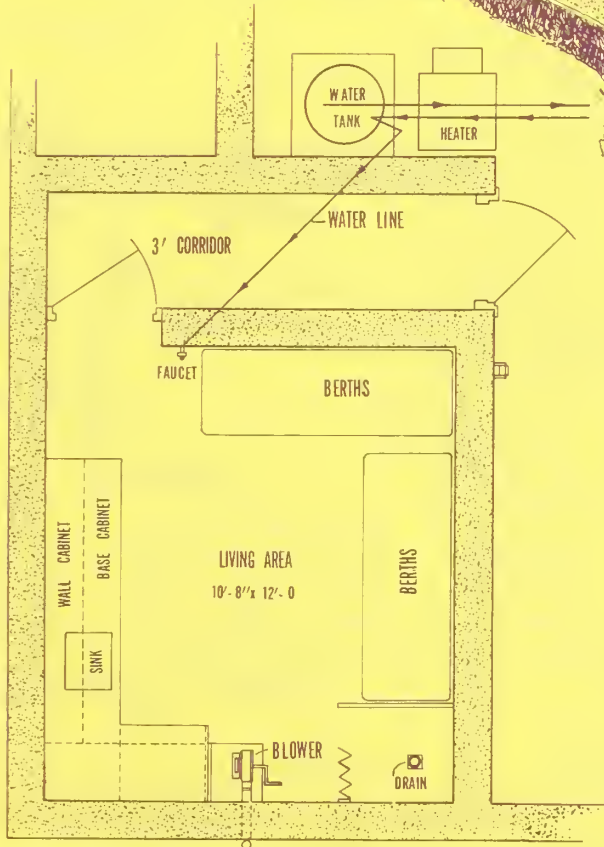


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# FALLOUT SHELTER for six people

**COOPERATIVE FARM BUILDING**  
**Plan No. 7166**  
(1-SHEET)  
**PLAN EXCHANGE**



This fallout shelter is designed to be built at the same time the house is built. By building a fallout shelter in a new home, the space can be made more usable, the construction work is less costly, and the overall space relationships within the house will be better than if a fallout shelter is put into a home that is already built. This plan details the fallout shelter shown in the construction drawings of house Plan No. 7153, which is available from the same sources as this plan. Below-ground space offers excellent shielding from gamma radiation emitted by particles on the ground surface.

A protection factor of 180 is obtained by placing the shelter in the corner of the basement that has earth up to the ceiling around most of the shelter, and by casting an 8-inch concrete barrier overhead. The protection factor can be increased to as much as 330 by increasing the overhead barrier to a 12-inch concrete slab. With an 8-inch overhead slab, 95 percent of the radiation inside the shelter enters from overhead.

U. S. DEPT. OF AGRICULTURE  
NATIONAL BUREAU OF HOME ECONOMICS  
JAN 13 1964  
CURRENT

Washington, D.C.

