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SANITATION

A CONSTRUCT-IT-YOURSELF

MANUAL ON VIP LATRINE

A SUPPORTING MANUAL TO FINDINGS FROM
WATERAID (GH)'S RESEARCH
OCTOBER 1990

PRODUCED BY WATER AID (GH)'S
TRAINING MATERIALS UNIT (WATMU)

DECEMBER 1991

321.4-91SA-10289



ACKNOWLEDGEMENTS

This manual derives from a meeting held in October, 1990 by the Project Supervisors and Staff of WaterAid-funded Projects in Ghana.

This manual materialised under the general direction of Ron Bannerman, the then resident WaterAid Programme Coordinator.

I would also like to express my appreciation to the entire technical staff of ISODEC, a sister NGO to WaterAid, who undertook the pre-tests and corrected all technical mistakes in detail.

Special thanks must also go to the World Bank Water and Sanitation Programme for its contribution.

As a product of the Training Department of WaterAid (Ghana), this manual would not have been a reality without the tireless efforts of Kojo Fynn, the Programme Assistant for Training.

In works of this nature, it is obvious a whole wide spectrum of resource persons would have contributed in one way or the other to the final outcome; and they deserve to be mentioned in such acknowledgements.

However, it is not feasible to mention everyone, so I would like to thank all other persons and organizations that helped in diverse ways to make the production of this manual a success.

Frederick Adu Anti
Training Materials Correlator
WaterAid (GH)
December 1991

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OVERVIEW

Efforts are still being made by several development oriented organizations to design more affordable and safer rural latrine models. WaterAid, a British non-governmental organization involved in Rural Water and Sanitation in Ghana and other parts of the developing world is one such development oriented concern.

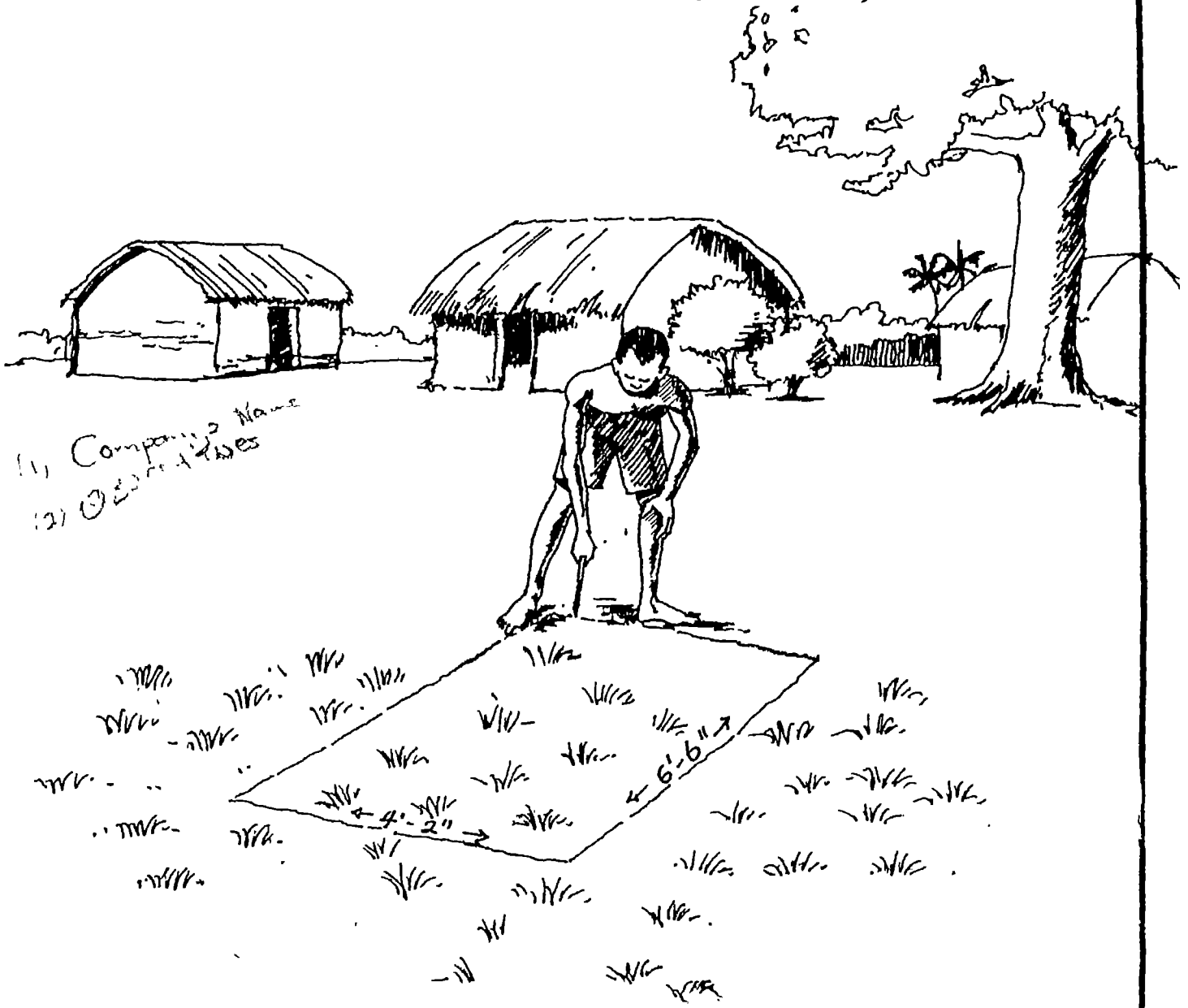
In October 1990, a compilation of some existing designs and a new design formulated by the training department of WaterAid (Ghana) was coded into a manual which was titled: **SANITATION: CHOOSE YOUR TECHNOLOGY FOR CONSTRUCTING a V.I.P. LATRINE.**

However, it was discovered that this manual was congruent with WaterAid's main strategy of operation which focuses on development through self-help or community participation with the main target being the rural person. This is because, the said manual was very technical in outlook and it was envisaged that the active player in the application and implementation of the new techniques might be unable to read and interpret this technical manual correctly.

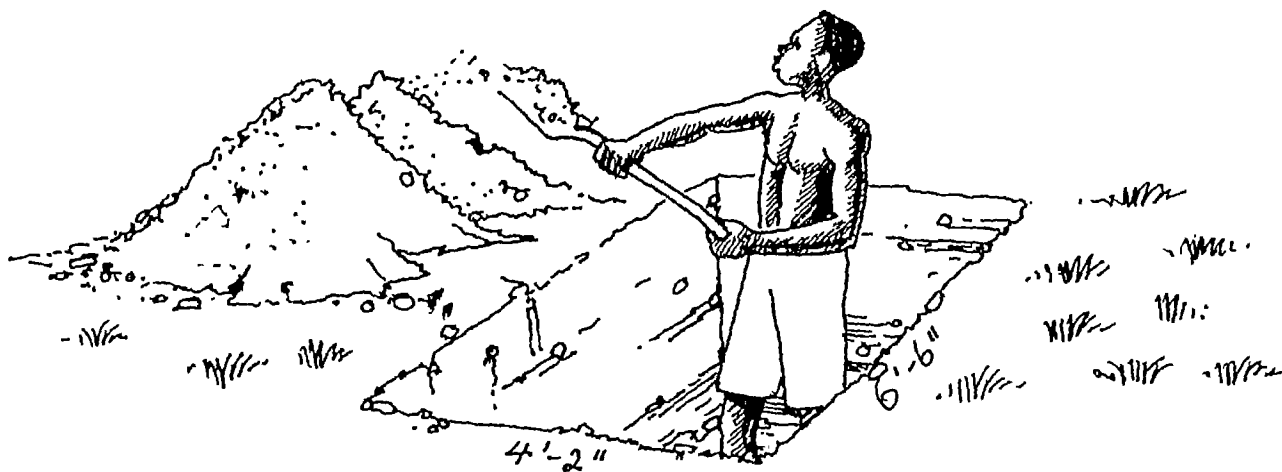
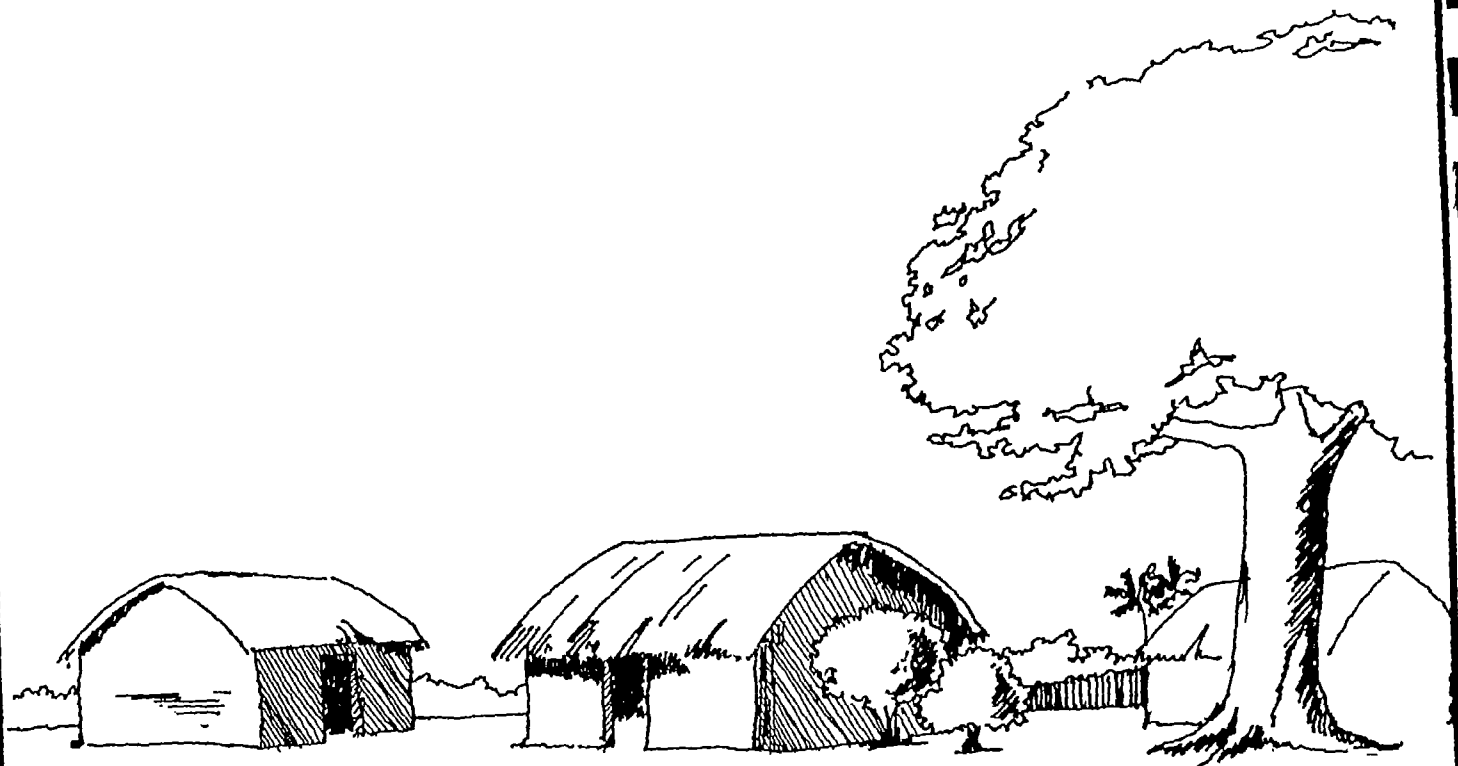
It therefore became imperative to revise the manual. This led to the production of the present manual which incorporates pictorial steps to enable the layman choose his technology of pit latrine designs with a full understanding of what he is choosing.

This manual has undergone a series of pre-tests carried out in a selected number of rural communities. These pre-tests involved WaterAid (London) and some other technical expertise.

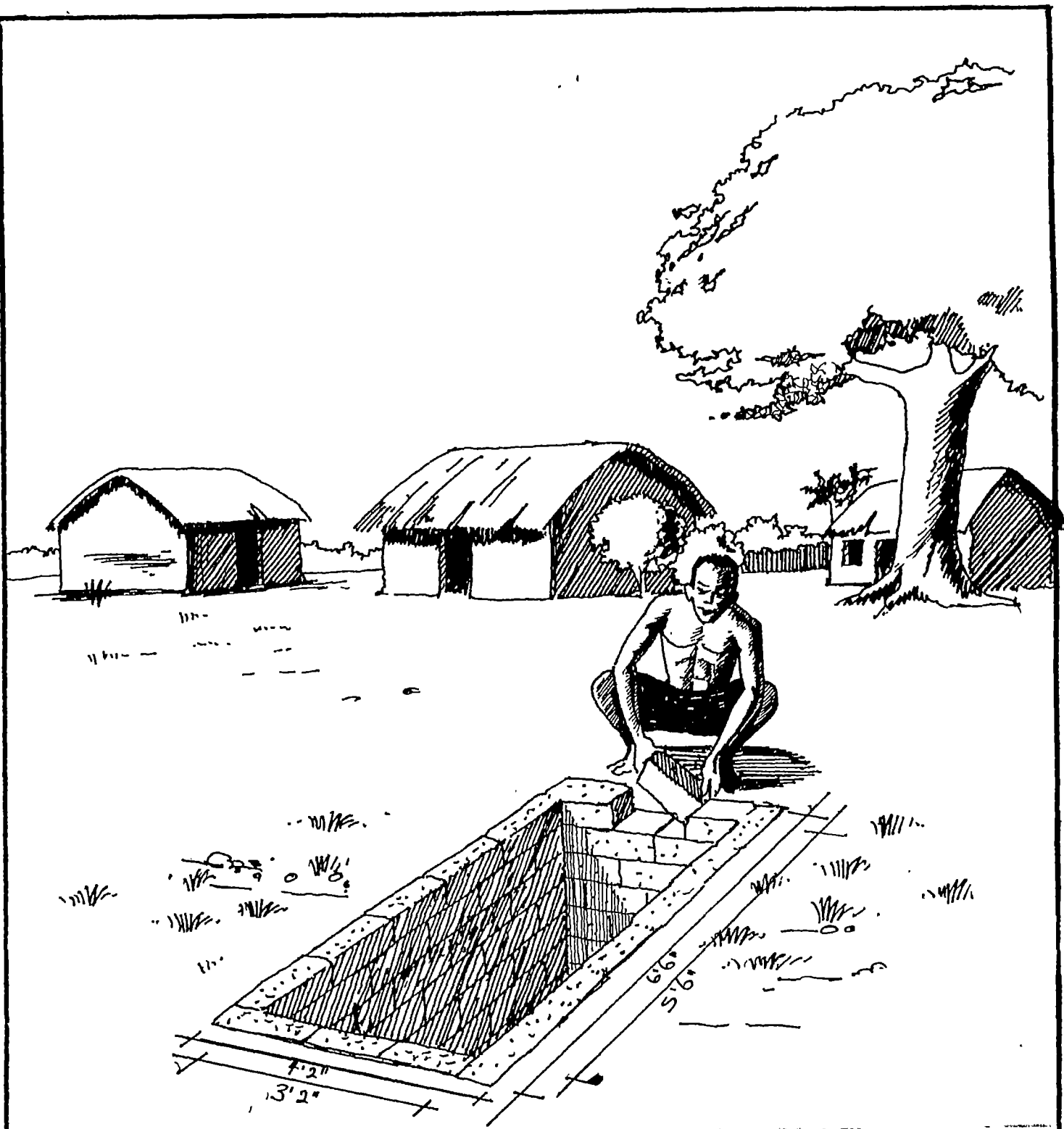
SINGLE DEEP PIT (LINED)



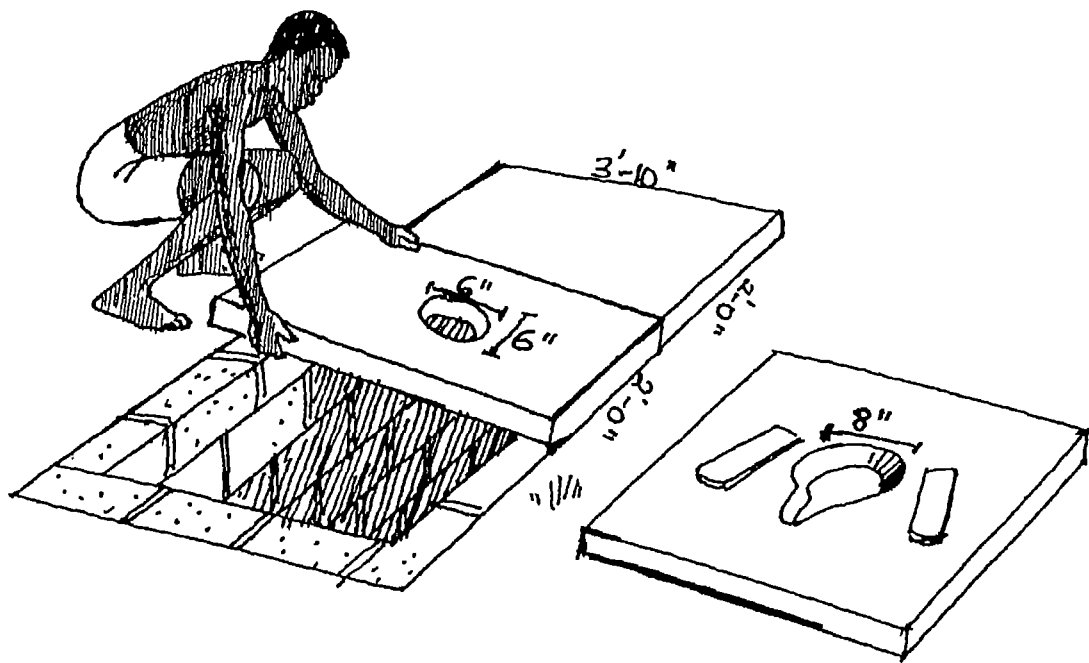
Mark the area of pit.



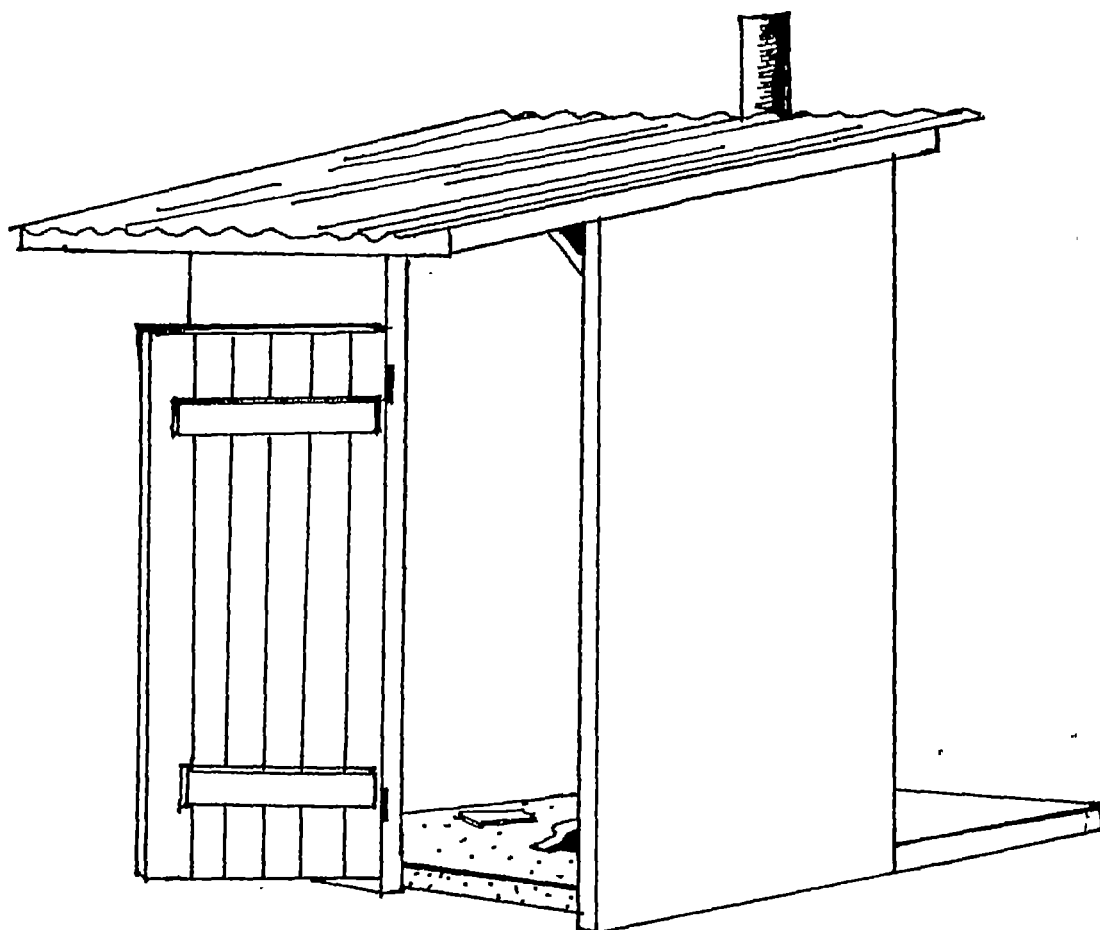
Dig to an average depth of ten feet.



Line the pit with cement blocks or burnt bricks in a honey comb fashion. (The lining should be two inches above ground level to recieve the concrete slabs.)

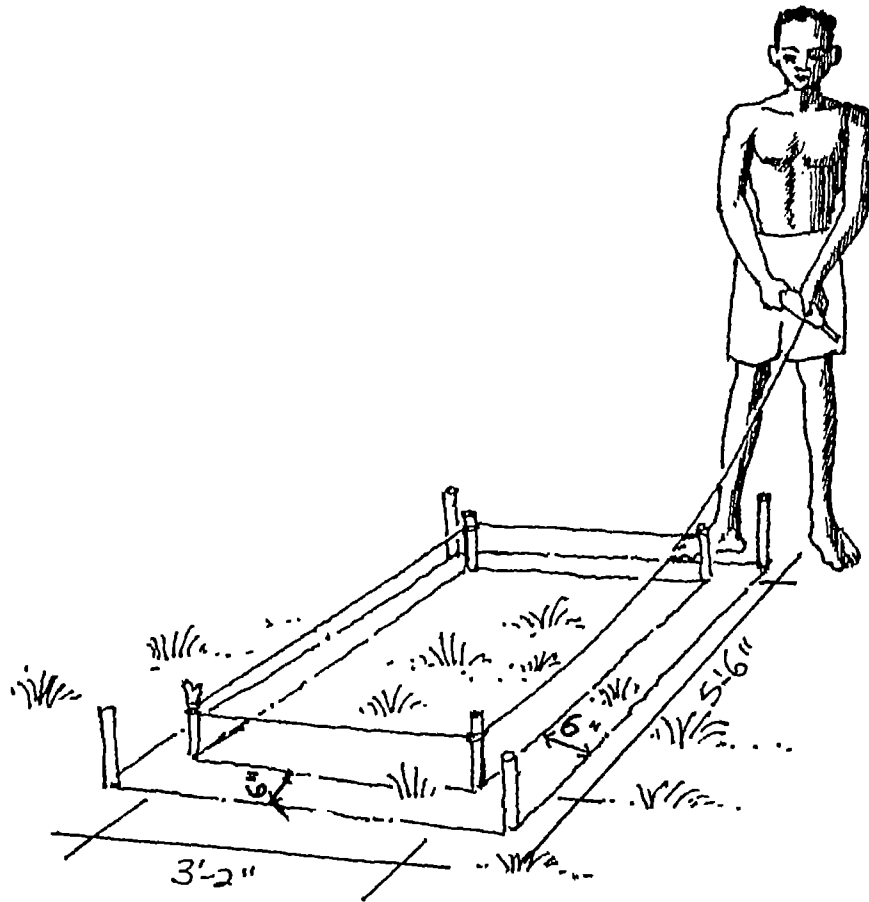


Three slabs are needed for this VIP. ie the squat slab, the vent slab and the cover slab. They are arranged as shown.

