photo, bottom left), set on concrete piers at grade level, carry roof load.

This circular roof spans 42′ with light framing



BUTTRESS—paired 2x8s braced by five 3x3 struts—supports 3x6 roof framing. Outriggers on ends of 3x6s are 1x12 fascia boards.

New Orleans Architect Albert Ledner designed this roof system for a pair of circular houses which he joined to make one house. Here is how the roof was built:

1. Twelve 3x6s 20′ long were placed between outside buttresses (photo left), which support the roof, and a central steel compression ring.

2. Purlins and edge members (2x4s) were framed into triangular folded plates between each pair of 3x6s. The ridge beam for each folded plate is also a 3x6.

3. Sheathing (1x6 t&g)—which tied the roof together like a stressed skin—was nailed diagonally to the purlins.

4. Paper and asphalt roofing finished the job. To build a flat roof with a 42′ span over a rectangular house with the same area (1,390 sq ft), you would need three times as much basic framing timber if you used dimension 3x16s or more than twice as much with laminated 3x12s.



FINISHED HOUSE has nonloadbearing exterior walls that can be set at any position because buttresses (photo at left) carry all loads.

Technology continued on p 168



Wood windows are the firm basis for imaginative and salable construction. Chosen from a wide and diversified array of stock designs, wood windows save builders time and money.

New sales opportunities are seen through wood windows

built of WOOD means built to sell



Good-looking wood windows are windows of distinction. They blend beautifully into every house you build. Both traditional and contemporary homes welcome eye-appealing windows of wood. William N. Alderman, architect.

Windows of *wood* are today's best buys for home seekers . . . best sellers for home builders. Wood windows add a warmth all their own. They're beautiful to see, and see through. In countless stock styles and sizes, wood windows are easier and more economical to use. . . offer more adaptability in most styles of homes, plus more versatility in exterior and interior decoration.

Wood windows help sell your houses, because they provide more insulation, permit less condensation, require little effort and expense for your customers to maintain. Wood windows help change "for sale" signs to "sold" signs. For more data on better homes of wood, write:

NATIONAL LUMBER MANUFACTURERS ASSOCIATION
Wood Information Center, 1319 18th St., N.W., Washington 6, D.C.

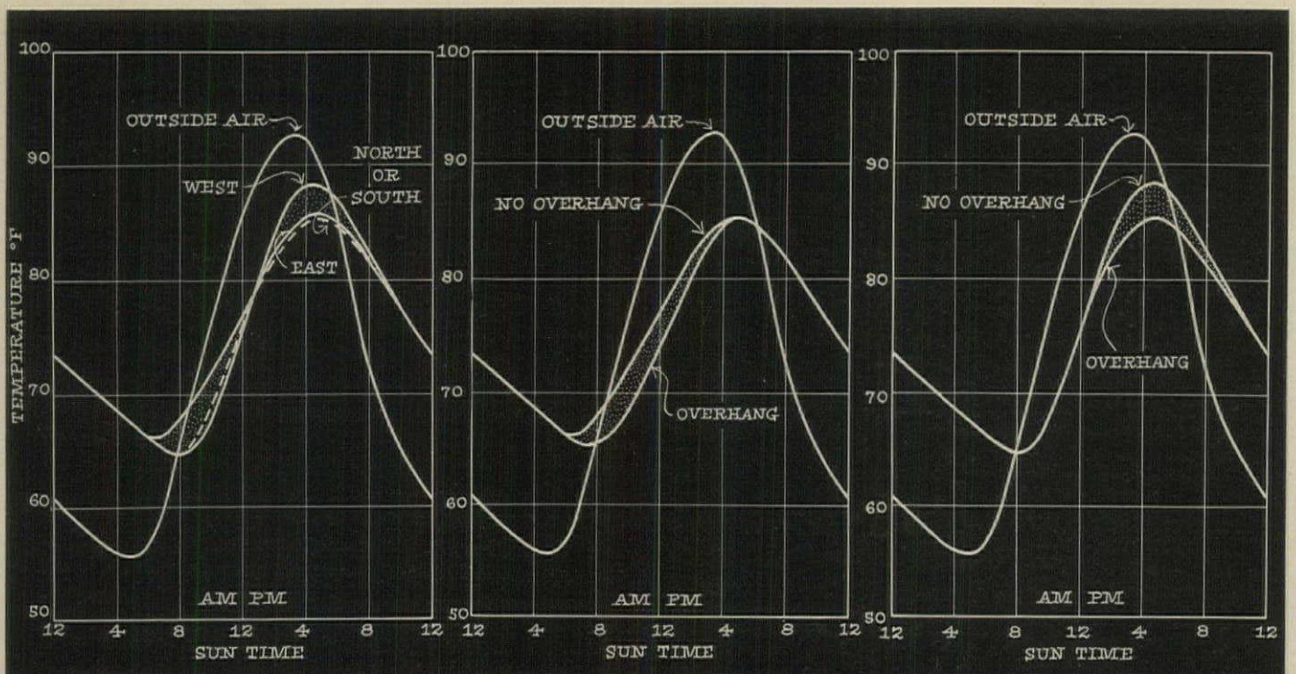
nlma

For built-in sales appeal, nothing takes the place of **wood**



The wide-eyed wonder of wood windows brings all the great outdoors into the great indoors. Buyers, by having more attractive "rooms with a view," are getting more livable homes for their money.

starts on p 165

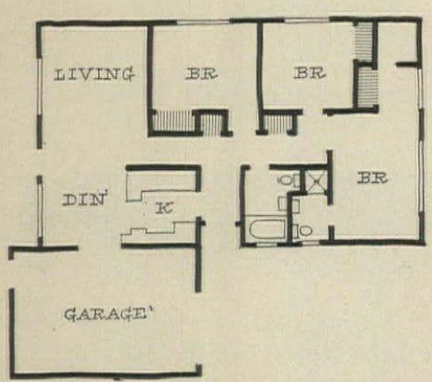


ORIENTATION to north or south keeps house cooler in morning than west orientation, in afternoon than east orientation.

OVERHANG ON EAST SIDE of house cuts heat gain for ten hours—from early morning until after 4 PM.

OVERHANG ON WEST SIDE of house cuts heat gain for eight hours—from early afternoon until sundown.

Here is how orientation and roof overhang affect heat gain



The graphs above show some results of tests made in identical tract houses (floor plan, left) by Richard D. Cramer, assistant professor of housing at the University of California.

All the houses were built on slabs, had insulated roof decks on exposed beams but no wall insulation. Glass areas were 35% of wall.

Here are Cramer's two most meaningful findings:

1. At the height of summer, a house whose living areas face south is as cool as a north-oriented house, and both are cooler than east- or west-oriented houses (graph, above left). The south-oriented house rapidly loses its advantage as the summer wears on unless it has deep overhangs.

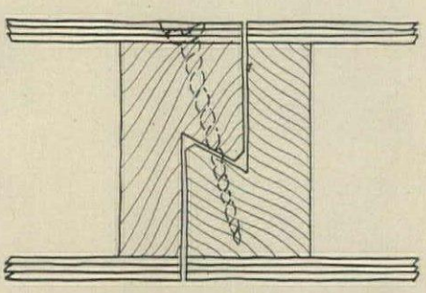
2. Even though the afternoon sun is hotter than the morning sun, exposed glass on the east side puts as big a heat load on the house as exposed glass on the west (graphs, center and right). Reason: Heat gain from the morning sun is dissipated slowly during the hottest part of the day, and heat gain from the afternoon sun is lost rapidly during the early evening when temperatures drop sharply.

New development may solve drywall stapling problem

The problem: Drywall often fails to hold to studs because its paper surface is perforated by the staples. Now Spot-Nails Inc is developing an automatic stapler that prevents perforations by combining a driving head with a dimpler.

The new stapler stops penetration of the staple 1/16″ below the drywall's surface, leaves a small oval dimple that requires less joint cement than nails do.

Two big advantages of automatic stapling: 1) It is up to five times faster than driving nails by hand. 2) It reduces nail popping. The deeper a fastener is imbedded in the stud, the more popping. A staple leg is much shorter than a nail shank (although a staple grips about as well as a nail).



New Z-joint speeds erection of stressed-skin panels

Rabbeted into edge members, it automatically positions and aligns panels. Rabbeted edges are glue and screw fastened to make the joint a structural purlin. Using 4′x16′ Z-joint panels (developed for Simpson Engineered Wood Products Co), five men erected a 5,000 sq ft school roof in Shelton, Wash. in five hours. Erection cost: 4¢ a sq ft.

Green wood will not crack or shrink after new treatment

When freshly cut wood is treated with a polyethylene glycol solution, it becomes dimensionally stable, says Dr Alfred Stamm of Forest Products Laboratory.

The green wood absorbs the chemical, which sets up a vapor barrier just under the wood surface. Evaporation in the wood cells is balanced and decay is prevented. FPL recommends a protective coat of polyurethane varnish after the treatment.

The treatment is one of three chemical methods being developed by FPL to stabilize wood. The other two—cross-linking cellulose molecules in the wood fiber and "bulking" spaces between cellulose molucules—are said to be tricky and expensive.

Technology continued on p 170

You, too, can realize benefits from the several important **firsts** made in the past two years by General Electric Textolite® laminated surfacing. Laminated plastics took on a new look when G. E. introduced Textured Textolite. This notable first gives a surface that is not glass-like...woodgrain patterns look and feel like real wood. G-E Textolite is first to introduce a five-color pattern. Known as Rūban Mist, this unique ribbon-striped pattern, when combined with any of six other colors in the Mist collection, affords the opportunity for outstanding color harmony. Another important first is the widespread availability of new Walnut woodgrains with no grain pattern repeat for 63 inches. Add to the above the fact that G-E Textolite introduced the often copied Spungold pattern, developed light-engineered desk patterns and colors, and makes all woodgrains available in crossgrain. What does this progress mean to you? It opens exciting new avenues of expression in the use of plastic laminates...unlimited design opportunities provided by a new finish, new design concepts, more adaptable woodgrain patterns. Ask your G-E Textolite distributor for details on these new laminate advancements. You'll find his name under PLASTICS in the Yellow Pages. Or, write General Electric Company, Dept. HH-80, Coshocton, Ohio. Progress Is Our Most Important Product.

starts on p 165

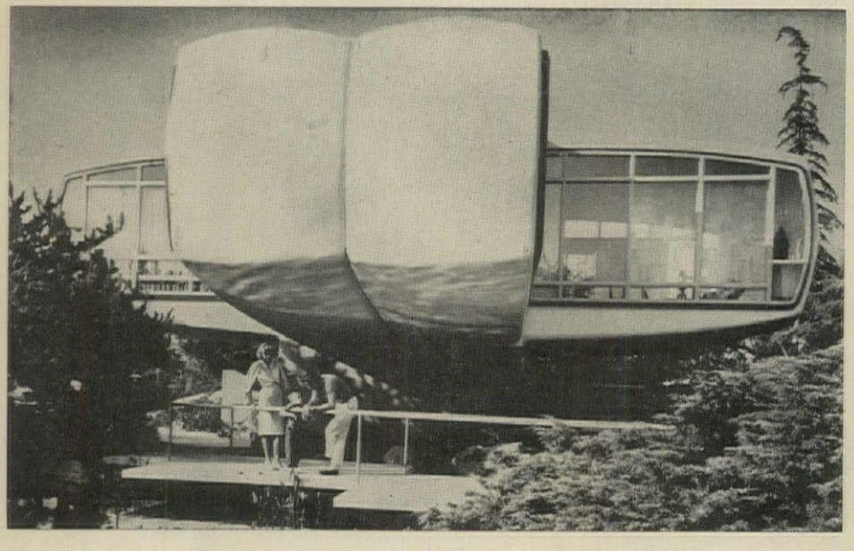


With this gluing system, plywood goes up faster

Two men simply apply a one-coat contact adhesive to the back of a plywood panel, erect the panel against drywall, and toe-nail it with 1¼″ brads along the vertical edges for a sure hold until the adhesive sets.

No overnight shoring is needed—the adhesive (BB Chemical's Bostik 2293) sets quickly, yet gives workmen 30 minutes to "float" the panel into its exact position. Edges of plywood need not fall over studs—the drywall gives sufficient backing.

Two other big benefits: 1) No nail heads mar the panel surface. 2) The drywall backing reduces reverberation and noise transmission (when glued directly to studs, panels act like a drumhead). The new system was developed by Cerel-Perini Assoc, Boston.



Tests show structural plastic can take it

After three years and nearly six million visitors, Monsanto's plastic house of the future (above) has proved that it can do the job expected of a single-family home. The house is made of four 16′x16′ reinforced plastic wings cantilevered from a central utility core.

Engineers have found that vertical deflection at wings' outer edges has been at an average rate of only .048″ a year. And the rate is slowing, soon will be no more than settling of a conventional house. Most likely reason: Balancing stresses between polyester plastic and glass fiber reinforcing takes time. At first the polyester carried more load than it was designed for. Now the glass fibers are taking full share of load.

Navy scientists develop a paint that will not burn

The nonvolatile, nonflammable paint, a chlorinaed alkyd resin, has passed the Navy's toughest paint test: A painted steel panel did not ignite when heated to 2,300 F for 30 seconds.

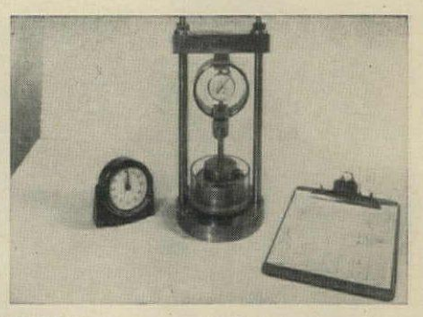
Although developed for use on ships, the new semi-gloss enamel is well suited to residential work (most injuries in home fires are from flash firing of paint films and furnishings, not from the burning structure). Paint can be made in a variety of colors to go on metal or wood; mineral spirits can be used as a thinner and solvent.

Alkyd resin solution is described in Military Specification NIL-R-21417.

Spray-on roofing may cut labor costs by 85 %

Using a new triple-nozzled spray gun, three men can coat a roof with glass fibers and asphalt at a rate of 15,000 to 18,000 sq ft a day. By conventional methods, a built-up roof of equal size would take nine men 2½ days.

The new roofing system, on which patents are pending, is called Monoform and was developed by Flintkote. Roofing contractors will be licensed to use it on flat and free-form roofs. A Flintkote spokesman says Monoform may lead to the replacement of many of the company's built-up roofing products. The gun used in the system was developed by Sealzit Co of America, a recently acquired Flintkote subsidiary.

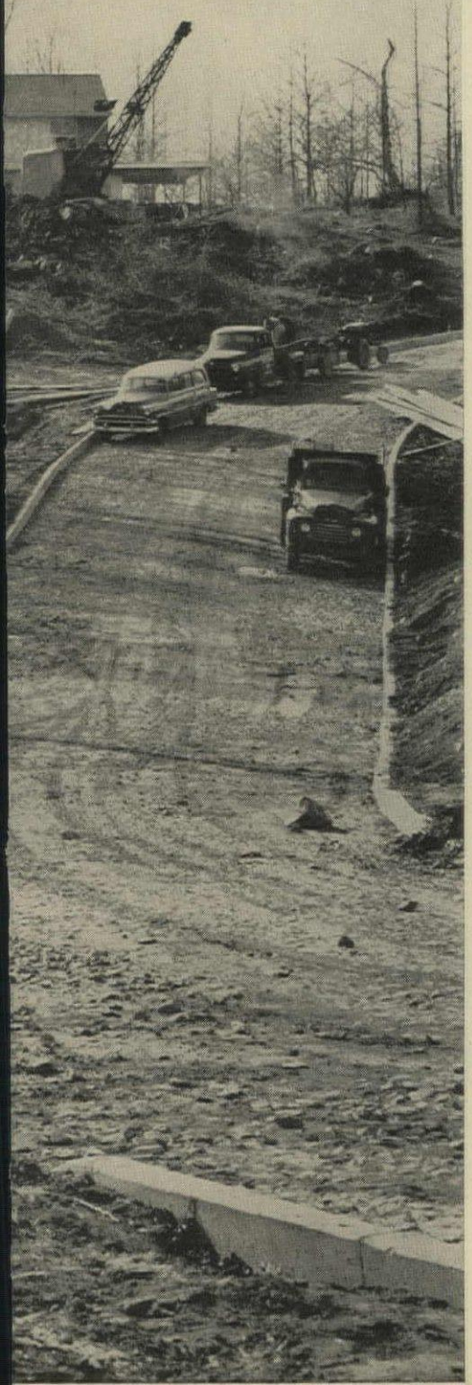


FHA's new soil tester is now available to builders

If you want to use the PVC (maximum potential volume) meter (above center), get in touch with your FHA district office.

The meter (H&H Feb) shows how much your soil will swell through wet and dry seasons—a key factor when you decide how strong your slabs must be to prevent cracking under soil pressure.

A PVC test takes two hours. Here is how to make it: Put 10 teaspoons of soil in the tester's cylinder. Tamp it down. Add 5 oz of water. Soil will swell against a restraining ring and create pressure shown on the dial. With two charts (right), convert meter readings to psf and then to a PVC rating.



Land and development both cost too much to justify what many towns now require

"Development costs have at least tripled," says Martin Bartling, NAHB president. For this there are four reasons:

1. It is partly the builders' own fault. Not enough builders know enough about how to cut earthmoving and street-laying costs with today's much more efficient machinery (see *page 160*). Not enough of them own their own equipment, so they cannot schedule their work when they need it instead of waiting their turn on a subcontractor's timetable. Earthmoving is the only housing cost that should be as low today as it was 30 years ago; and street-laying costs have climbed only 20% (see *page 162*).

2. It is partly because cheap-to-develop land is getting scarcer. In the first postwar rush the builders used up the treeless potato fields on Long Island and the treeless flat ground between the Freeway and El Camino below San Francisco. Now they must begin using land where more earth must be moved and more trees, alas!, cut down.

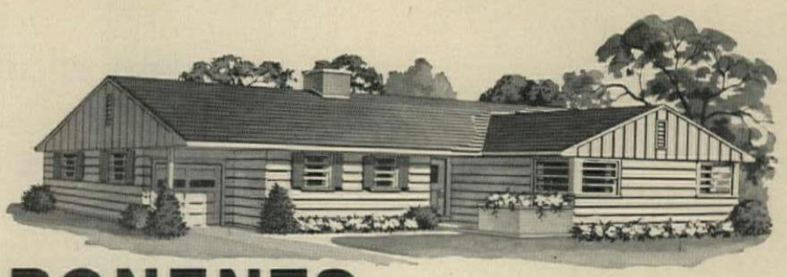
3. It is partly because many towns had trouble with builders who put in streets so cheap that the taxpayers soon had to replace them. So now they are requiring better paving; many of them, in fact, are requiring much better paving than the traffic justifies.

4. It is partly because many communities are imposing development requirements that are almost scandalously high—requirements much higher than FHA standards, requirements much higher than the Urban Land Institute recommends. For example:

> *Arlington, Va.* requires a 36′ roadway in minor streets to permit two lanes of moving traffic between cars parked on either side, so houses even on cul-de-sacs front on a sea of blacktop. *Alexandria, Va.* requires a 66′ right-of-way even on secondary streets. Why 66′? Because the surveyor's 100-link chain was 66′ long. Chatham County outside Savannah required 40′ paving on a development street feeding into a 26′ main highway. Many towns in the Southwest require not only streets, but archaic and useless alleys down the rear lot line.

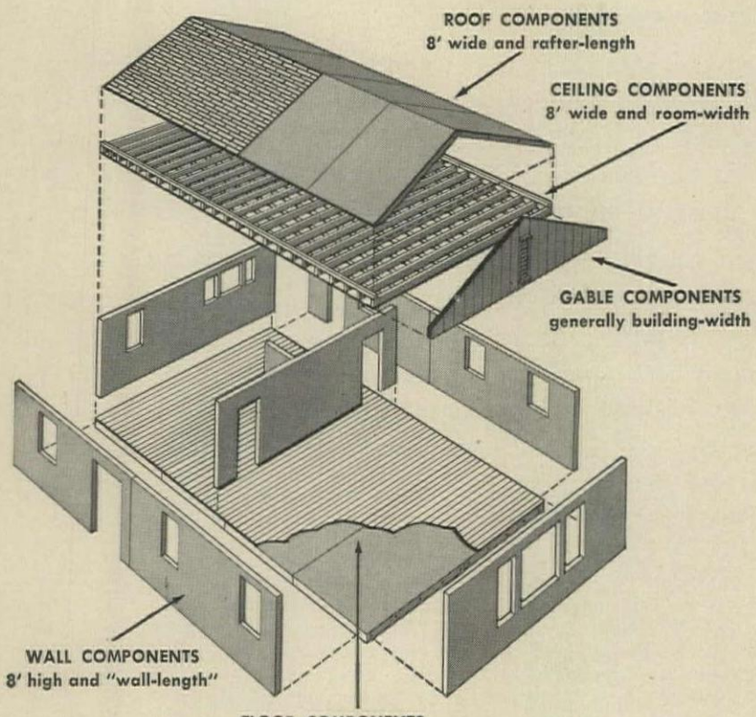
Here are the standards recommended for single-family areas by the Urban Land Institute as "reasonable, time-tested, and entirely adequate." FHA agrees with all these recommendations, except that FHA is skeptical about rolled curbs. There is no good reason why any local community should insist on anything more.

> *"Minor streets*—not over 26′ to 27′ between curbs in a 50′ right-of-way. Such streets are for access to abutting property; they are not traffic thoroughfares. Rolled curbs are recommended. Single-family areas with three or less families per acre can be served adequately by roadways 18′ to 20′ wide, with turf or stone gutters and no curbs.
>
> *"Secondary or collector streets*—not over 34′ to 36′ between straight curbs in a 60′ right-of-way. A 34′ roadway will permit two opposing traffic lanes plus parallel parking on each side.
>
> *"Sidewalks* are seldom needed or even desirable on local streets in low-density developments, and often on only one side of the street in low-to-medium density development. Sidewalk widths in excess of 3½′ to 4′ in detached single-family home areas are wasteful and unnecessary.
>
> *"Paving specifications* must, of course, vary from place to place depending on climate, soil conditions, etc, but in no case should they exceed the local FHA standards.
>
> *"Utilities* should be underground wherever possible, including electric and telephone lines. At best, utility poles are unsightly and objectionable in any location. Some utility companies are now installing underground lines without any additional cost to the developer. Others ask excessive or prohibitive charges for underground conduits."



P-B COMPONENTS LOWER THE PRICE

—enable more people to buy homes



and—save the builder 15% of his building costs!

You will prefer to build with P-B Components—once you understand 4 basic facts:

1. They are precision-engineered of finest materials in the plant of your nearby building materials distributor—and delivered to your site. You save many unnecessary handling, storage and rehandling costs. You share in maximum volume discounts.

2. At least 200 field-hours are saved—17 working days—saving you a minimum of $600. You also save your overhead on the parts, while they are being manufactured in the distributor's shop—a matter of at least $400.

