

**DOOR TO DOOR CAMPAIGN FOR
RAINWATER HARVESTING STRUCTURE
CONSTRUCTION OF PERCOLATION PIT**

WHY TO CONSERVE RAINWATER?

The level of groundwater has gone down to as low as 300 ft. below ground level, in some places. Many bore wells are drying up in summer. In consequence, apartments are buying water in tankers. Therefore, we must have rainwater harvesting structures in order to increase the groundwater level.

WHAT IS THE PRESENT SITUATION?

There are 700 apartments and 1.20 lakh houses in Guntur. Our survey tells that 60% of the apartments do not have rainwater harvesting structures (RWHS). Ninety five percent of the houses do not have RWHS. The apartments and houses allow the rainwater to go into the drain. Finally, all this rainwater goes into the sea.

HOW MUCH RAINWATER IS WASTED?

The average terrace area of an apartment is 500 sq.m. Six Hundred liters of rainwater falls on each sq. meter area in a year. Therefore, each apartment is throwing off 3,40,000 liters of water into the drain.

The average terrace area of a house is 80 sq.m. Forty eight thousand liters of rainwater is falling on each house, in a year. This much water is simply thrown off.

WHAT IS THE GOVT. ORDER?

As per G.O. M.S.678 MA & UD-7-09-2007, it is compulsory for every apartment to construct RWHS. There will be a penalty of 10% extra house tax for not constructing RWHS. Besides, tap water will be disconnected.

We urge upon all the apartments, houses, built in 300 sq. Yards or more, Govt. & Private Institutions to construct RWHS.