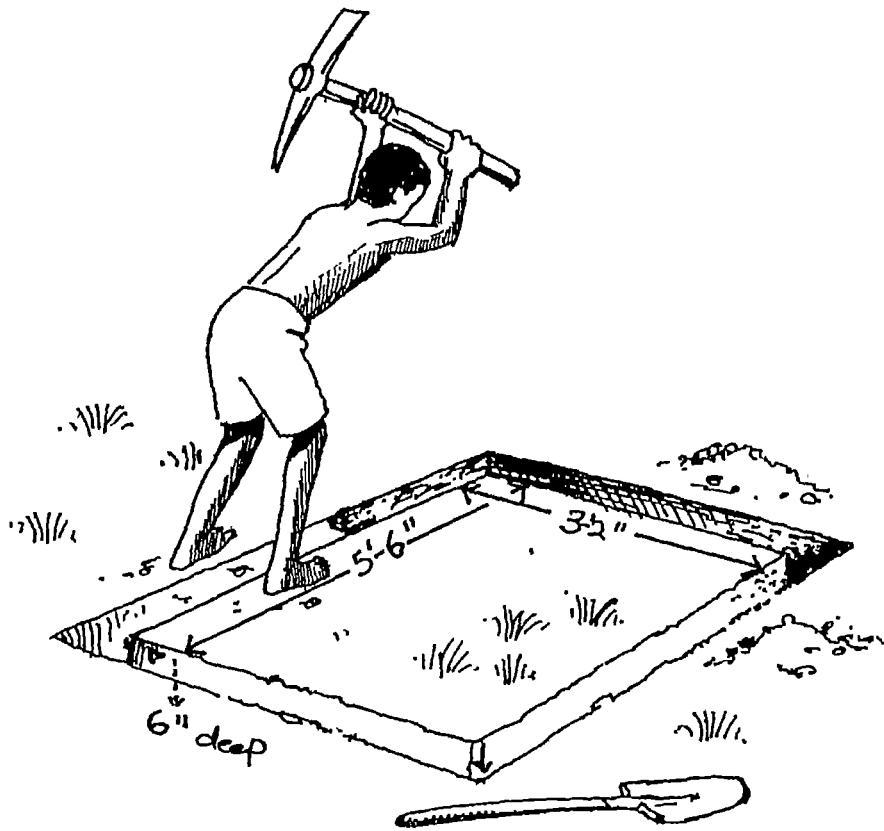


Build the superstructure to sit halfway on the covered pit. (Superstructure should sit on the side of the slabs where the squat holes are).

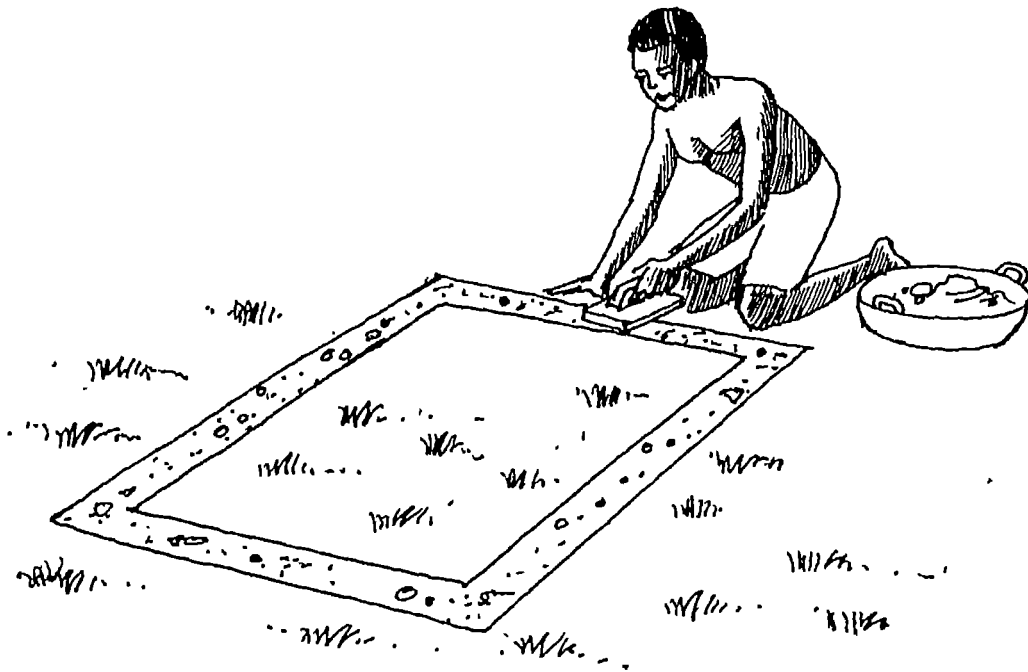
SINGLE DEEP PIT (UNLINED)



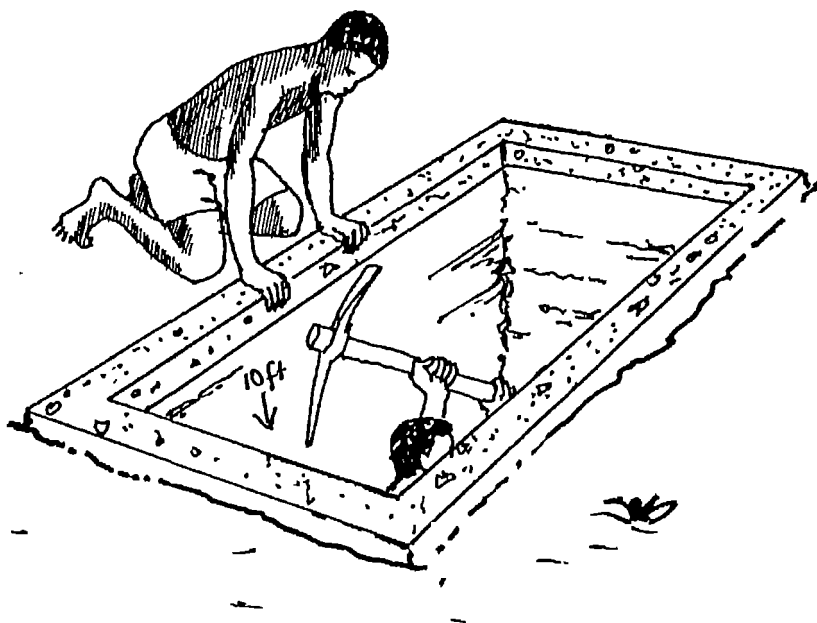
Mark the inner area. Mark the outer area six inches from the inner area.



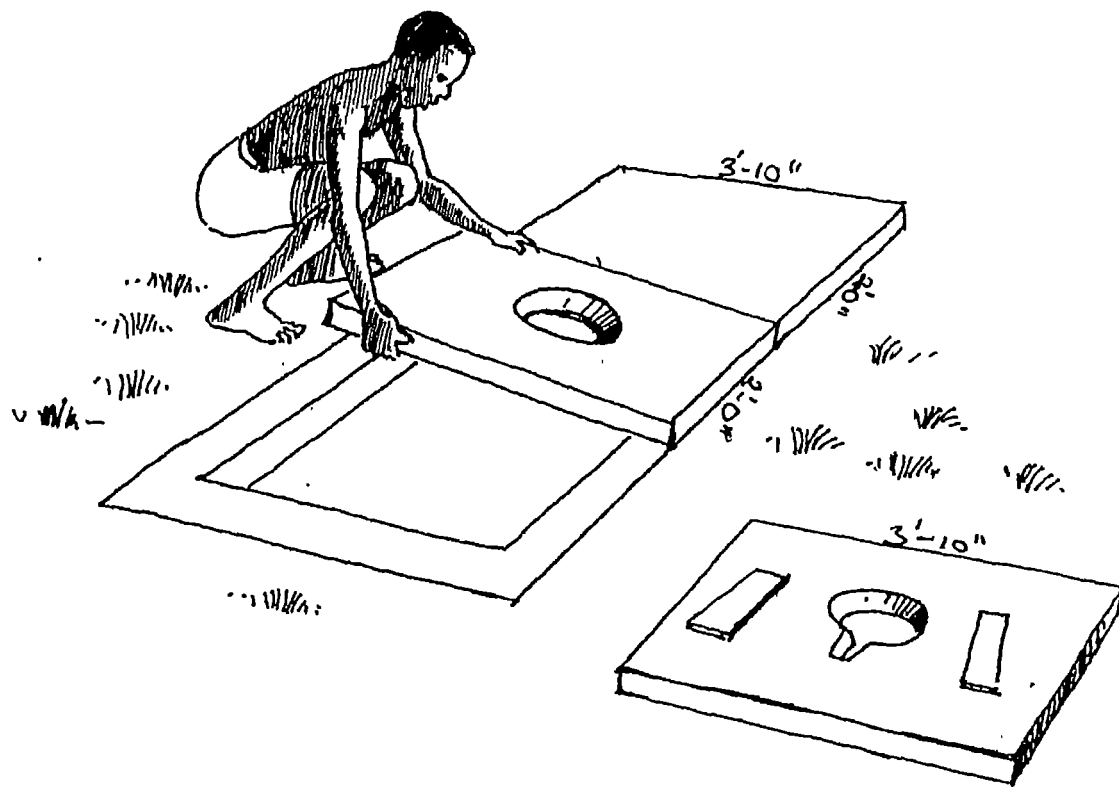
Dig in between the two areas as shown to have the surround trench.



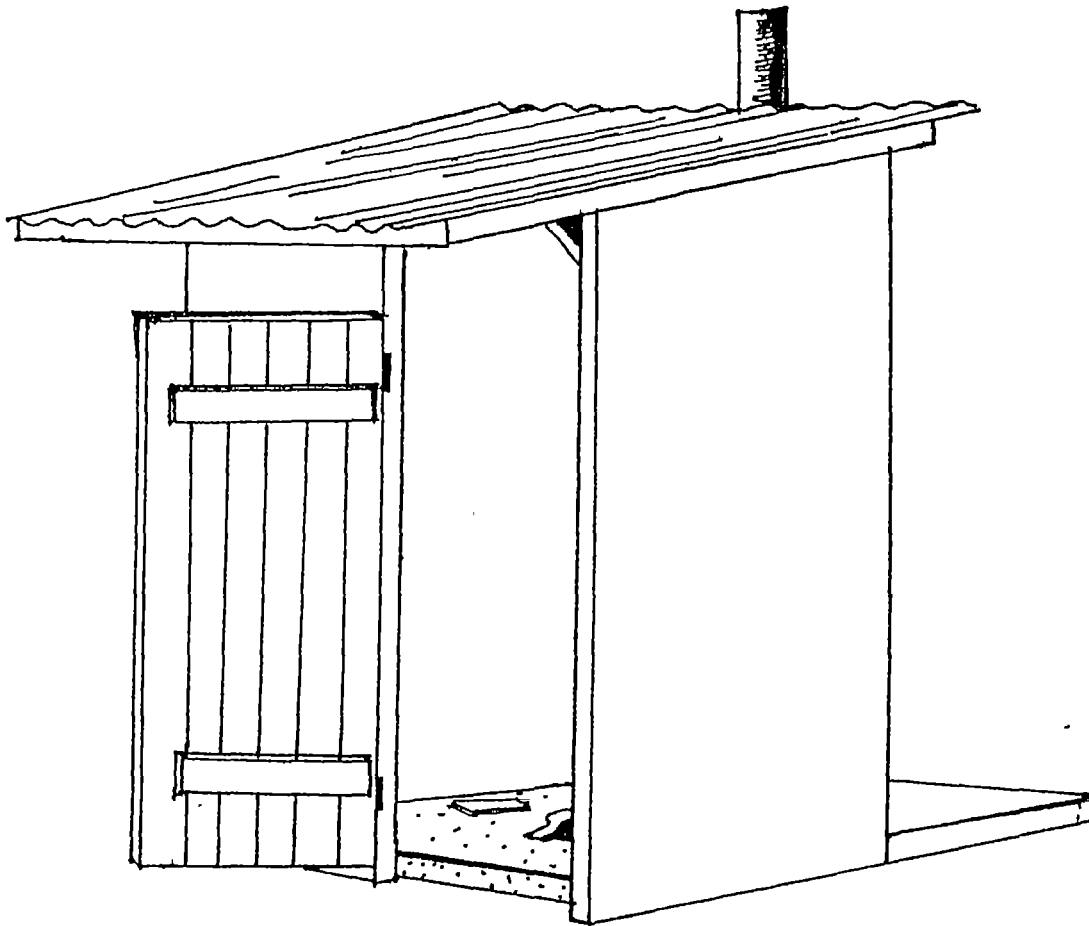
Fill the surround trench with concrete mix 1:3:6.



Dig the inner area.



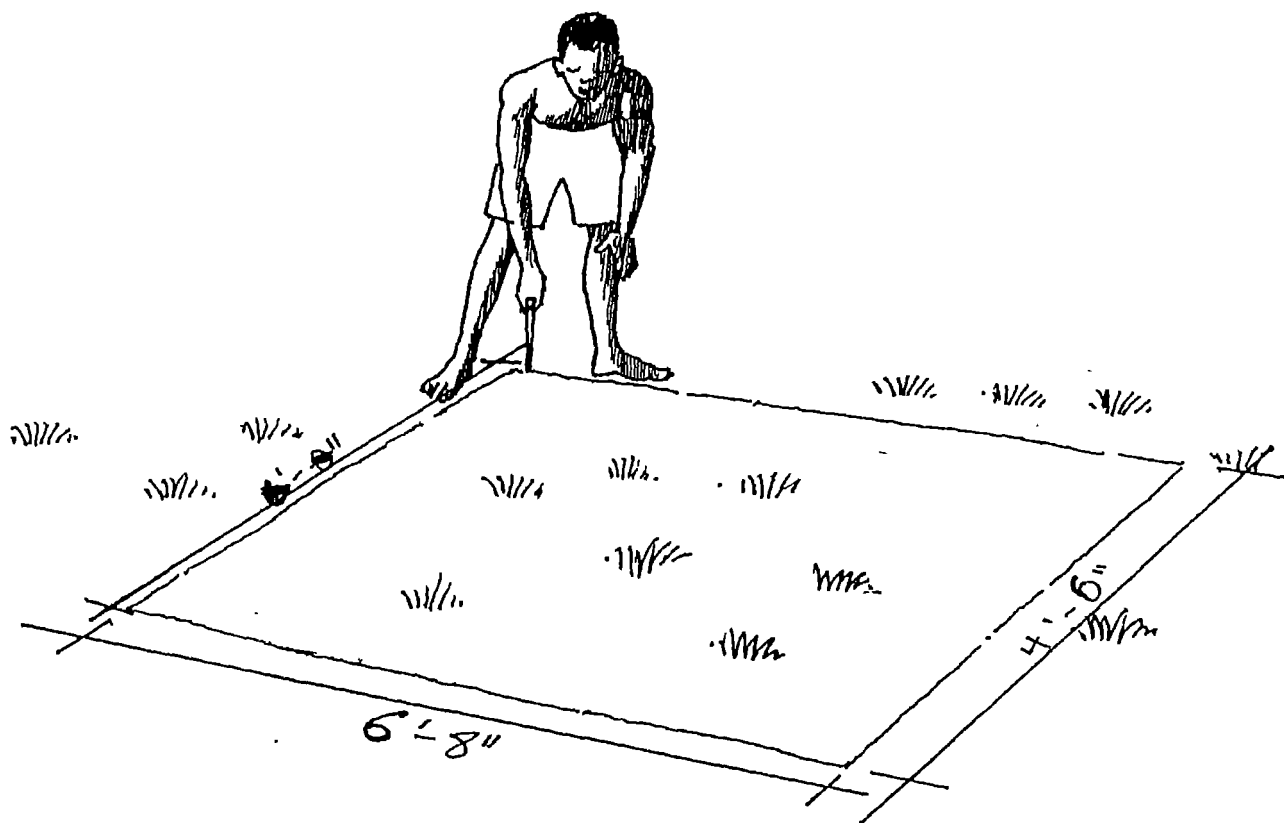
Three slabs are needed for this VIP. ie the squat slab, the vent slab and the cover slab. They are arranged as shown.



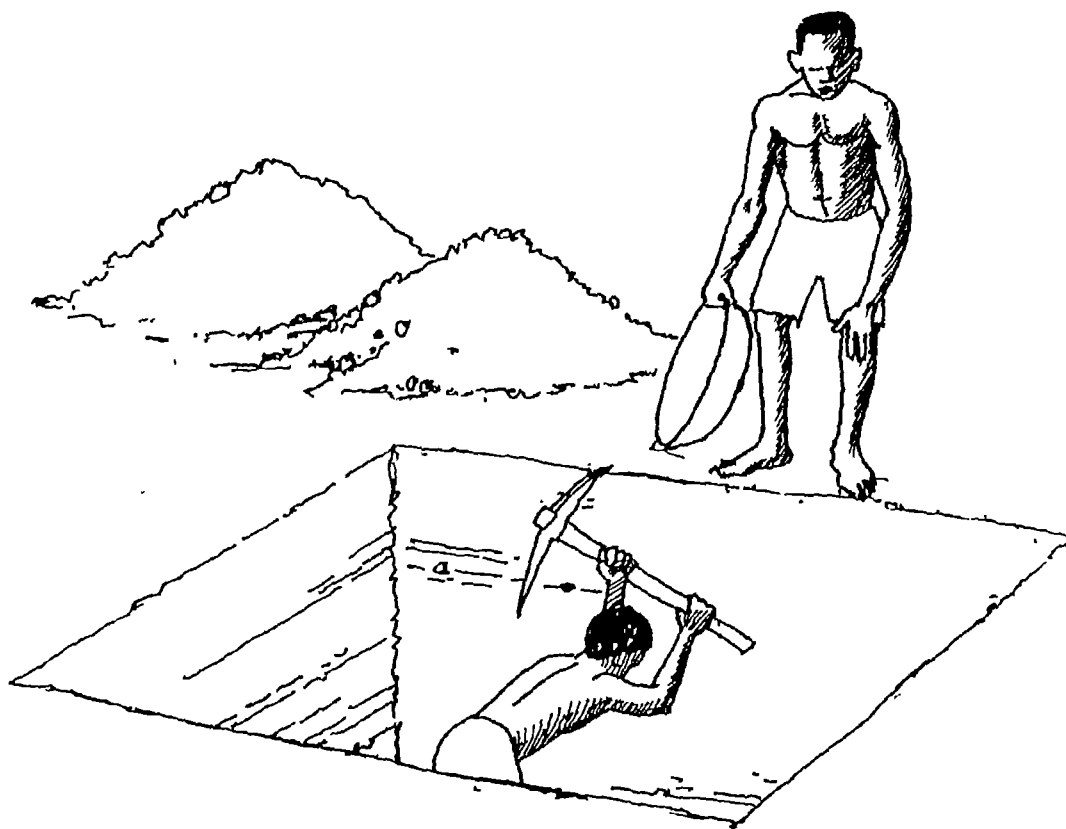
Build the superstructure to sit halfway on the covered pit. (Superstructure should sit on the side of the slabs where the squat holes are).

TEMPORARY TWO PRIVY ROOM VIP

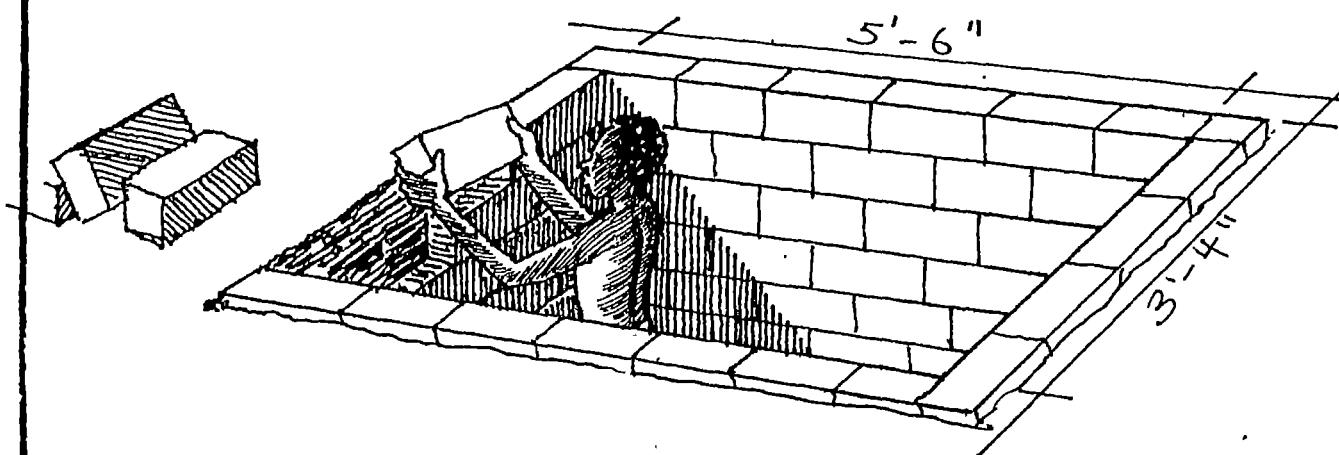
(LINED)



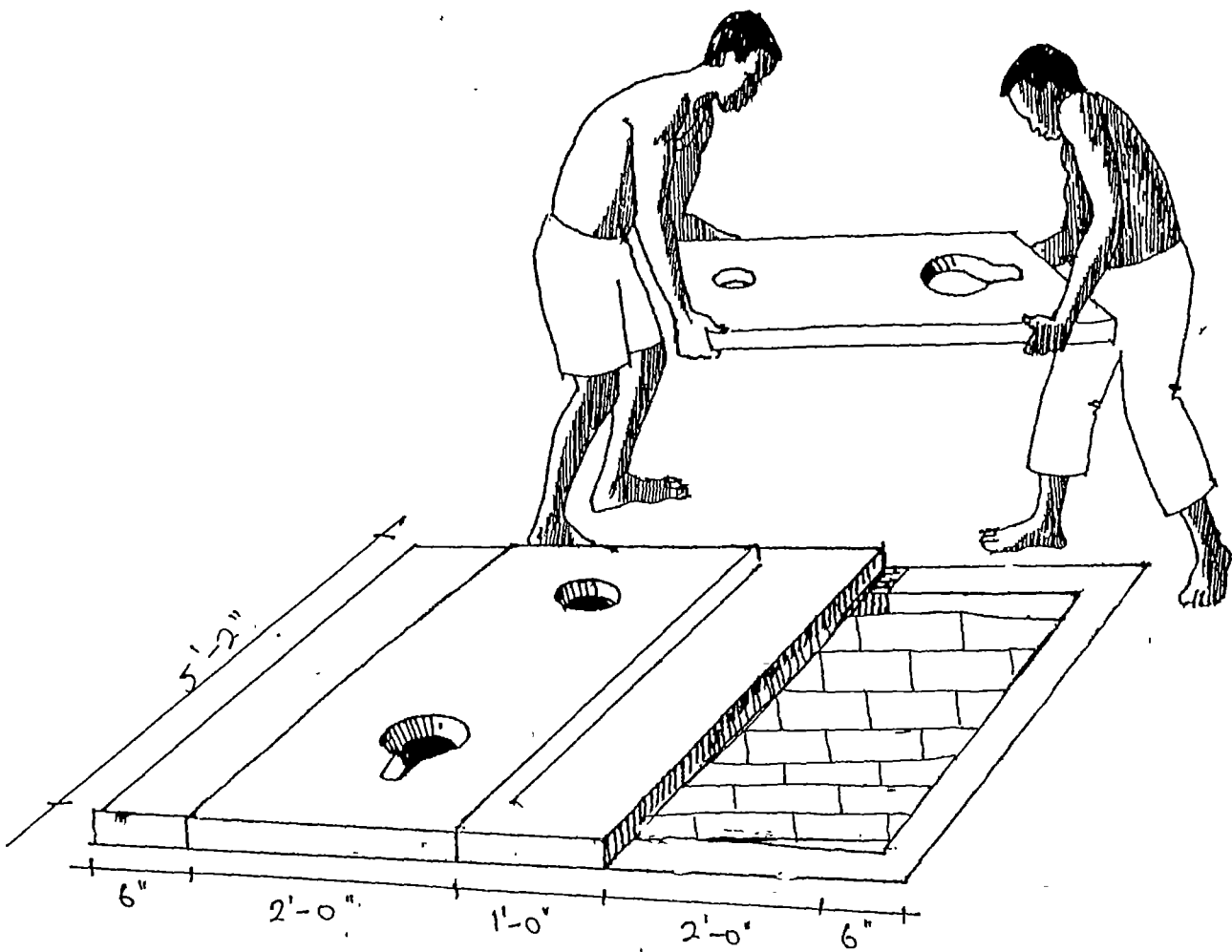
Mark the area of pit.