3. *Every single component is custom-built* to your specifications, to fit *your* plan. There are no arbitrary "unit" sizes.

4. P-B Components are BIG. It takes four men only 11 seconds longer to put an 8′ x 14′ component in place—than to position a 4′ x 8′ "baby panel". But you have completed 3½ times as many square feet! With big components, the average house is enclosed in one day—and you finish out in 3 to 4 weeks. Exterior and interior walls, ceilings and gables are ready for painting, papering or other decoration. Floor panels are covered with $^{25}/_{32}$″ factory-finished oak flooring (which you protect with Sisalkraft paper until owner occupies.) Roofs have $^{5}/_{8}$″ Homasote sheathing already applied—with all joints flashed.

A house built with P-B Components is a quality house, quiet throughout—free from drafts, dampness, mildew, cracking and bathroom noises. It is cooler in Summer and more economical to heat in Winter.

You get your customer in fast—sell him at a lower figure—make a greater profit.

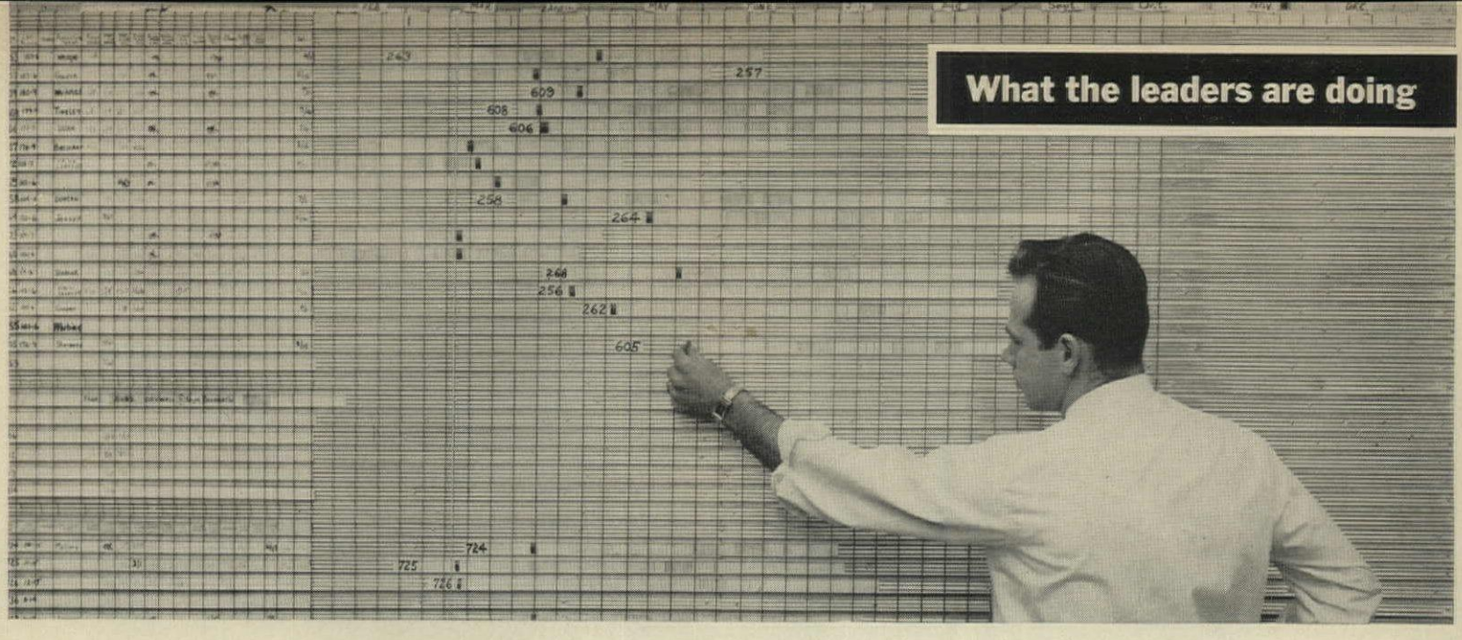
To save money in conventional building—send us your blueprints for a free Cost-Reduction Analysis. They will be returned with an engineering report on the savings you can make with Homasote Materials. Homasote Board-and-Batten and Grooved Vertical Siding construction are lower in cost than anything else you can use currently for exterior walls.

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Write or wire today for fully-illustrated 8-page brochure giving the complete details. Kindly address Department H-5.

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With this control board, you can tell at a glance where each job stands and what you should do next

You can tell how far each house is ahead of or behind schedule. You can tell how much your total production is ahead of or behind schedule. And you can figure how much labor—in each craft—will be needed every week for three months.

So says Washington Builder Milton Kettler, who devised the system (an adaptation of control boards widely used in manufacturing plants) and has used it about 18 months. Adds Kettler, who builds about 80 houses a year (H&H, June): "The board is also an effective sales tool, since buyers who see it are convinced we can make good on our delivery promises."

Here is how the board is set up:

The board (close up below) is made of 70 strips of aluminum price tag molding mounted horizontally on a 7'-high plywood panel.

On the left side, a cardboard strip is inserted for each job to list preconstruction details that sometimes are overlooked. Items: construction financing ordered, building permit received, house insured, costs analyzed, survey approved, and the like.

A second cardboard strip is inserted at right to set up the 13 week construction timetable for each job. Different pastel colors denote ten building stages (foundation, first floor, outside walls, frame-out, heat-plumbing-electric rough-in, drywall, trim, paint, floor finishing, and finishing). This strip is positioned so its right end lines up with the promised delivery date.

And here is how the board is used:

Once a week a green plastic tab for each job is moved along the construction strip to show the building stage the job is in. Every day a yellow cord (mounted vertically and seen under March 15 in photos) is tacked up to show "today's date."

If a green tab is at the right of the cord, the job is ahead of schedule. If a green tab is at the cord's left, the job is behind schedule and corrective action is needed.

Once a month Kettler totals the number of days all houses are ahead of or behind schedule. If this total stays constant from month to month, he knows all is well. But if the "net days ahead" figure drops sharply, he knows he has to look for trouble.

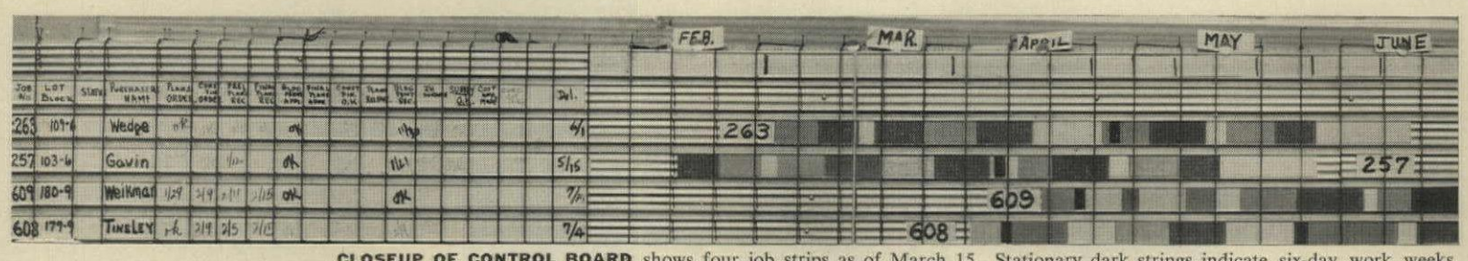
At any date, Kettler can quickly find how many men he will need in each craft in any week ahead. By reading down the board for the week, he can spot which houses will be in each stage of construction.

Kettler says it takes only about two hours a week to update the board. He resets it about three times a year.

What the leaders are doing

Center court in a square house offers nine advantages ..... p 176

How a bottomless trailer saves time for builders ..... p 180

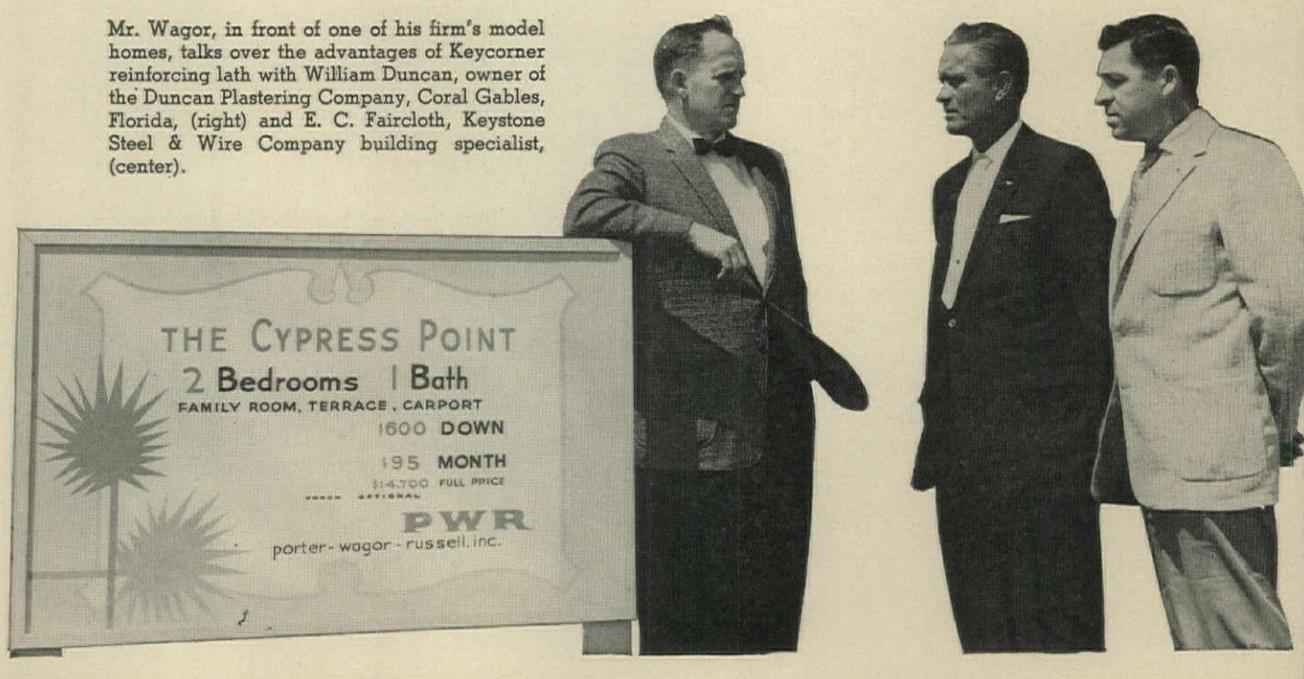


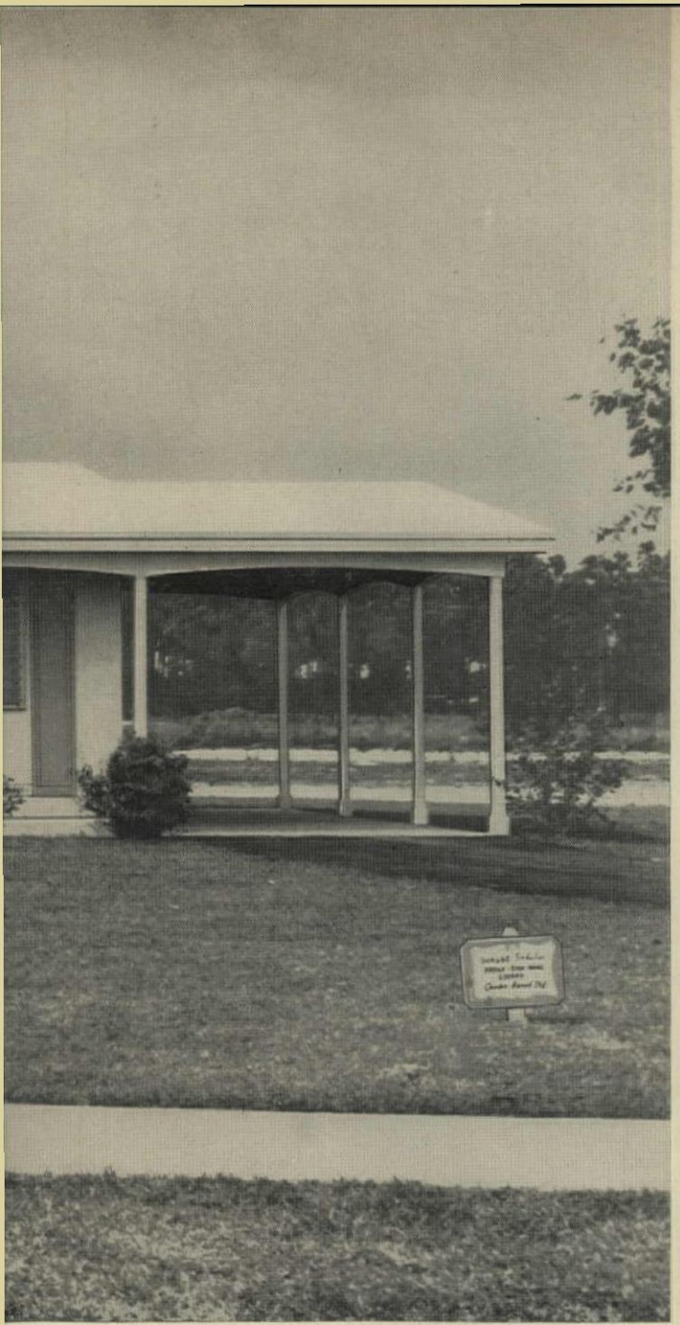
CLOSEUP OF CONTROL BOARD shows four job strips as of March 15. Stationary dark strings indicate six-day work weeks.

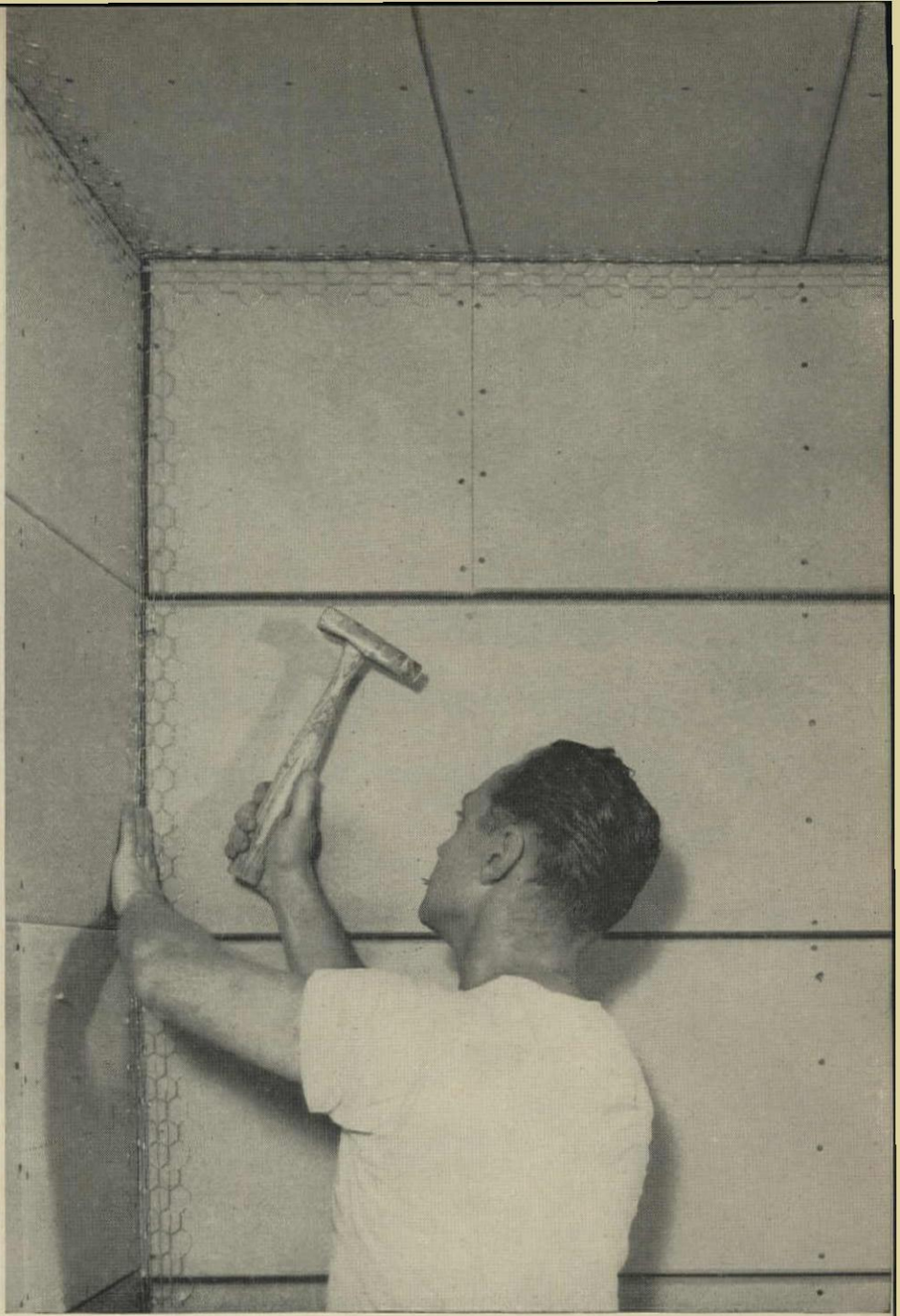
A model home in the Porter-Wagor-Russell, Inc. building project, Palmetto Country Club Estates, located near Miami, Florida. Inside plaster corners are reinforced with Keycorner lath for higher crack resistance.

"Our best selling homes are lath and plaster

Mr. Wagor, in front of one of his firm's model homes, talks over the advantages of Keycorner reinforcing lath with William Duncan, owner of the Duncan Plastering Company, Coral Gables, Florida, (right) and E. C. Faircloth, Keystone Steel & Wire Company building specialist, (center).







reinforced with KEYCORNER LATH"

... Porter-Wagor-Russell, Inc., leading Florida home-builders

"Reinforced-lath and plaster interiors are a big sales feature in our homes," reports Mr. F. B. Wagor, partner in the Porter-Wagor-Russell, Inc., builders of the large Palmetto Country Club Estates near Miami. "Best of all, it actually costs less to reinforce inside corners with Keycorner lath. You add value because of the high crack resistance and lower maintenance. Prospects are delighted with the lasting beauty of plaster. The hidden value of Keycorner reinforcement strengthens each sale."

Wherever Keycorner lath is used, it gives stronger corner reinforcement at less cost. Tests show that crack resistance of plaster corners is almost doubled as compared to other corner reinforcement.*

The pre-shaped, 4-foot lengths of Keycorner fit into corners quickly and neatly. Keycorner can be nailed or stapled. Plaster flows in and around the open mesh design of Keycorner to assure a complete bond. Keycorner lath, packed 1,000 feet to a carton, is galvanized.

KEYSTONE STEEL & WIRE COMPANY
Peoria 7, Illinois, Makers of Keycorner • Keymesh® • Keystrip • Keywall • Welded Wire Fabric • Nails

**Please send me additional information and test reports on Keycorner reinforcing lath.*

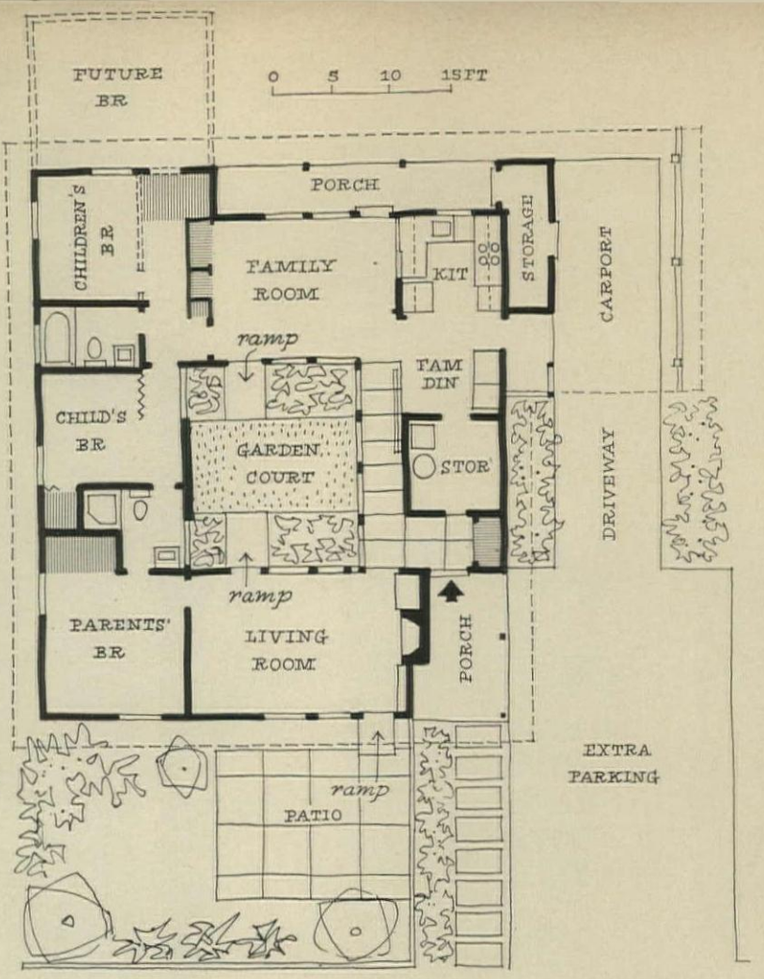
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*Company*_____

*Address*_____

*City*_____ *State*_____

The center courtyard in this square house offers nine advantages



1. The center garden is large (14′x16′) and private—shielded on all sides from street and neighbors.

2. It opens rooms on every side to sun, no matter how the house is sited.

3. It permits cross ventilation in every room, even the middle bedroom.

4. It gives the living and family rooms light from two sides, so neither seems cave-like.

5. It gives both living areas a pleasant view.

6. It makes the house as suitable for a 65′-wide lot in the city as for a big lot in the suburbs.

7. It makes a safe play area for children in the toddling stage.

8. It offers excellent sound isolation between the formal living room in front and the rear family room.

9. And it provides the basis for a floor plan that has many added virtues:

The living room and master bedroom work as a suite (with its own patio in front of the house). While non-related zones like kitchen-family room area and formal living room are far apart, related rooms like family room and children's bedrooms are close together. A fourth bedroom can be added at rear. Parents can reach the children's bedrooms through the adjoining bath. The entrance foyer leads directly to front living room and rear family room. Kitchen and dining area can be closed from family room by 8′ sliding door.

The house is co-sponsored by Parents' and the LDRC

The 1,400 sq ft house was designed by Washington Architect Grosvenor Chapman for *Parents' Magazine* (which featured it in June), and adapted for LuReCo construction by Architect Laurence S. Higgins of the Lumber Dealers Research Council. It has been built for sale this summer by builders in 15 cities.* Typical price: $22,000 plus lot in Joliet, Ill. where New Lumber Co reports excellent reception.