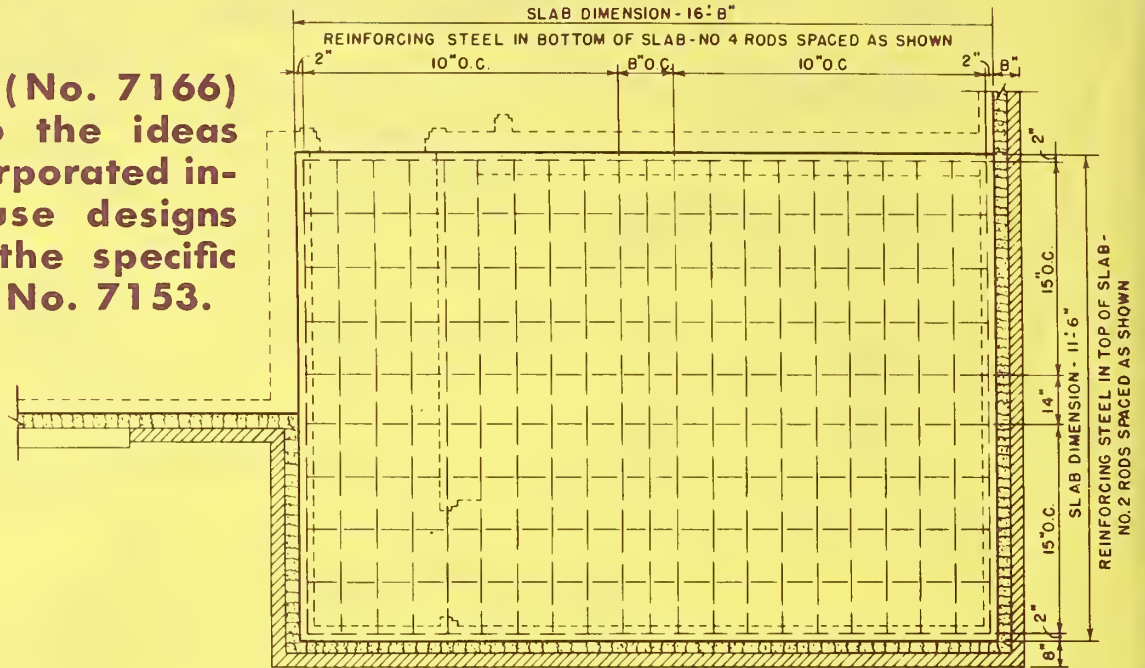
Issued December 1963

**UNITED STATES DEPARTMENT OF AGRICULTURE**      **Miscellaneous Publication No. 948**

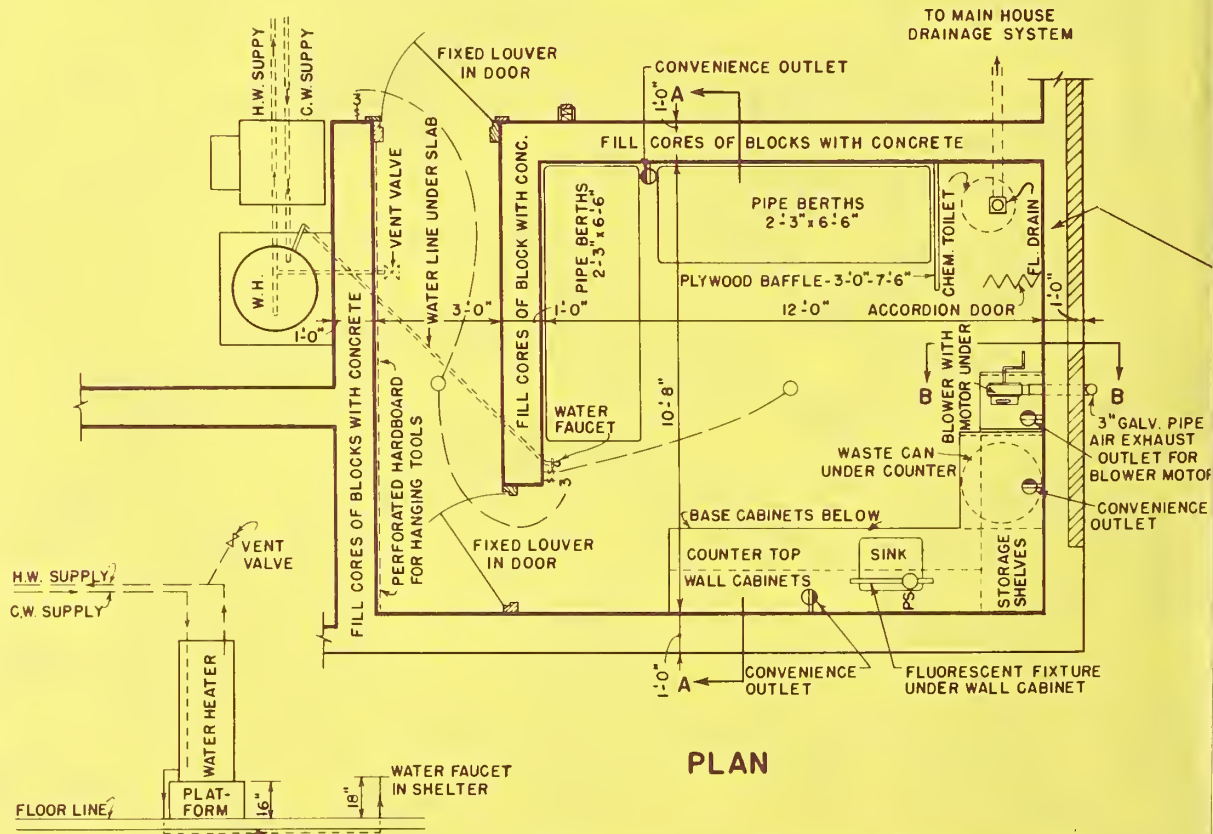
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# Construction details ...