The Commissioner

RECTANGULAR PERCOLATION PIT



CIRCULAR PERCOLATION PIT WITH RCC RINGS

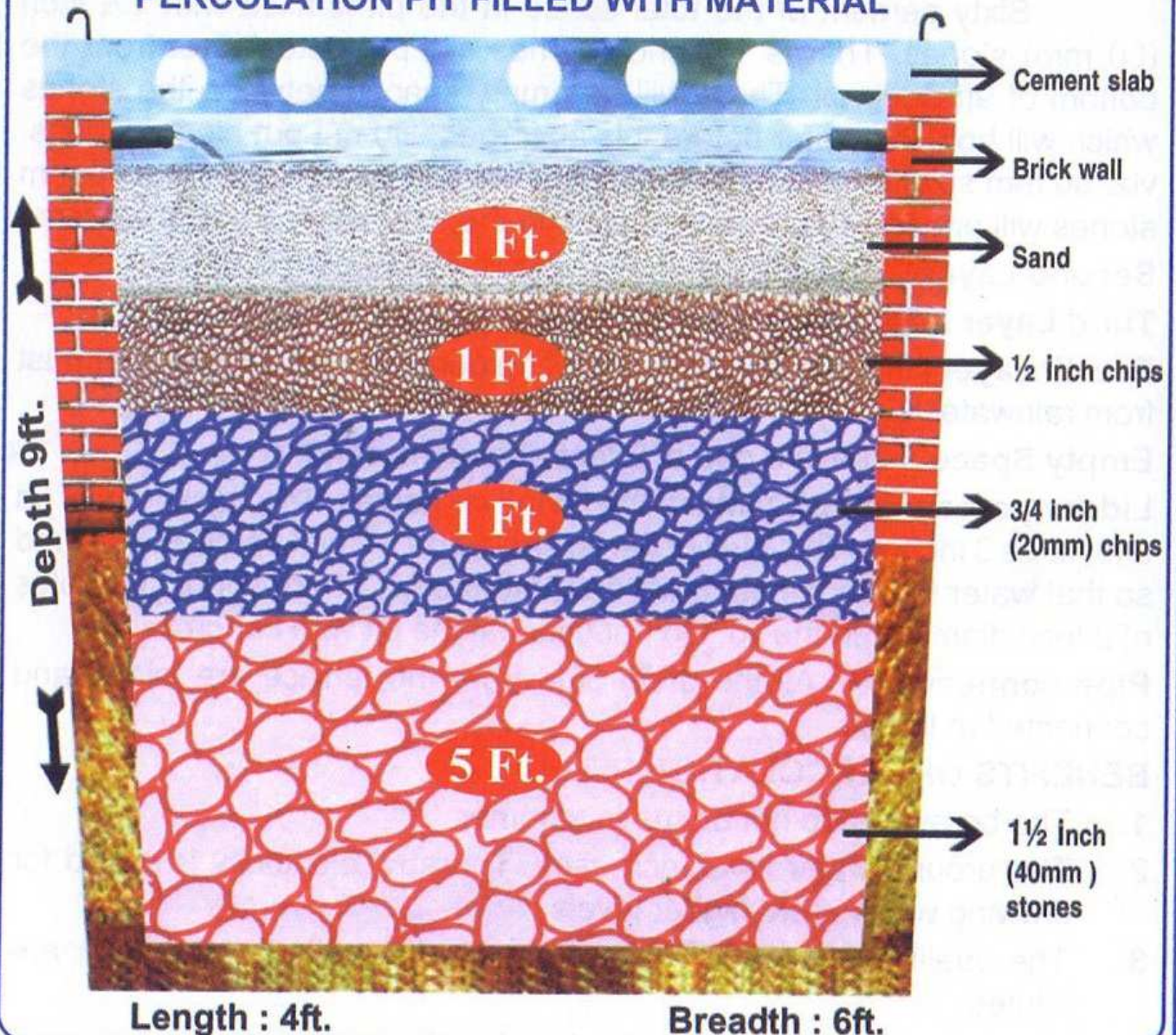


WHERE TO CONSTRUCT PERCOLATION PIT?

The best place is around the borewell. That is, digging the pit around the casing pipe of the borewell. The advantage is that, salts in borewater will be diluted by rainwater. The principle is

that, percolation pit should be at the nearest possible place to the borewell. It should be at least 3 ft. away from the pillars of the building. Percolation pit can be dug on the roadside, near to compound wall, for absorbing the runoff rainwater.

CROSS SECTION OF A PERCOLATION PIT FILLED WITH MATERIAL



WHAT SHOULD BE THE SHAPE OF PIT?

The pit can be circular, rectangular or square type, according to the space available: The best is a round pit with RCC rings.

SIZE OF PIT :

For house : 3 ft. in diameter

For apartments : 4 ft. in diameter

For very big apartments : 6 ft. in diameter

ADVANTAGE OF CIRCULAR PIT OVER RECTANGULAR PIT :

RCC rings are put from bottom to top of the circular pit. Therefore, the pit retains its shape over years. RCC rings can withstand the underground pressure from sides.

WHAT SHOULD BE THE DEPTH OF THE PERCOLATION PIT?

The main criteria for deciding the depth of the pit is the gravel layer. The pit should be dug until the layer of gravel is reached. The rate of absorption is very high in the gravel. The depth at which gravel is found, is the depth of pit. The pit is 8 or 9 feet below the ground level.

HOW TO FILL THE PIT?

Sixty percent of the total space in the pit is filled with 1½ inch (60 mm) stones. That is 1½ inch stones are put upto 5 feet from the bottom of 9ft deep pit. There will be empty spaces between the stones which will hold the water before it is absorbed. Do not put bigger stones. viz. 60 mm size, because the empty spaces will be reduced. The 40 mm stones will provide 40% empty spaces in the total volume of the stones.

Second Layer : Fill with ¾ inch (20mm) chips upto 1ft.

Third Layer : Fill with ½ inch (12mm) chips upto 1ft.

Fourth Layer : Fill sand of 1ft. height. The purpose of sand is to filter dust from rainwater.

Empty Space : Leave a gap of 2 feet above the sand.

Lid for percolation pit : Make the lid in two halves. The thickness of lid should be 3 inches. The level of the lid should be ½ inch below the ground so that water from compound will flow into the pit. There should be holes of 2 inch diameter in the lid. Do not conceal the pit with concrete.

Pipe connection : All the drain pipe from the terrace are joined and connected to the pit.

BENEFITS OF PERCOLATION PIT :

1. The borewells do not dry up in summer
2. The ground water level increases. Thereby, electricity is saved for drawing water, from higher levels.
3. The quality of water improves because the salts in borewater are diluted.
4. Flooding of lowlying areas due to rain will not take place
5. Trees grow better because of the increase in ground water level and the environment will be cool.

Two crore 50 Lakh Litres of rainwater percolated into soil through the 100 percolation pits constructed during 2010. This water will meet the requirement of 1 lakh 85 thousand people for a day

CONSULT US FOR CONSTRUCTING PERCOLATION PIT



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