* The 15 cities: Crystal Lake, Joliet, and Mattoon, Ill.; Carroll, Iowa; Clay Center, Kan.; St Paul, Minn.; Huntington Station, N.Y.; Twinsburg and Xenia, Ohio; Beaver Falls and Sunset, Pa.; Lubbock, Tex.; Ogden, Utah; Menomonie and New Richmond, Wis.





COMPONENT-BUILT HOUSE has vertical aluminum siding, interlocking aluminum shingles. Front roof is 42′ wide; 57′ rear roof extends to cover carport.

WELL LIGHTED DINING AREA is open to the family room (foreground) around corner of center court. Dining area adjoins kitchen, off right behind wall.

Five smart ideas for your "homeowner's manual"

Information for homebuyers—published in booklet, brochure, or mimeographed form—is fast becoming a standard part of a smart builder's post-sales customer-relations program. Here are interesting, helpful, or amusing excerpts:

. . . on getting along with builders

"Assume your builder is honest and capable. Check before you use him, not after. Avoid making changes after work has begun—few things are as expensive as a Monday morning architect. Try to keep your dealings with your builder on a business basis, that is, in writing."—Goodwin Housing Corp, Haddonfield, N.J.

. . . on lawns

"Your front lawn will not be installed until you have moved into your home. The postcard you mailed will enable our contractor to contact you as to the time of installation."—Brown & Kauffmann, Palo Alto, Calif.

. . . on service

"Listed in this brochure you will find the names of subcontractors who handle their own service calls on work they've done for us. By calling them directly, you will secure faster service."—Tom McGovern, San Antonio.

. . . on painting

"When you repaint your house, please use good judgment in choice of colors—a zebra stripe may spoil an entire block of houses."—Place & Co, South Bend.

. . . on insurance

"Now that you are a homeowner you will carry various types of insurance. Shown below is a suggested form which will act as a constant reminder of your insurance policies, their expiration dates, coverage, and other data necessary in the filing of claims."—Pearson Bros, Minneapolis.

When buyers help sell, give them a commission

That advice comes from Illinois Builder Leonard Besinger Jr who says: "Whenever the owner of one of our houses sends us a lead that ends in a sale, we pay him a commission of $75.

"This encourages buyers to act as salesmen. About half of our 400-or-more sales a year are made to people who come out to visit someone who lives in our tract."

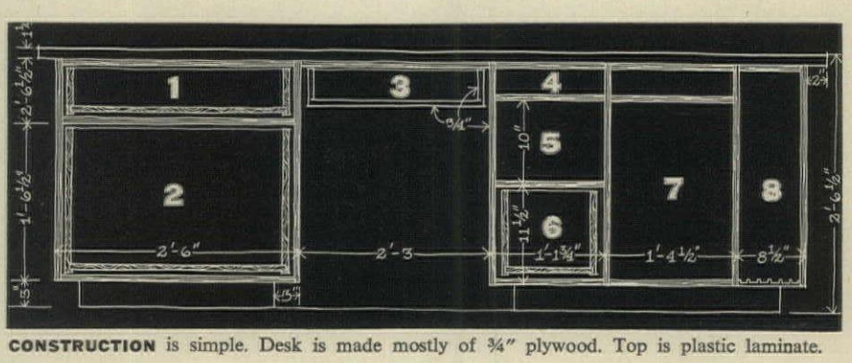
Besinger figures $75 is "about right," reports: "We tried offering $200 to induce owners to bring out more friends, but it didn't get us any extra sales. Nobody will high-pressure his friends."

Besinger has sold about 3,500 houses in his 2,800-acre Meadowdale tract (40 miles northwest of Chicago's Loop) since 1954.

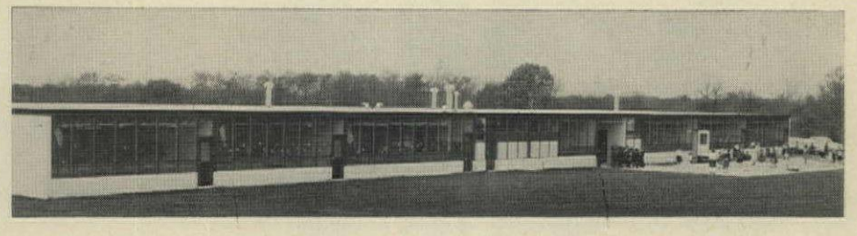


Buyers choose all colors and materials at 4'x8' desk

Its voluminous drawers contain (see drawing below): **1** plumbing color chips, ceramic and mosaic tile chips, decorative glass samples; **2** 76 different brick samples; **3** paint stain samples, color chips for countertops and appliances; **4** roofing samples; **5** wood panel-ing samples; **6** floor tile samples; **7** wall-paper books; **8** pull-out boards showing over-all color schemes laid out on a floor plan. The desk was designed by Margaret Gale (above, right), design consultant for San Antonio Builder Tom McGovern.



CONSTRUCTION is simple. Desk is made mostly of ¾" plywood. Top is plastic laminate.



This school was built and paid for by a homebuilder

It is only one of three schools (total cost: $750,000) that New Jersey Builders Cantor & Goldman have built in their 2,000-house community (Sayre Woods South) and donated to Madison township. Says C&G President Saul Cantor: "New communities cannot be expected to meet school construction costs from taxes alone. Builders should contribute their resources and know-how to upgrade the communities they build in. Also, it's good business—good schools are a great sales attraction."

Construction costs averaged $21,000 a classroom, or about $17 a sq ft. Construction is simple: walls are cinder-concrete block painted inside and out, ceiling joists are open-web steel, roof deck is corrugated, perforated steel ceiling is lined with sound absorbing material. Each school accommodates 400 children, kindergarten through sixth grade. No cafeterias are needed (since schools are in walking distance), and no gymnasiums are provided. Architect for the schools: Jules Gregory.

Leaders continued on p 180



"LOOK – *the Good Housekeeping Seal*"

new proof of a quality product in your houses

WINDOW-SILL CARD tells your prospects that *Thermopane* has earned the Good Housekeeping Guaranty Seal. Order from your L·O·F Distributor or Dealer (listed under "Glass" in the Yellow Pages). Or write to L·O·F, 980 Libbey·Owens·Ford Building, Toledo 1, Ohio.



40,930,000 homemakers are influenced in their buying decisions by the Good Housekeeping Seal*. So it makes sales sense to use building products that have earned this seal, whenever you can. *Thermopane*® insulating glass is one of them.

It helps you point out that *Thermopane* is truly a quality product. Its patented metal-to-glass *Bondermetic Seal*® has been time-tested. It contains no organic bonding materials. On glass-to-glass units, the sealing grommet is located on the *edge* where the sash protects it. There are over 8,100,000 *Thermopane* units in use.

Thermopane has been nationally advertised for 17 years. Most of your prospects know that with *Thermopane* in *every* window, the house you are offering them will be more comfortable, summer and winter . . . will cost less to heat and air condition. And they won't have to bother with storm sash.

Put *Thermopane* in all of the windows of your next model house. Since the trade-mark is lightly etched in the corner of units, you know what you're getting. And so do home buyers. Listen to the enthusiastic comments *Thermopane* creates. That's why so many leading builders are featuring *Thermopane* in their houses.

*Source: Crossley, S-D Surveys, Inc.

Thermopane® INSULATING GLASS

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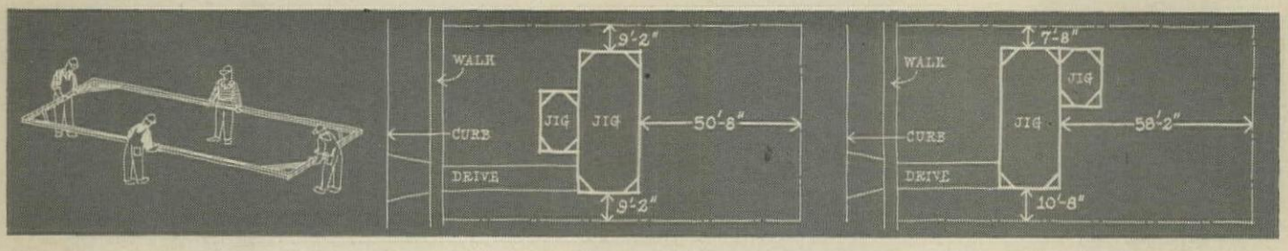
LIBBEY • OWENS • FORD • TOLEDO 1, OHIO

starts on p 173



"Street lighting is a must for houses priced over $18,000"

That is the judgment of Ft Wayne Developer Joe Lebrator, who spends between $90 and $110 per house to light the streets in his development though lighting it not required by the city. Because "it makes the whole streetscape more attractive," Lebrator puts the street-light wiring underground, puts power and phone lines (which are above-ground) along back lot-line easements. Lighting poles are Line Materials Co's Post Top Luminaires.



Easy-to-build jigs act as guide for trencher, save $25 a house

"If you're building repeat-plan houses, it's a lot cheaper to use a jig to lay out foundation lines than it is to stake out the lot," says Builder Bob Schmitt of Berea, Ohio. The jigs, built of 2x4s, are carried by four men to the lot to be trenched (above left). They are laid down in correct position as measured from lot lines (above center, right). Since Schmitt's houses are all L or T plans built to a standard module, he can lay the foundation for any house with two jigs—one large, one small. (For some houses 2′ wider, Schmitt sets string lines 2′ out from the jigs).



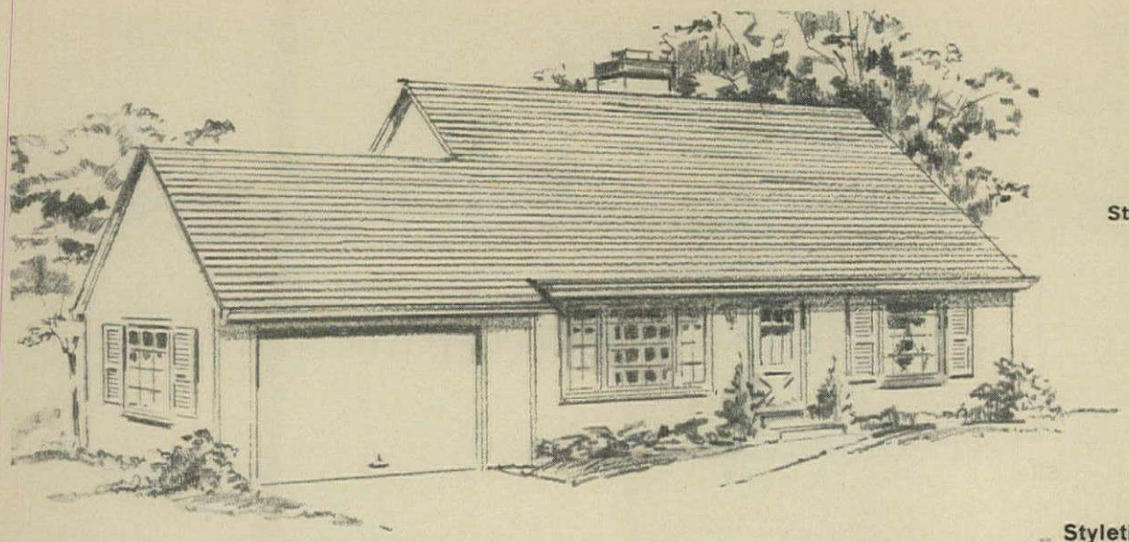


Straddle trailer unloads house package in less than a minute

The big trailer has no floor and no rear gate. Hydraulic clamps hold palletized loads in transit. At the building site, clamps lower the load to the ground (above left), then the trailer pulls away (right). No crew is needed to unload the package. Toledo Prefabber Don Scholz uses this Ryder System straddle trailer because, he says, "To build fast, you must unload fast." The trailer can be used to ship any builder's packaged loads of components. /END

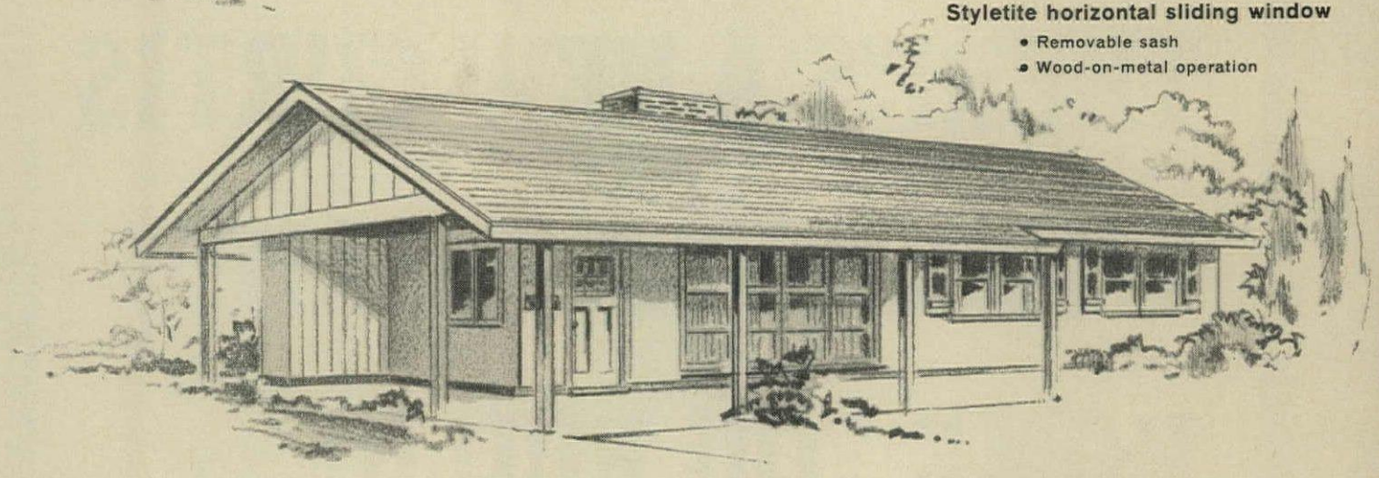
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of a brand-new line...

THERE'S A NEW CURTIS WINDOW TO FIT ANY HOME YOU BUILD... ANY SIZE...ANY STYLE... WIDE PRICE RANGE



Styletite* double-hung window
- Non-removable sash
- Wood-on-metal operation

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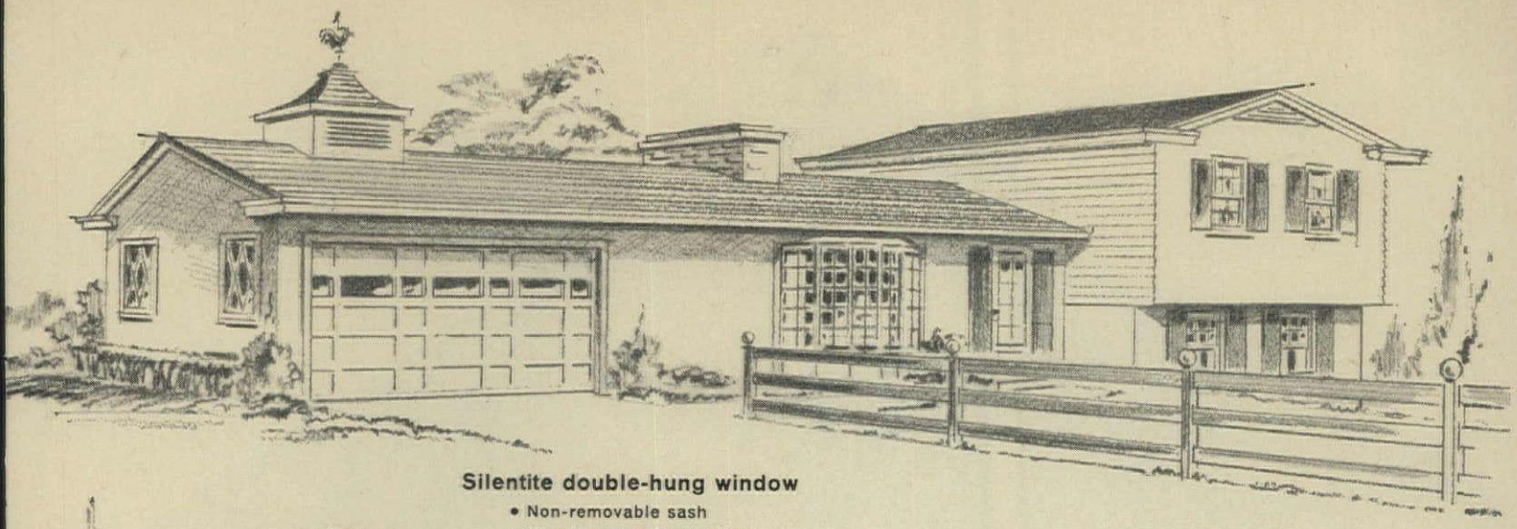
Styletite horizontal sliding window
- Removable sash
- Wood-on-metal operation

Styletite double-hung window
- Removable sash
- Wood-on-metal operation

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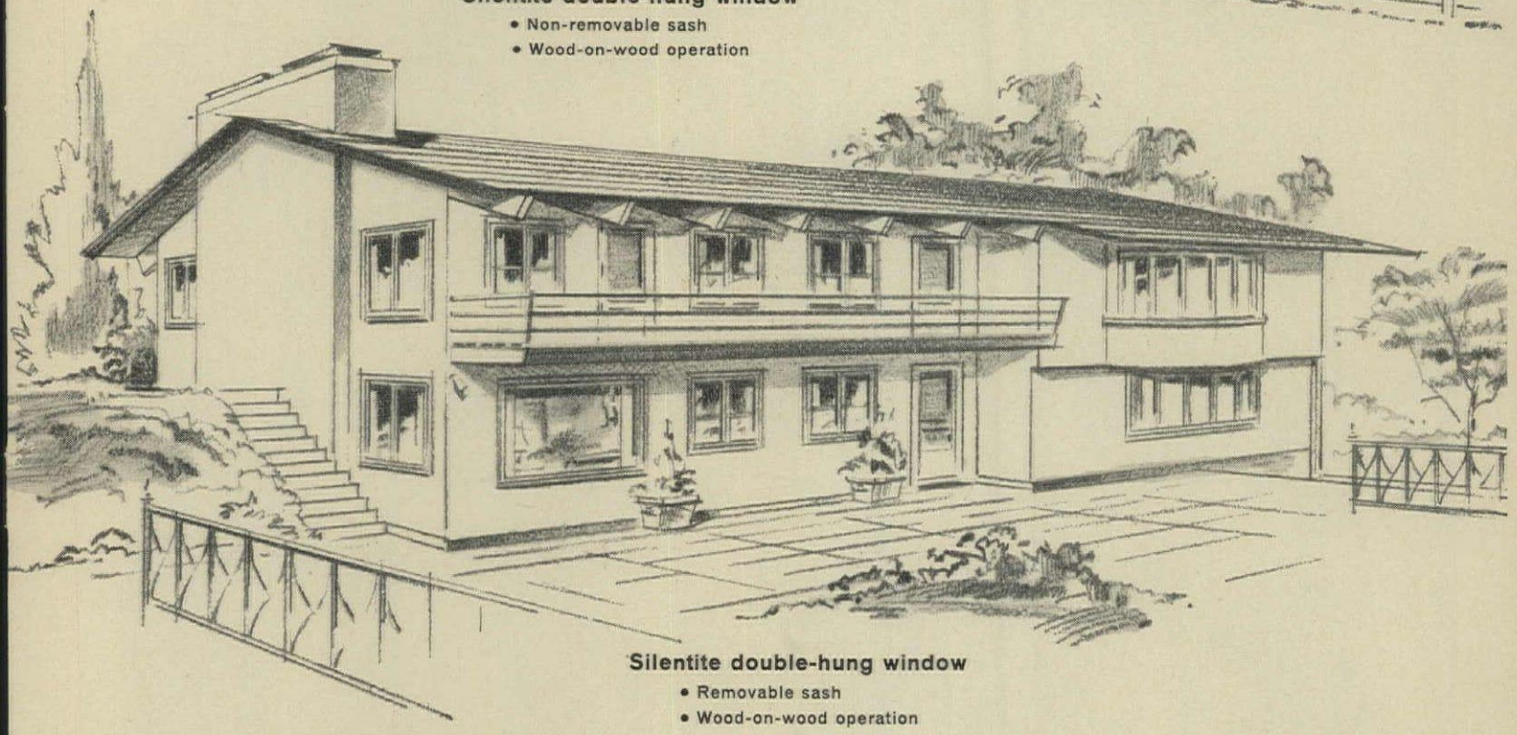
4 New Double-Hung Window Lines Plus a New Sliding Window Line...the Widest Selection Available!

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2. Silentite features wood-on-wood for smoothest, easiest operation with the natural insulating qualities of wood.
3. OR—choose one of the three new Styletite window lines. Wood-on-aluminum operation. Completely weather-stripped. Removable and non-removable sash. Double-hung or sliding windows. For high-quality, low-cost window selection.
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10. All windows *exceed* the minimum government standards in tests for prevention of wind and water infiltration.
11. The complete line available to your building materials dealer through his local Curtis distributor.



Silentite double-hung window

- Non-removable sash
- Wood-on-wood operation



Silentite double-hung window

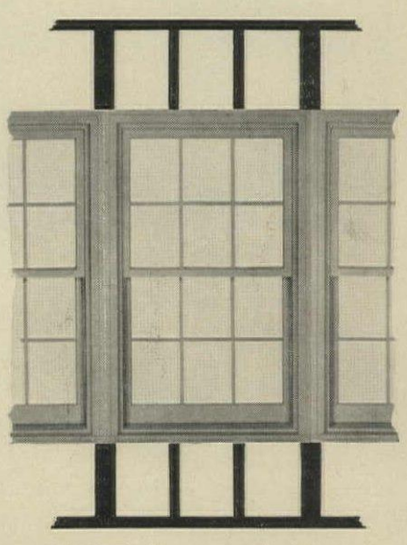
- Removable sash
- Wood-on-wood operation

IF YOU'RE A MODULAR PANEL BUILDER,

you'll want to take an extra-close look at a wide variety of Curtis window units in each of six basic types—double-hung, slider, casement, fixed sash, awning and hopper—*designed especially to fit modular construction.* These pre-fit units eliminate need for any special cutting, trimming or bracing; fit snugly between studs. This means simplified installation, lower direct costs—lower in cost to you than partly assembled units.

For more information, write for the new Curtis brochure "Curtis Windows for Modular Component Construction," yours at no cost or obligation.