This plan (No. 7166) is shown so the ideas may be incorporated into new house designs other than the specific house plan, No. 7153.



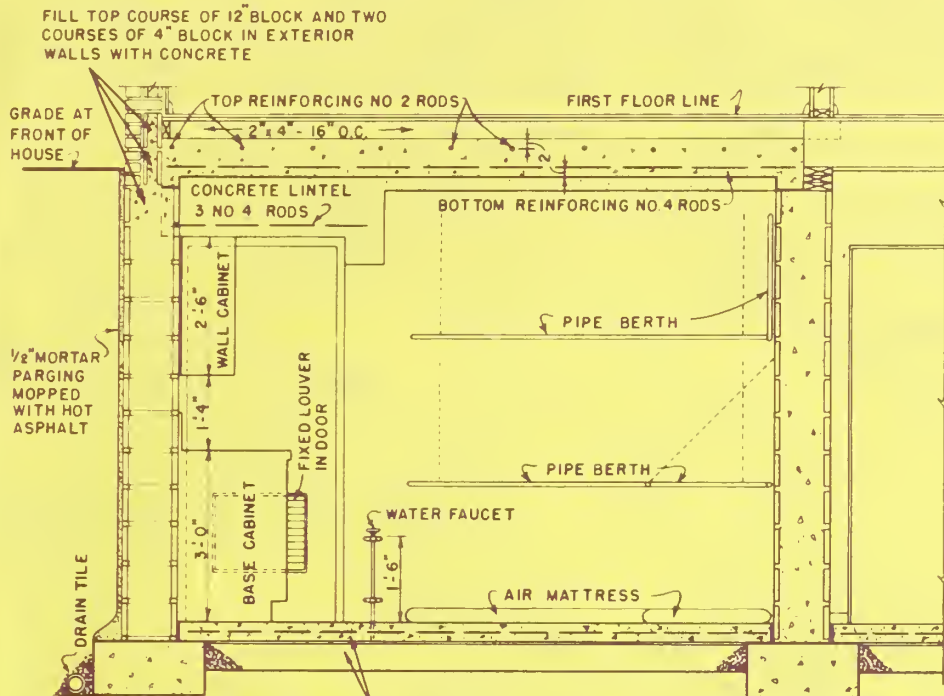
**PLAN OF CEILING SLAB  
SHOWING REINFORCING**



**PLAN**

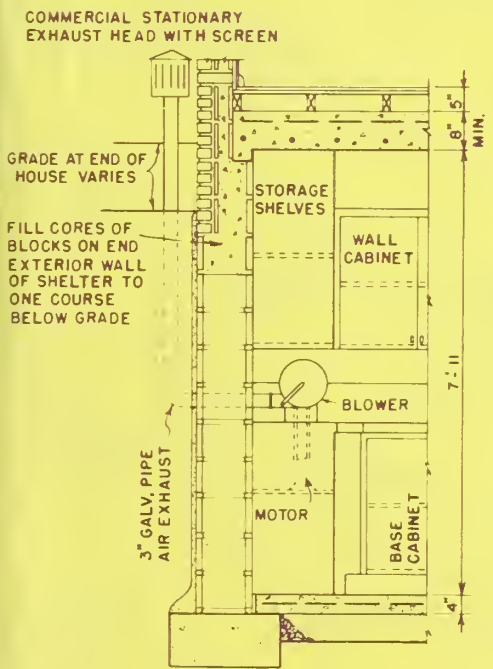
**DIAGRAM SHOWING WATER  
SUPPLY FOR SHELTER**  
(IF ELECTRIC CURRENT FAILS)