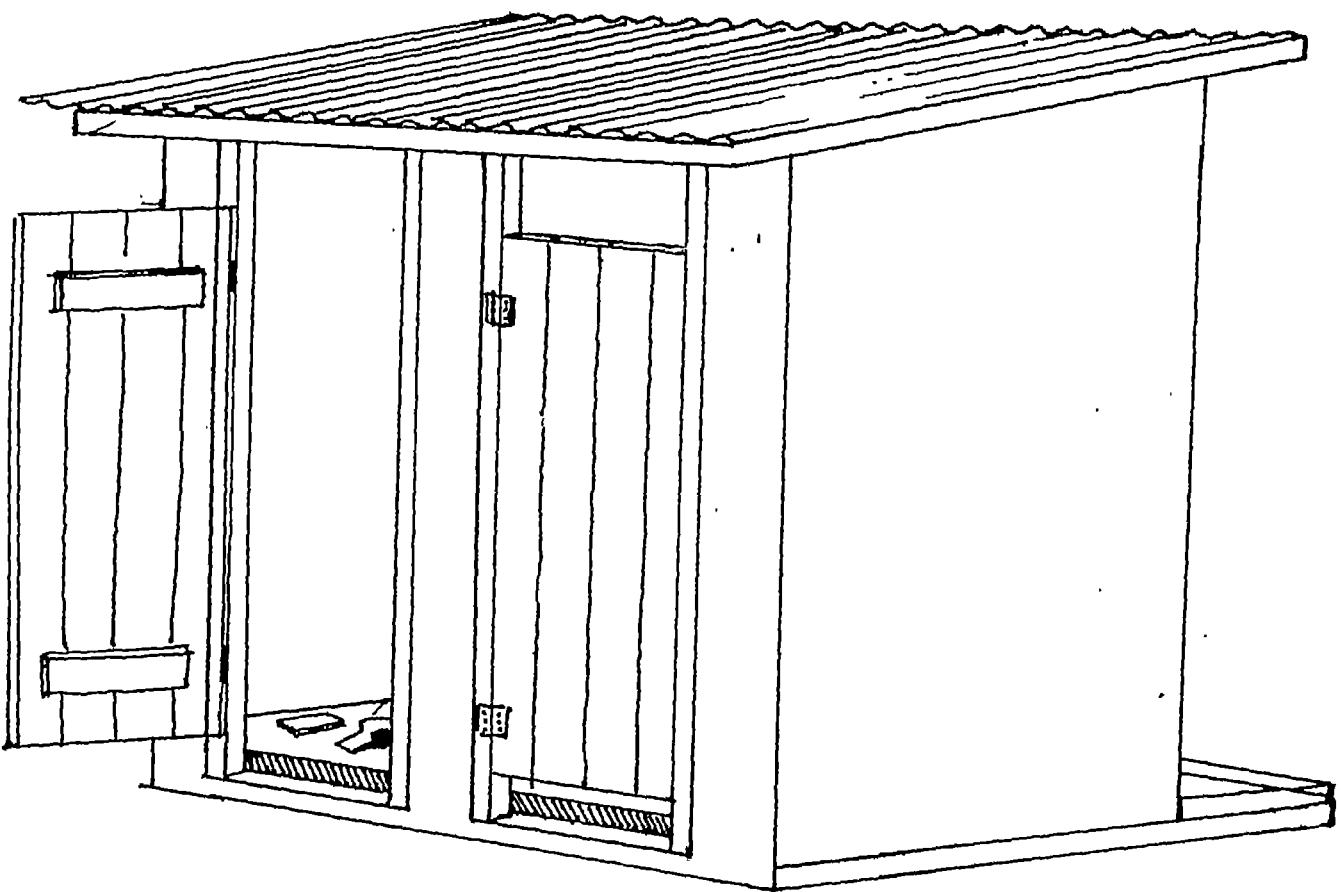
Dig to an average depth of ten feet.



Line the pit with cement blocks or burnt bricks in a honey comb fashion. (The lining should be two inches above ground level to recieve the concrete slabs.)

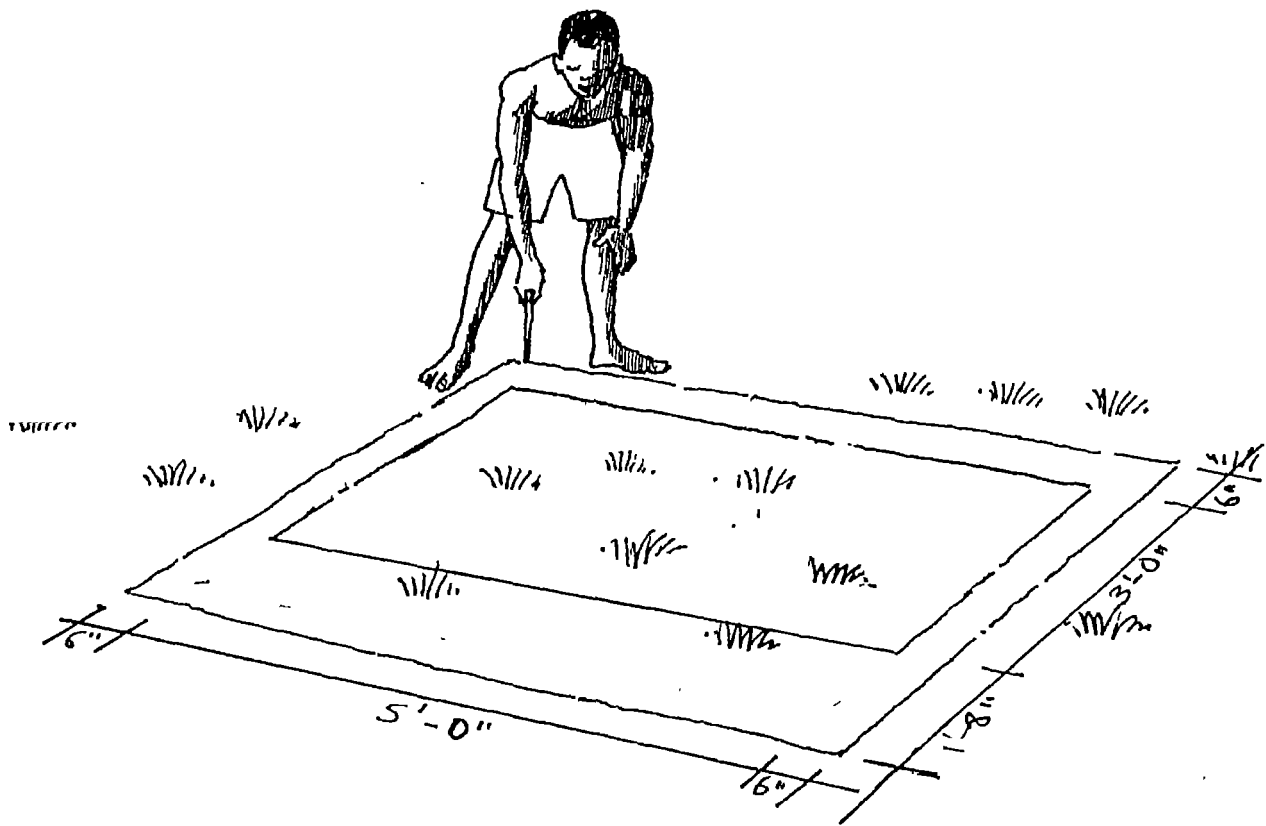


Make the squat and cover slabs and cover the pit as shown ie the cover slabs should be in between the squat slabs.

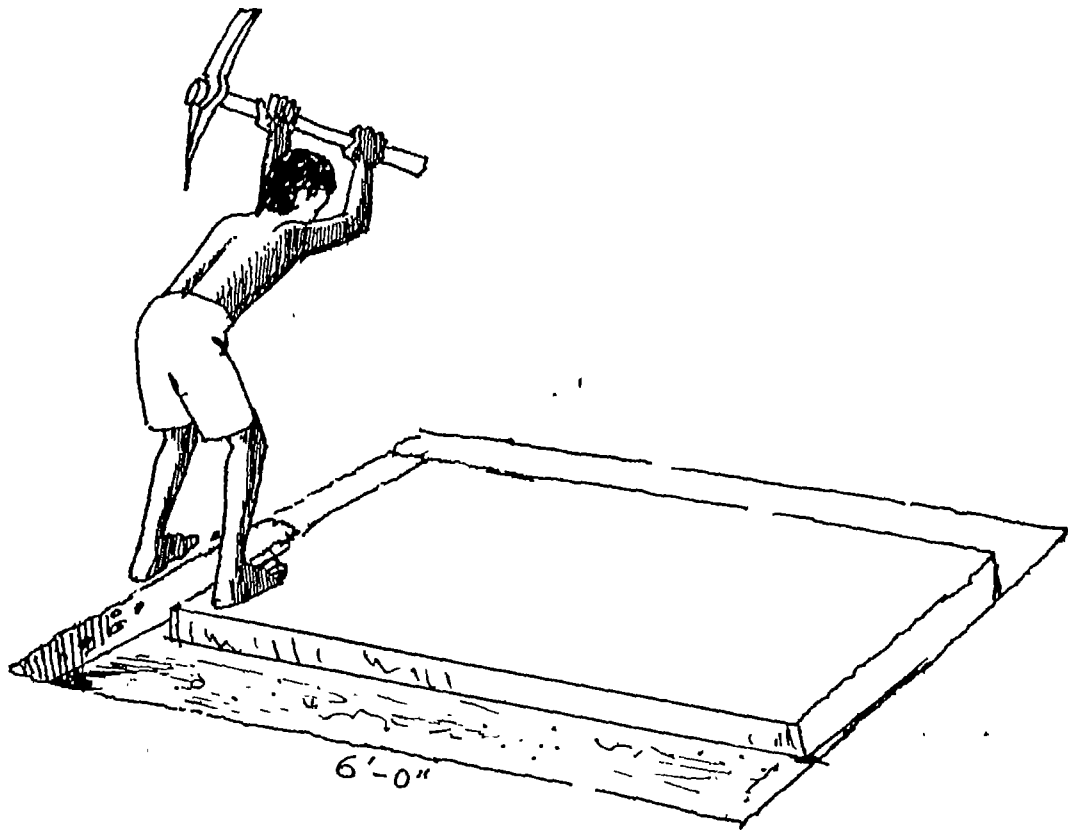


Build the superstructure to sit halfway on the covered pit. (Superstructure should sit on the side of the slabs where the squat holes are).

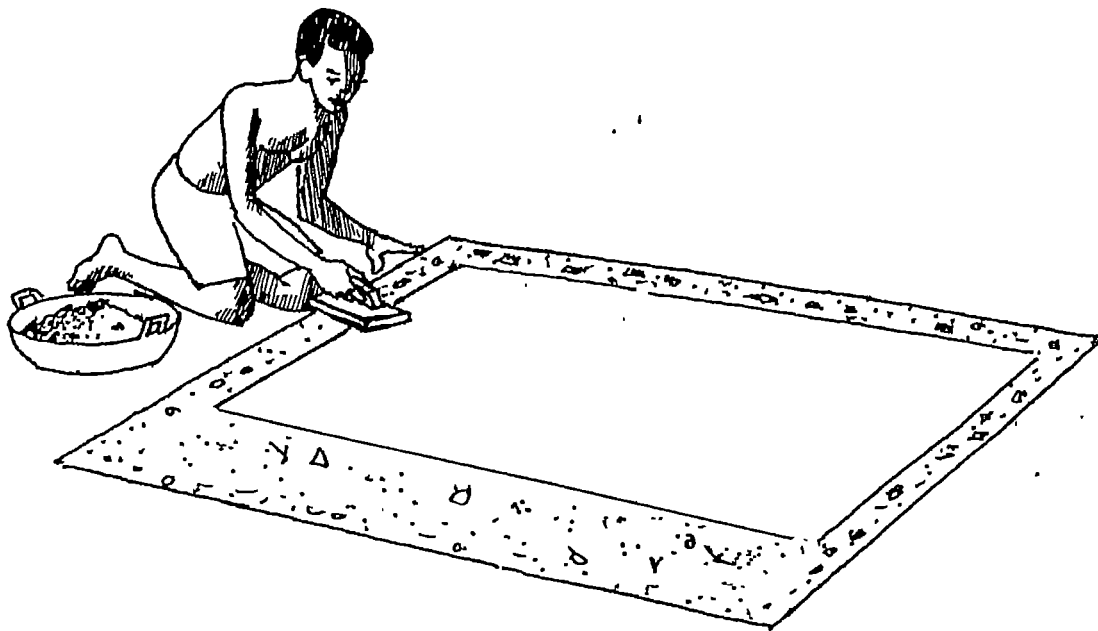
TEMPORARY TWO PRIVY ROOM VIP (UNLINED)



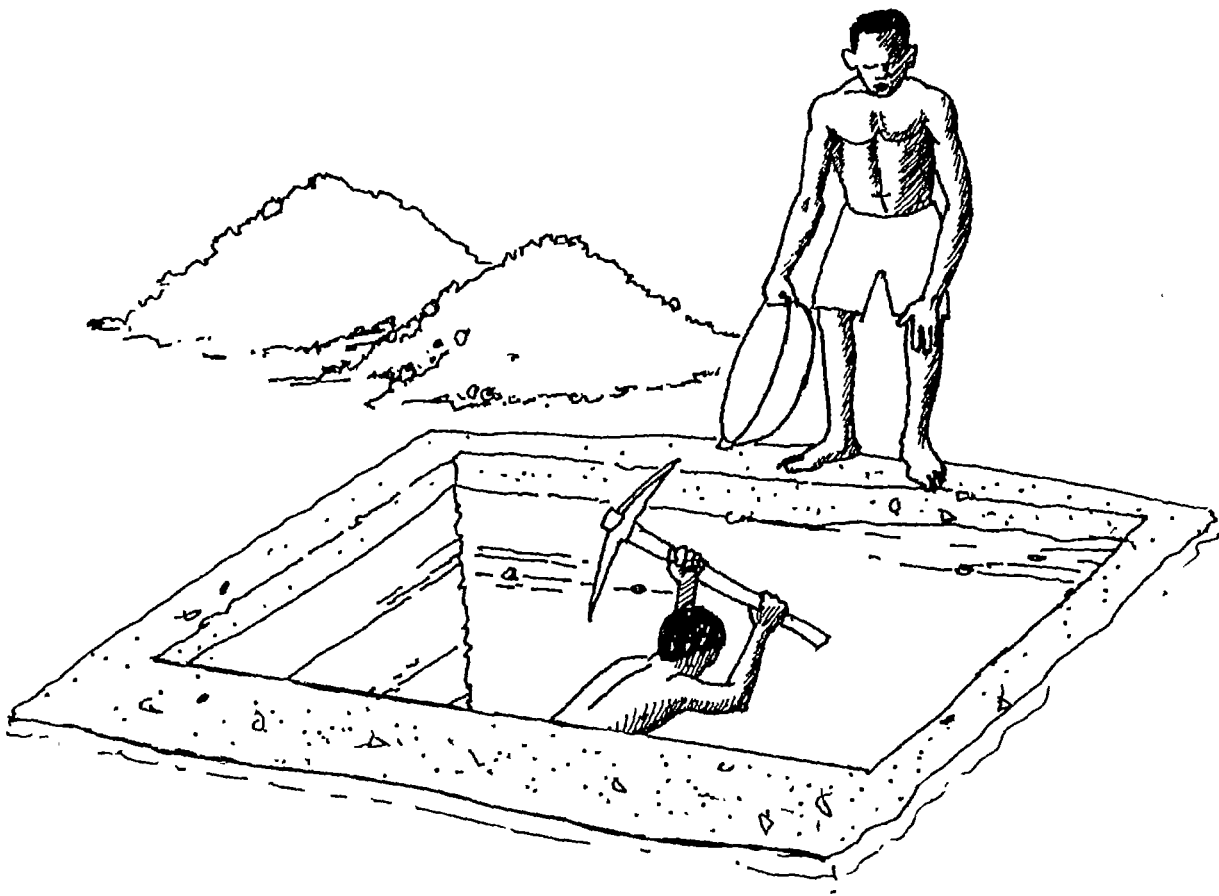
Mark the inner area. Mark the outer area six inches from the inner area.



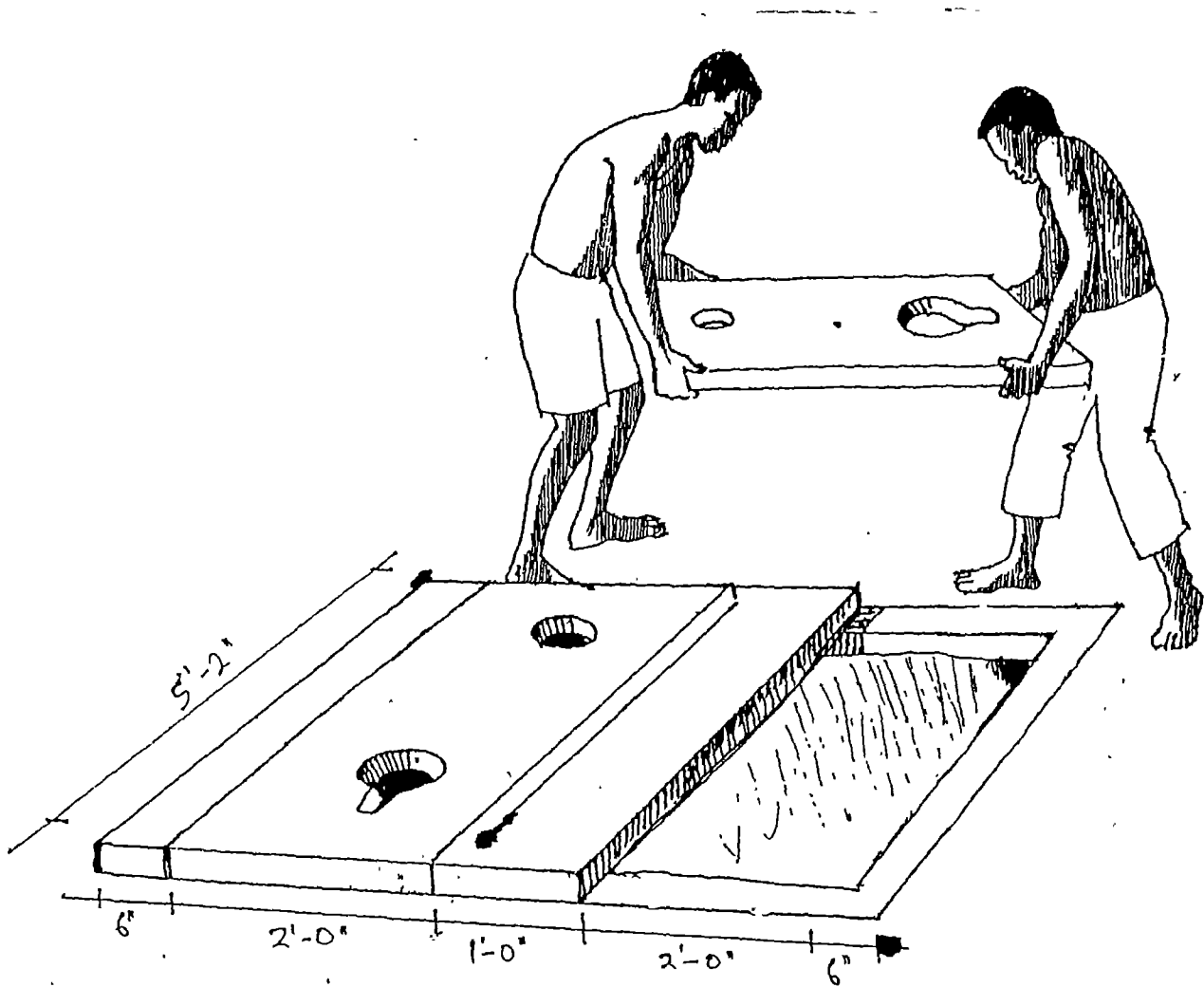
Dig in between the two areas as shown to have the surround trench.



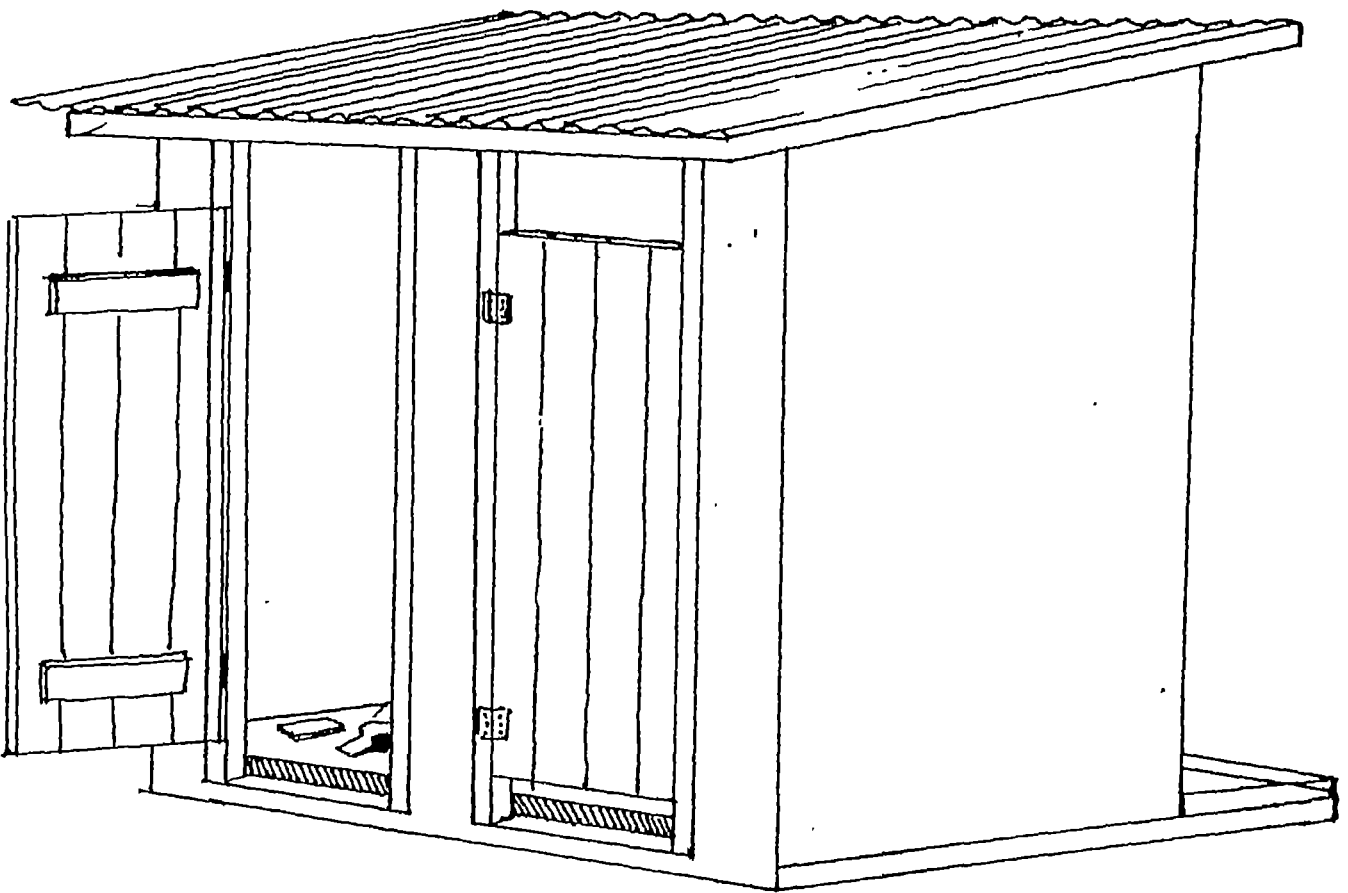
Fill the surround trench with concrete mix 1:3:6.