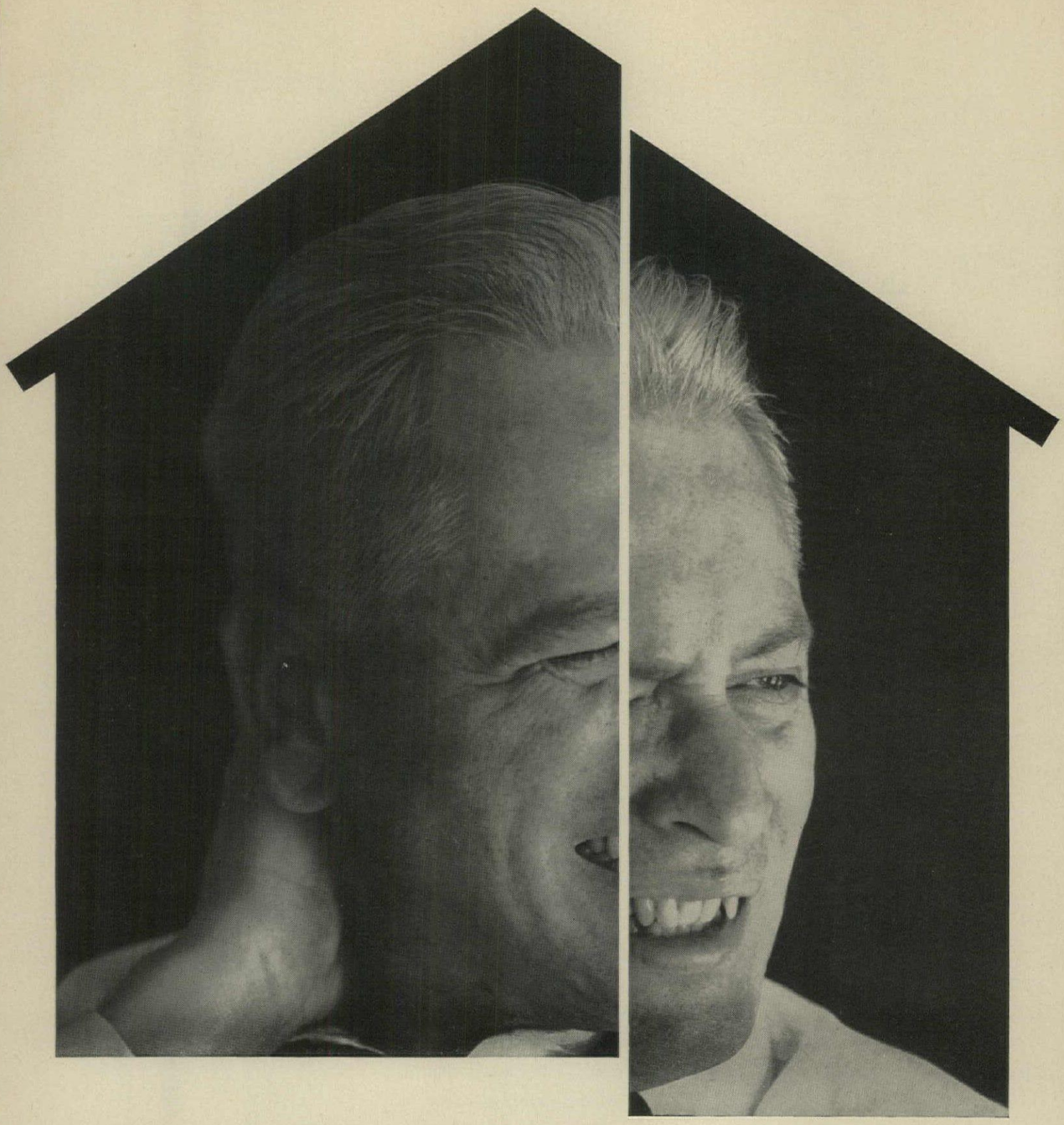
For complete details, contact your Curtis dealer or write to Curtis. Address: Director of Marketing



NOTE: Curtis component windows fill out standard 4′ panel, requiring no extra filler materials.

CURTIS COMPANIES INCORPORATED / CLINTON, IOWA

Individuality and Quality in windows, doors, cabinets and fixtures



SURE CURE FOR SPLIT LEVEL HEATING HEADACHES . . . A BRYANT HOT WATER SYSTEM

Split levels present a special problem in heating—as any owner who puts up with hot bedrooms and chilly playroom will tell you. A minimal warm air installation isn't the answer.

By the time you properly engineer a warm air system for truly uniform room-to-room comfort, you can have a Bryant hot water system with all its recognized advantages and buyer appeal.

The way to be sure of quiet, uniform, dependable comfort throughout the house is to put in a hot water system with a Bryant boiler—the perfect solution to split level heating. In addition, it is evidence of your good judgment in providing quality heating.

Since your Bryant dealer-contractor installs both warm air and hot water system, gas or oil-fired, he can advise you without "selling bias" on which will work best in any given type of house.

Save yourself money, headaches and buyer gripes by getting him into your planning early. On follow-up service you'll find him prompt and accommodating. Call him. Bryant Manufacturing Co., Indianapolis, Indiana · Bryant Manufacturing Ltd., Toronto, Ontario.

bryant

Heating • Air Conditioning • Water Heating



New modular fireplace takes many shapes



Uni-bilt's new free-standing model is made of three parts—firebox, wood box, cherry-topped table—that fit a 26″ module, can be combined in any of the ways shown in the photos. Firebox and wood box are factory-primed steel in a textured aluminum frame. Firebox is refractory-lined on bottom and back. Stack (7″) connects to prefab chimney or masonry flue, is enclosed in an expanded aluminum sleeve. Fireplace needs no base, but floor under firebox should be non-combustible. Price (about $259) includes three basic parts, 5′ of stack and sleeve.

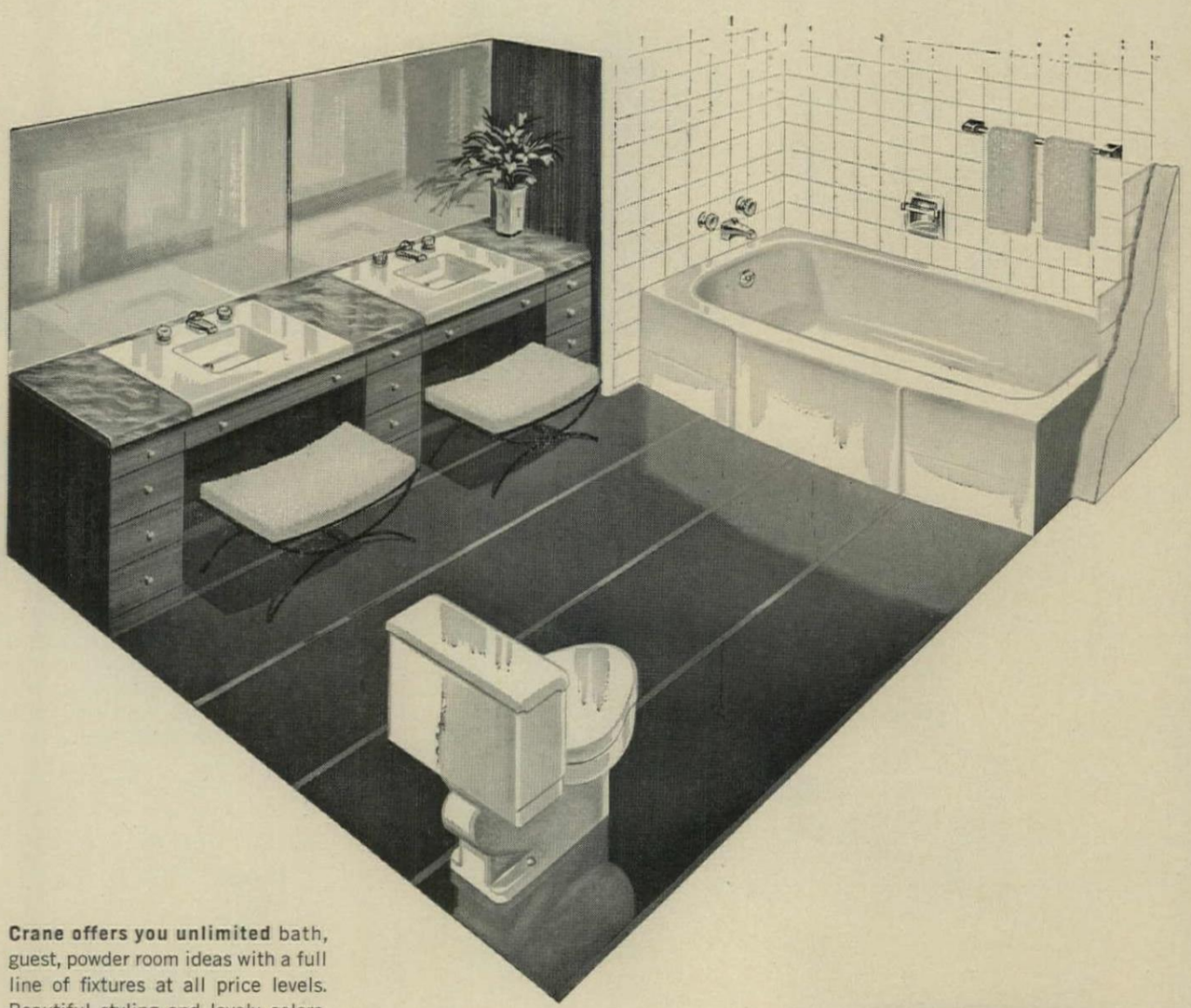
Vega Industries, Syracuse.

For details, check No. 1 on coupon, p 213

New Products continued on p 188

Add Proof of Quality

use Crane all through your homes—



Crane offers you unlimited bath, guest, powder room ideas with a full line of fixtures at all price levels. Beautiful styling and lovely colors. Crane plumbing is proof of quality —and it's completely competitive.

CRANE®

without adding to your costs—

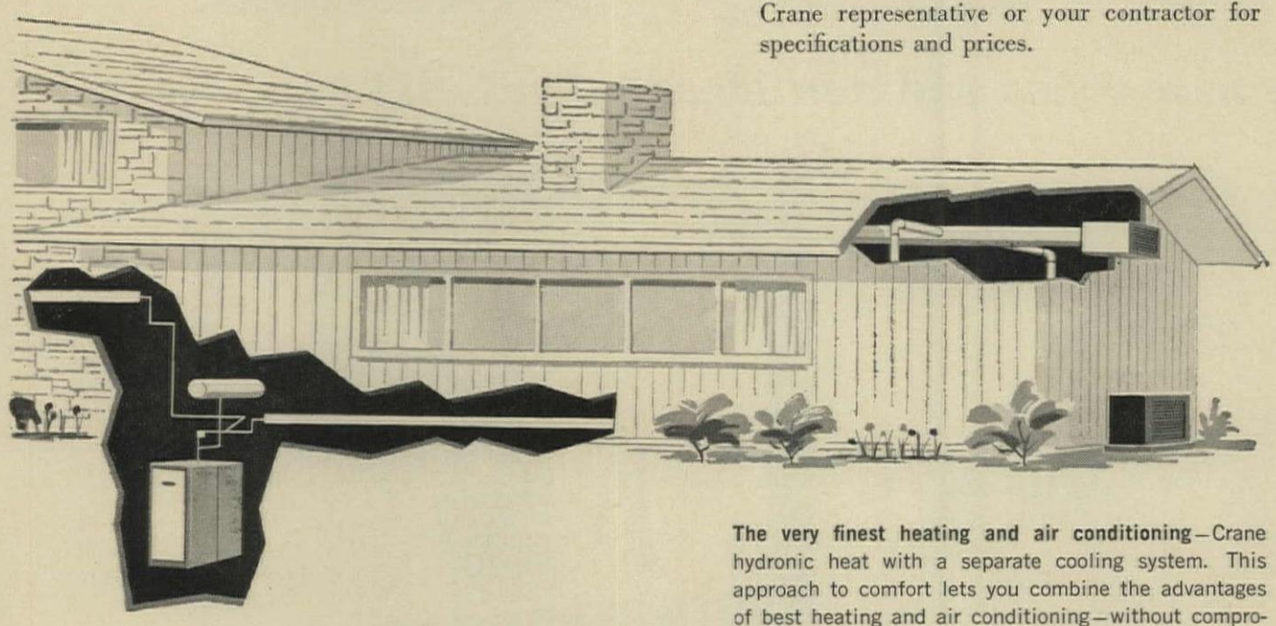
•PLUMBING
•HEATING
•AIR CONDITIONING

When a name can do as much for you as the name Crane, it's good business to play it for all its worth.

Use it all through your homes to add *proof of quality* without adding to your cost. Plumbing fixtures—all types from the finest master bath to strictly utilitarian laundry tubs; heating—hydronic or forced air, oil- or gas-fired; and air conditioning.

All that the name Crane stands for among consumers works for you throughout your homes to lend *proof of quality* . . . to make your homes more desirable. And the completely Crane equipped home makes your selling easy. Single source purchasing helps, too. It narrows your contacts for more efficient use of your time. One call gets action and answers to questions on plumbing, heating *and* air conditioning.

There's a complete Crane plumbing, heating and air conditioning "package" for every home you build. Add Crane and you add *proof of quality without adding to costs.* Ask your Crane representative or your contractor for specifications and prices.

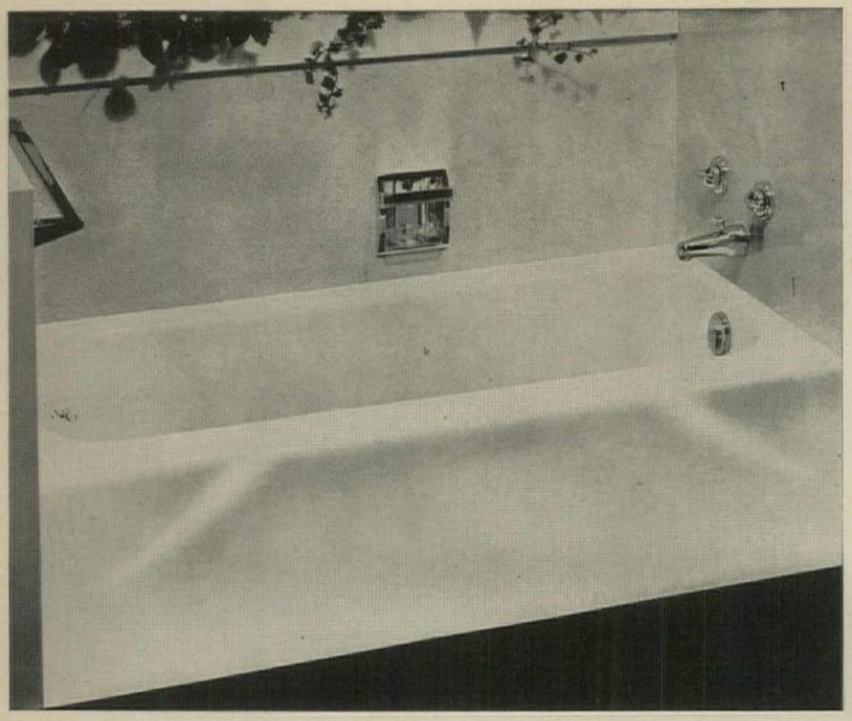


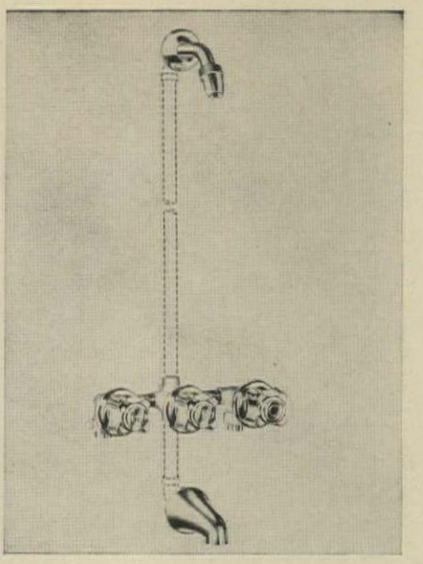
The very finest heating and air conditioning—Crane hydronic heat with a separate cooling system. This approach to comfort lets you combine the advantages of best heating and air conditioning—without compromises on one imposed by limitations of the other. Crane offers a full range of gas- and oil-fired heating systems, hydronic or warm air—with cooling systems to match.

proof of quality—at no extra cost

PLUMBING-HEATING-AIR CONDITIONING GROUP • P. O. BOX 780, JOHNSTOWN, PA.

VALVES • ELECTRONIC CONTROLS • PIPING • PLUMBING • HEATING • AIR CONDITIONING







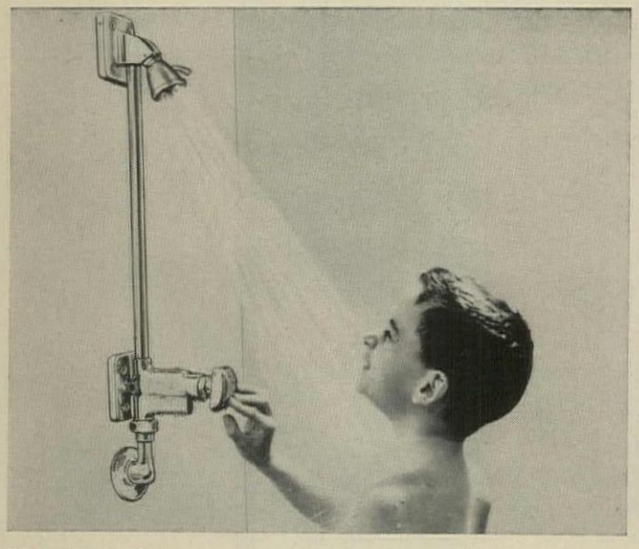
Crane introduces its new product line

As part of the reorganized company's new face, Crane is bringing out a spate of new products. The first to appear are this tub, lavatory, trim. Designed by Henry Dreyfuss, the wide-ledge Fairfax tub is only 14″ high, 30″ wide, comes in white or colored acid-resisting or regular porcelain-enameled cast iron. The new Westgate lavatory (lower right) is vitreous china, can be wall hung or mounted on round metal legs. Semi-oval basin has front overflow and splash lip, panel shelf back. The new Crestmont trim (upper right) for baths, showers, and lavatories is competitively priced, has handles with indexed buttons and concealed screws, renewable sleeves and renewable seats.

Crane Co, Chicago.

For details, check No. 2 on coupon, p 213

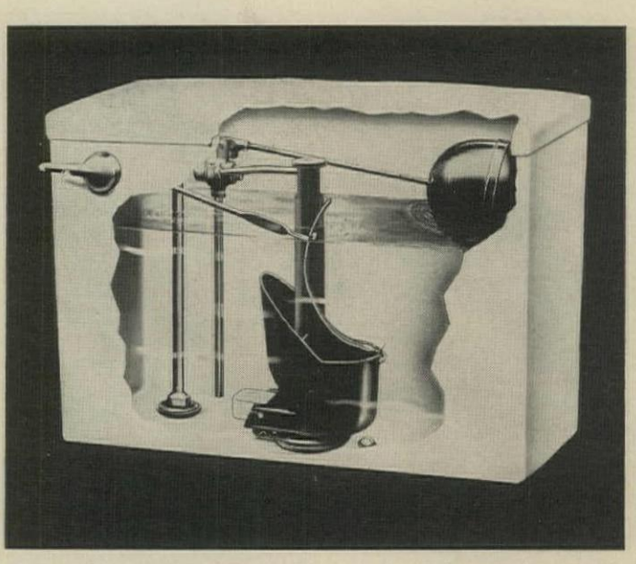
Here are new styles and new ideas in bath fixtures



Metering shower can save up to two-thirds of volume usually used, the maker claims. When valve handle is pushed, water flows at up to 4½ gpm rate, then shuts off. Second push starts flow again. Unit comes in built-in or exposed models, both with self-cleaning head. Operating parts are non-hammering, non-dripping, vandal-proof.

Speakman Co, Wilmington, Del.

For details, check No. 3 on coupon, p 213



New tilting flush valve is feature of Universal-Rundle's Charm water closet. New valve has a plastic cup which fills with water and seals outlet as tank refills. When flush lever is pushed, cup tilts, opening outlet to the bowl. Valve is held open by weight of contained water till tank has drained, then tilts upright again.

Universal-Rundle, New Castle, Pa.

For details, check No. 4 on coupon, p 213

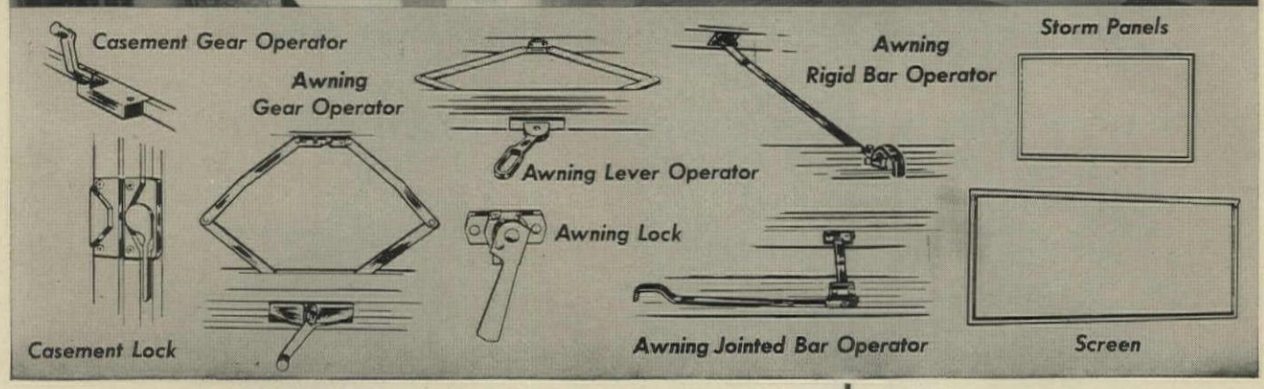
New Products continued on p 190

another first from **Bilt-Well**
by **Caradco**

Gold-Tone Hardware

available on BILT-WELL Casement and Awning Windows





Distinctive New Brushed Finish Enhances Beauty of Homes of Every Design and Price Range

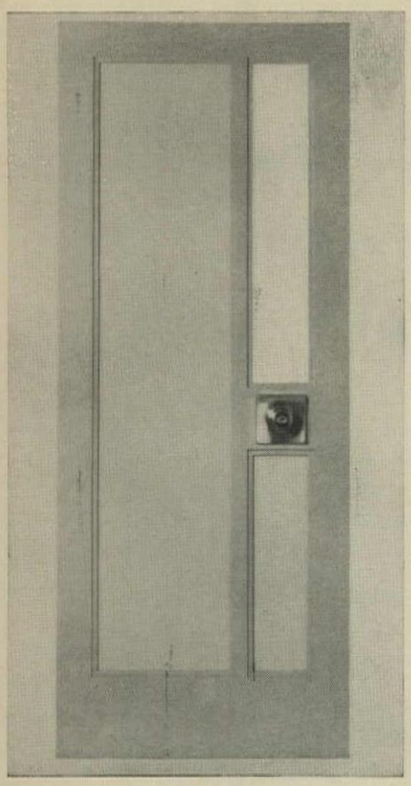
Special attention to details many times makes the difference between an ordinary house and one that is outstanding. New Gold-toned hardware on BILT-WELL Casement and Awning Windows will provide your homes with just such a plus feature. Overall harmony of appearance is achieved with matching finish on screens and storm panel frames.