NOTES -  
THIS SHELTER IS DESIGNED SPECIFICALLY FOR CONSTRUCTION WHEN HOUSE IS FIRST BUILT AND NOT FOR PLACEMENT WITHIN EXISTING BASEMENTS. SINK TO BE PROVIDED WITH HOT AND COLD WATER AND DRAIN ON MAIN HOUSE LINES FOR USE WHILE ELECTRICITY IS AVAILABLE.

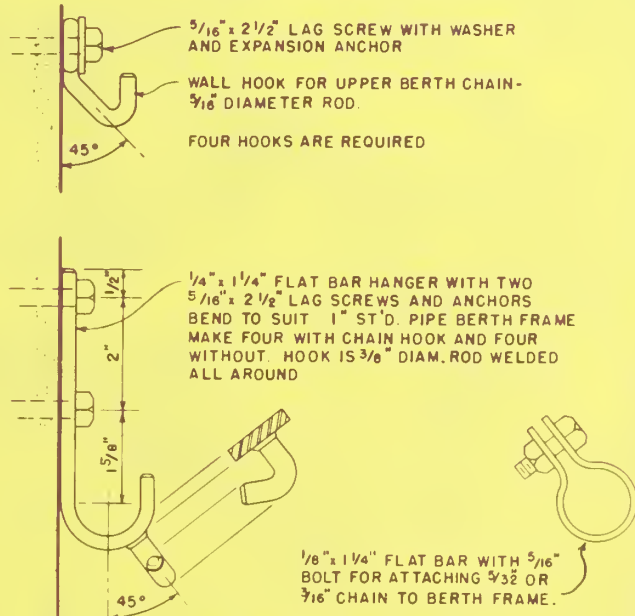


4" CONC. SLAB ON 6" TAMPED GRAVEL  
 FILL - VAPOR BARRIER BETWEEN SLAB  
 AND GRAVEL FILL - 6" x 6" #10 GAGE.  
 WELDED WIRE REINFORCING.

**SECTION A-A**



**SECTION B-B**



**BERTH-SUPPORTS**

FOLDING PIPE BERTHS ARE RECTANGULAR FRAMES OF 1" STANDARD PIPE WITH PLAIN ELBOWS - DOWEL AND PIN ONE END RAIL OR USE LONG SCREW WITH CLOSE NIPPLE AND COUPLING FOR ASSEMBLY. - COVER WITH 1/2" x 1" WELDED WIRE FABRIC, WITH TRANSVERSE WIRES SPACED 1/2". THESE BERTHS MAY BE CONSTRUCTED AS FIXED WOOD STORAGE SHELVES.

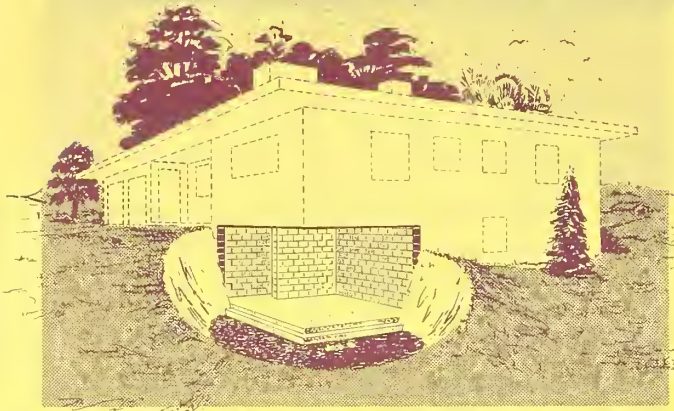
COOPERATIVE EXTENSION WORK IN  
 AGRICULTURE AND HOME ECONOMICS

AND  
 UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING

**FALLOUT SHELTER**  
 FOR SIX PEOPLE

USDA	1963	EX. 7166	SHEET 1 OF 1
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## shelter located in a protected area



*This illustration, showing the location of the shelter, emphasizes the importance of utilizing the corner of the basement that is banked with earth.*

The entire basement does not have to be below grade to make the shelter effective. In this design, the basement has two bedrooms, a bath, and a recreation room that are adequately lighted and ventilated with above-grade windows.