Dig to an average depth of ten feet.

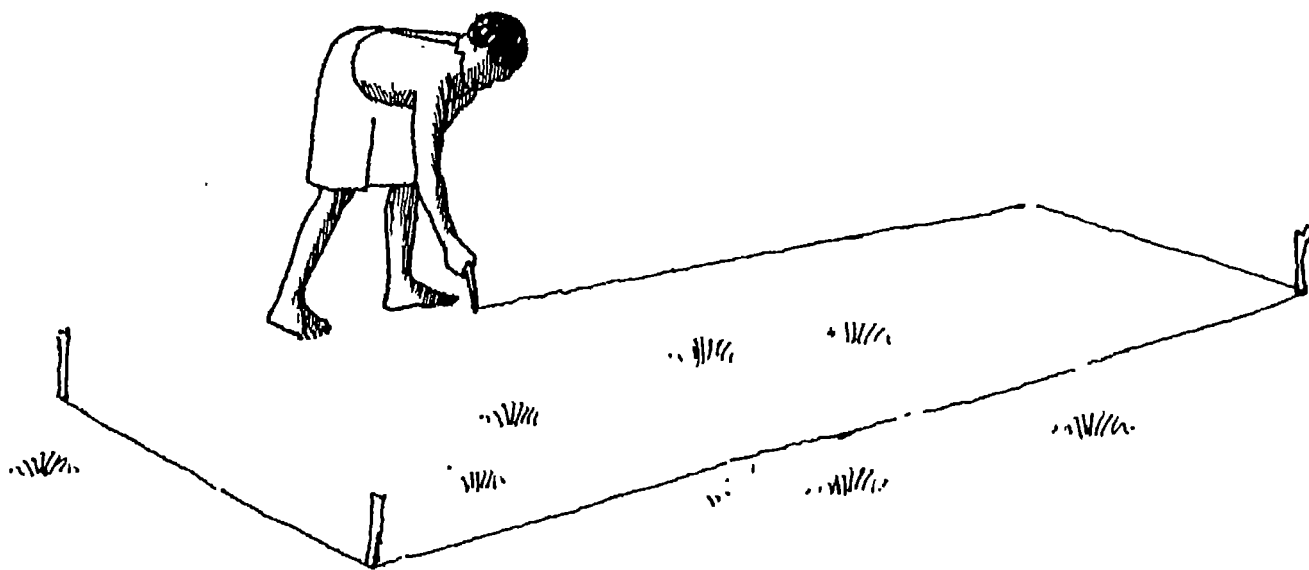


Make the squat and cover slabs and cover the pit as shown ie the cover slabs should be in between the squat slabs.

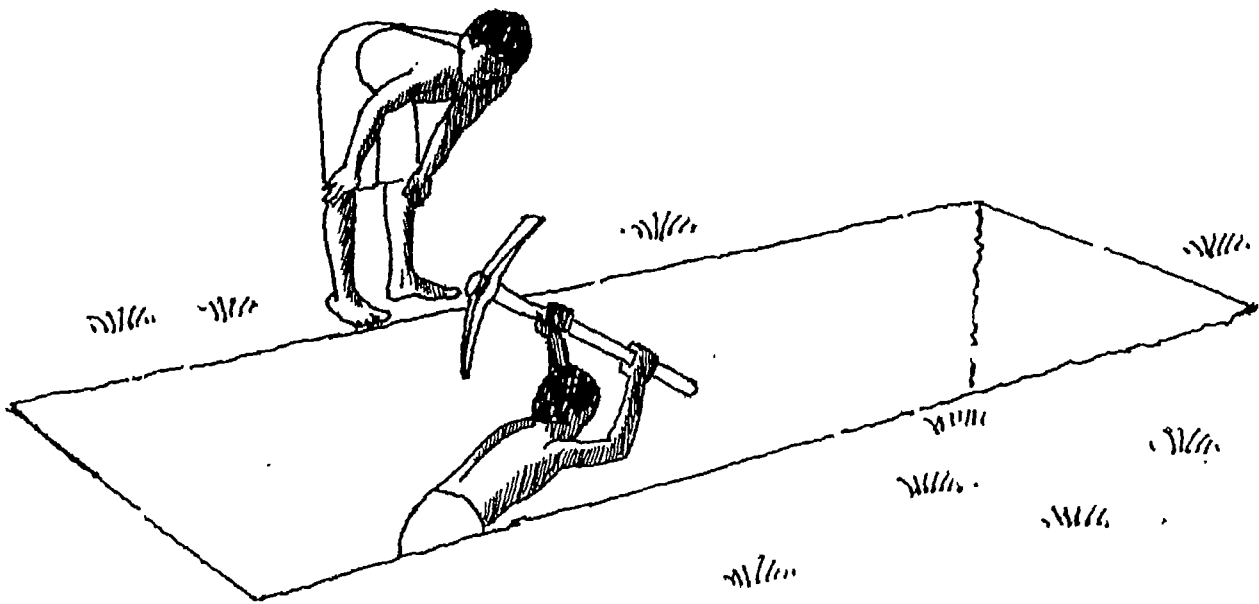


Build the superstructure to sit halfway on the covered pit. (Superstructure should sit on the side of the slabs where the squat holes are).

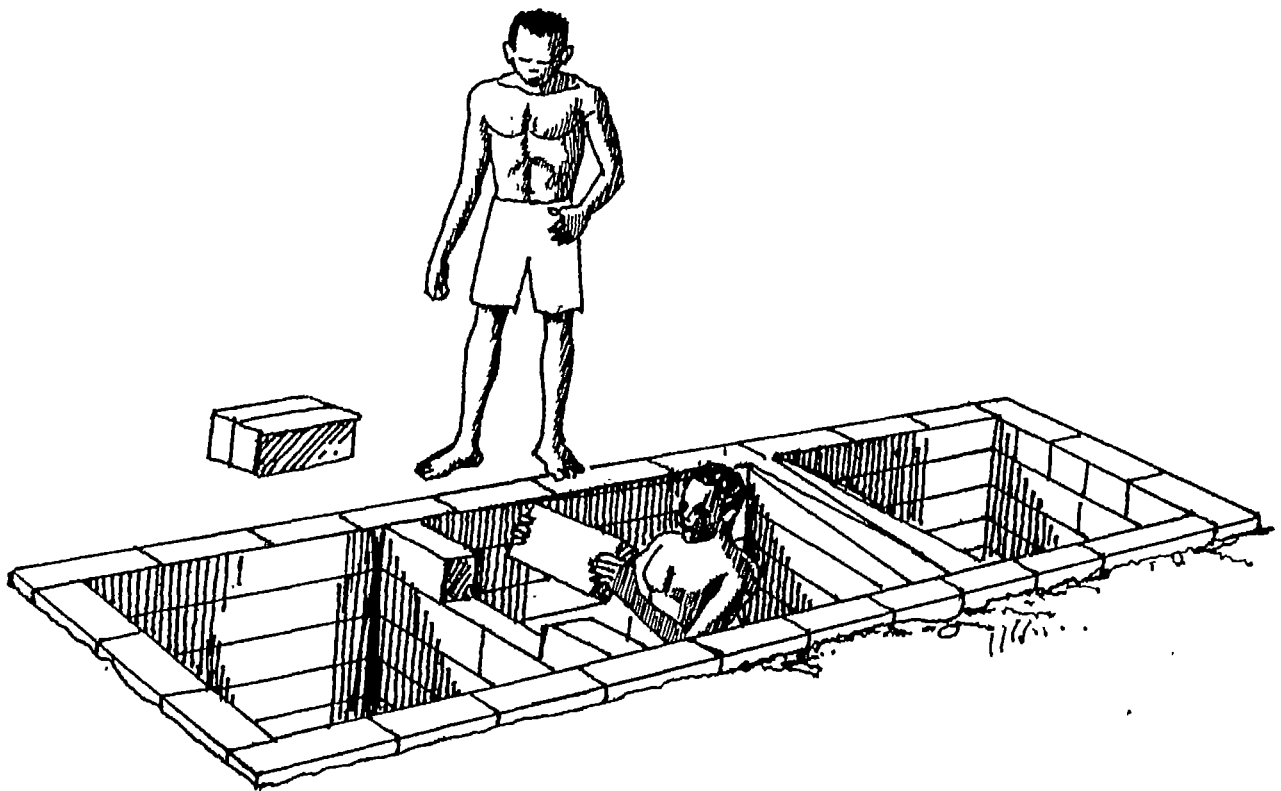
TRENCH TYPE MULTIPLE ROOM VIP. (LINED)



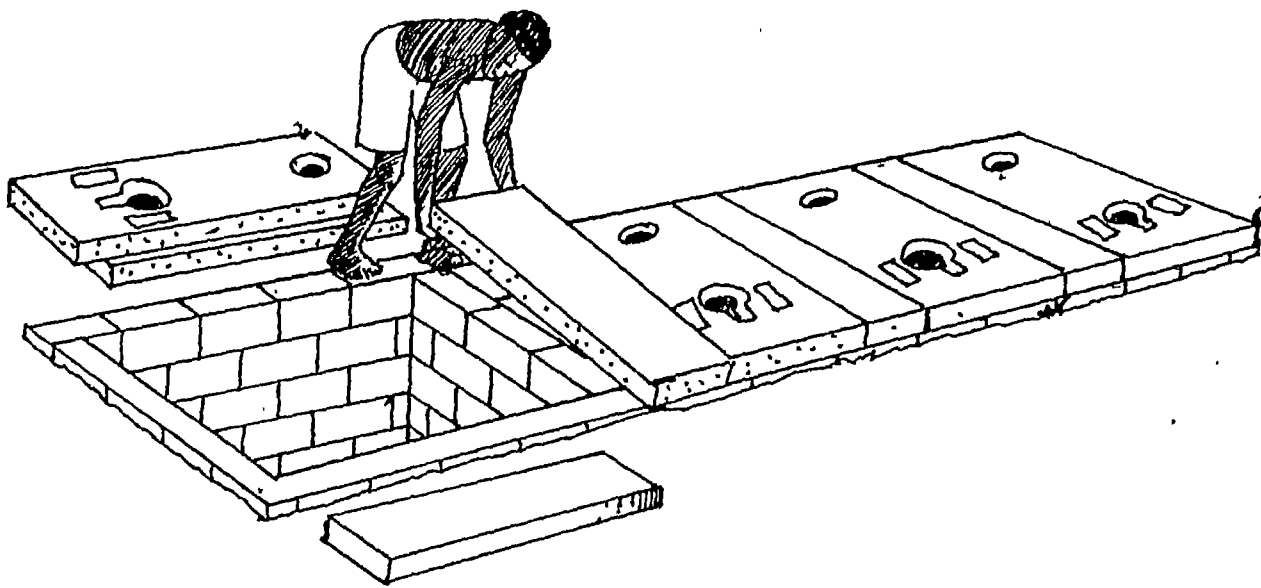
Mark the area of pit.



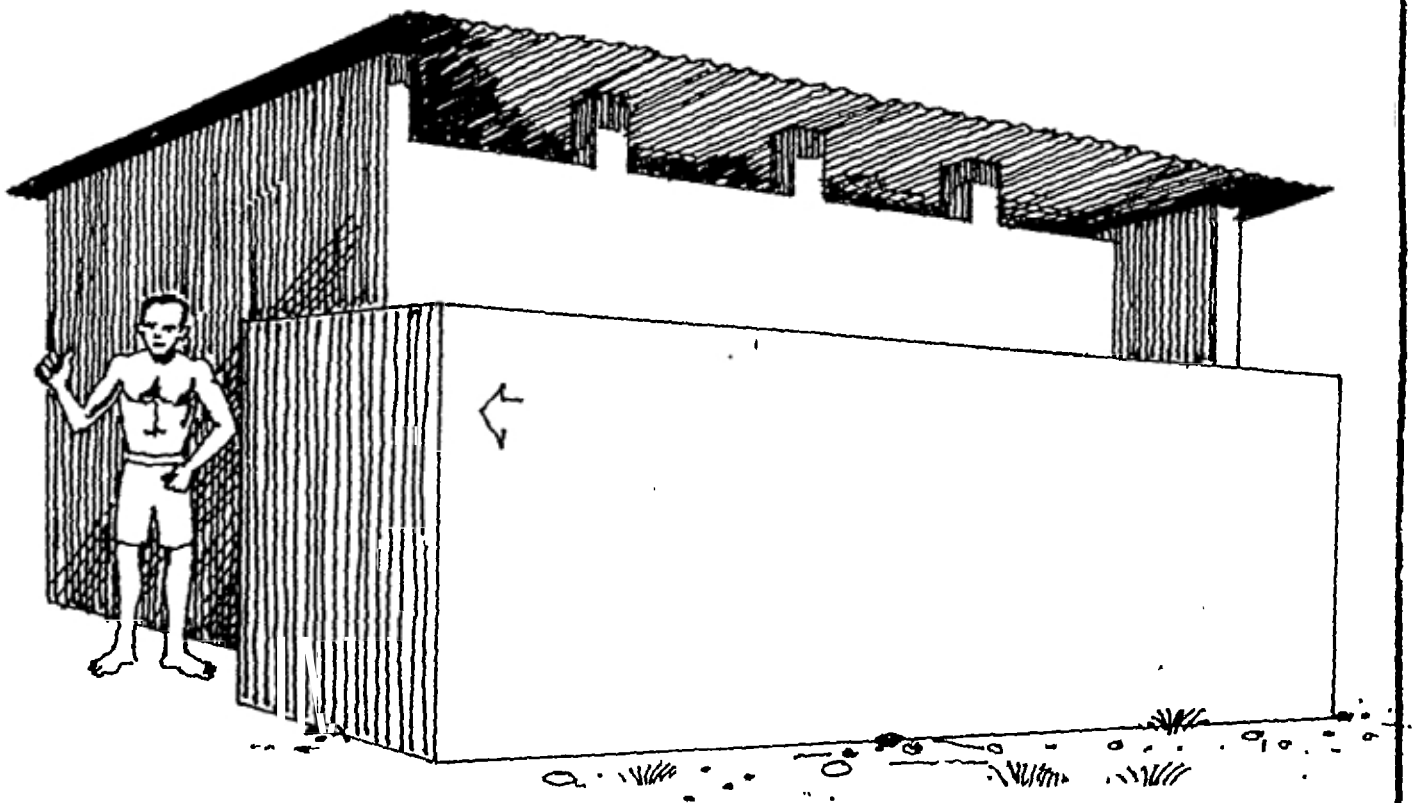
Dig to an average depth of ten feet.



Line the pit with cement blocks or burnt bricks in a honey comb fashion. (The lining should be two inches above ground level to recieve the concrete slabs.

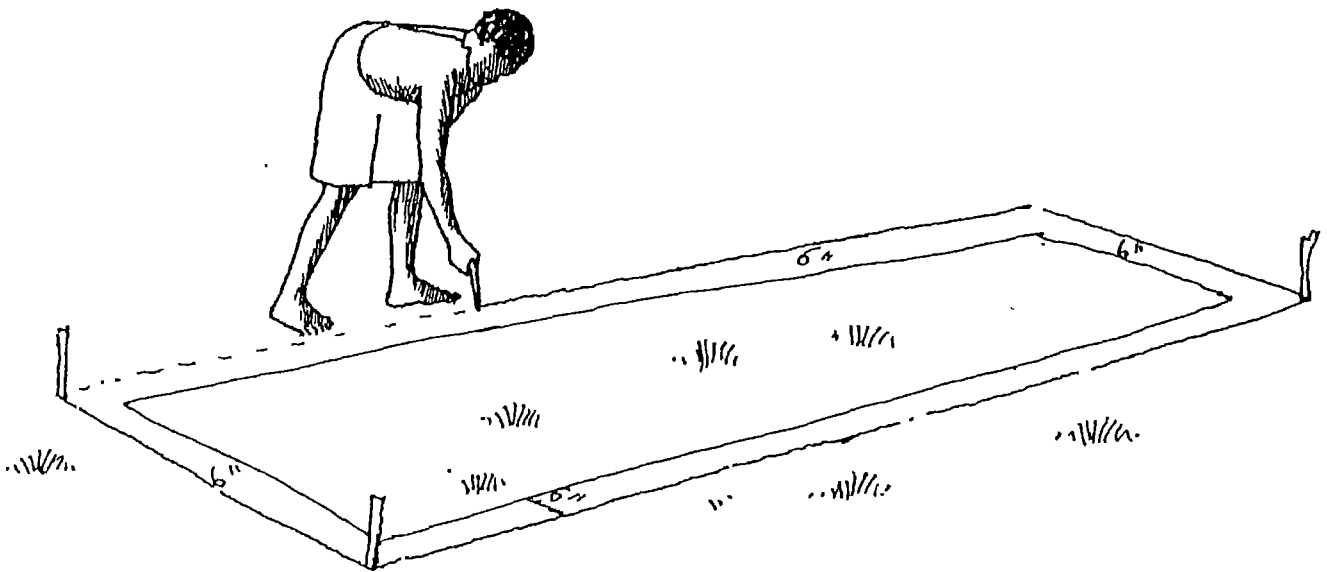


Make the squat and cover slabs and cover the pit as shown ie the cover slabs should be in between the squat slabs.

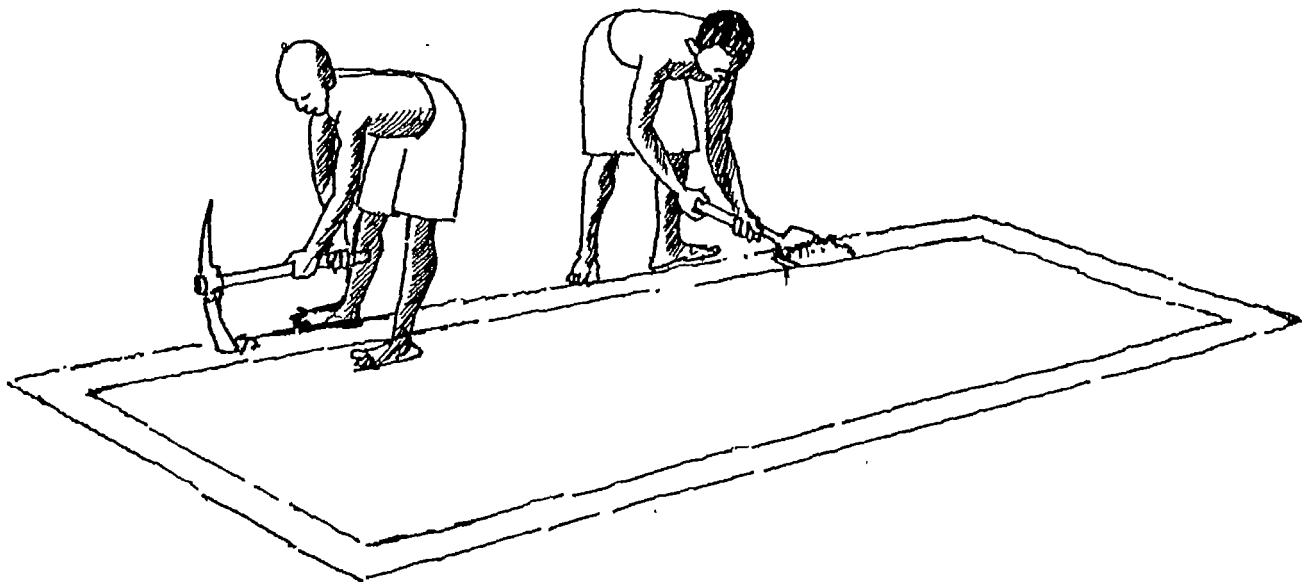


Build the superstructure to sit halfway on the covered pit. (Superstructure should sit on the side of the slabs where the squat holes are).

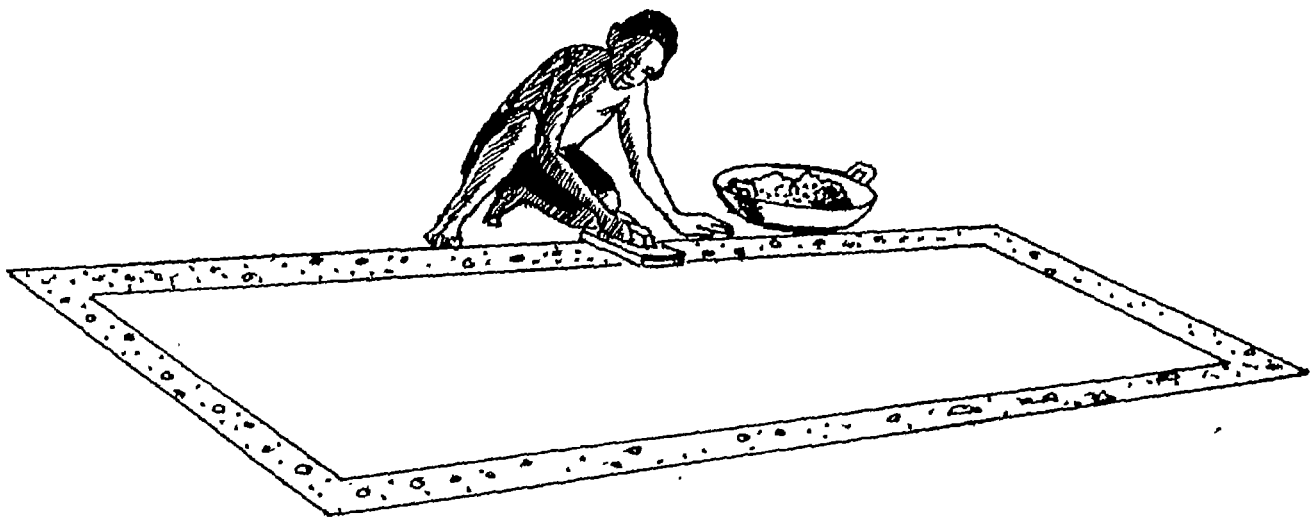
TRENCH TYPE MULTIPLE ROOM VIP. (UNLINED)



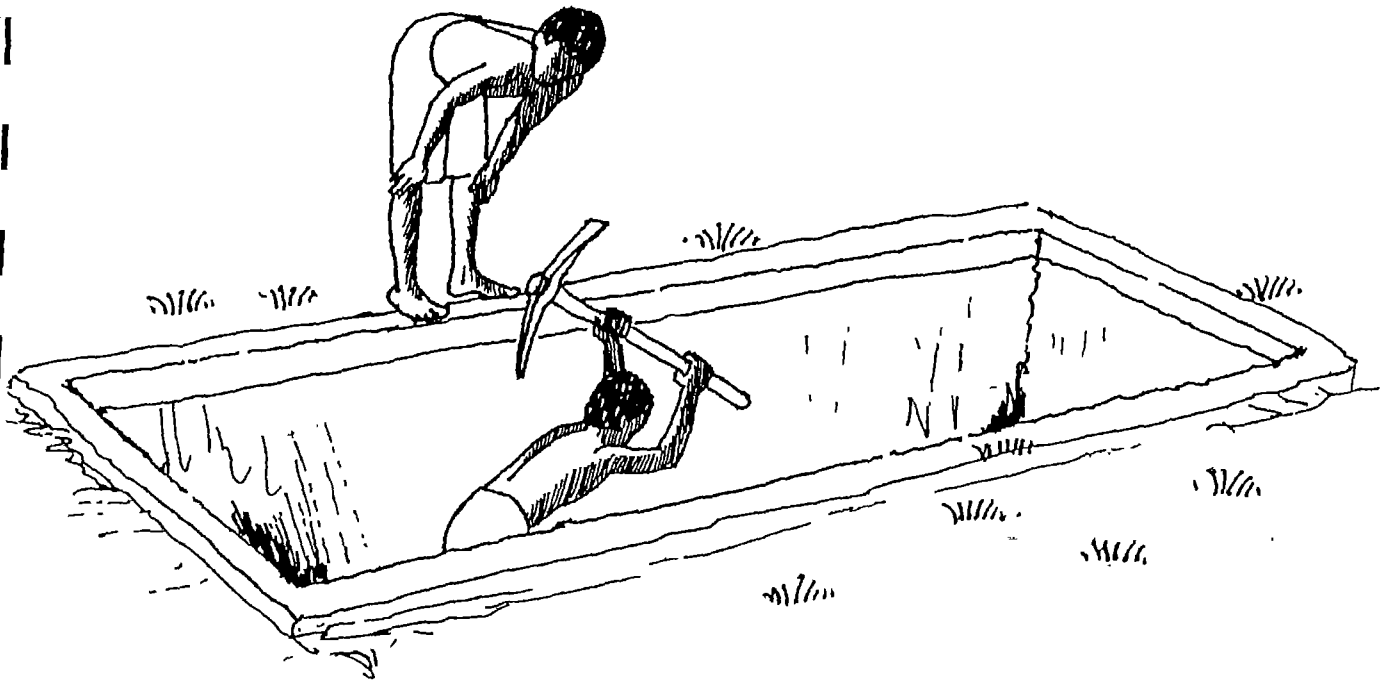
Mark the inner area. Mark the outer area six inches from the inner area.



