

## PUBLIC SAFETY

# Fallout Shelters' "Lived-In" Look

Unused shelters are gloomy reminders of possible disaster, but they can be turned to immediate advantage as extra living space, David Meier reports.

► FALLOUT SHELTERS are finally getting the sort of thoughtful, determined attention that responsible civil defense leaders have always felt a national shelter program deserved.

The public is becoming actively aware of its responsibilities in facing up to the constant threat of nuclear war. One of our most important domestic "enemies" is giving way to a major effort in reeducation, spearheaded by top-level Governmental activity.

This "enemy" is the error-riddled, but still widely held, theory that shelters are useless because if war comes, everyone is going to be wiped out anyway.

This does not have to happen. It is, in fact, very unlikely to happen. Anyone far enough away from the blast and heat of a nuclear explosion has a good chance of surviving, if he gets away from the radioactive fallout the explosion is bound to create.

To be safe from fallout, he must take shelter. He will be safe if the shelter contains enough shielding material to keep the fallout from getting to him, and if he stays beneath this shield until the danger is over.

The primary purpose of any shelter he builds must be the protection of himself and his family against the deadly effects of radioactive fallout.

This does not mean, however, that a shelter has to be a dark, forbidding hide-away, never to be used or entered until the emergency sirens blow and the bombs start dropping.

No one is trying to spread the idea that living in a fallout shelter can be fun. On the other hand, there is nothing to prevent a shelter's protective functions from being supplemented by ordinary day-to-day usefulness.

## Dual Purpose Structure

The Structural Clay Products Institute in Washington believes that the dual-purpose shelter concept—emergency protection plus daily use as an "extra" room—may stimulate home shelter construction. Home owners reluctant to invest in a limited-purpose shelter, crowded with disaster rations and equipment, may find the idea more acceptable if the family fallout shelter promises to become a lived-in area of the home.

In cooperation with the Institute, which is a national association of brick and structural tile manufacturers, the Office of Civil and Defense Mobilization assigned David Feldman, an interior decorator, to develop various plans for making a clay masonry shelter more trim and less grim.

Mr. Feldman obliged by giving standard

shelters another seven "lives." His designs disclose methods of turning a shelter into a study, a den, a guest room, a children's play room, a card room, a stereo Hi-Fi room, or a utility room.

Doubling as a study, for example, a model display shelter was comfortably furnished in a 9-by-12 area with an easy chair, a couch, two armchairs, a sectional bookcase, a desk, a desk chair and a small end table, all in modern walnut and teak with harmonizing bright fabrics. Lighting came from a three-way floor lamp and a desk lamp.

## Rug and Painting

The atmosphere was further brightened by a modern rug and two paintings.

The Institute built this full-sized shelter for display at Washington's National Housing Center. Elsewhere in the nation, brick manufacturers have worked with local chapters of the Mason Contractors Association of America and the Bricklayers, Masons and Plasterers' International Union to build other model shelters for exhibition at home shows, county fairs, shopping centers and other places where crowds gather.

For all such dual-purpose shelters, survival equipment should be stored just outside for quick transfer to the safety zone

in the short time between the initial alarm and the first fallout danger.

## Safety Core Used

For persons planning to build a new home, the Institute has worked out a brick "safety core" area strong enough to remain intact even if the rest of the house is destroyed by bomb blast, hurricane, earthquake or tornado. Brick industry engineers estimate that adding the core concept adds roughly five percent to the cost of the home.

The safety core utilizes ten-inch reinforced brick masonry walls. The roof is made of 6.5-inch reinforced clay tile beams, topped by a 2.5-inch concrete slab. In a full-sized building subjected to an atomic blast during a 1957 test in Nevada, walls, roof and beams successfully withstood the bomb's destructive force. Every brick remained intact.

Core plans also call for a steel-hinged, blast-resistant door, made of laminated plywood three and one-fourth inches thick.

The blast and storm shelter can provide additional protection against fallout if a basement refuge is built under the core area.

For daily use, the core serves as a den. The safety zone may be a single room, or it may be enlarged to include a bathroom and sleeping quarters. Besides offering protection in an immediate disaster situation, the core gives the family a place to live until the damaged part of the house is rebuilt.

If the core is augmented by using an engineering principle called arching when



**DUAL-PURPOSE SHELTER**—Full-sized model brick fallout shelter shows how comfortable interior furnishings can make a protective unit one of the home's lived-in areas.

the surrounding walls are built, the entire house can be made virtually disaster-proof, the Institute maintains. With six-inch brick walls used in the outer sections, the roof and the foundation are linked by three-inch steel channels on 24-inch centers. The additional cost for the entire project is estimated at less than 20% of the conventional cost.

**Estimated Costs**

A pamphlet that includes complete floor plans for the safety core is available free from Structural Clay Products Institute, 1520 18th Street, N.W., Washington 6, D. C. Plans for five brick and structural tile shelters are included in a 16-page booklet, "Clay Masonry Family Fallout Shelters," also free.

Costs are estimated at about \$300 for a "do it yourself" basement shelter of clay tile (with the cells filled with sand) or brick, \$500 to \$700 for a shelter built as an extra basement room while a new home is under construction, \$800 to \$1,200 for an underground clay masonry shelter outside the house, \$900 to \$1,250 for an outdoor aboveground clay masonry shelter suitable for wet or rocky terrain, and \$1,200 to \$1,700 for an aboveground blast and fallout shelter of reinforced brick.

Concrete, bricks, earth and sand are among the materials designated by the Office of Civil and Defense Mobilization as "heavy enough to afford protection by absorbing radiation."

Three feet of earth, or its equivalent in other heavy material, provides the best possible protection, the Office notes. This amount of earth provides about the same shielding as, for example, two feet of concrete, seven and one-half feet of wood or four feet of books. Stacks of books, magazines, newspapers or filing cabinets can be used "in a pinch," according to an OCDM booklet, "Facts About Fallout Protection."

• Science News Letter, 80:258 October 14, 1961

**DENTISTRY**

**Detergent Food Soapless But Can Clean Teeth**

➤ THOSE DINNER-TABLE guests who cannot rush to the bathroom to brush their teeth immediately after eating can chew a piece of celery. This is a soapless "detergent," dentists say.

Dentists are now advising patients to eat celery, radishes and carrot sticks to remove other particles of food from the teeth. The tiny bacteria act quickly on sticky, high-carbohydrate foods because the food easily sticks to the teeth.

The acids produced by bacterial digestion can etch the enamel and produce a site for decay to begin.

This is causing dentists and physicians considerable worry, Dr. Philip L. White, secretary of the American Medical Association's Council on Foods and Nutrition, states in answer to a query in Today's Health.

• Science News Letter, 80:259 October 14, 1961

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