Portions of the basement below grade are used for the fallout shelter, a storage room, a utility room with the heating plant and hot water heater, and a television viewing room.

### USING THE SHELTER

Use of the fallout shelter will depend upon the specific needs of the owner. Since it has a sink, it could be used as a darkroom for either amateur or professional photographic processing. If the power supply is not disrupted during an emergency, the sink will be a valuable aid for more comfortable living in the shelter. Instead of foldup frames, many people may prefer to put permanent storage shelves along the wall where the bunks are shown. The shelves can be used for storage until they have to be used as bunks.

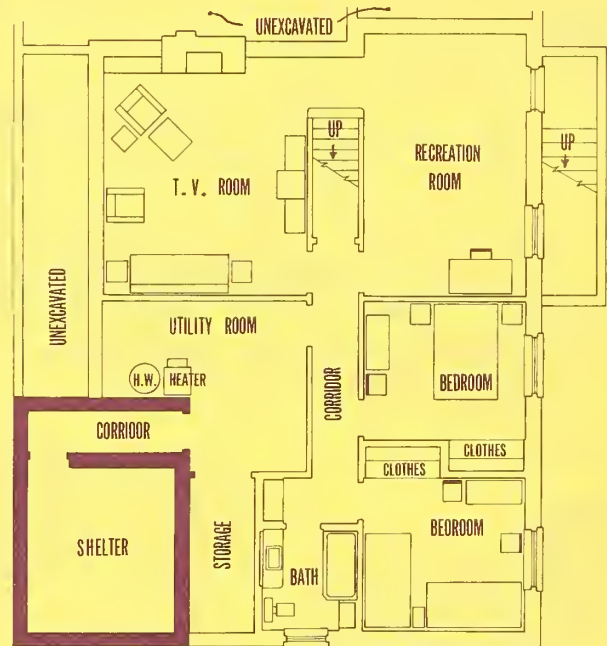
The shelter is close to the hot-water tank. If a larger water supply is needed, a tempering tank can be placed in the water supply line to the hot-water heater. The tempering tank is uninsulated so that the water supply to the hot-water heater will be warmed or tempered before it enters the hot-water heater. The water in the tempering tank can be drawn from the emergency faucet in the shelter. The tank can be large enough to supply the family needs.

For emergencies, piping is arranged to draw water from the bottom of the elevated hot-water tank to a faucet in the shelter. To draw the water, air must be admitted to the hot-water heater tank. To eliminate

the necessity of going out of the shelter to open a faucet to let air into the tank, a valve to open to a pipe into the top of the heater is installed in the shelter entrance.

Air intake to the shelter is through louvers in the entrance doors. An exhaust blower can be used to forcibly draw air through the louvers into the shelter.

The basement plan of this house shows the advantages gained by planning a shelter for new construction. The



BASEMENT PLAN NO. 7153

shelter is adjacent to a storage area. The bath is close, so it can be used by the occupants for short periods as soon as radioactive decay permits. As decay increases with time, living can be expanded—first to the better sheltered TV room and utility rooms, and later to the bedrooms and recreation room.

Large-scale working drawings may be obtained through your county agent or from the extension agricultural engineer at most State agricultural colleges. There is usually a small charge.

### ORDER PLAN NO. 7166, FALLOUT SHELTER FOR SIX PEOPLE

If the large-scale drawings are not available in your State, write to the U.S. Department of Agriculture, Agricultural Engineering Research Division, Plant Industry Station, Beltsville, Md. The U.S. Department of Agriculture does not distribute drawings, but will direct you to a State that does distribute them.

USE SAME METHOD FOR ORDERING FARMHOUSE PLAN NO. 7153.