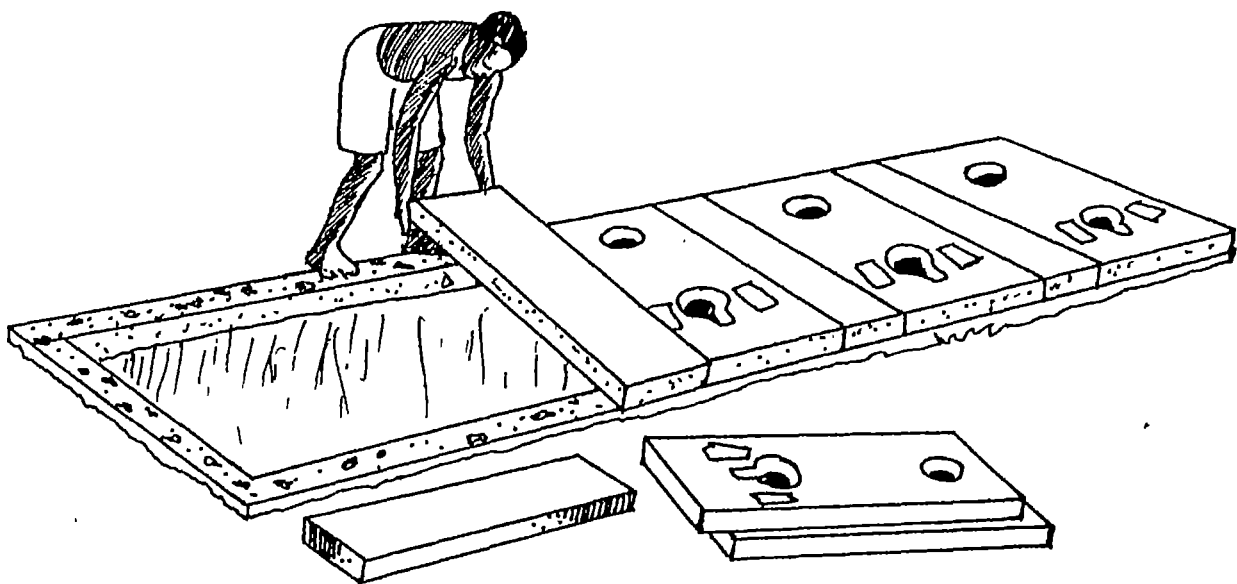
Dig in between the two areas as shown to have the surround trench.



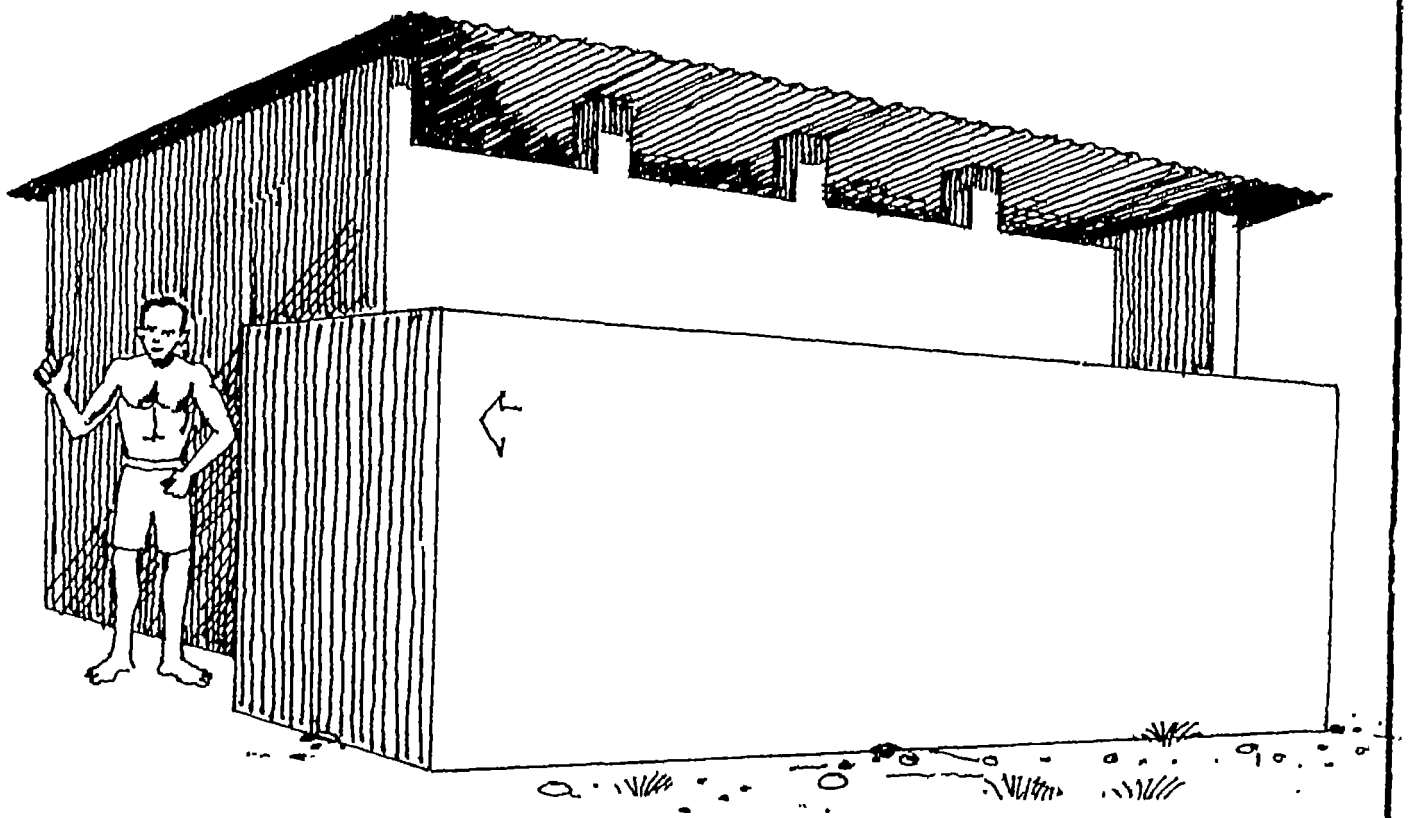
Fill the surround trench with concrete mix
1:3:6.



Dig the inner area.

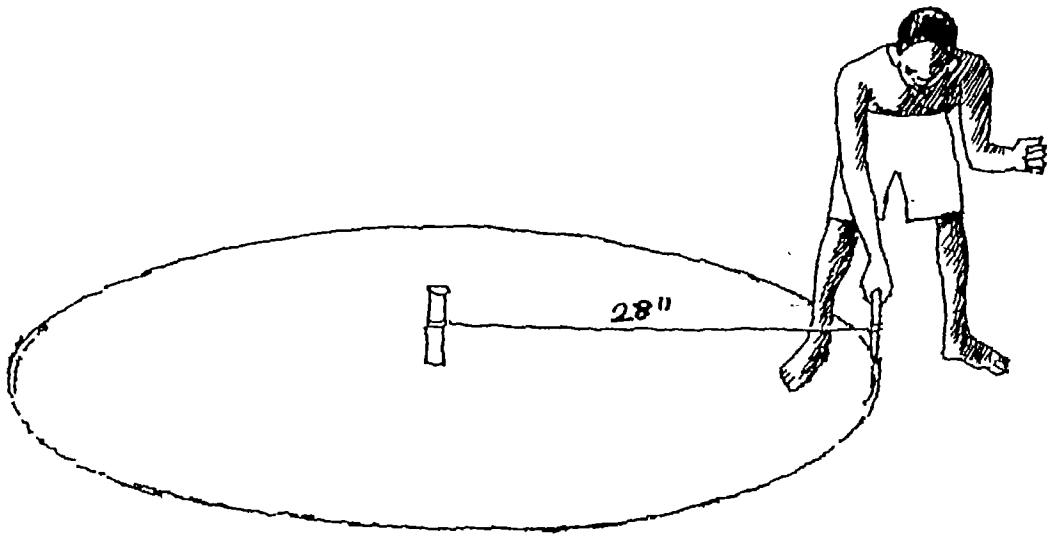


Make the squat and cover slabs and cover the pit as shown ie the cover slabs should be in between the squat slabs.

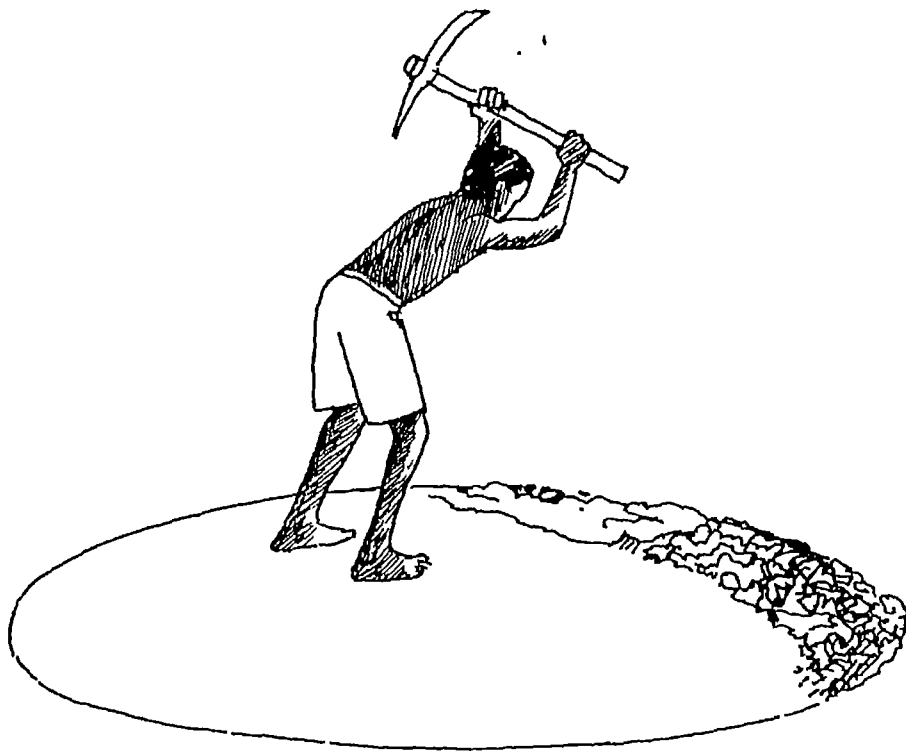


Build the superstructure to sit halfway on the covered pit. (Superstructure should sit on the side of the slabs where the squat holes are).

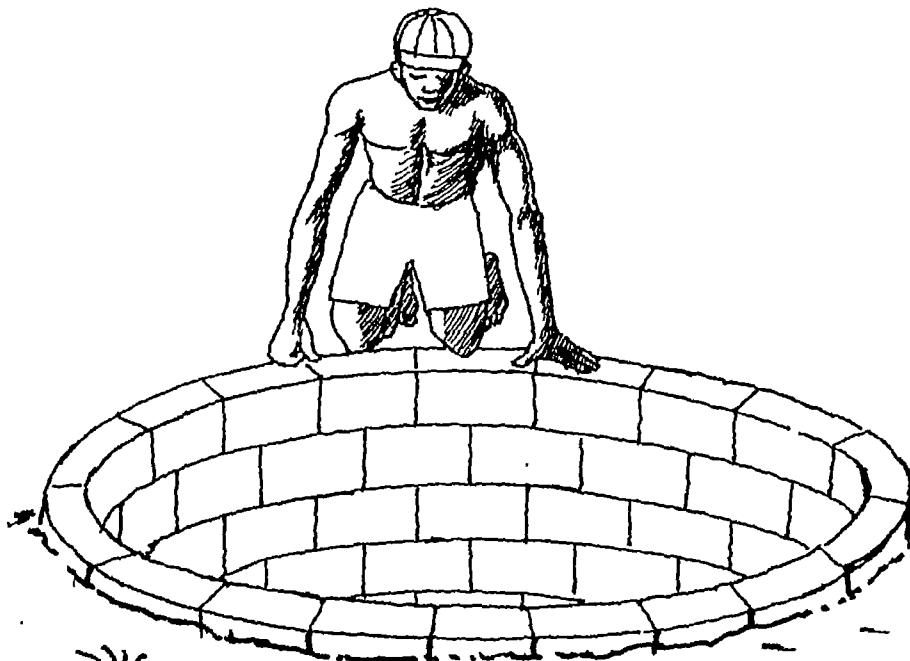
MOZAMBIQUE SLAB TYPE VIP.
(LINED)



Use a string 28 inches to make a circle from a centre peg.

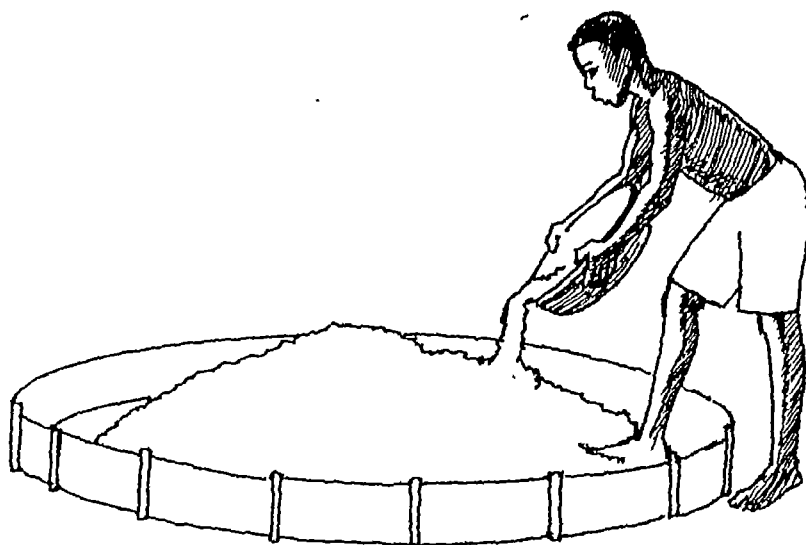


Dig to an average depth of ten feet.



Line the pit with cement blocks or burnt bricks in a honey comb fashion. (The lining should be two inches above ground level to recieve the concrete slabs.

MOZAMBIQUE SLAB

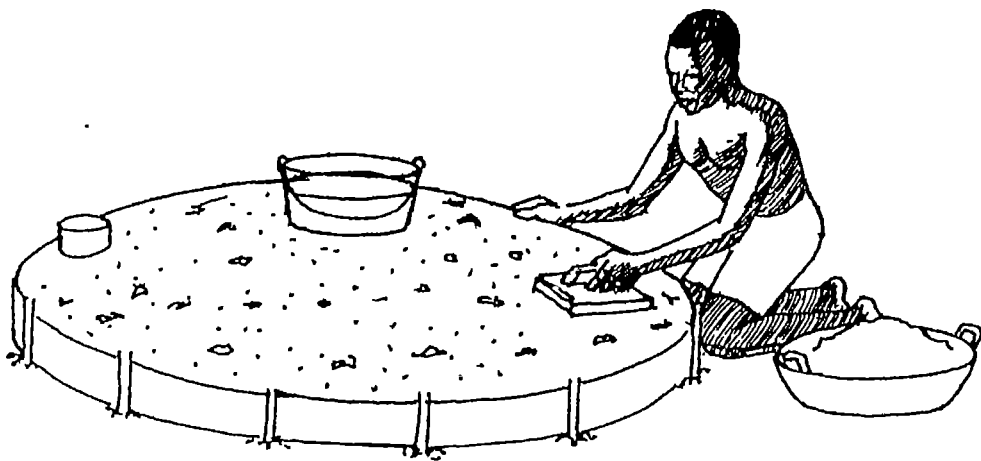


Mark a circle same circumference as the outer area of pit.

Make a wall 2-3 inches along the area.

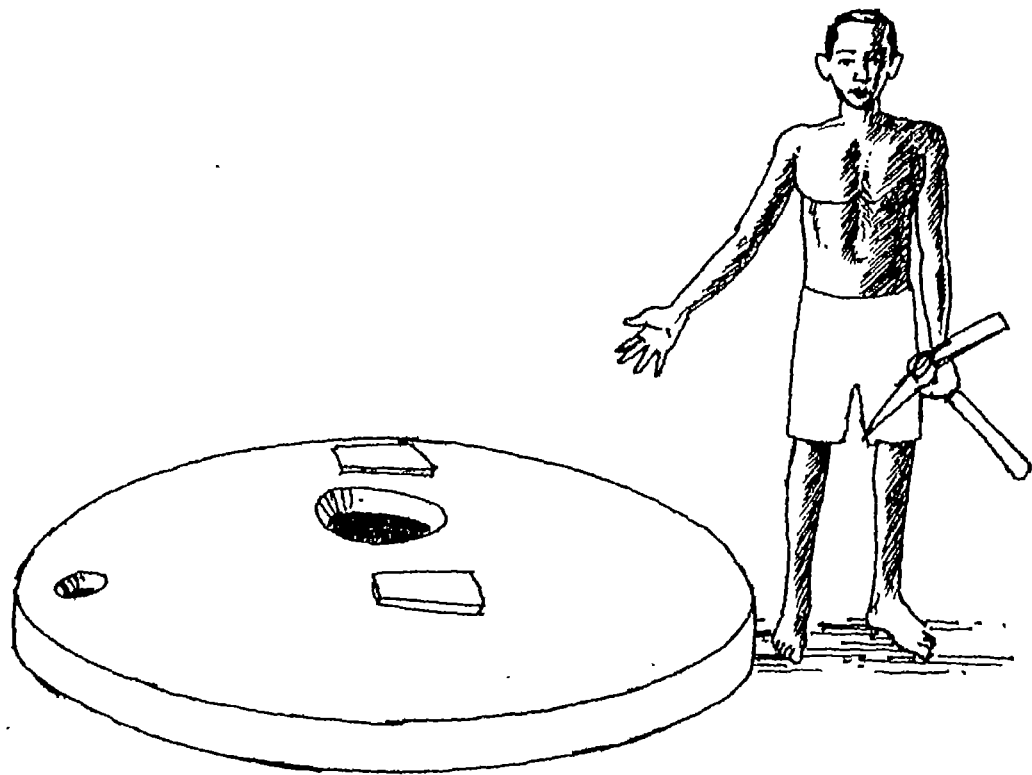
Put a Peg in the centre, 8 inches from the surface of the ground.

Pour Sand to heap (sloping from the sides) and make it firm. The centre should be 2-3 inches from the tip of peg.

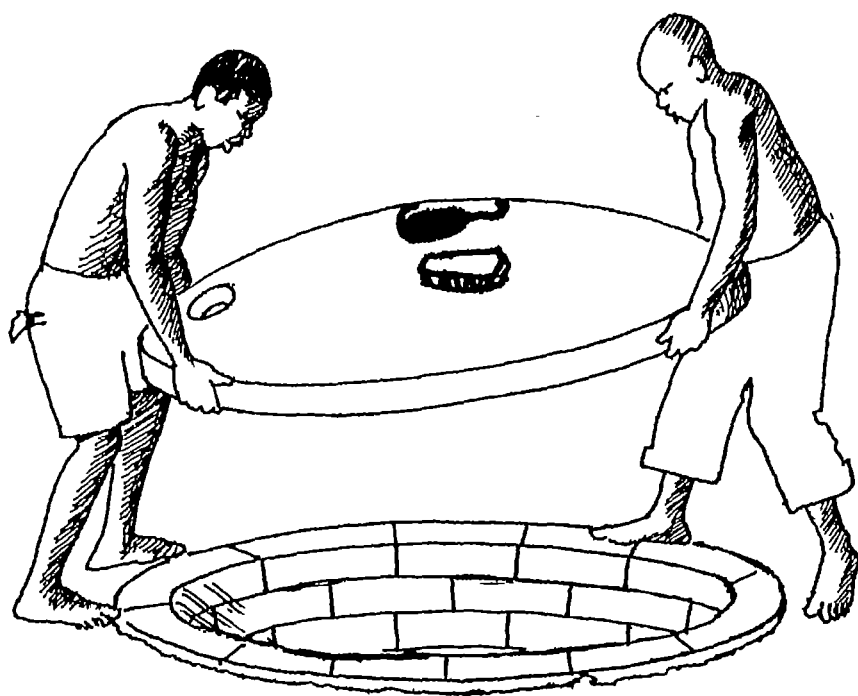


Put a size 28 bucket in the centre of circle (in the sand) and a milo tin 10 inches from an edge as shown to have the squat and vent holes.

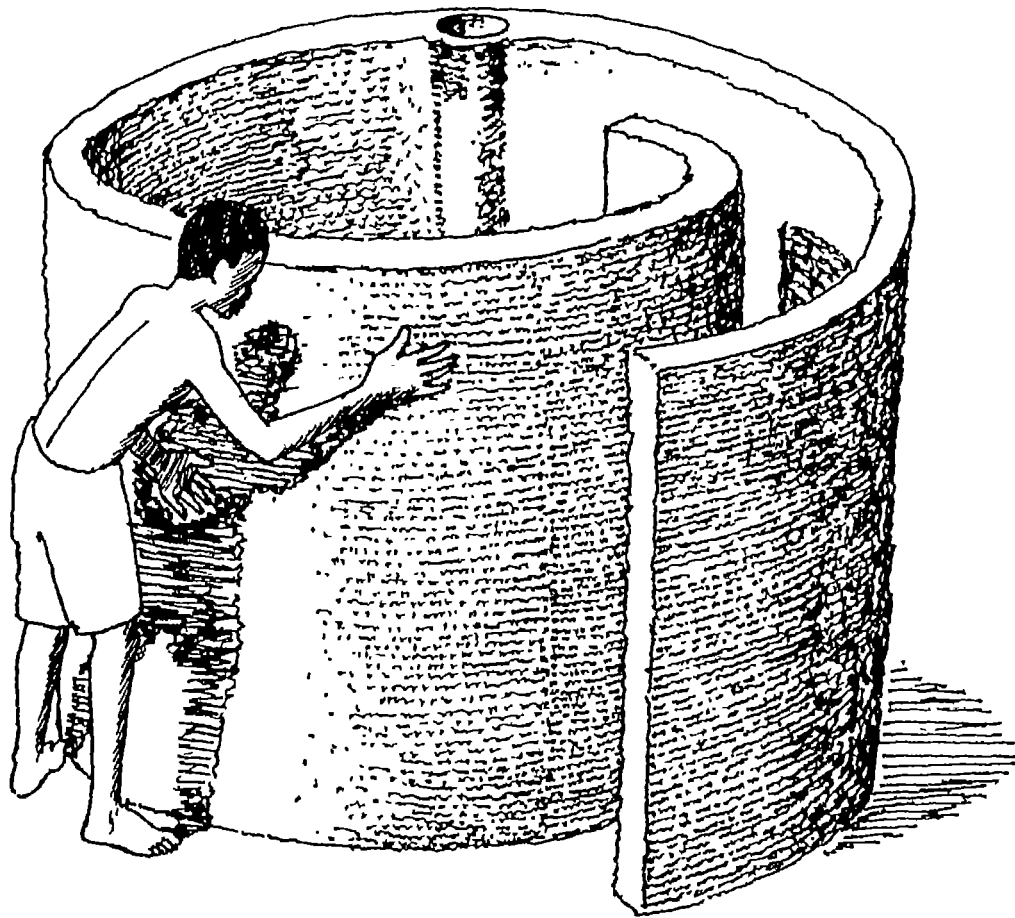
Pour concrete mix 1:2:4: 2 inches thick to cover the heaped Sand/Soil.