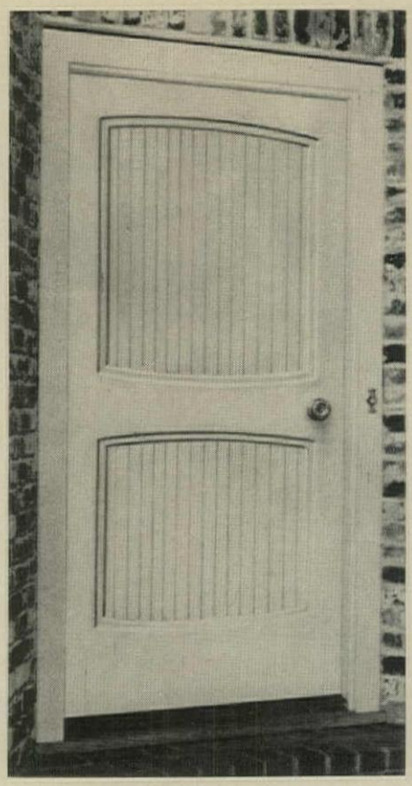
Before Deciding on Windows... Compare the *Plus* Features Available Only from BILT-WELL by CARADCO

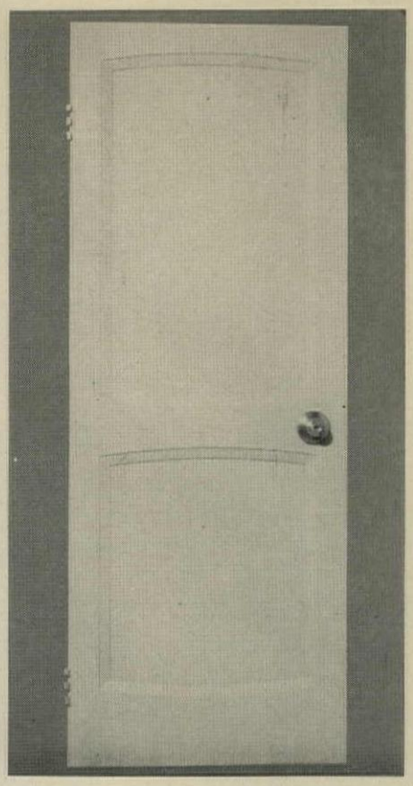
The BILT-WELL Line of Building Woodwork— *WINDOW UNITS, Double-hung, Awning, Casement, Basement. CABINETS, Kitchen, Multiple-use, Wardrobe, Storage, Vanity-Lavatory. DOORS, Exterior, Interior, Screen and Combination.*

manufactured by
CARADCO, Inc.
Dubuque, Iowa

There's more to offer with BILT-WELL WOOD WORK *by Caradco*







Simpson introduces coordinated door styles

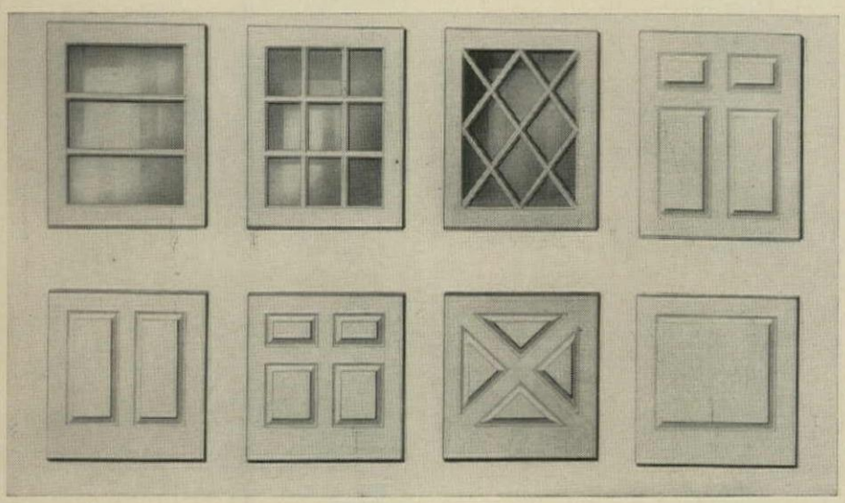
Two new "families" of doors, designed by Walter Dorwin Teague Assoc, make up Simpson Logging's new Symphonic series. Each "family" is made of doors of related style for any residential use —entrances, living rooms, bedrooms, baths, closets, etc—to give a unified decor throughout the house.

Concerto doors (left) have vertical panels that can be filled with various materials — different woods, colored plastics, textured glass—or painted contrasting colors. Sonata doors (center and right) have curved rails to add depth to the modeling, can have solid or glass, planked or plain panels.

Simpson Logging, Shelton, Wash.

For details, check No. 5 on coupon, p 213

Panels of new doors show more decorative styling

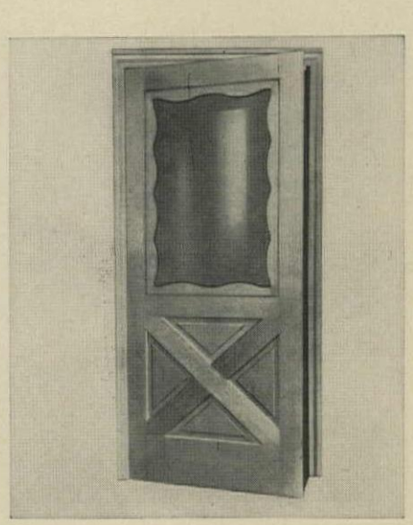


Morgan line makes up to 16 Dutch doors

Here is how to get a big door inventory with minimal stock. Any panel in the top row above can be combined with any bottom panel to make a total of 16 doors. All parts are Ponderosa pine, preservative treated. Rabbet strip meeting rail is weather-stripped on the top section to assure good seal. Doors are 1¾″ thick; 2′6″, 2′8″, or 3′ wide; 6′8″ or 7′ high. They are furnished glazed with SSB glass bedded in putty with a wood bead.

Morgan Co, Oshkosh, Wis.

For details, check No. 6 on coupon, p 213

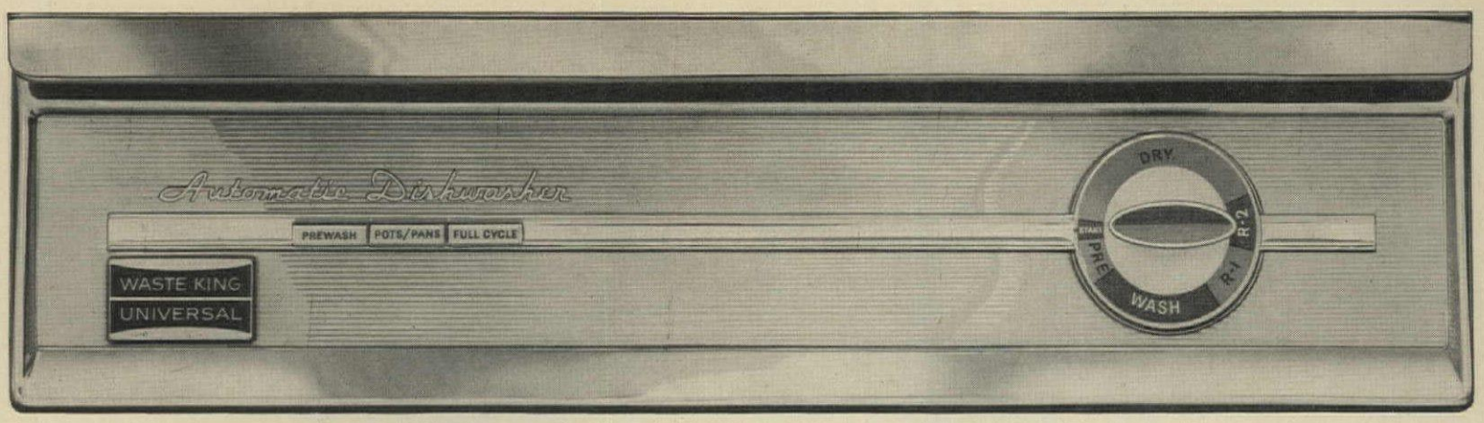


Storm-screen combination from Rimco is styled to complement Colonial design. Upper section has a single glazed light or aluminum screen, in scalloped frames. Lower section is crossbuck design. Ponderosa pine frames are Woodlife treated. Doors come 2′8″ or 3′ wide, 6′9″ or 7′1″ high.

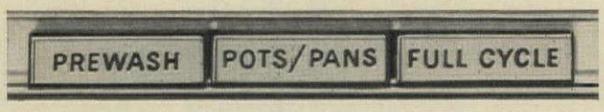
Rock Island (Ill.) Millwork.

For details, check No. 7 on coupon, p 213

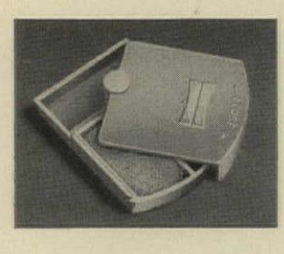
New Products continued on p 192

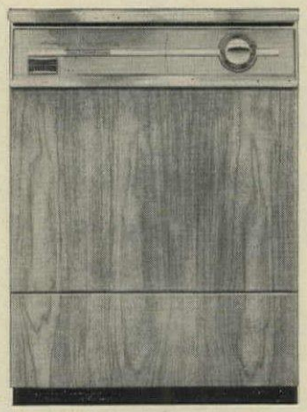


It's profitable to install the best undercounter dishwasher made—WASTE KING UNIVERSAL. You get satisfied users. You get a reputation for quality that gets talked about. WASTE KING UNIVERSAL'S Magi-Matic Cycle Selector

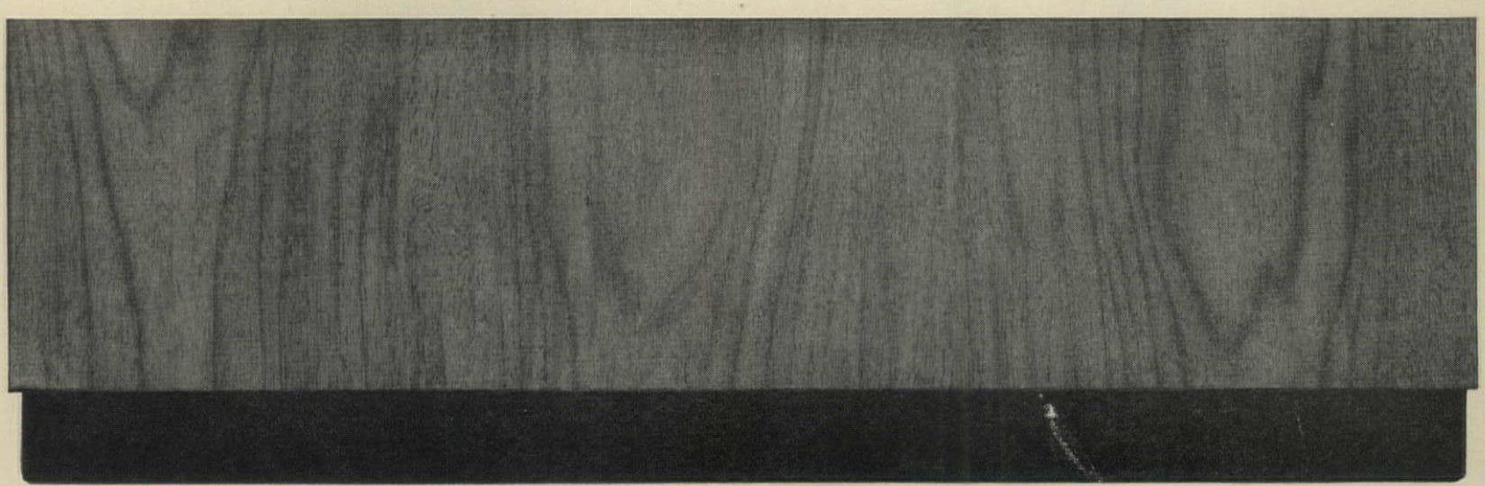


has obvious eye-appeal. It push-buttons 3 different dishwashing jobs: PRE-WASH soaks off egg stains and grease for full wash later on; POTS & PANS scours and rinses all cooking utensils; FULL CYCLE pre-rinses, washes and air-condition dries a full service for 12. A new improvement . . . the Positive Action Detergent Dump auto- matically drops the right amount of detergent into the wash water at the correct instant. There's a choice from 28 different front panels to match any kitchen decor idea. And WASTE KING UNIVERSAL quality goes deeper. For example, the tub lining is Triple-X Polyvinyl—a dirt and rust resistant lining that lasts 3 times longer than any other coating. This quality in WASTE KING UNIVERSAL speaks clearly for your quality approach to building. It can help put a "Sold" sign on the front lawn. For full specifications on new automatic dishwashers, built-in gas and electric ranges, the famous Waste King Universal disposer, write or wire to: **WASTE KING CORPORATION**, Los Angeles 58, California.

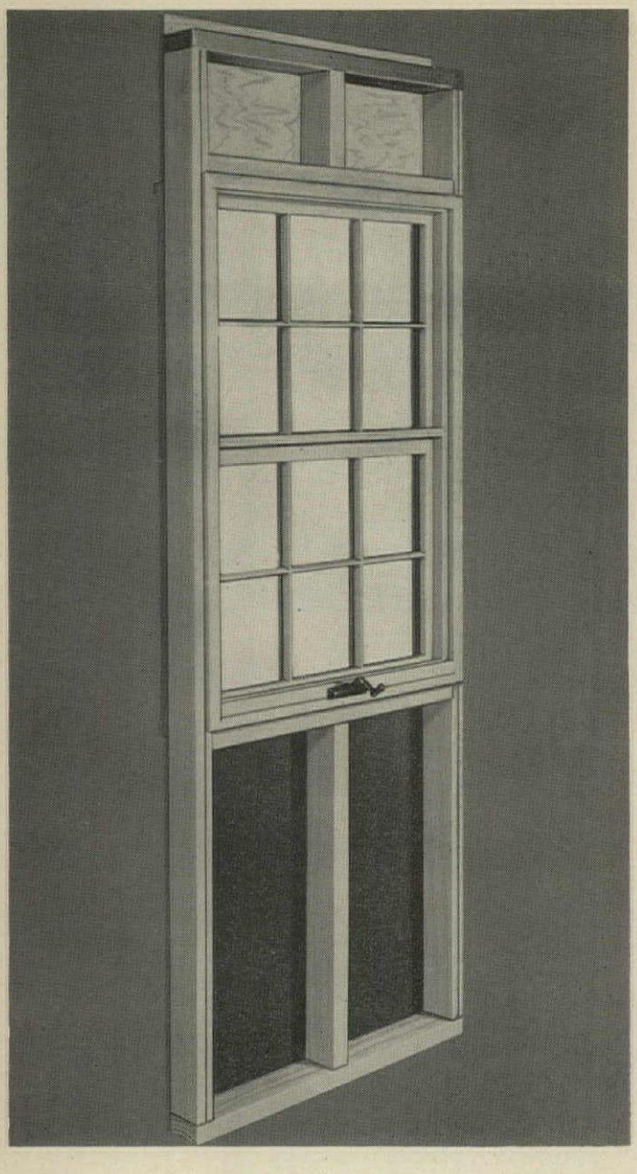


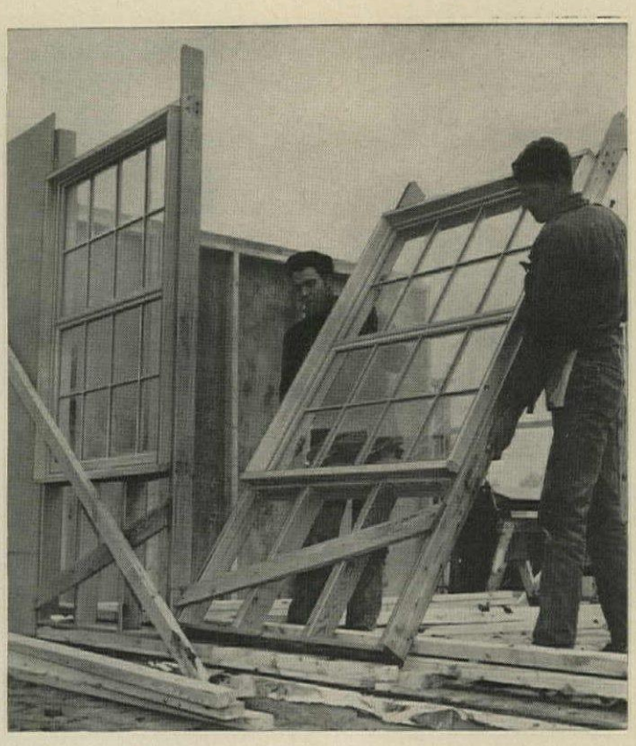


WASTE KING
UNIVERSAL



start on page 185





Andersen Strutwall is now made with small lights and a box header

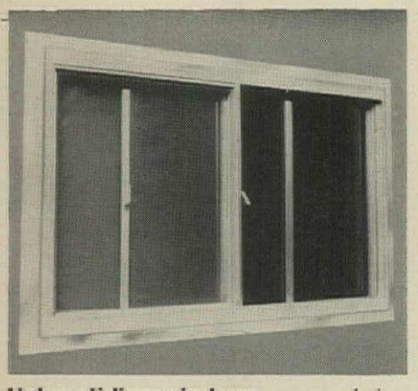
Divided-light windows now adapt Andersen's window-wall component to traditional styling. And a new box header and factory-placed sheathing make it a more complete element for panel construction.

The new small-paned windows are installed at the factory. They are glue-nailed in place, come with hardware, storms, screens, and double glazing on option. The new header is also optional. It eliminates the double 2x6s, can be tied into conventional or LuReCo construction with 2x4 top and bottom plates. Header comes in 3/8", 1/2", or 25/32" plywood.

Andersen Corp, Bayport, Minn.

For details, check No. 8 on coupon, p 213

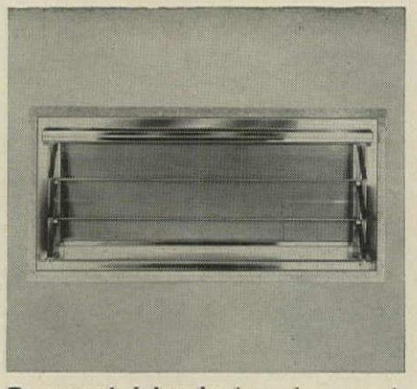
Here are four new ideas in window design



Ualco sliding windows are now being offered with integral storm sash and screens. A double-channeled third track in the deep-stepped sill houses the accessory units. The storm sash is fitted with vinyl bulb weatherstrip. One storm panel slides behind the other to allow summer ventilation. All sash can be installed from inside or out.

Southern Sash, Sheffield, Ala.

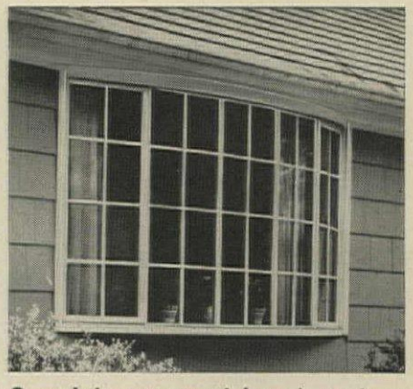
For details, check No. 9 on coupon, p 213



Basement jalousie has glass panels framed in aluminum extrusions and completely sealed with silicone-treated woven-pile weatherstrip. Windows come 33" wide in 13¾", 17¼", and 20¾" heights, are individually cartoned with necessary hardware and screens. Storm sash are optional. Prices range from $10.95 to $14.95.

Regal Products, Harrisburg, Pa.

For details, check No. 10 on coupon, p 213



Complete casement bow is made as one unit. All joints are dovetailed for strength, weathertightness, and narrow mullion lines. Top and bottom casing are shaped to bow radius, glued and screwed to head and seat. All wood is Woodlife treated. Hardware includes extension hinges, roto gears, cam-action locks. Screens are alodized aluminum.

Fred Reuten Inc, Closter, N.J.

For details, check No. 11 on coupon, p 213

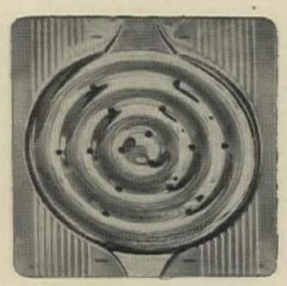
New Products continued on p 194

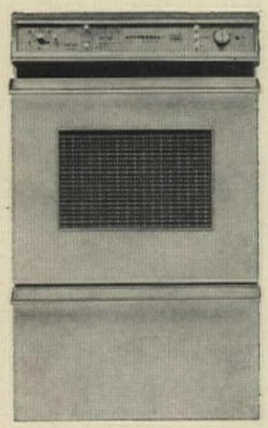


Announcing... a new range of ideas: the new WASTE KING UNIVERSAL Built-In. Dreyfuss-designed to look better... as fresh and new as a spring bouquet. Smart new control panels ... a choice of 5 kitchen-fresh colors... smart, new burner grates. And it's WASTE KING UNIVERSAL-engineered to cook better

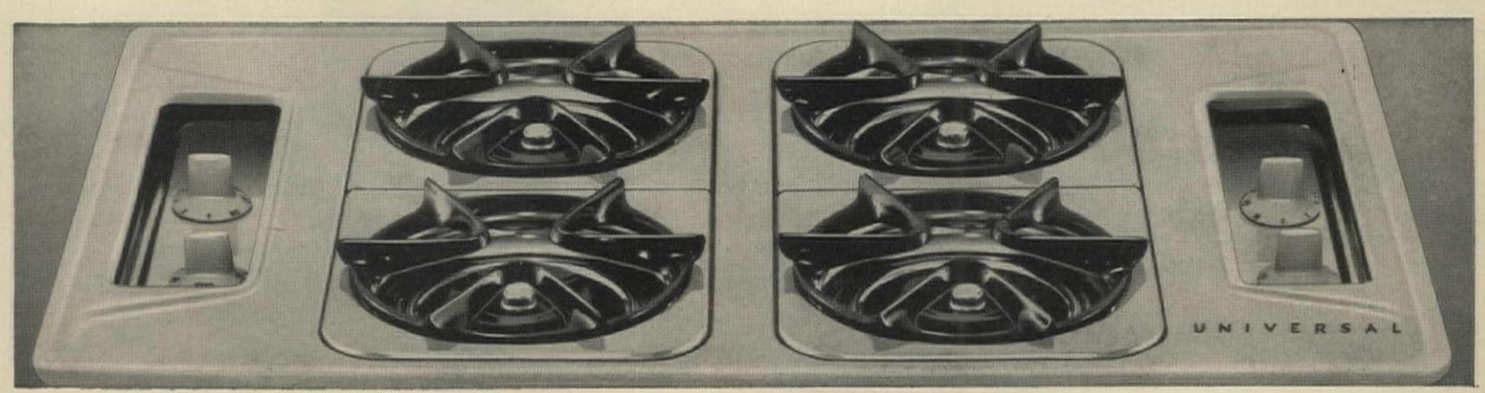
NEW

—with the smartest, work-saving features in ranges to day. Completely automatic Roast Guide with clock controlled oven; push-button easy, it controls by time, size or type of meat. Oven eliminates hot spots and cold corners. Smoke-Proof and Flare-Proof broiling with exclusive "Swirl-Design" keeps grease from smoking and reaching the flash point. A complete choice of burner units: Double-Duty burners, "Burner-with-a-Brain" (A. G. A. trademark); new Obedient burners. A wide variety of models means the easy-to-install Waste King Universal line will fit your needs. Gas and electric units are dimensionally interchangeable. Quality is obvious... a fast way to show your quality approach to building. A fast way to put "Sold" signs on the front lawn. You can't buy and feature better built-ins —at any price. For full specifications on built-in ranges, drop-in electric ranges, undercounter automatic dishwashers, and the famous Waste King Universal disposers, write, wire or phone today to: WASTE KING CORPORATION, Los Angeles 58, California.