After concrete is set, remove bucket and milo tin and shape the squat hole to have your Mozambique slab.



Cover the pit as shown

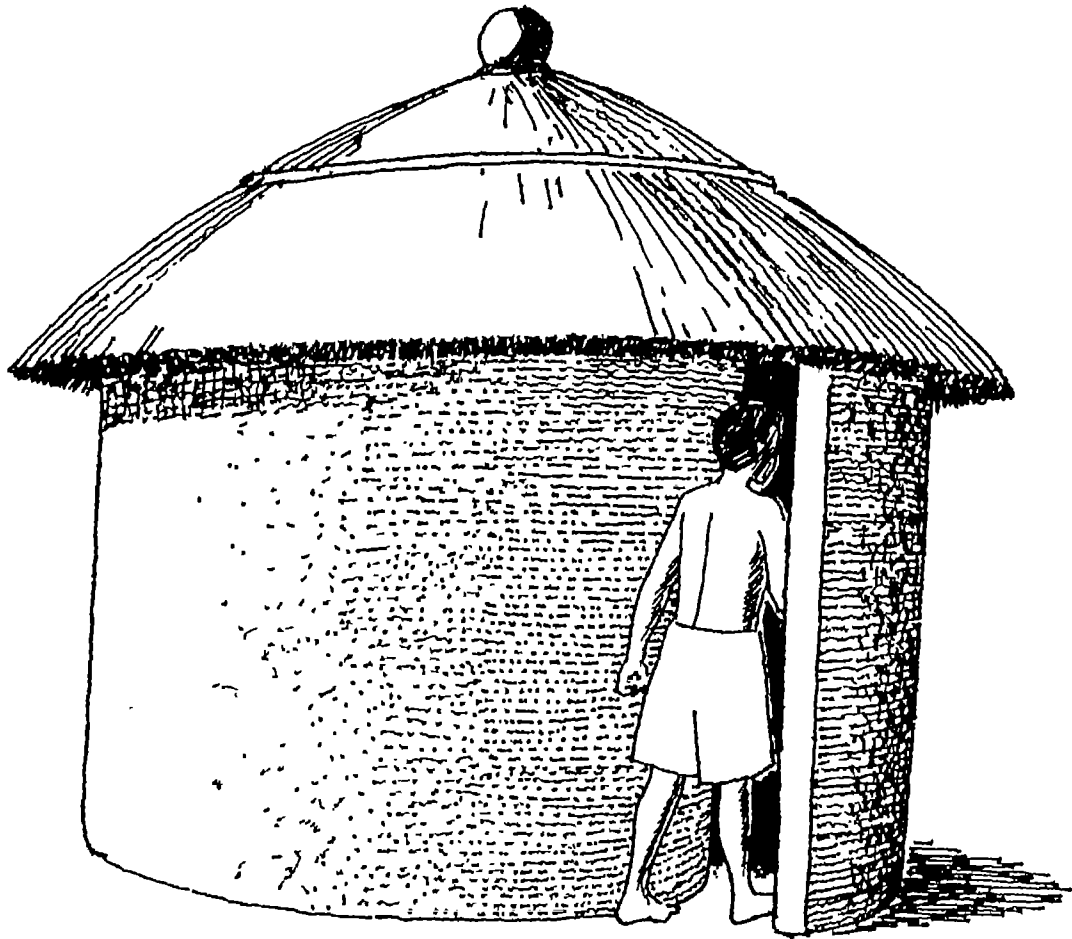


Build your superstructure to cover the whole pit. The vent pipe can be created through the wall of the superstructure as shown.

How this is done:

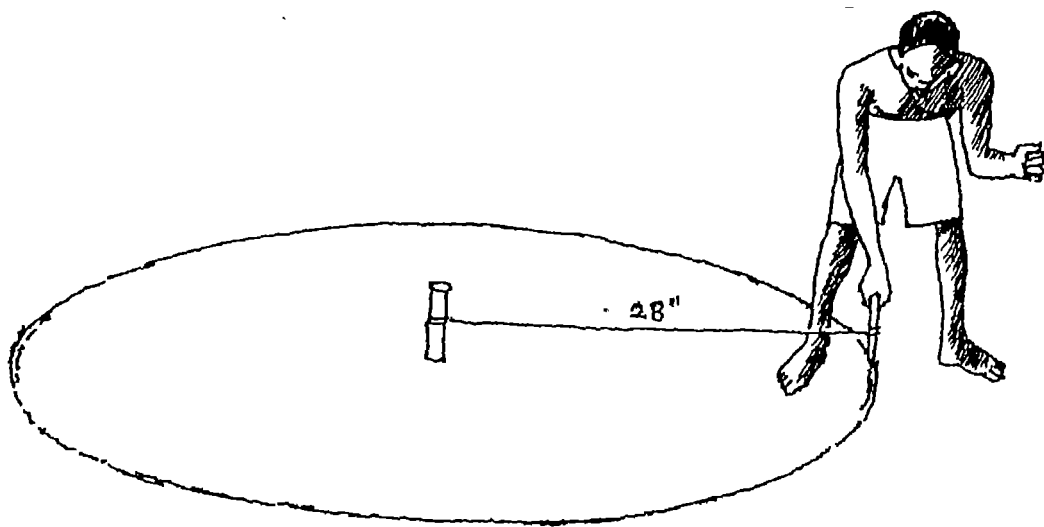
Put a milo tin on the vent hole before building the super structure around the milo tin.

Pull it up and continue building till you finish to the top.

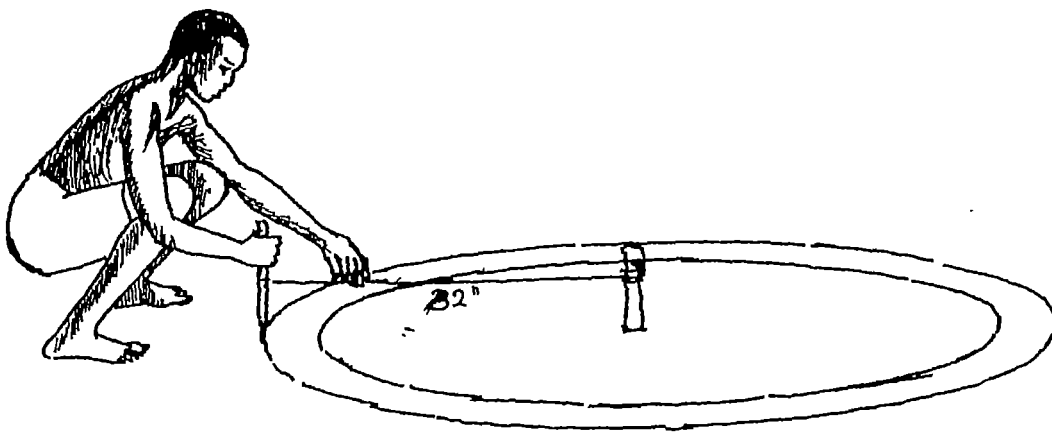


Build your roof. Make sure there is space between
roof and Vent hole.

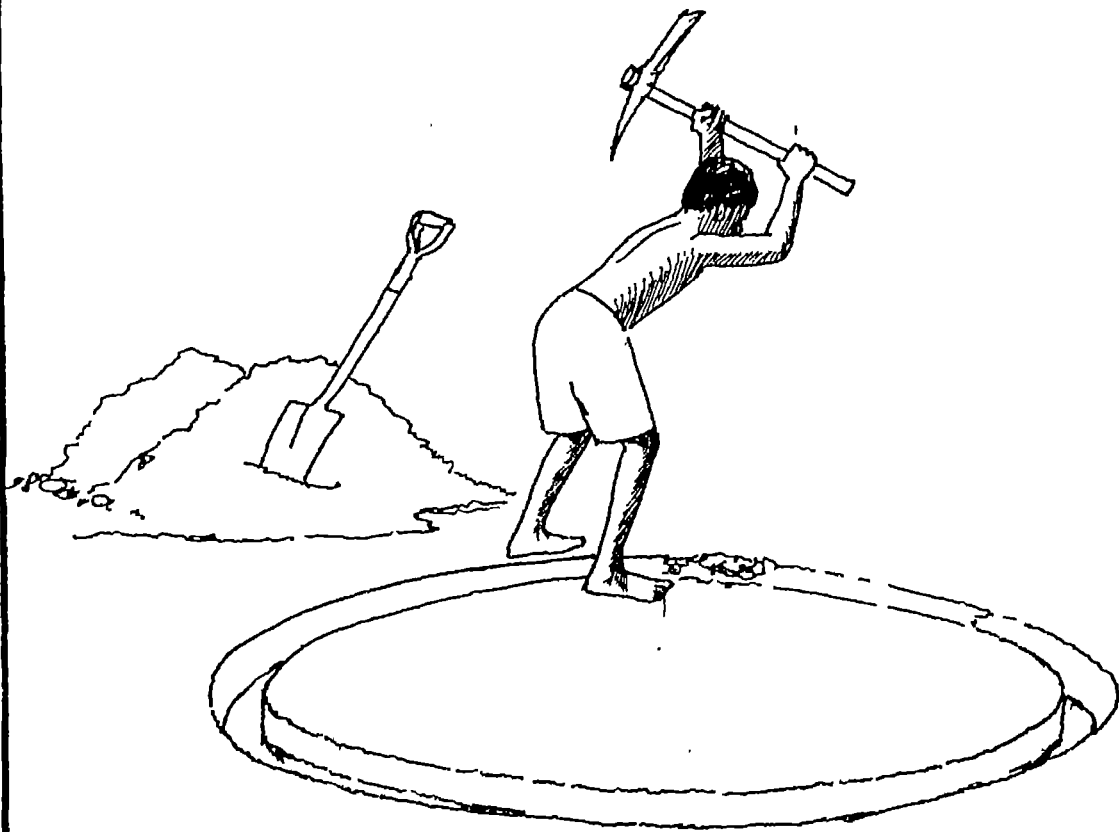
**MOZAMBIQUE SLAB TYPE VIP.
(UNLINED)**



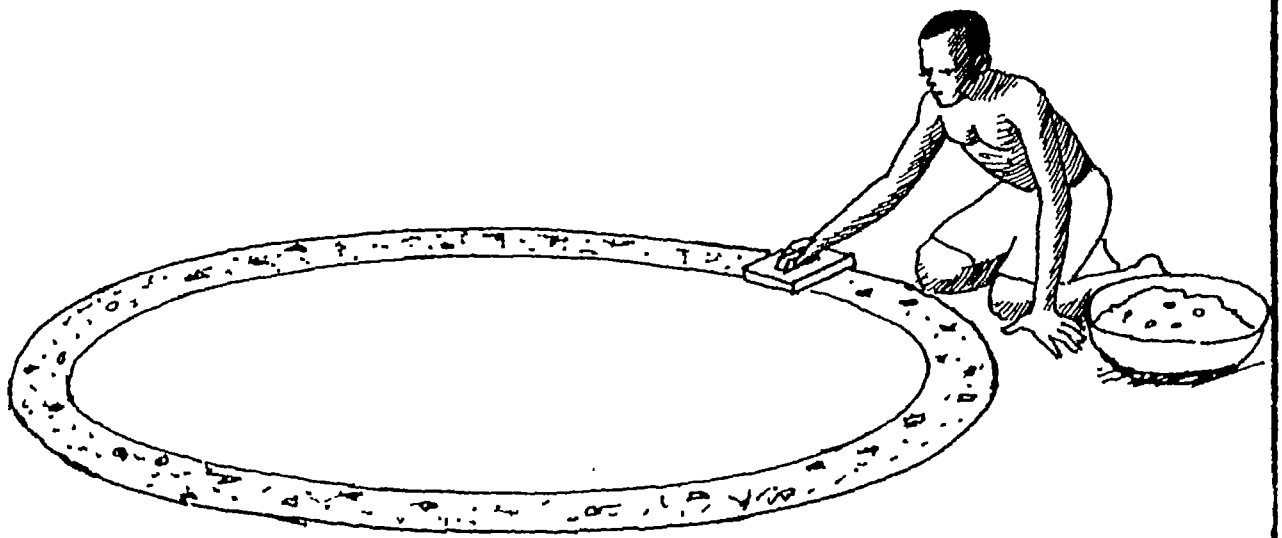
Use a string 20 inches to make a circle from a centre peg.



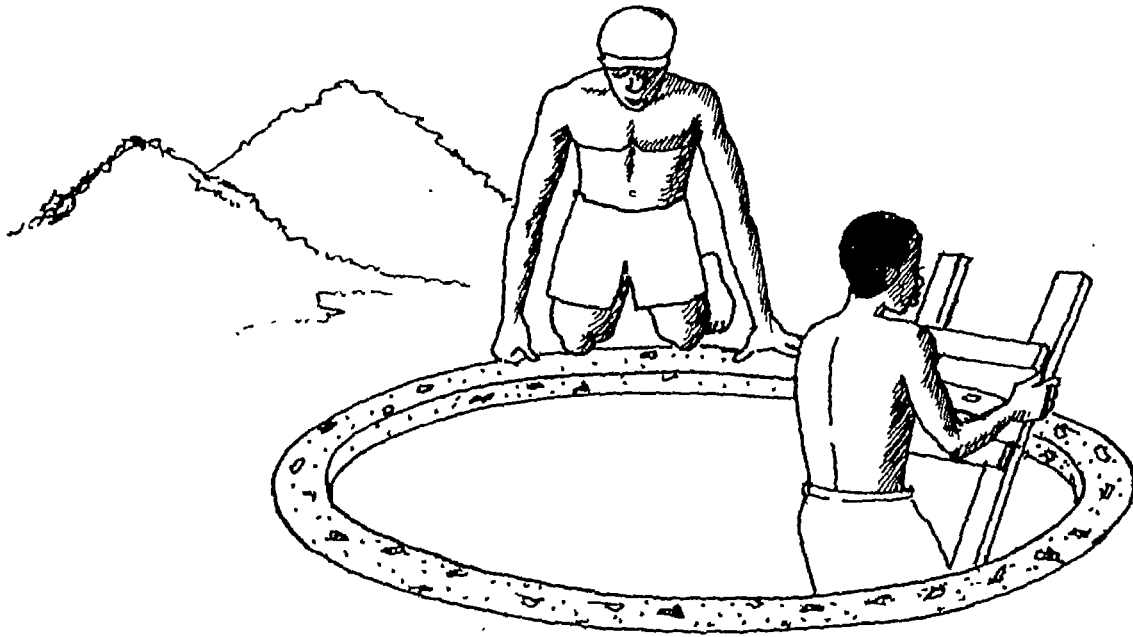
Use another string **28** inches to mark another circle from the same peg.



Dig in between the two areas as shown to have the surround trench.

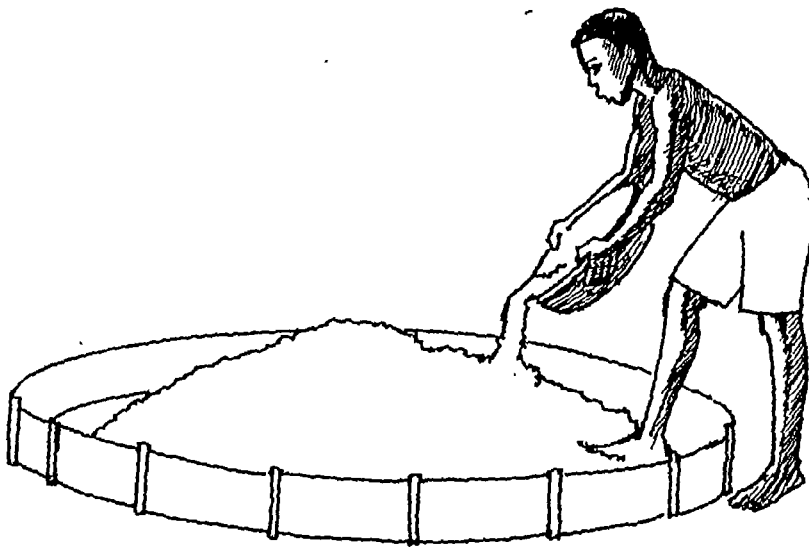


Fill the surround trench with concrete mix 1:3:6.



Dig the inner area.

MOZAMBIQUE SLAB

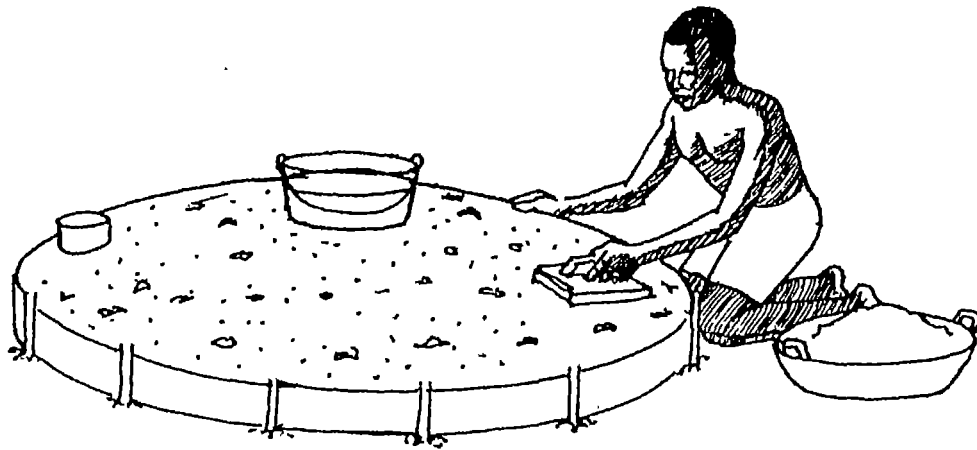


Mark a circle same circumference as the outer area of pit.

Make a wall 2-3 inches along the area.

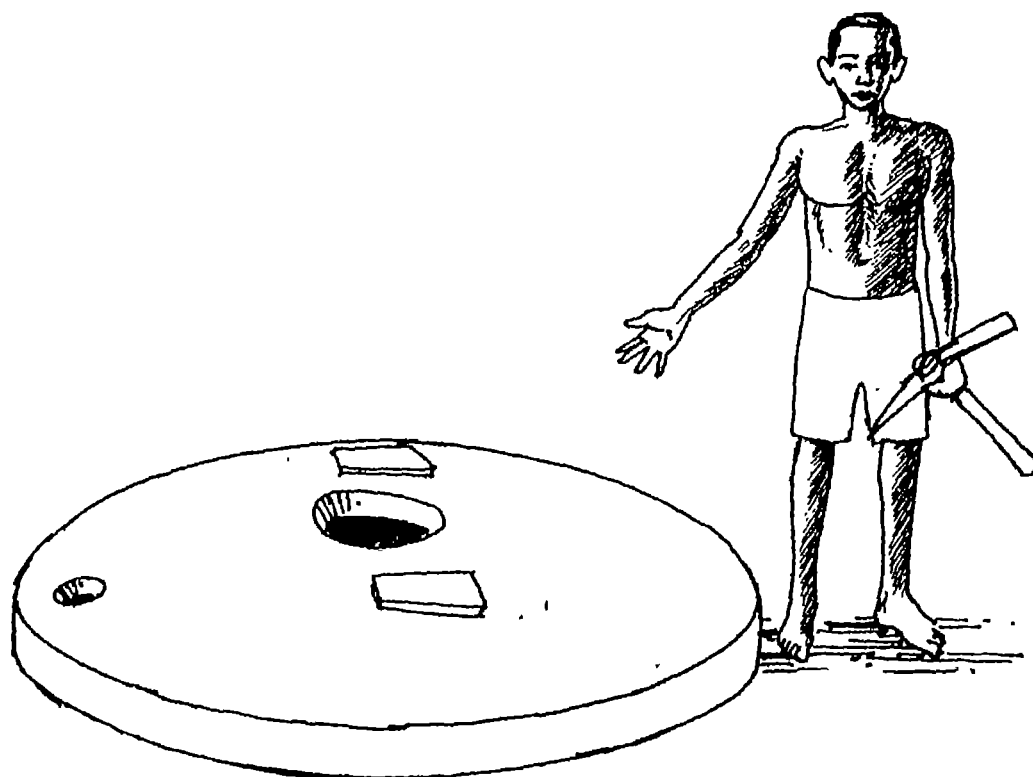
Put a Peg in the centre, 8 inches from the surface of the ground.

Pour Sand to heap (sloping from the sides) and make it firm. The centre should be 2-3 inches from the tip of peg.

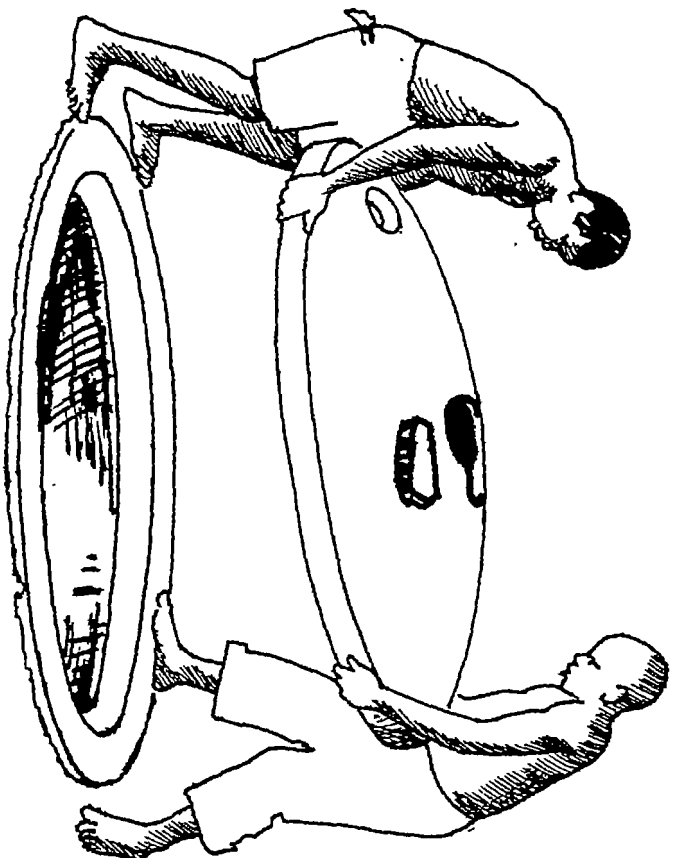


Put a size 28 bucket in the centre of circle (in the sand) and a milo tin 10 inches from an edge as shown to have the squat and vent holes.