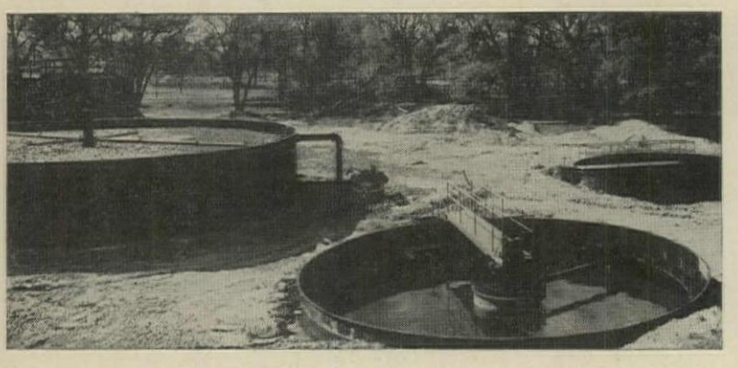
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HOMES LIKE THESE...



DEPEND ON THIS...



LOW-COST SEWAGE TREATMENT PLANT

...makes new college and its campus community a reality

One of America's most talked-about colleges—and its 700-home campus community—is rapidly becoming a reality to the people of Oakland County, Michigan. Only 18 months ago, however, both college and community were clearly out of reach.

Michigan State University wanted to build its new branch near Pontiac, in Oakland County. Certainly, the county wanted it. Local developers were eager to provide needed housing. One important deficiency: adequate sewage treatment facilities—and the money to build a city-style central plant.

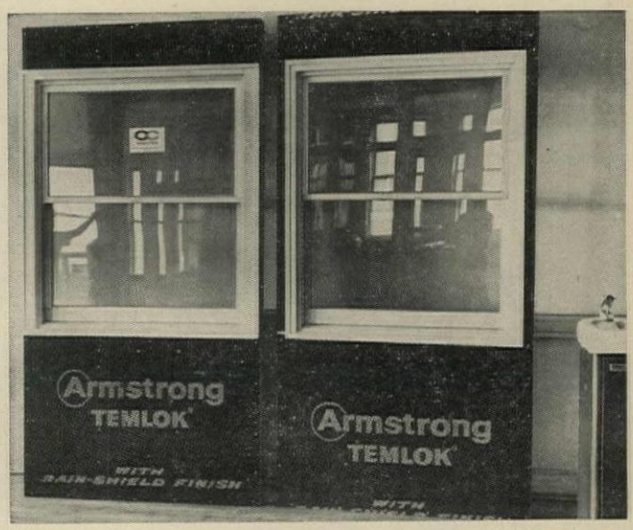
But where there's a will, there's a way. In this case, the three interested groups—University, county and builders—evolved a plan around "Suburbia," a low-cost sewage treatment plant which can be planned to serve communities of 200 to more than 10,000 homes. "Suburbia's" relatively modest cost made it possible to allocate the necessary funds.

So Oakland County got its college, which promises to become one of the Nation's most intellectual. And just as important, from the standpoint of builders in the area, is this: the "Suburbia" plant serving Michigan State University—Oakland and its campus community is only the first step in a much larger "master plan"... which will eventually provide adequate sewage treatment for the entire Clinton River Basin (about 220 square miles) at very sensible cost.

Because they are individually designed, under the direction of consulting engineers, "Suburbia" units conform to State and local requirements. Because they can be erected in so little time (90-120 days), builders find themselves able to construct *and sell* homes sooner. Best of all, "Suburbia" involves less initial and operating capital than any other type of conventional sewage treatment plant. Furnished and installed, on a turnkey basis only, by...

MUNICIPAL SERVICE COMPANY

4623 Roanoke Parkway • Kansas City 12, Missouri • Phone JEfferson 1-9500



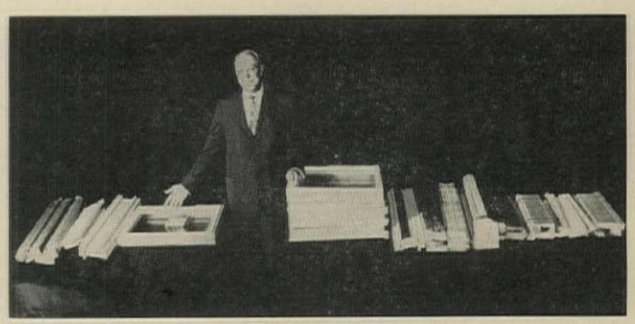
MODULAR UNIT, left, is made to span a LuReCo (or other) wall panel. Frame fits between studs, casing fills area from edge to edge. Older unit, right, falls short of filling panel edge to edge.

Curtis windows go modular

New sizes fit 4′ wall panels without extra 2x4s, special cutting, fitting, or bracing; 3″ outside casings give an overall width of 4′. And to do it they use fewer parts: four new double-hung units use one basic frame, one sash, four sets of hardware; a new slider uses the same side jambs. One removable and one non-removable double-hung are top-line wood weatherstrip units; others are a new economy metal stripped group. All are factory-primed, can be palletized for quick handling.

Curtis Companies, Clinton, Iowa.

For details, check No. 12 on coupon, p 213



WINDOW PARTS, left, indicated by Chairman George M. Curtis, can be used in any of four windows that formerly required elements at right.



PALLETIZED LOADS for ready handling in transit and in stock are possible with the new standardized parts, can save 75% in storage space.

New Products continued on p 197



TULIP KNOB DESIGN ILLUSTRATED WITH IMPERIAL ESCUTCHEON

How "the Schlage idea" helps sell homes

Here's where prospects get their first impression—and right from the start the sales team can point to *quality*. Both first-time and experienced home-buyers know Schlage locks, recognize that if a builder uses the best *here* he has probably used the best everywhere in the home. So Schlage creates confidence.

And maybe as important as helping the builder sell is freedom from call-backs afterwards. Behind every Schlage lock is this vital idea: "*design* it better, *make* it better, *guarantee* it to last a housetime."

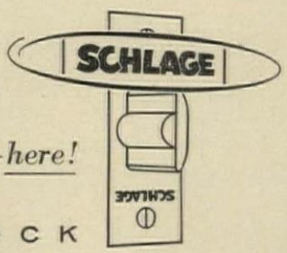
If you build quality homes, say so—by using Schlage locks throughout.

SCHLAGE

SCHLAGE LOCK COMPANY

San Francisco...New York...Los Angeles
Chicago...Vancouver, B.C.

If it's a quality home
prove it—here!



AMERICA'S MOST DISTINGUISHED LOCK

"Ideal" for your new homes and remodeling jobs . . .

IDEAL REG U S PAT OFF Kitchen Cabinets



Here are the reasons it pays to use IDEAL Kitchen Cabinets: They make the kitchen a center of attraction because they look and feel like fine furniture; Made of Western Ponderosa Pine and available with Pine or Birch fronts; Sanded satin-smooth, any type finish goes on easily and smoothly; Easy to arrange and install because units are available in wide range of sizes and connecting units can be cut back to make fitting an easy job; Doors are reinforced with metal strips to prevent cupping.

AVAILABLE IN THE FOLLOWING STATES: ALABAMA, ARKANSAS, GEORGIA, KANSAS, KENTUCKY, LOUISIANA, MISSISSIPPI, MISSOURI, NEBRASKA, NEW MEXICO, OKLAHOMA, SOUTH CAROLINA, TENNESSEE, TEXAS

Send for free Catalog!

IDEAL COMPANY, BOX 889, WACO, TEXAS

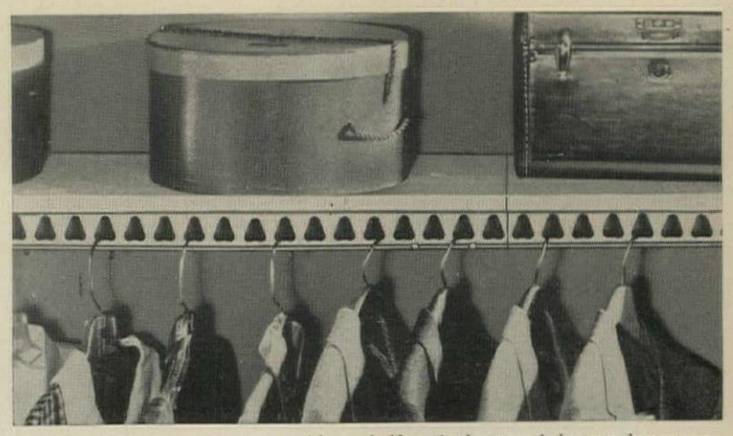
Please send IDEAL Millwork literature to:

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CITY AND STATE_____

H&H-8-60

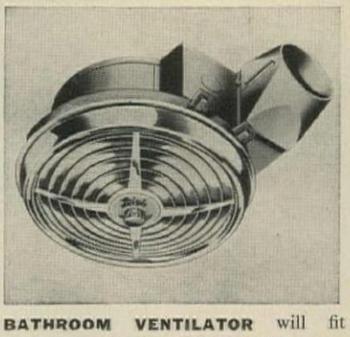


WARDROBE SHELF-VALET combines shelf and closet rod in one heavy-gage steel unit. Shelf is 12" deep, adjustable in width so five sizes cover closets 23" to 84" wide. Prices: $4.90 to $9.70. *For details, check No. 13 on coupon, p 213.*

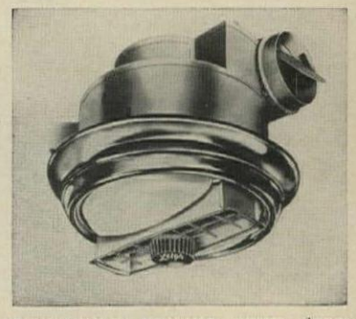
Leigh shows new built-in hardware

The products on this page are all being introduced by Leigh Building Products this summer. All are designed to give built-in convenience at relatively low cost and to go in place quickly and easily. Stocks are available from three major warehouses—Coopersville, Mich., Asheville, N.C., and Los Angeles—and from local jobbers nationwide.

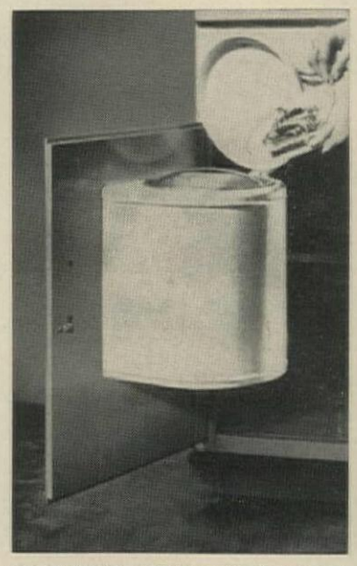
Leigh Building Products, Coopersville, Mich.



BATHROOM VENTILATOR will fit into space 4" deep. Four-pole motor operates 4¾" centrifugal blower for long duct runs. *For details, check No. 14 on coupon, p 213.*



THREE-WAY CEILING UNIT draws 1,320-w for 4,500 to 5,000 Btu output. Light takes two incandescent lamps. Unit fits between joists. *For details check No. 15 on coupon, p 213.*



DOOR-HUNG CONTAINER keeps garbage out of sight. Outer can is white baked enamel; removable pail is heavy galvanized steel. *For details, check No. 16 on coupon, p 213.*



SLIDING TOWEL RACK on four nylon guides rides on steel track, bars are chrome plated. Side-mounting unit: $4.07; top-mounter: $4.88. *For details check No. 17 on coupon, p 213*

New Products continued on p 201



Sold on the home with

MATICO TILE FLOORS

"What's **different** about the house?"... that's what Sunday "lookers" ask themselves. Successful builders know this . . . know that rich, colorful, practical floors can make the difference that sticks in the prospect's mind. That's why smart builders feature nationally-advertised Matico Tile . . . the tile of dramatic, lasting colors and patterns . . . easy to install . . . easy on the eyes . . . easy on the housewife! And Matico Tile is priced to keep **your** costs down too!

See the results yourself when you install Matico Tile throughout your next project.

This striking floor is Matico Tweed Vinyl-Asbestos Tile #1155

Vinyl Tile • Rubber Tile • Asphalt Tile • Vinyl-Asbestos Tile • Plastic Wall Tile

MASTIC TILE DIVISION
The RUBEROID Co.
Houston, Tex. • Joliet, Ill. • Long Beach, Calif • Newburgh, N.Y.

QUALITY CONTROLLED MATICO PRODUCTS

Mastic Tile Division
The Ruberoid Co.
Dept. 14-8, P.O. Box 128, Vails Gate, N.Y.

Please send me information on Matico's Builder Program

Name.....

Address.....

City.....Zone.....State.....

10B-588

New General Electric built-ins—the ranges with all



New! Sensi-Temp Unit makes range-top cooking completely automatic

The desired temperature is simply dialed and the automatic Sensi-Temp* Unit maintains proper cooking heat. Pot watching is eliminated.

Pushbutton panel with dial for automatic unit and other cooktop controls can be placed in back or side wall. Roomy 21-inch Custom oven has automatic timer and minute timer, charcoal-type broiler, automatic rotisserie and meat thermometer, floodlight, two shelves and removable door.

General Electric Built-Ins offer so many other features: single and double ovens, two and four-unit cooktops, wide range of Mix-or-Match colors and a choice of several types of controls. Include General Electric Built-In Ranges in *your* plans for 1960!

Plans, specifications and accessory sources for the above kitchens are available from: Range Department, General Electric Company, Building 2, Appliance Park, Louisville 1, Kentucky.

*Trademark of General Electric Company

The Golden Value Line of the 60's

the most-wanted features!



Special all-in-one version of popular new Mark 27

Surface units, oven and control panel in one compact, built-in unit. With controls right on the range instead of on a separate panel, you save an extra installation step and you save money.

Features? Unique recessed top with four surface units, pushbutton controls, big oven with removable door and focused heat broiler. Available in coppertone, white and Mix-or-Match colors—and available *right now!* Model J610.

SLIDES INTO PLACE

SAVES SPACE,
TIME AND LABOR



One piece—one installation. Controls are built right in. For *complete specifications* and installation information, contact your local General Electric distributor or write to—Range Department, General Electric Company, Appliance Park, Louisville 1, Kentucky.

Progress Is Our Most Important Product

GENERAL ELECTRIC



Scored Tile, in new Crystalline Glazes, used in an entrance hall designed by Emily Malino Associates. Walls: 315 Cr. Tan in Scored Design SD-1. Floor: 345 Cr. Cobalt in Scored Design SD-4. Color Plate 82.

This Entrance Hall is a Real Sales Feature!

It's cheery and charming with walls and floors of American-Olean's new Crystalline Glazed Tiles. They have a rich textured surface as decorative as it is rugged. On floors, they'll last a housetime without waxing, scrubbing or replacement.

Architects and builders are using Crystalline Glazes and Scored Tiles* to create new and different decorative effects not possible with other materials.

Crystalline Glazed Tile is made in thirteen new colors, as well as in four Scored Tile designs—permitting hundreds of different patterns and color combinations. Send for full color booklets which give complete information.

*PAT. APPLIED FOR

AMERICAN-OLEAN TILE COMPANY, INC.
1552 Cannon Ave., Lansdale, Pa.

Please send me Booklets 1020, "Crystalline Glazes and Scored Tile" and 450, "Color Planning with Ceramic Tile".

NAME_____
(PLEASE PRINT)

COMPANY_____

STREET ADDRESS_____

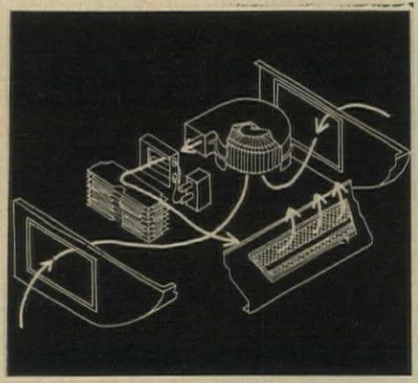
CITY_____ ZONE_____ STATE_____

CERAMIC TILE
American Olean

AMERICAN-OLEAN TILE COMPANY, INC. • EXECUTIVE OFFICES: LANSDALE, PA. FACTORIES: LANSDALE, PA., OLEAN, N. Y. MEMBER: TILE COUNCIL OF AMERICA, PRODUCERS' COUNCIL

New products

start on p 185



Electronic range hood, new from Caloric, is latest wrinkle in ductless hoods. Filter is a small electrostatic precipitator which pulls dirt out of circulating air. Filter is simply washed in household detergent when cleaning is necessary. Unit comes in stainless steel or colored enamel.

Caloric, Topton, Pa.

For details, check No. 18 on coupon, p 213



New quiet disposer tops Chambers line. Hush-A-Way Deluxe unit has self-sharpening sleeve and blades, precision balanced ⅓-hp motor, ball-bearing drive. New hangar makes installation easy. Factory guaranteed for one year.

Chambers Built-ins, Chicago.

For details, check No. 19 on coupon, p 213



Frostless freezer from Kelvinator uses circulating air rather than shelf coils to cool box. Air carries moisture away from storage area so it cannot pile up. The 14 cu ft box holds 490 lb of food, has door shelves, roll-out basket, removable shelf for convenience.

Kelvinator, Detroit.

For details, check No. 20 on coupon, p 213

continued on p 202

The finest homes deserve Certain-teed Sheathing



Certain-teed Insulating Sheathing provides the excellent quality that a fine home deserves.

Made of select wood fibers asphalt treated and coated, Certain-teed Insulating Sheathing offers:

- **Superior strength**
- **Weather resistance**
- **Excellent insulation**
- **Low applied cost**

Available in standard ½" and 25/32", plus the new Hi-Strength ½". Both the standard 25/32" and the new Hi-Strength ½" eliminate the need for corner bracing.

Certain-teed® ... *Superior Products through Creative Research*

CERTAIN-TEED PRODUCTS CORPORATION

Ardmore, Pennsylvania

Plants and offices throughout the United States



Rilco Laminated Wood "Stars" In "Strangers When We Meet"

NEW COLUMBIA MOTION PICTURE WITH KIRK DOUGLAS, KIM NOVAK, ERNIE KOVACS AND BARBARA RUSH

The natural beauty of Rilco laminated wood beams and posts play a major role in Columbia Picture's new movie, "Strangers When We Meet." The plot is closely interwoven with the design and construction of an all-wood home — and throughout the color production exposed Rilco laminated wood members help to provide the necessary feeling of warmth and character.

The contractor, Kenneth B. Wamsley, Santa Monica, Calif., also discovered advantages in Rilco laminated wood . . . workmen were able to quickly erect prefabricated Rilco products just ahead of the tight filming schedule.

You too will be pleased with the fine workmanship and beauty of Rilco laminated wood structural members. Produced from top quality Douglas Fir, they reflect Rilco's ability to combine structural and decorative advantages in a most economical manner.

Whether it's residential, church, school, commercial or industrial building, Rilco adds natural beauty . . . enables you to build better for less.



Home designed by Columbia Art Directors Ross Bellah and Carl Anderson; engineered by Victor Gruen Associates, Architects, Beverly Hills and New York City.

SEE OUR CATALOG IN SWEET'S
OR WRITE FOR COPY

RILCO
works wonders with wood

RILCO LAMINATED PRODUCTS
W843 First National Bank Building
St. Paul 1, Minnesota

DISTRICT OFFICES: Tacoma, Washington; Fort Wayne, Indiana; Linden, New Jersey

New products

start on p 185



Vertical siding has been added to Alcoa's new line, is designed to match the 8" clapboard introduced earlier. Vertical corrugations 12" oc give board & batten effect. Siding is made of Alclad sheet Alumalure coated in dark and light green, maroon, white, and grey.

Alcoa, Pittsburgh.

For details, check No. 21 on coupon, p 213



Stylonet 12-set is a 3x4-tile sheet of 4¼" ceramic wall tile mounted on a paper-mesh backing that allows 70% contact between tile and wall. Sheets will not buckle, handle easily. Mesh is quickly cut with a trowel, is pliable enough to adapt to wall surface.

Stylon Corp, Milford, Mass.

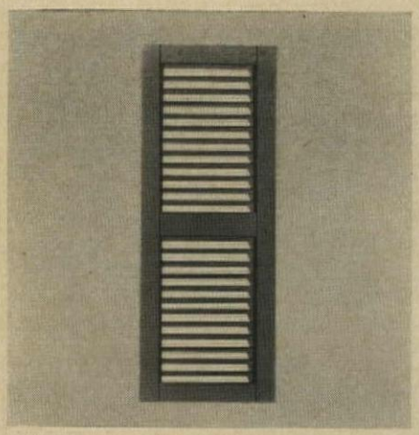
For details, check No. 22 on coupon, p 213



Random vinyl chips in a clear vinyl grout make Armstrong's latest sheet flooring. Patrician is Hydrocord backed, comes .070" guage in 6' wide rolls. Introduction colors in five ranges—white, rose taupe, ivory, celadon green, multibeige. Price: about 90¢ a sq ft.

Armstrong Cork, Lancaster, Pa.

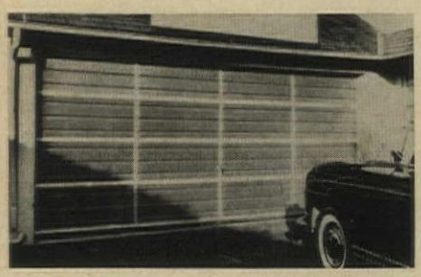
For details, check No. 23 on coupon, p 213



Aluminum shutters to match its line of clapboard and vertical aluminum siding have been announced by Crown. Shutters of heavy-gauge stock are preassembled and predrilled for installation over wood, stone, or brick. Shutters come in four colors—white, green, black, and gray—16″ wide; 39″, 42″, 47″, 51″, 55″, 59″ 63″, high.

Crown Aluminum, Pittsburgh.