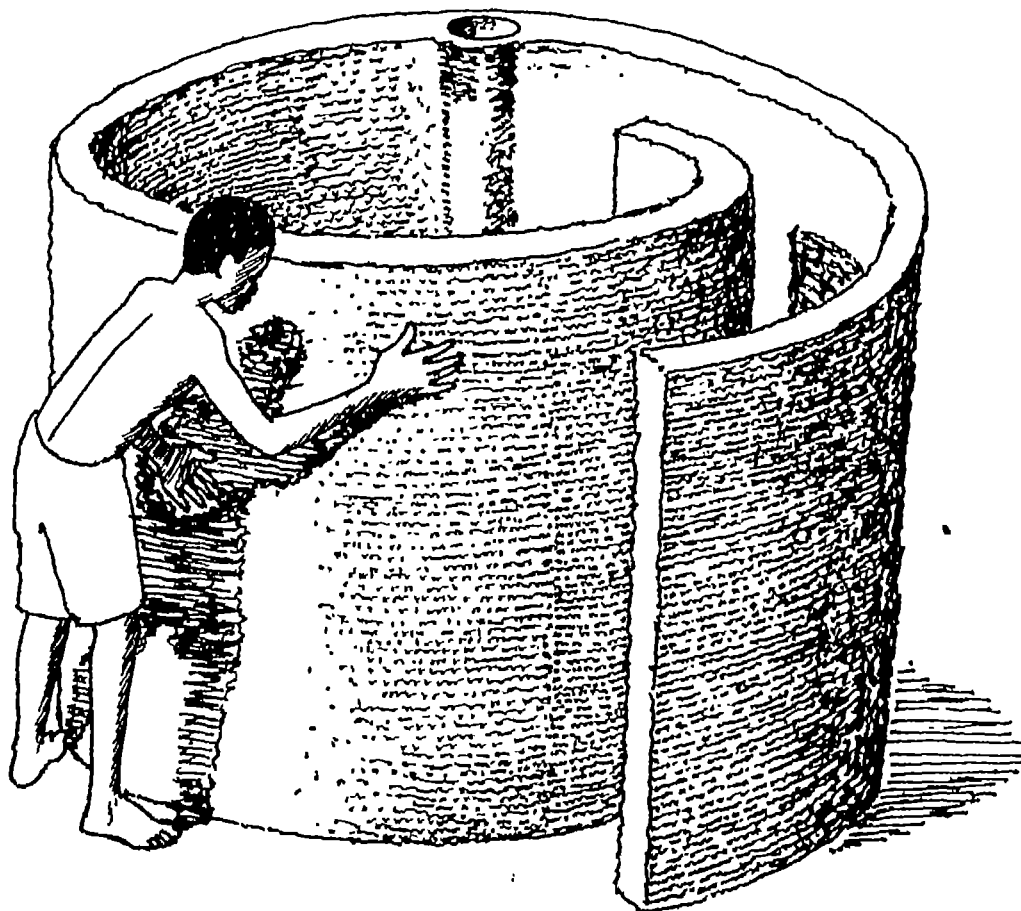
Pour concrete mix 1:2:4: 2 inches thick to cover the heaped Sand/Soil.



After concrete is set, remove bucket and milo tin and shape the squat hole to have your Mozambique slab.



Cover the pit as shown

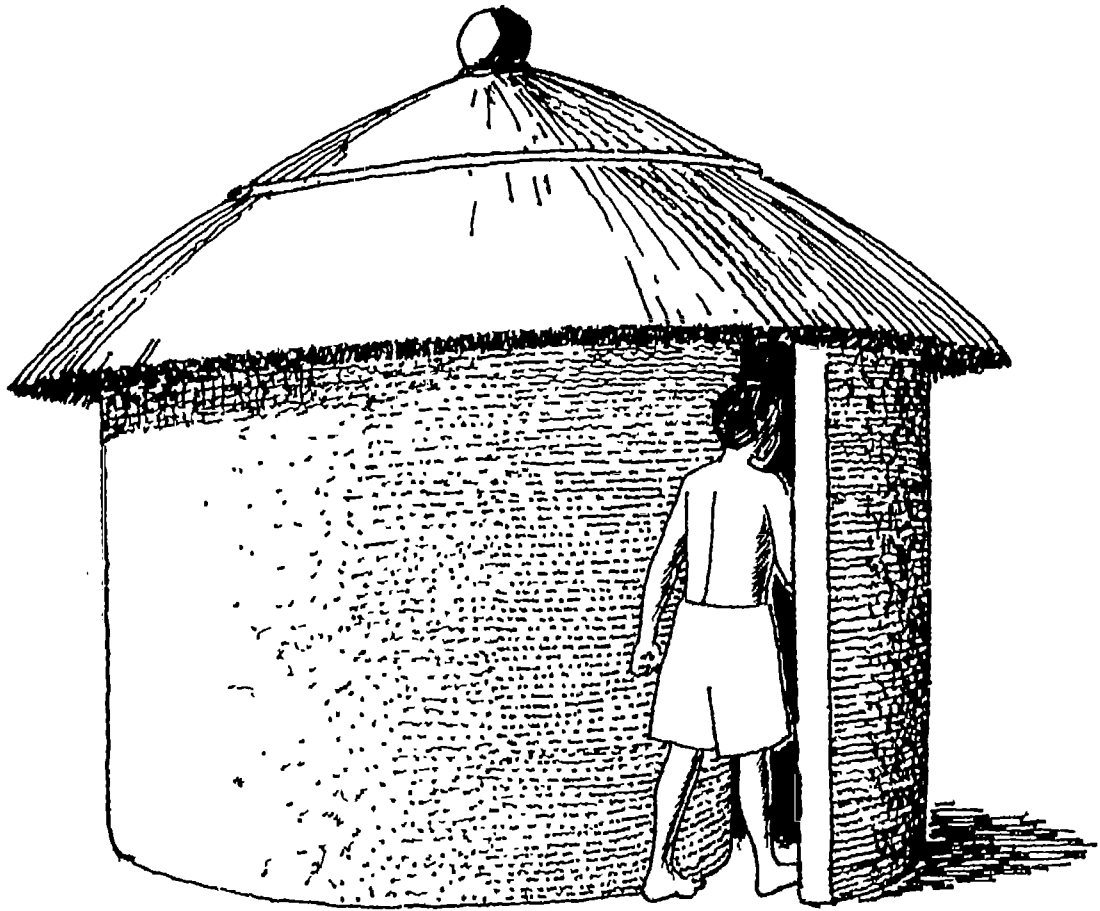


Build your superstructure to cover the whole pit. The vent pipe can be created through the wall of the superstructure as shown.

How this is done:

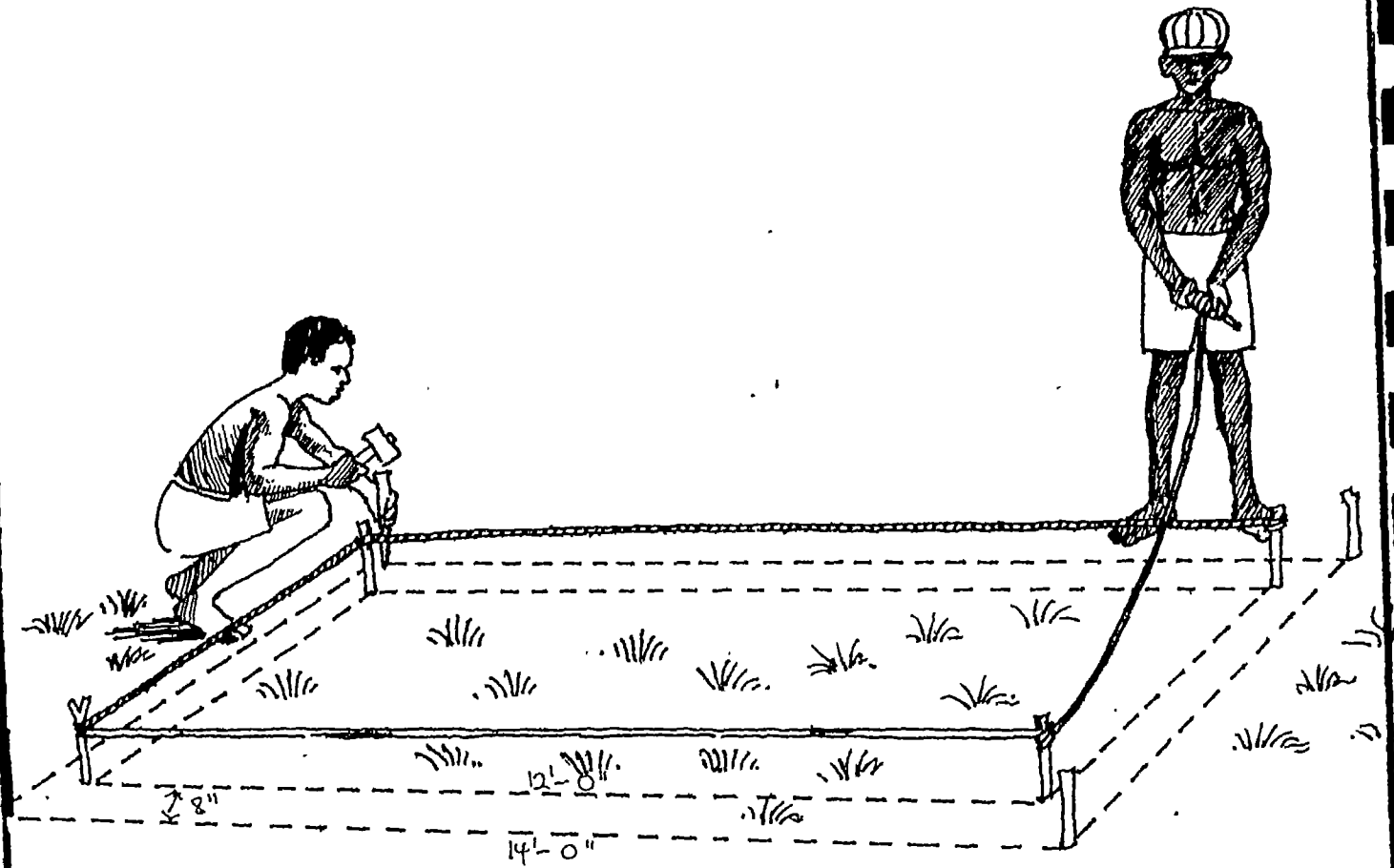
Put a milo tin on the vent hole before building the super structure around the milo tin.

Pull it up and continue building till you finish to the top.



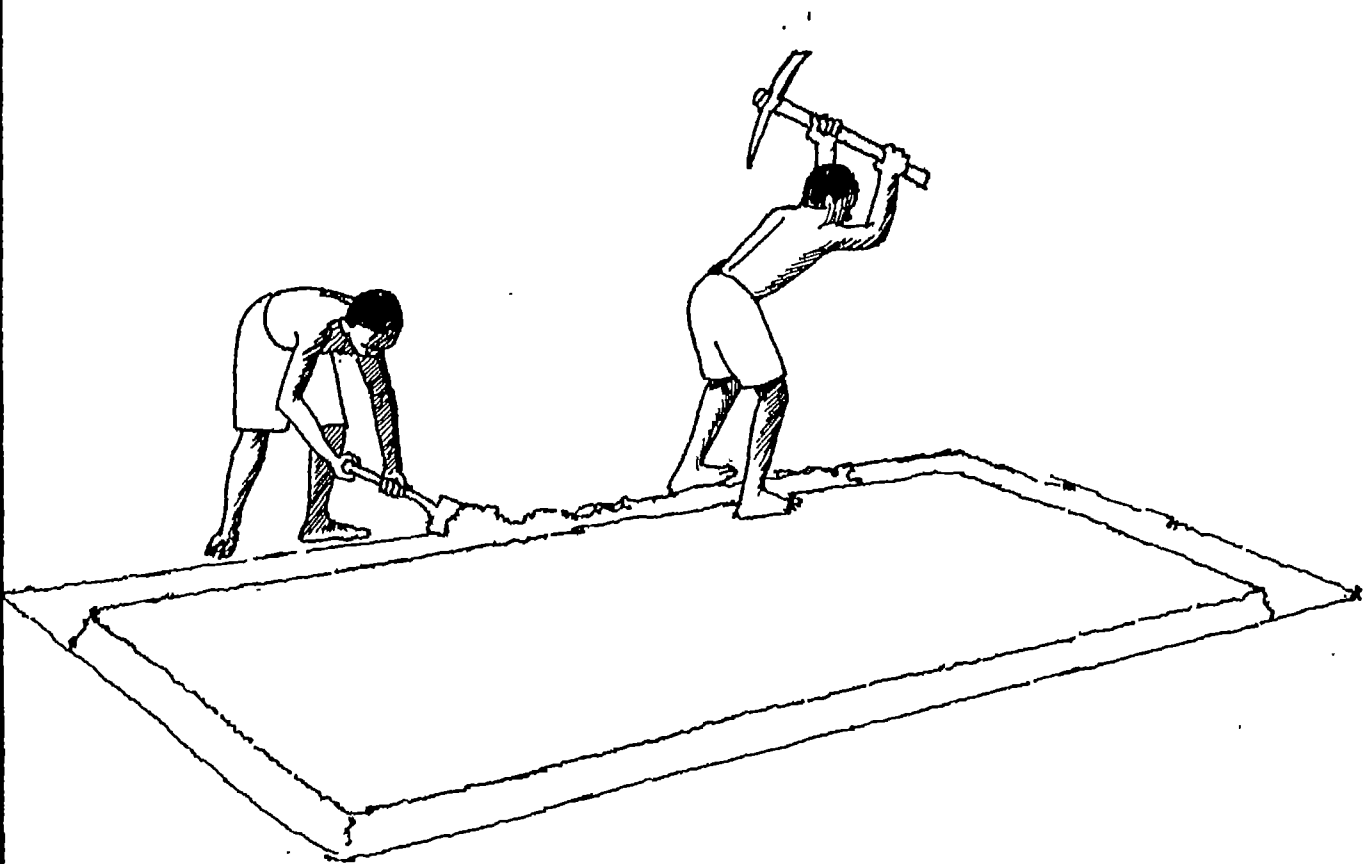
Build your roof. Make sure there is space between roof and Vent hole.

WATT COMMUNAL VIP (UNLINED)

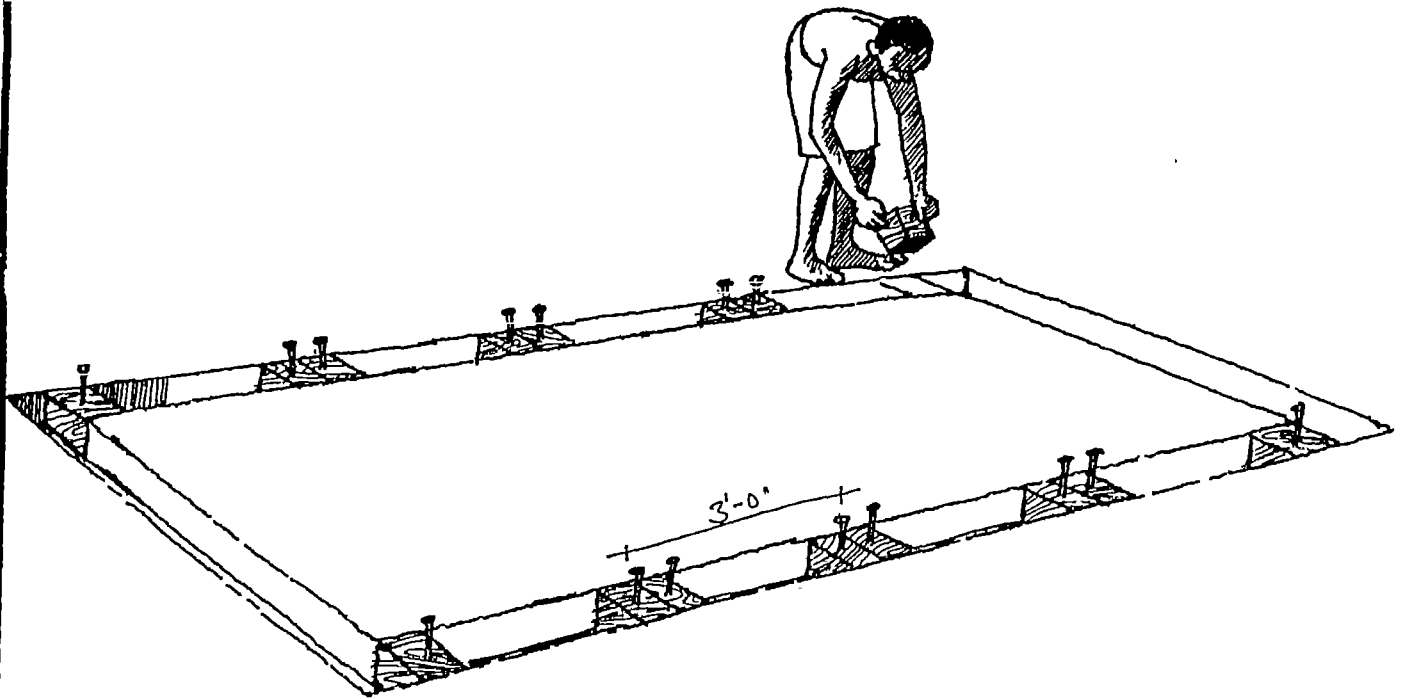


Mark the area of pit.

Mark outer area 12 inches from inner area.

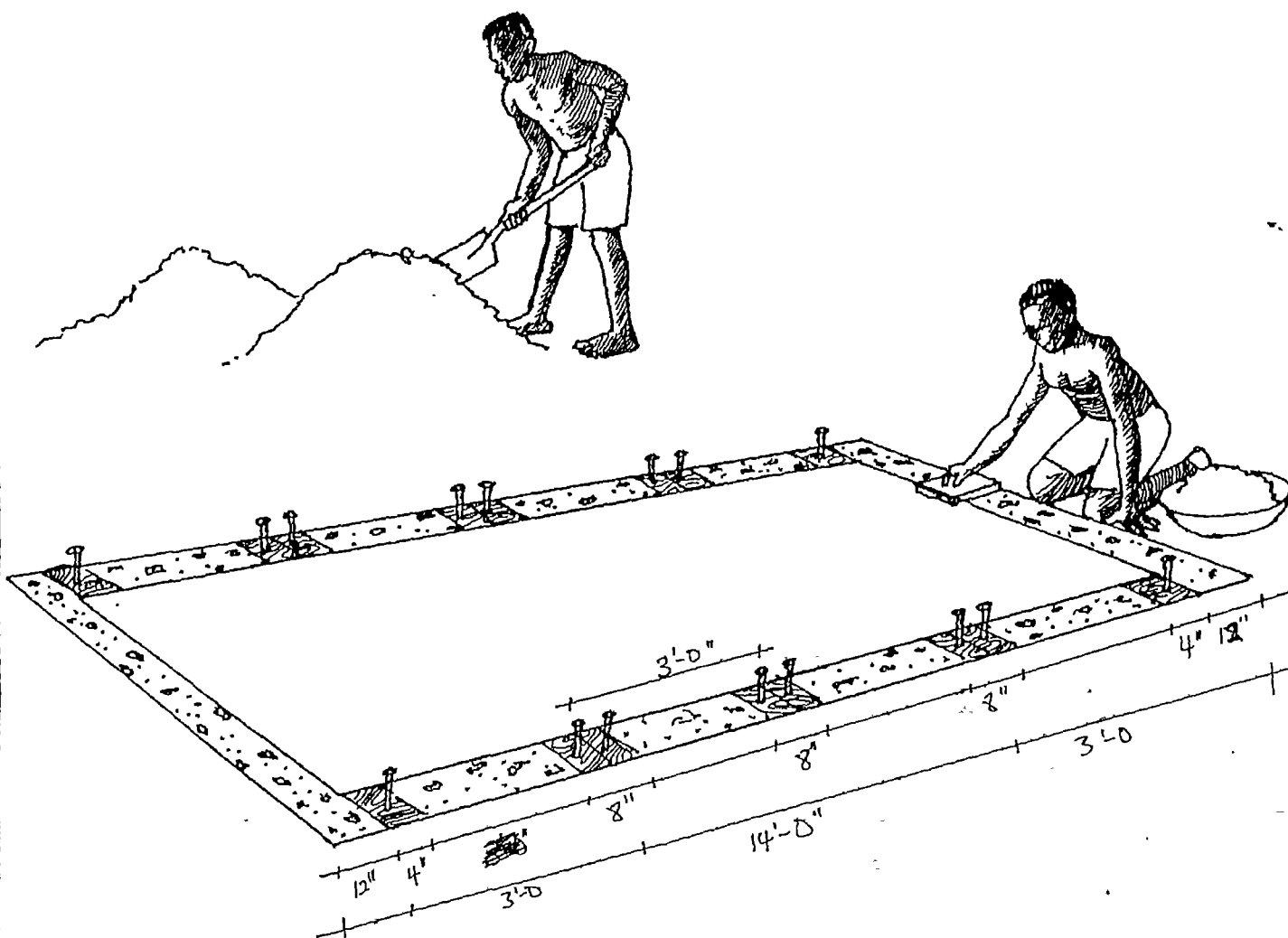


Dig inbetween the two areas 8 inches deep to have the surround gutter.

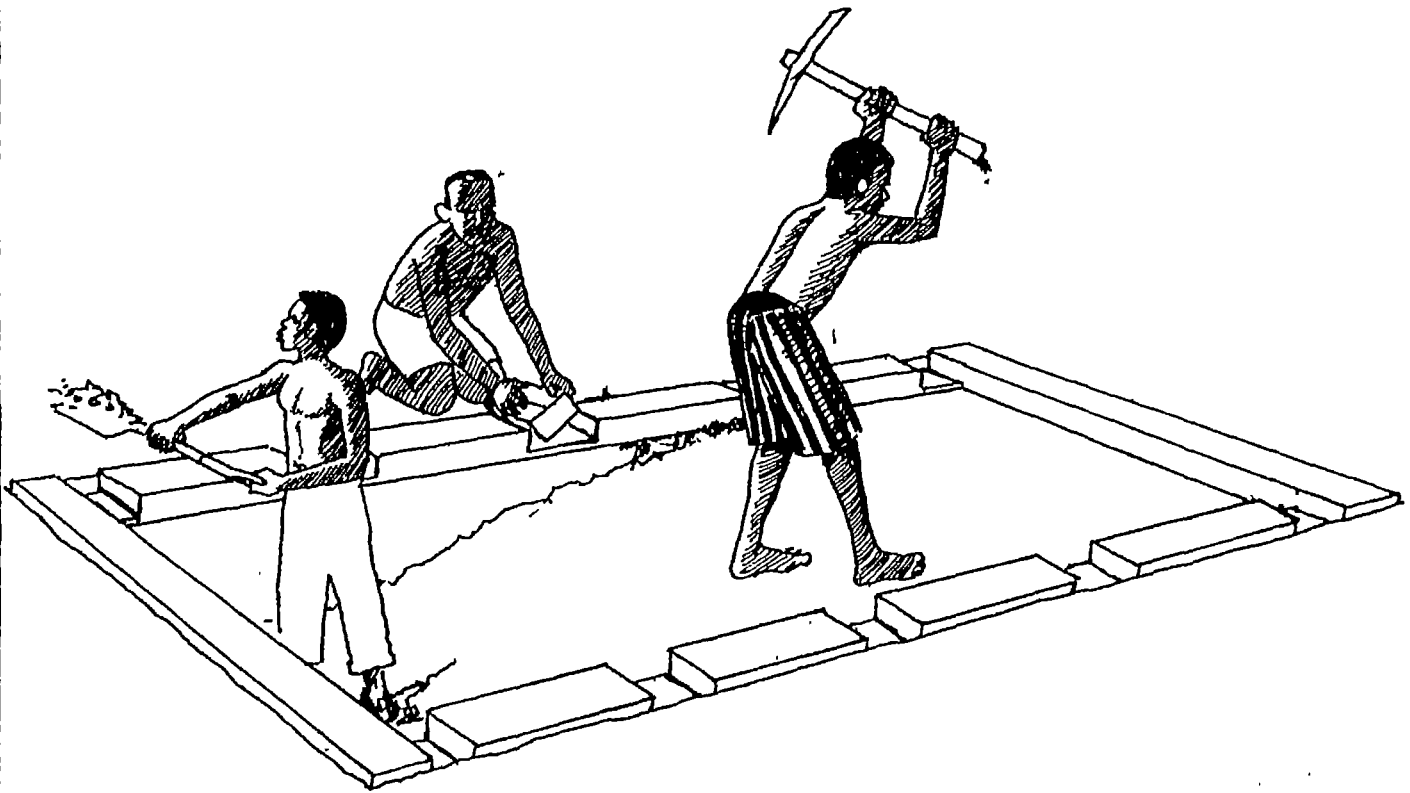


Fill the surround trench 4 inches high with concrete and cut wooden block 4 inches LxBxH and put them in the trench as follows:

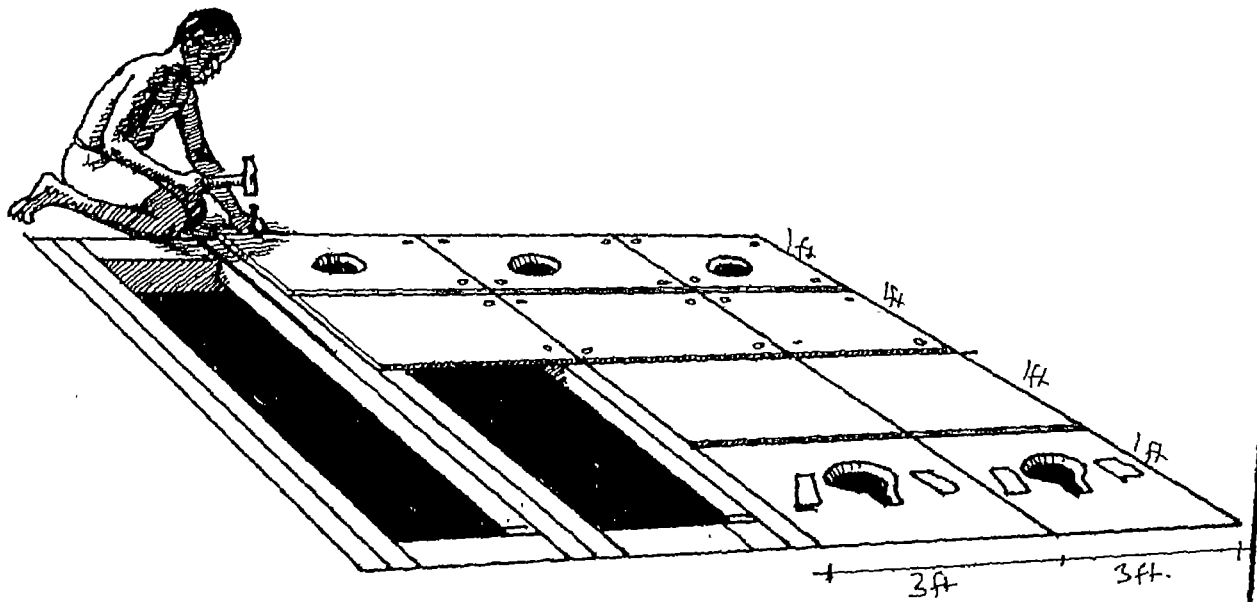
- 1 each on the ends of inner area.
- 2 meeting every 3 ft as shown.