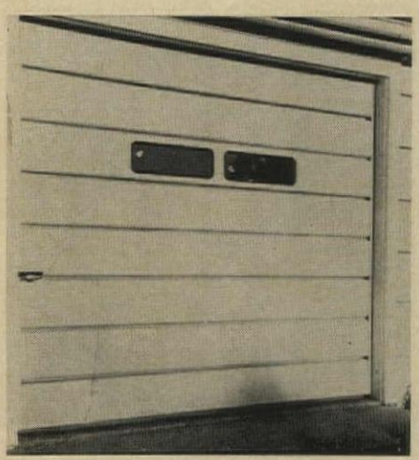
For details, check No. 24 on coupon, p 213



Fiberglass panels set in tempered aluminum frame make lightweight, low-maintenance garage door. Color is integral with plastic; glass fiber reinforcing makes panels shatterproof. Doors come in all single and double sizes, with white, coral, yellow, tan, or green panels.

Frantz Mfg Co, Sterling, Ill.

For details, check No. 25 on coupon, p 213



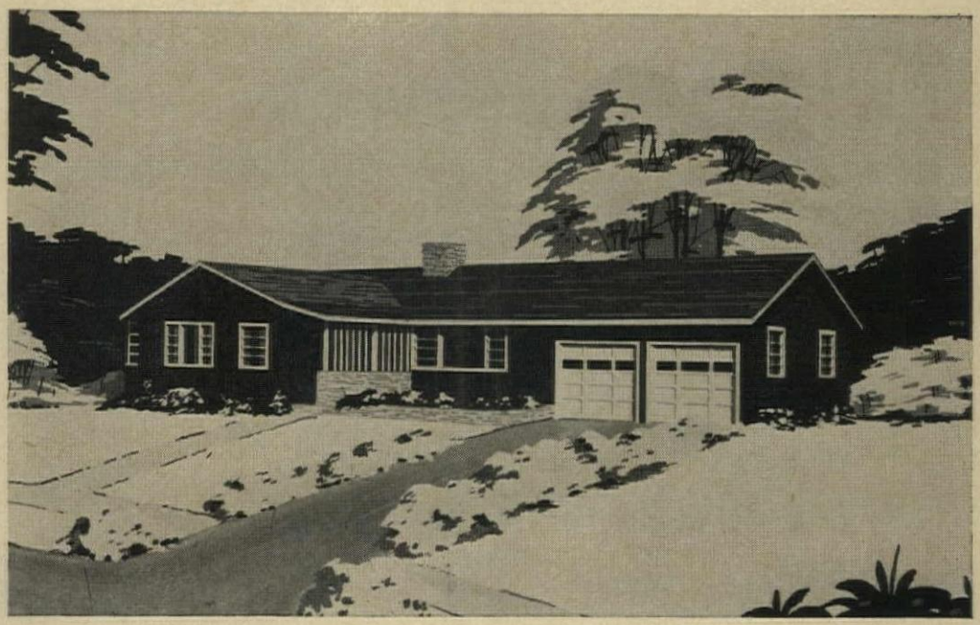
Primed steel door is newest Berry Suburban line model. Preassembled hardware cuts installation time to 20 minutes. One paint coat finishes. Horizontal V grooves add strength without weight, are designed to reject fingers when opening or closing. Five-year guarantee.

Berry Door Corp, Birmingham, Mich.

For details, check No. 26 on coupon, p 213

continued on p 204

IN LAND DEVELOPMENT:
Faster ACTION *with* *Ford* STYLE *Ford* QUALITY!



In land developing, *time* is *money*—BIG money. Once a development has gotten under way, one thing you want . . . and must have . . . is *action*. Homes must go up on the land *fast* . . . and sell *fast*!

Of course, too, this *action* must result in *profit*. On every count—for fast erection, quick sale *and* profit return—FORD HOMES *are* the right answer. That's why more and more developers today are turning to FORD *factory-built* HOMES.

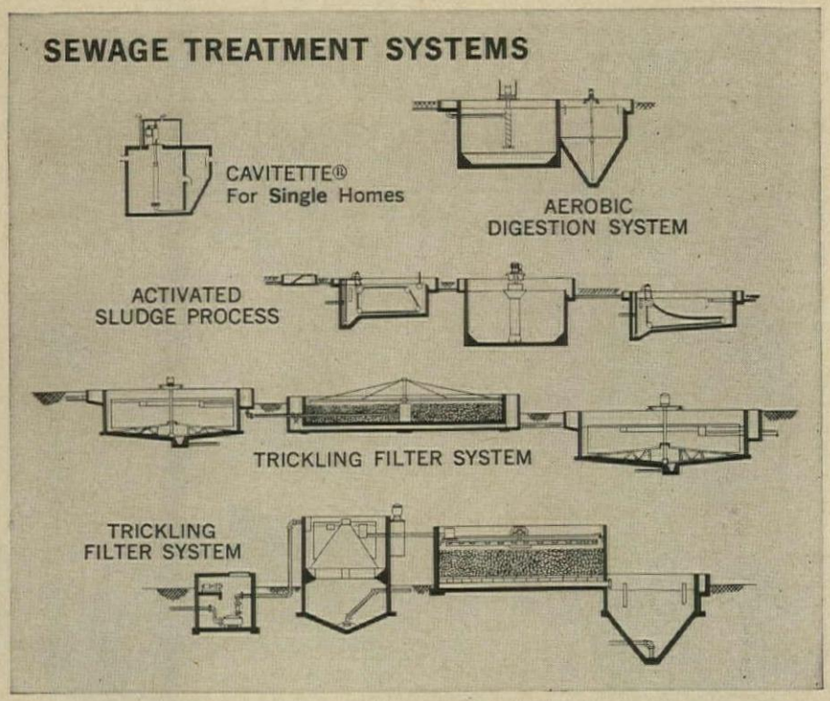
Here's how FORD HOMES fill the bill . . . for action . . . for profit!

- FORD Homes go up fast . . . are ready for decorating 24 hours after delivery . . . with big savings in on-site labor costs.
- FORD *style* is right for today's home market . . . styling that is functionally modern . . . tastefully attractive . . . that will live well through the years.
- FORD *quality* sells more homes faster because Ford design combines "*engineered-in*" efficiency of layout with the strength and economy of production manufacturing methods that deliver "more home for the dollar".
- FORD builds with famous brand name materials, equipment and components throughout; solid brass hardware, thermopane windows, top quality heating units and electrical fixtures.
- FORD builds in "re-sale insurance" with advanced wiring and outlet installations designed for the appliances and services of today—*and* tomorrow.
- FORD Homes are complete homes . . . Ford does the wiring, applies the dry-wall, completes the trim, lays the finish flooring . . . all in one package.
- FORD Homes meet or exceed FHA, VA and conventional mortgage requirements, and are accepted by leading building code authorities.

Quite a deal? You bet! And that's why—by being able to offer more house for the money—you will get faster *action*, get the *profit return* you want with the complete FORD quality-home package. For full details, write today on your letterhead to Dept. HH:

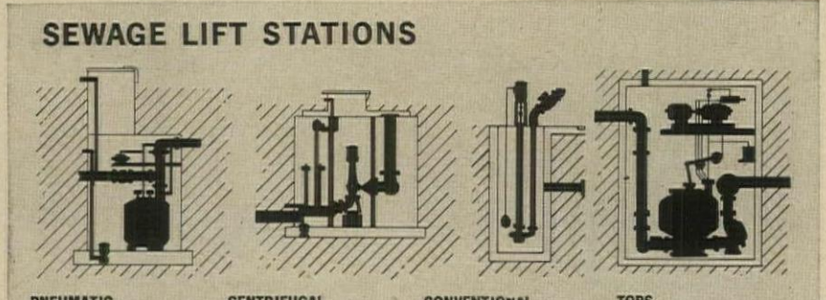
IVON R. Ford INC., MC DONOUGH, N. Y.

Manufacturing Franchises available in some areas.



Everything a Builder Needs to Treat and Pump Sewage

For 1 home or 10,000 . . . whatever the economics, degree of treatment required, topographical conditions, expected life of installation or expandability, Yeomans offers you the equipment to solve any sewage-handling problem. It is the world's most extensive line and backed by the experience of a specialist. The booklet offered below brings you some of that experience right away.



PNEUMATIC UNDERGROUND STATION
"Package" design including structure. Easy to service, sanitary, low maintenance.

CENTRIFUGAL UNDERGROUND STATION
Quality "package" design with short-coupled dry-pit pumps. Nominal cost.

CONVENTIONAL WET-PIT
Low first cost, familiar installation and maintenance. Commercial or residential.

TOPS IN DEPENDABILITY
Shone® Pneumatic Ejector—25-Year Warranty! Maintenance free. Lowest over-all cost.

ALL YOU NEED TO KNOW ON HOME SEWAGE DISPOSAL

Published especially for builders, this fast-reading booklet gives the solution to any problem you might meet in home sewage disposal. Covers single-home systems, central plants, temporary facilities, connection to municipal lines, different types of terrain, lift stations, and health considerations for one to 1500 homes. Not technical! Forty pages, full of helpful illustrations. Fill out this coupon for your free copy of "The Homebuilder's Guide to Effective Sewage Disposal."

YEOMANS
2003-8 N. Ruby St.,
Melrose Park, Ill.
(Suburb of Chicago)

Name_____

Title or Business_____

Company_____

Street_____

City_____ Zone_____ State_____

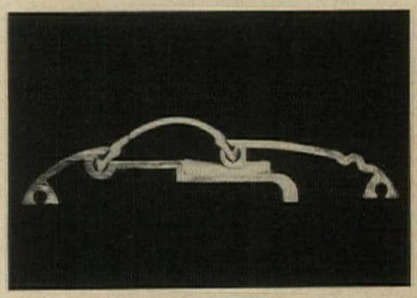
No. of Homes Planned_____; Scattered Lots_____;

Tract Development_____

TL-6027

New products

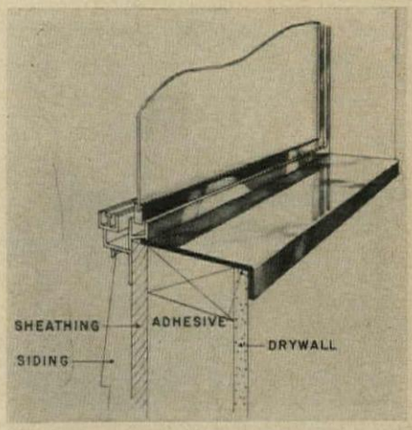
start on p 185



Adjustable sill gives a tight weather seal without shimming threshold or trimming door. Either (or both) end of the inner section can be moved in or out to raise or lower the vinyl bubble, or raised or lowered to adapt to floor level. Sill can adjust to overall height of 1 3/16".

Gossen Weather Strip, Milwaukee.

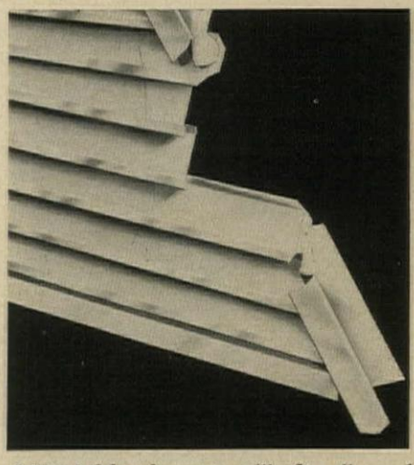
For details, check No. 27 on coupon, p 213



Fiberglass sill forms a low-cost, low-maintenance stool for metal windows. Sill looks like marble, but cost is less than half and sill will not chip, stain, or mar. Glassill comes in 4½" and 5¼" widths, 9' lengths; can be cut with hacksaw or abrasive disk.

Glassill Co, Dearborn, Mich.

For details, check No. 28 on coupon, p 213



Adjustable louver will fit all roof pitches from 2-in-12 to 10-in-12—the slot opening widens as pitch decreases to give maximum free area at any slope. Factory-assembled louvers are made of .025 gauge aluminum, with 8x8 mesh aluminum screens. Three sizes (68" base and up) fill most uses.

Louver Mfg Co, Minneapolis.

For details, check No. 29 on coupon, p 213

Publications start on p 208

Bostitch Staplers Save Maryland Builder $55.13 per House

$33.75 SAVED ON ROOF ALONE

Stapling a 24′ x 48′ roof is a three-hour job for four men and a carrier. The same size roof was a six-hour job with hammer and nails. At $2.25 per man, savings come to $33.75. Stapler is Bostitch H4 Heavy-duty Hammer.



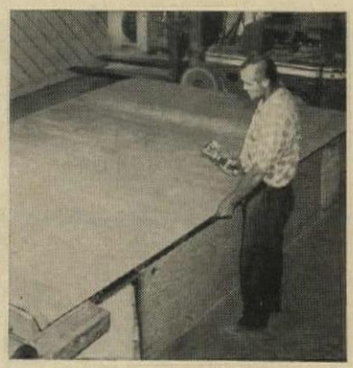
STAPLING CUTS SCREENING JOB $4.50

Screening goes up 50% faster using a Bostitch T5 Tacker to fasten it to soffit supports. Hammer and tacks were used before. There's less fatigue with the powerful, spring-driven T5—and one hand is always free to position screening precisely on soffit supports.



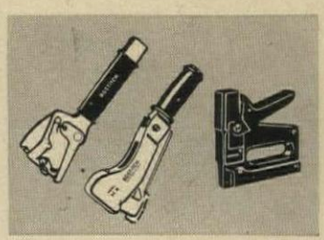
ONE-HOUR JOB DONE IN 15 MINUTES—$16.88 SAVED.

Men in shop staple aluminum vapor barrier in sidewalls in a quarter hour. This was a one-hour chore with hammer and nails. At an average of 10 panels per house, builder puts an additional $16.88 in the profit column on each house.



WHERE ELSE CAN BOSTITCH STAPLERS SAVE YOU TIME AND MONEY?

Many places—installing ceiling tile, Cornerite, metal lath, insulation and low-voltage wiring—to name just a few. On a typical small house, your savings should equal or better this builder's. Stapling will save you even more if you use Bostitch staplers and staples on *all* the building jobs that they do better and faster. You'll find them at building supply dealers everywhere.

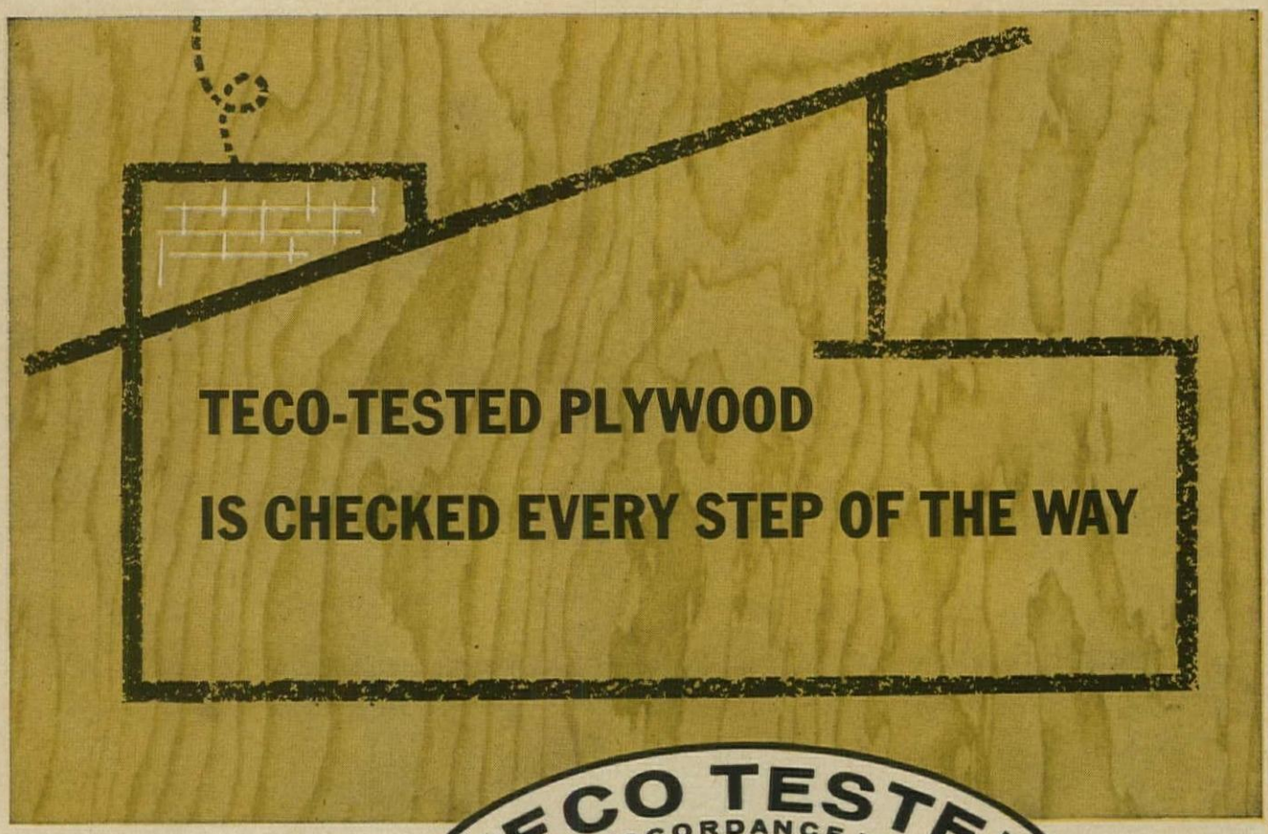


Fasten it better and faster with

BOSTITCH®

STAPLERS AND STAPLES

528 BRIGGS DRIVE, EAST GREENWICH, R. I.



TECO TESTED
IN ACCORDANCE WITH
CD-INT(STRUC.)
PLY
THE COMMERCIAL STANDARD FOR
DOUGLAS FIR PLYWOOD

Santiam's New Plywood Grade Stamp Guarantees Consistent Quality

The Teco Grade Stamp is backed by the Timber Engineering Co., Washington, D.C. It is an independent FHA-Accredited Testing Agency. The Teco Grade Stamp means that plywood carrying this stamp has undergone production line inspection and testing by a technician employed by Timber Engineering Co. What this means to you is that this technician is on duty every day watching and checking every step of the manufacturing process. He knows what goes between the two outer plys—the core material, the kind and type of glue, patching, in fact the whole operation from log to finished product. Only when plywood meets Teco's rigid requirements is it given the Teco grade stamp of approval. This is your guarantee of a consistent supply of superior quality plywood when you insist on TECO.

SANTIAM
LUMBER CO.

Sweet Home, Oregon
Phone EMpire 7-2121, TWX 315-U

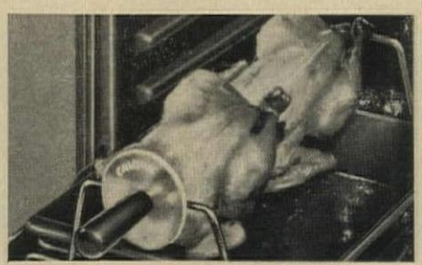
Show you know Quality...



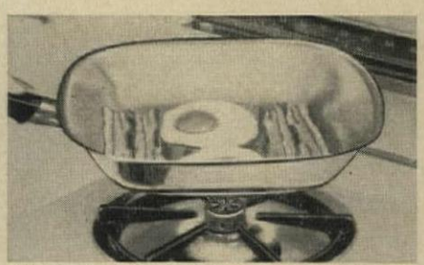
build in a new CALORIC Gas Range that displays the Gold Star Award!

Only top-of-the-line ranges bear this Gold Star. Awarded by A.G.A., it shows quality at a glance—it's a guarantee of 28, or more, of the latest advances in performance, automation and design.

Your customers will spy the Gold Star immediately. Pre-sold by TV, 4-color magazine ads, local promotions—*there's millions of dollars supporting it*—they'll know the home you've built offers faster, cooler, cleaner cooking. There's no better way to impress a woman!



LATEST FEATURES! Caloric built-in Gas ranges offer latest automatic conveniences: rotisserie, clock-controlled oven, meat thermometer that roasts "just right"... then turns oven off. Gold Star standards insure, too, that every inch is a cinch to clean!



TRULY AUTOMATIC! Burner-with-a-Brain* keeps food from burning or boiling over—the Gas adjusts itself to maintain steady temperature. Engineered for easy installation, Caloric Gas built-ins come in 7 beautiful metal and porcelain finishes.

**A.G.A. Mark © Am. Gas Assoc., Inc.*

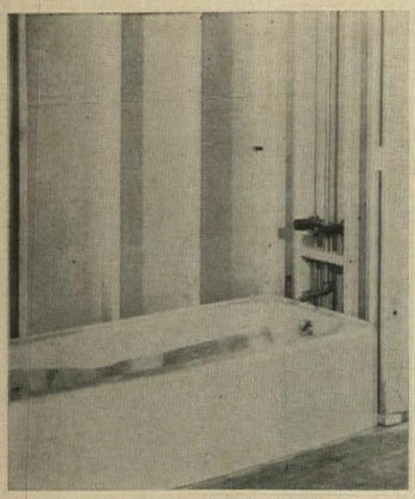
GOLD STAR QUALITY MEANS ECONOMY, TOO! As a builder, you save on installation costs when you put in Gas built-ins. Your customers save, too—Gas burners never wear out, monthly bills are low. These are two important talking points. The dependability of Gas—in all weather—is another. Call your local Gas company for help in planning better kitchens.

AMERICAN GAS ASSOCIATION

Caloric

No wonder...

today more people than ever are cooking with GAS!



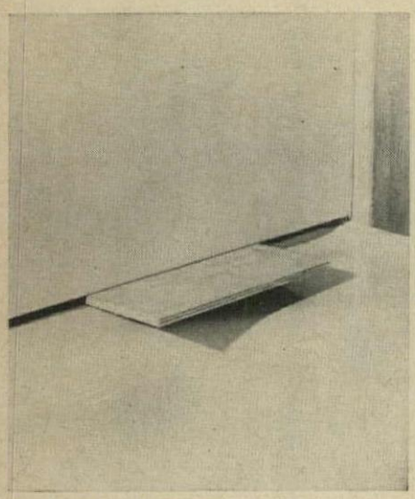
1. Place tub so lip is flush with drywall.



2. Or fur-out the studs to meet tub lip.



3. Use full sheets to avoid butt joints.



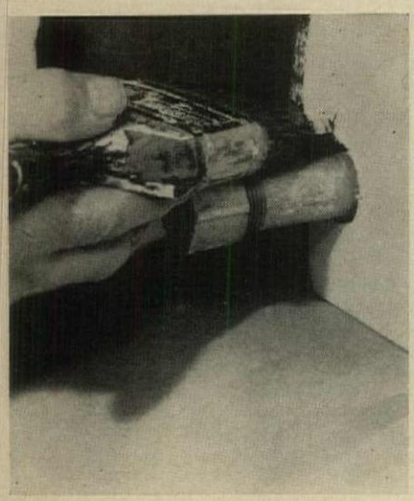
4. Allow ¼" between tub and bound edge.



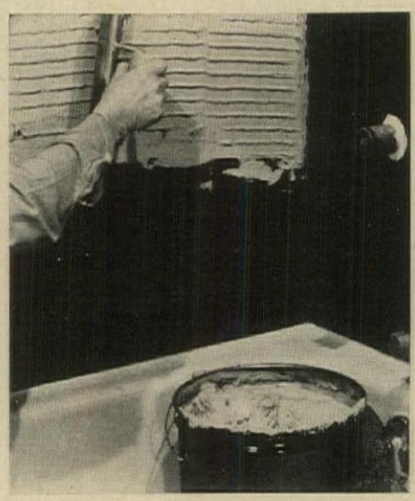
5. Tape and cement joints and nail heads.



6. Coat with heavy waterproof sealer.



7. Seal all wallboard edges and cutouts.



8. Apply mastic according to specifications.



9. Cover ¼" gap with tile, caulk joint.

Here is how to apply tile to gypsum drywall

Gypsum wallboard makes a good, sound, and economical base for tile in tub alcoves and showers—with one big If: All precautions must be taken to keep water from getting through to the wallboard. To show you how to do it, the Gypsum Assn has prepared a new color slide film and an illustrated brochure that ask the question: "Why should builders have to spend $75 more per bathroom to use other materials, when gypsum wallboard provides a soundly constructed wall accepted by FHA?" The answer is given in the picture sequence above. Film showings can be arranged by writing to the Gypsum Assn, 201 North Wells St, Chicago 6. Brochure is available by checking H&H coupon.

Gypsum Assn, Chicago.

For copy, check No. 30 on coupon, p 213

Publications continued on p 210

INTRODUCING...

THE NEW *Broan* MIXED-FLO RANGE HOOD



it combines the performance you want with the price that you like

Two important advantages come your way with this new contract winning hood. Both of them help make your bid look best.

Advantage No. 1 is a hood of superior performance. With the Mixed-Flo Fan you can point to an exhaust system that is revolutionary in development . . . that performs more efficiently, runs more quietly than any fan or blower-operated hood on the market.

Advantage No. 2 is cost. You can bid low with the Mixed-Flo because you have an initial price advantage. And you save valuable time and money on every job because this great hood, like all Broan hoods, comes to you as a complete package, factory wired, fully assembled, ready to mount in place. And the Mixed-Flo is engineered to fit your installation with either vertical or horizontal discharge.



MIXED-FLO HOOD FEATURES—

- Unitized Construction — the fan is fully housed within the hood. There is no lost cabinet space whatever.
- Great In Exhaust Power — the new Mixed-Flo Fan provides extra pressure needed for long duct runs and elbows . . . formerly achieved only by blower powered units.
- Remarkably Quiet In Operation — the highly efficient Mixed-Flo Fan is designed for low sound level performance.
- Smooth Inside, Outside Construction — no sharp screw ends.
- Smart Sculptured Hood Design — only 5 slim inches high. Mitered corners permit cabinet doors to open fully.
- Equipped for Twin Lights for shadowless cooking. Recessed lifetime aluminum filters snap out with the greatest of ease. Front pushbutton controls.
- Accommodation For Vertical Or Horizontal Discharge to 3¼" x 10" duct without fittings.
- A Fast Running Installation — comes prewired, preassembled . . . simply remove the outlet box cover to hook up power supply.

See your wholesaler or write for full information



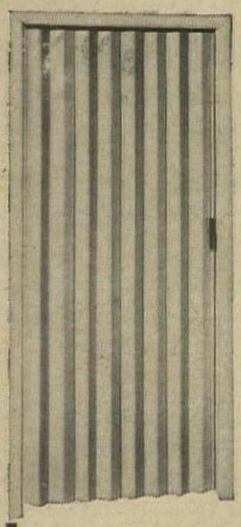
Broan®

MANUFACTURING CO., INC. • 924 W. STATE ST., HARTFORD, WIS. (Near Milwaukee)

Specialists in Quality Ventilating Equipment for Over 25 Years

In Canada — Manufactured by Superior Electrics Ltd., Pembroke, Ontario

INSTALLED IN SECONDS!



NO Hanging!
NO Painting!
NO Hardware!

New, unique patented design enables the builder to use construction short-cuts, labor-saving installation procedures never before enjoyed. Available in heights to 8', widths to 4'. Can be installed in pairs. 16 lovely, washable, fire-resistant vinyl colors available.

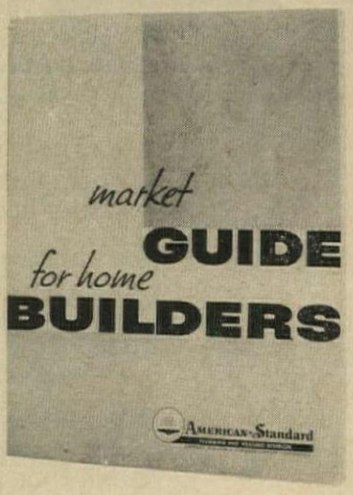
THE Columbia-matic
FABRIC DOOR
Slashes Builders Costs

For complete details write
THE COLUMBIA MILLS, INC.
368 S. WARREN STREET SYRACUSE 1, NEW YORK

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Published by Time Inc.

housing professionals like:

CHARLES B. SHATTUCK, past president of the National Association of Real Estate Boards. Says Mr. Shattuck: *"The influence of* HOUSE & HOME *for good in the betterment of the housing situation in America is unlimited."*



BOOKLET shows how to tabulate data. Tables at right show existing land use in Stratford, Conn. and land now available in residential zones.

table 6 — Existing Land Use in Stratford (1953)
(Town Area: 12,331 acres or 19.599 sq. miles)*

classification	acres	percent of town area
Residential	3,100	25.0%
Commercial	125	1.0
Industrial	700	5.7
Parks and Reservations	400	3.3
Private Recreation	110	1.0
Cemeteries	145	1.2
Schools	130	1.05
Public and Semi-Public Bldgs.	30	.2
Town Streets	750	6.0
State Highways	250	2.0
Merritt Parkway	120	1.0
Connecticut Turnpike	100	.9
Railroad	60	.5
Airport	350	2.9
Total—Developed Land	6370	51.7%
Undeveloped Land	5,961	48.3
Total	12,331	100.0%

* Actual land area is 18.5 square miles or 11,800 acres.

table 7 — Available Land in Stratford By Residential Zone

neighborhood number	type of zoning		approximate number of lots
1	RS-4	7,500 sq. ft.	300
2	RM-1	7,500 sq. ft.	250
3	RS-4	7,500 sq. ft.	100
4	RM-1	7,500 sq. ft.	60
5	RM-1	7,500 sq. ft.	120
	RS-4	7,500 sq. ft.	80
6	RS-3	10,000 sq. ft.	640
7	RS-4	7,500 sq. ft.	300
8	RS-3	10,000 sq. ft.	1,570
9	RS-4	7,500 sq. ft.	225
10	RS-1	40,000 sq. ft.	200
	RS-3	10,000 sq. ft.	80
11	RS-3	10,000 sq. ft.	160
	RS-2	20,000 sq. ft.	140
	RS-1	40,000 sq. ft.	1,020
		TOTAL LOTS	5,245

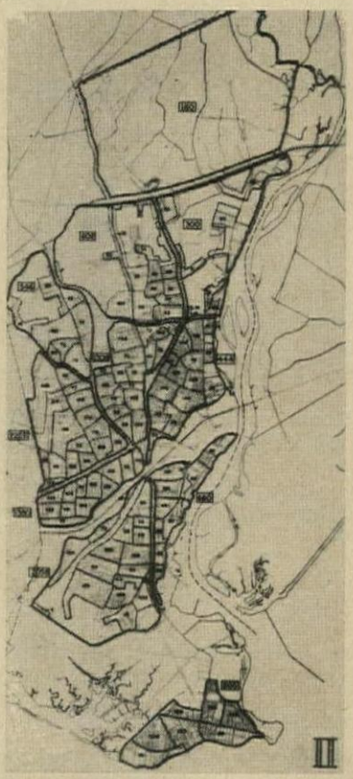
©1956 Master Plan of Development.

How to start a market survey

American-Standard has put together a 30-page guide to what you need to know before moving into a new area. The first section lists all the local sources of information, what kind of information you can get from each, and how to approach them. A second section uses a typical area (Bridgeport, Conn.) to show how to make an overall study of population and economic factors—growth, density, roads, zoning, utilities, sales climate. Part three makes a detailed analysis of one town in the area, covers land use, population distribution, zoning, topography, sewers, water lines, schools, etc. Part four shows the conclusions that can be drawn.

American-Standard, New York City.

For copy, check No. 31 on coupon, p 213





INFORMATIVE MAPS from planning or zoning groups can tell you existing and planned road layouts, general land use, population distribution, zoning, available land, sewers, water lines, schools, shopping facilities, new developments, etc.

Publications

All about lawn sprinklers

Rain Jet Corp, a leading manufacturer of underground sprinkling systems, has two new publications that cover the whole field.

A new catalog tells how the Rain Jet system works, then shows the wide variety of spray patterns available in the company's heads, the performance to be expected, the accessories and fittings available. 24 pages.

For copy, check No. 32 on coupon, p 213

A second Rain Jet brochure tells how to plan, layout, and install a sprinkler system. Foldout sheet includes squared plotting paper, sealed templates for spray patterns, engineering data, maintenance instructions.

Rain Jet Corp, Burbank, Calif.

For copy, check No. 33 on coupon, p 213

Insulating for electric heat

The new interest in better insulation for electrically heated houses is reflected in a new brochure from Forty-Eight Insulations. An eight-page manual gives minimum specs for all conditions, special requirements for ceiling heat, variants in glass area, and rate of air changes. Specs cover loose fill, batts, blankets, and vapor barriers for ceilings, walls, and floors.

Forty-Eight Insulations, Aurora, Ill.

For copy, check No. 34 on coupon, p 213

Case for ducted heat

Mueller Climatrol presents the arguments for central system electric heat in a new booklet, "Here's why electric heating that uses air circulation is best for you." Also shown: Mueller's line of heat pumps, electric furnace, duct heaters, cooling units.

Mueller Climatrol, Milwaukee.

For copy, check No. 35 on coupon, p 213

Resilient floor manual

Congoleum-Nairn has put together a 46-page booklet detailing all the relevant factors in choosing floor and wall coverings. Also included: product and installation specs, underfloor preparation, tables of properties, maintenance data. Company's complete line is shown.

Congoleum-Nairn, Kearny, N.J.

For copy, check No. 36 on coupon, p 213

New Virden fixtures

A short catalog of three new lines of fixtures is available from John Virden. One series is styled of reed and brass, another features opaque white globes in gold-flecked aluminum, a third is made up of brass planters. All are shown in four colors and fully described.

John C. Virden Co, Cleveland.

For copy, check No. 37 on coupon, p 213

Structural hardware catalog

Teco has a new comprehensive catalog of timber connectors, framing devices, and installation tools with full specifications on the products. New products covered include U-Grip hangers, Du-Al-Clip framing anchors, Fas-Lok metal bridging. Special tables give recommended working loads.

Teco, Washington, D.C.

For copy, check No. 38 on coupon, p 213

continued on p 213



William Brockway residence, Los Angeles, Calif. Burton Schutt, architect. Reprint, Sunset Magazine. H. H. Baskerville, Jr., photographer.

THIS FREE BOOKLET...

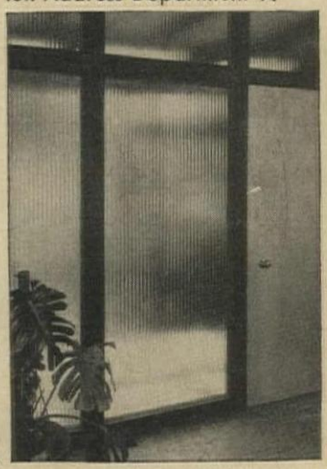
Shows how decorative glass brightens and beautifies homes. It is filled with dramatic illustrations of the ways translucent glass adds a touch of luxury and smartness to every room. Specify Mississippi Glass. Available in a wide range of exciting patterns and surface finishes wherever quality glass is sold.



Architects: Kegley, Westphall & Arbogast



Create a distinctive decor with translucent glass by Mississippi that floods interiors with softened, flattering light, makes rooms seem larger, friendlier, important. Write for free booklet. Address Department 9.



MISSISSIPPI GLASS COMPANY

88 Angelica St. • St. Louis 7, Mo.

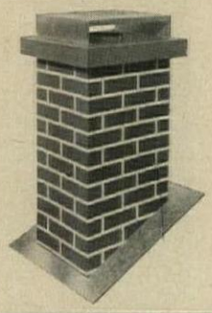
NEW YORK • CHICAGO • FULLERTON, CALIFORNIA

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED & WIRED GLASS

METALBESTOS CHIMNEYS...

4 PACKAGES GIVE YOU 62 STYLE COMBINATIONS

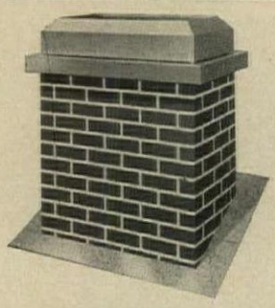
THE MONTEREY. Attractive in red or buff brick. You select any one of four top styles – Utility Rain Cover (shown). Weather Crown, Top Extension Stub, or plain. Available in three, four and five foot heights.



24 COMBINATIONS

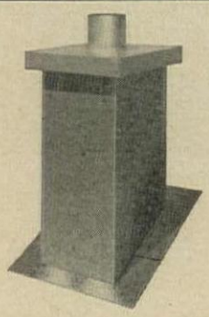
THE MONTEREY TWIN. Big brother of the Monterey – a massive 32" by 18". Accommodates an individual stack or any combination of two stacks. Comes in red brick or buff* brick with your choice of four top designs – Twin Weather Crown (shown), Twin Utility Rain Cover, Top Extension Stubs, and plain. Available in three, four and five foot heights.

*Buff color – special order.



24 COMBINATIONS

THE SUBURBAN. Handsome and economical in durable galvanized steel. Pick any one of four top styles – Top Extension Stub (shown), Weather Crown, Utility Rain Cover, or plain. Three, four and five foot heights.



12 COMBINATIONS

THE CONTEMPORARY. Modern round design for contemporary construction. Also ideal for remodeling, farm buildings, industrial applications, etc. Round Top (shown) fabricated from durable aluminized steel, attaches directly to pipe. Chimney Cap is also available where open stack is desired.



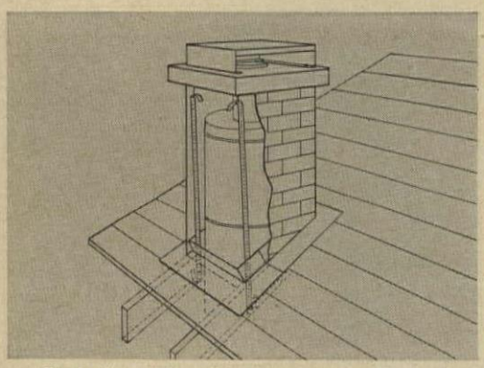
2 COMBINATIONS

62 COMBINATIONS

METALBESTOS DIVISION
WILLIAM WALLACE COMPANY
BELMONT, CALIFORNIA

MANUFACTURING PLANTS IN BELMONT, CALIFORNIA • LOGAN, OHIO

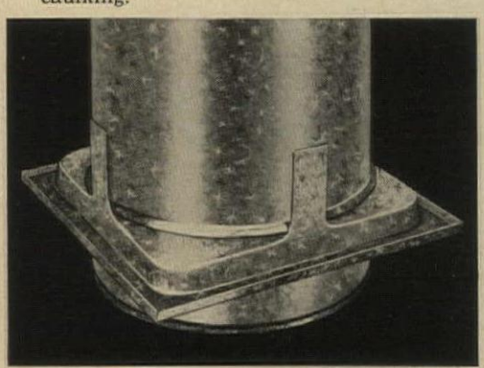
ONE MAN, ONE STOP, ONE HOUR



Exclusive: New housings secure to roof framing with metal tension straps. Quick assembly – no metal screws required. Wind tunnel tested. Metalbestos Housings won't shift, buckle or twist in 100-mile-an-hour winds.



Exclusive: Twist-Lock. Light-weight Chimney Pipe sections fit together quickly with same action you'd use to twist lid on pickle jar. No mastic, cement or caulking.



Exclusive: New, Fast, Support Installation. Frame standard 16" on center opening – nail in support plate and insert starter section. U. L. listed.

METALBESTOS

Publications

start on p 208

Decorative clay tile

Malvern Flue Lining has two new brochures showing structural clay tile and tile screen materials. The brochure on Mal-Tex structural tile shows the many variations possible with the eight basic designs and five basic sizes.

For copy, check No. 39 on coupon below

The Sol-R-Wal brochure shows the almost unlimited variations in screens and grilles that can be made from nine basic forms.

Malvern Flue Lining, Malvern, Ohio.

For copy, check No. 40 on coupon below

Sliding door details

Arcadia has new literature on its Series 150 stock-size doors. Quarter-size details sills, jambs, mullions, meeting stiles, etc. for two-, three-, and four-panel doors are given; all dimensions are tabulated; sales features are photographed. Sample spec forms are also included. Series 150 is Arcadia's builder line.

Arcadia, Fullerton, Calif.

For copy, check No. 41 on coupon below

Kitchen cabinet catalog

The three lines of cabinets made by Major Line are shown in color in a new brochure. Featured are two new lines in red alder, colonial and contemporary. Separate specification brochure shows all units, describes special installation features.

Major Line Products, Hoquiam, Wash.

For copy, check No. 42 on coupon below

Applying aluminum soffits

Reynolds' new brochure tells how to use new metal soffit system. Installation details cover work sequence, hip roof soffits, cave sections, gable fascia trim, overhang width, cutting, fitting, fastening, etc.

Reynolds Metals, Richmond, Va.

For copy, check No. 43 on coupon below

Vinyl asbestos flooring

Eight basic floor covering styles are shown in color in room settings in Kentile's newest handbook. Also covered: various Kentile specialties, floor finishes, cleaners. Featured are metallics and terazzos.

Kentile, Brooklyn.

For copy, check No. 44 on coupon below

Want more information?

The numbers below are keyed to the items described on the New Products and Publications pages. Check the ones that interest you and mail the coupon to:

House & Home Room 1960, Time & Life Building
Rockefeller Center, New York 20, N.Y.

NEW PRODUCTS • August

1. ☐ Uni-bilt modular fireplace
2. ☐ New Crane fixtures
3. ☐ Speakman metering shower
4. ☐ Universal-Rundle flush valve
5. ☐ Simpson Symphonic doors
6. ☐ Morgan Dutch doors
7. ☐ Rimco storm-screen door
8. ☐ Andersen Strutwall
9. ☐ Ualco sliding window
10. ☐ Regal basement jalousie
11. ☐ Fred Reuten casement bow
12. ☐ Curtis modular windows
13. ☐ Leigh closet valet
14. ☐ Leigh bathroom ventilator
15. ☐ Leigh ceiling fixture
16. ☐ Leigh garbage container
17. ☐ Leigh towel rack
18. ☐ Caloric electronic range hood
19. ☐ Chambers disposer
20. ☐ Kelvinator freezer
21. ☐ Alcoa vertical siding
22. ☐ Stylon mesh-backed tile
23. ☐ Armstrong Patrician flooring
24. ☐ Crown aluminum shutters
25. ☐ Frantz fiberglass door
26. ☐ Berry steel door
27. ☐ Gossen adjustable sill
28. ☐ Glassill fiberglas sill
29. ☐ Lomanco louvers

PUBLICATIONS

30. ☐ Gypsum backing for drywall
31. ☐ How to make a market survey
32. ☐ Rainjet sprinkler catalog
33. ☐ How to plan a sprinkler system
34. ☐ How to insulate for electric heat
35. ☐ Case for ducted heat
36. ☐ Resilient flooring manual
37. ☐ Virden light fixtures
38. ☐ Teco structural hardware
39. ☐ Styles in structural clay tile
40. ☐ Tile screens and grille
41. ☐ Arcadia sliding door details
42. ☐ Major Line cabinet catalog
43. ☐ How to apply metal soffits
44. ☐ Vinyl flooring handbook

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196W, 2	Red Cedar Shingle Handsplite Shake Assn.
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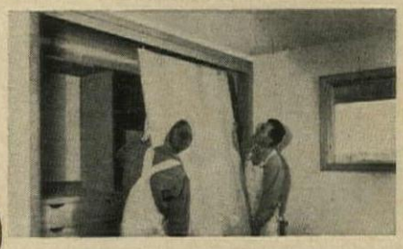
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Customboard machines cleanly, and will not chip-out when sawn, rabbeted, routed or rounded over. Because of balanced construction Customboard is dimensionally stable and is equally attractive on both sides. Factory pre-filled Customboard is especially suited for application of clear or painted finishes.

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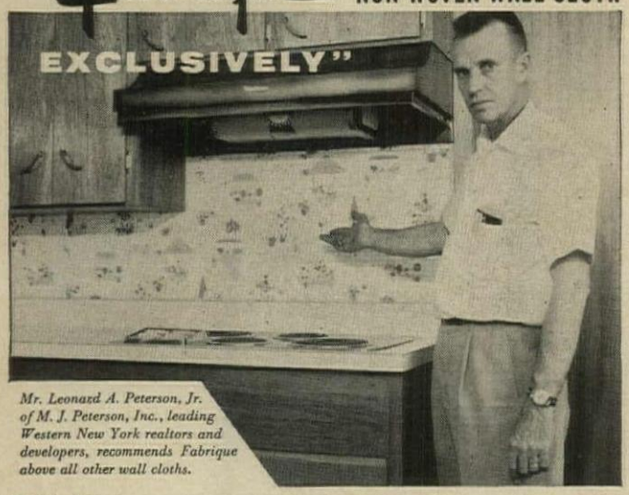
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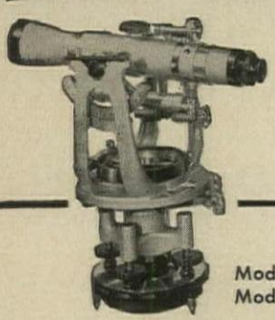
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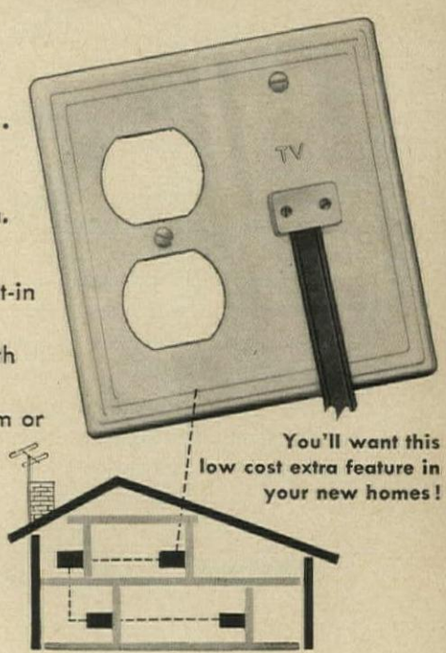
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