Fill the spaces inbetween the wooden blocks with concrete mix 1:3:6.



Dig the inner area leaving a distance of 4 inches from the concrete surround.



Dig to an average depth of 10 feet. Cut wooden boards 3 feet long

Cut the vent holes and squat holes in the boards and arrange as shown.

Nail boards to beams

GLOSSARY

AREA- The piece of land/ground within the marked dimensions.

DEPTH- How deep the pit is.

LINING- Using cement blocks, burnt bricks, mortar or concrete to make a wall along the sides of the pit.

SUPERSTRUCTURE- The building around the latrine.

CIRCUMFERENCE- The length round a circle e.g. that of a Mozambique slab pit.

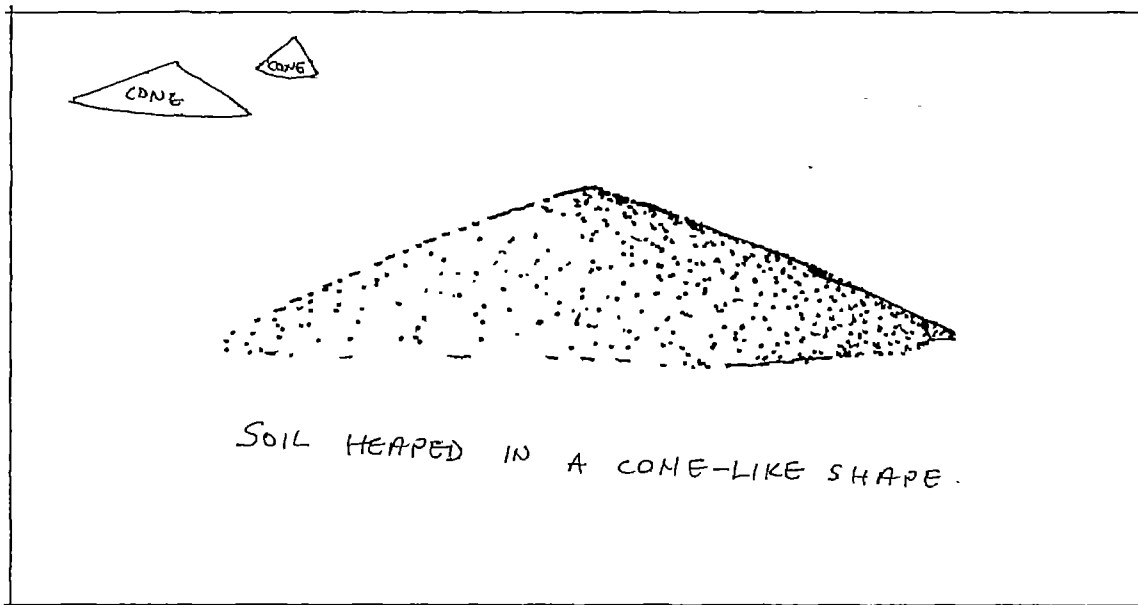
DRESS THE SLAB- Using mortar to cover the moulded concrete to make it smoother.

MORTAR- A mix of cement, sand and water.

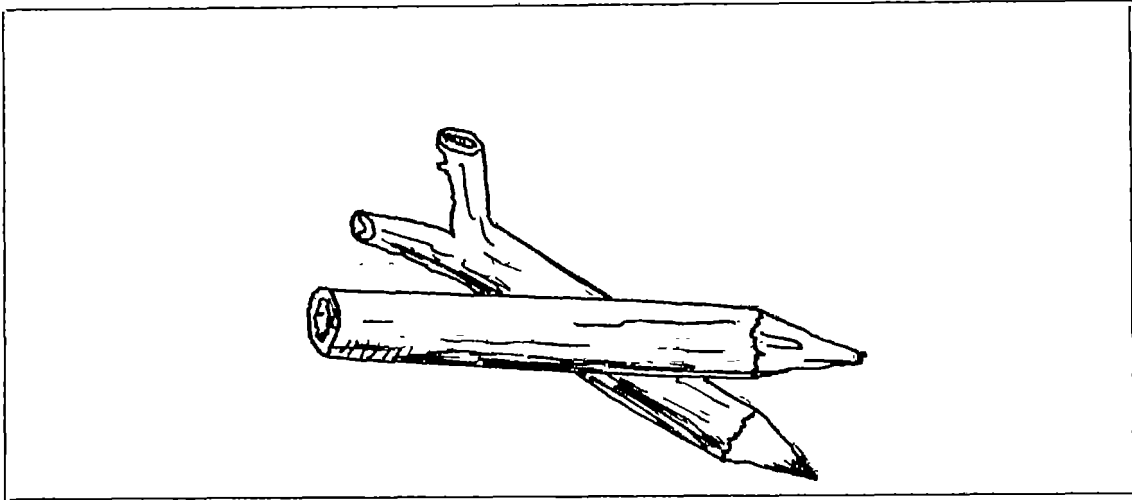
CONCRETE- A mix of cement, sand, chippings(e.g.stones) and water.

CURING- Allowing a piece of concrete work to dry through a process where water is poured on it occasionally. This makes the piece very strong when dry.

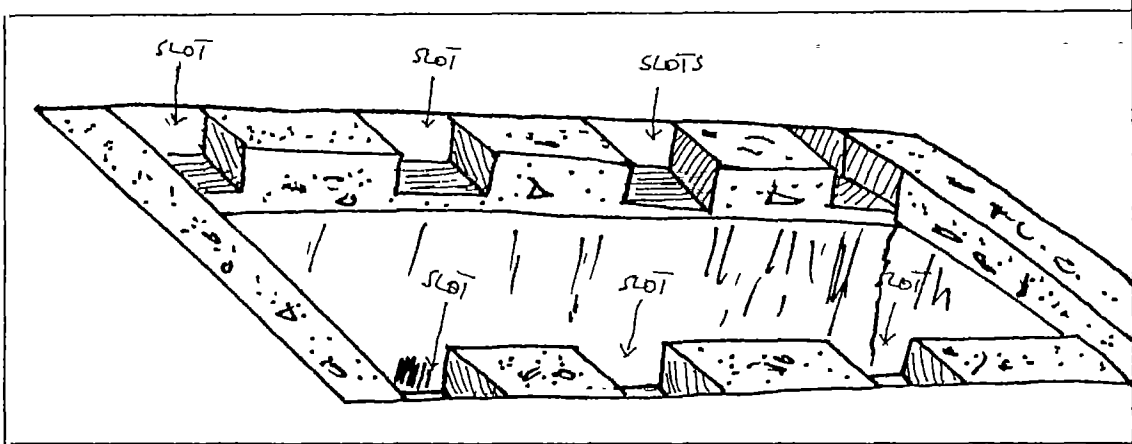
CONE--LIKE



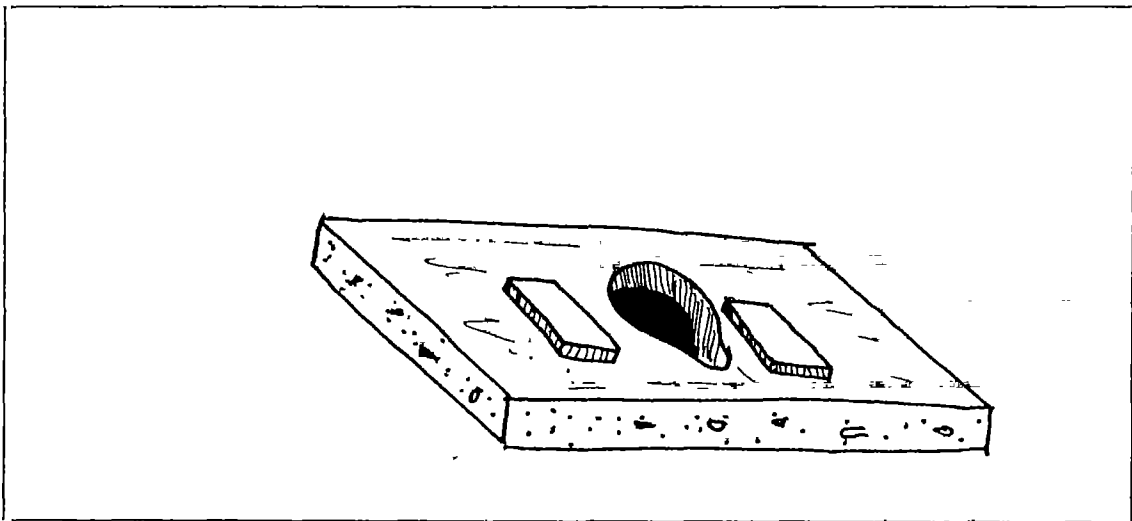
PEGS



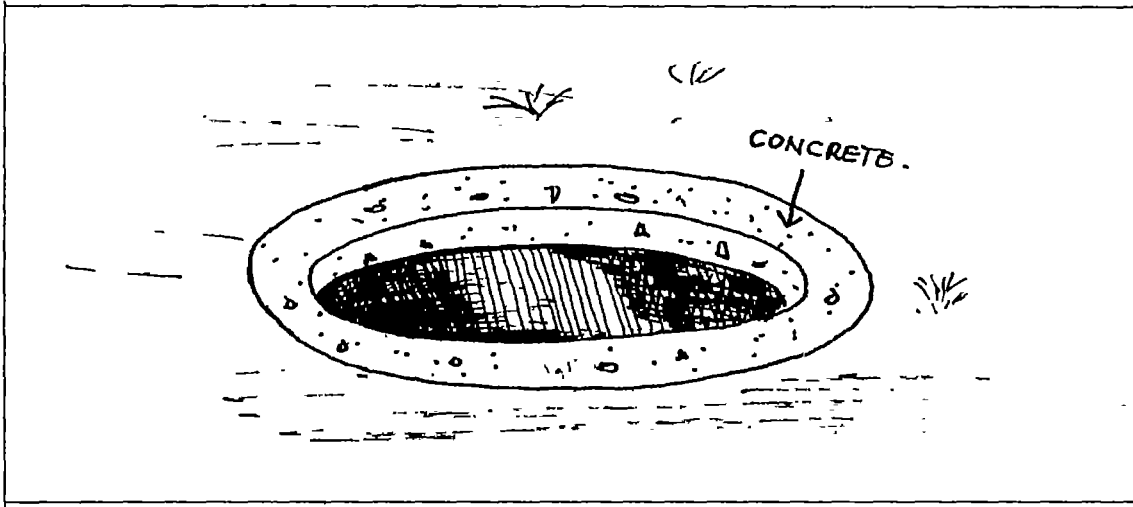
SLOTS (as in the WATT VIP)



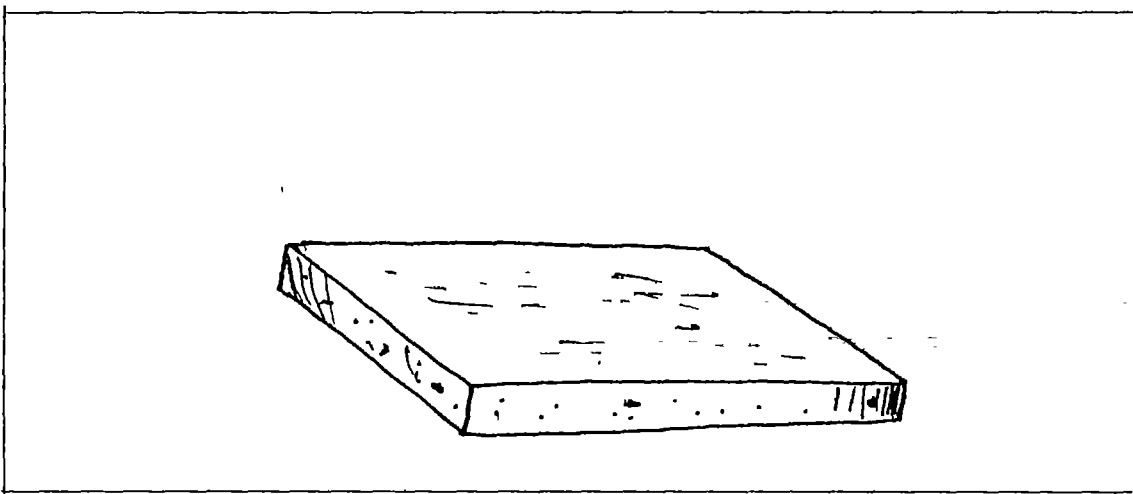
SQUAT SLAB



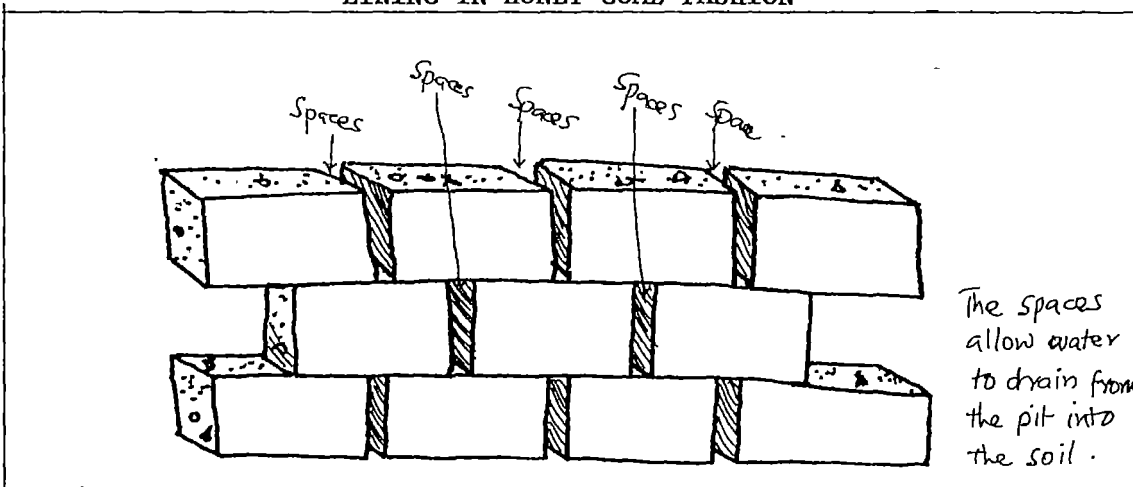
CONCRETE SURROUND



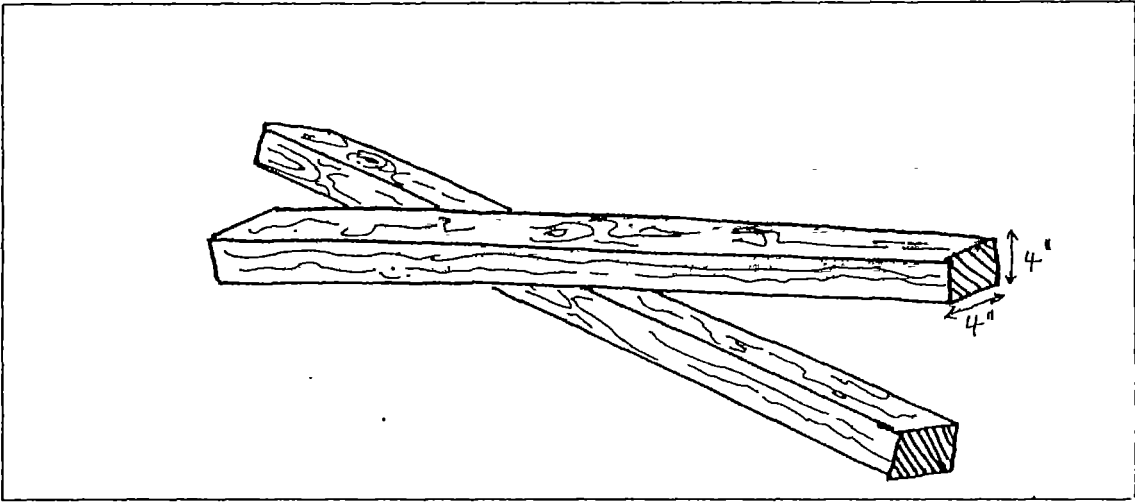
COVER SLAB



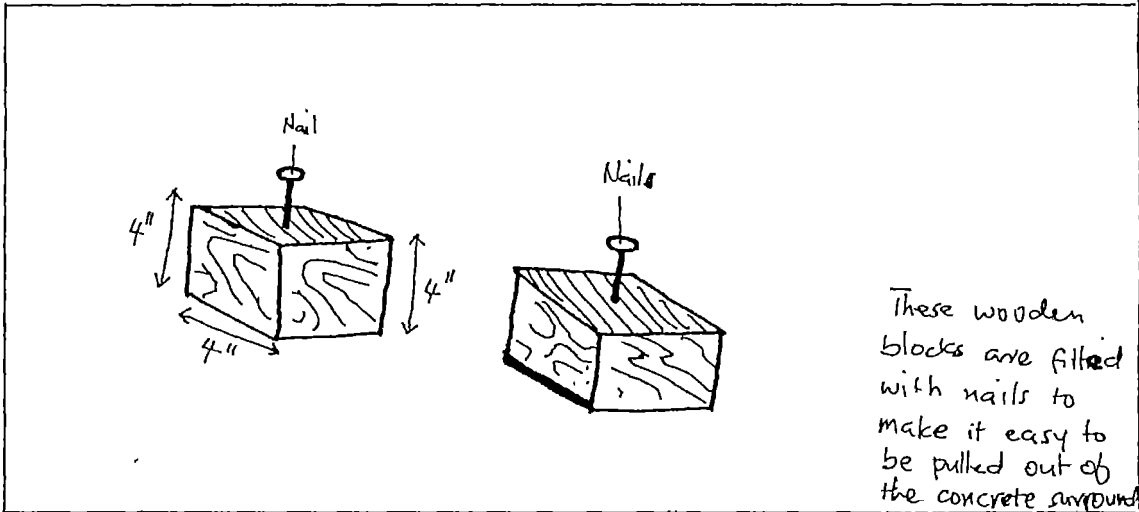
LINING IN HONEY-COMB FASHION



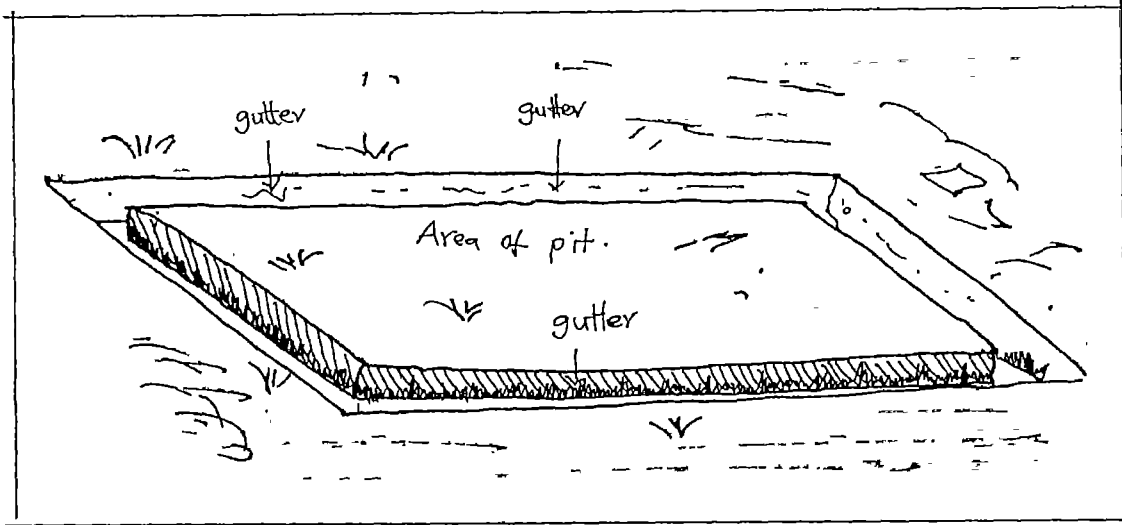
WOODEN BEAMS



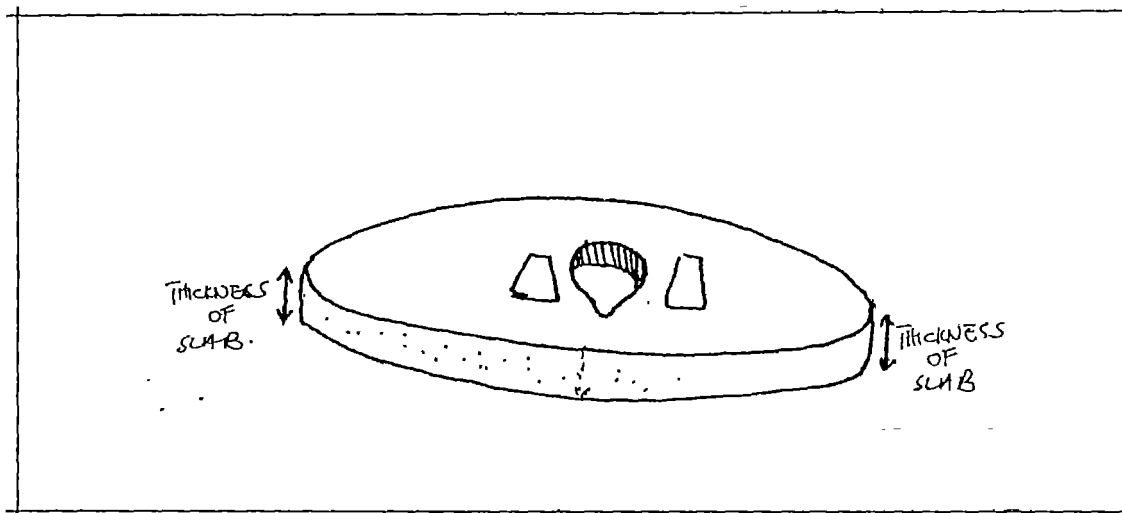
WOODEN BLOCKS



SURROUND GUTTER



THICKNESS OF SLAB



VENT SLAB

