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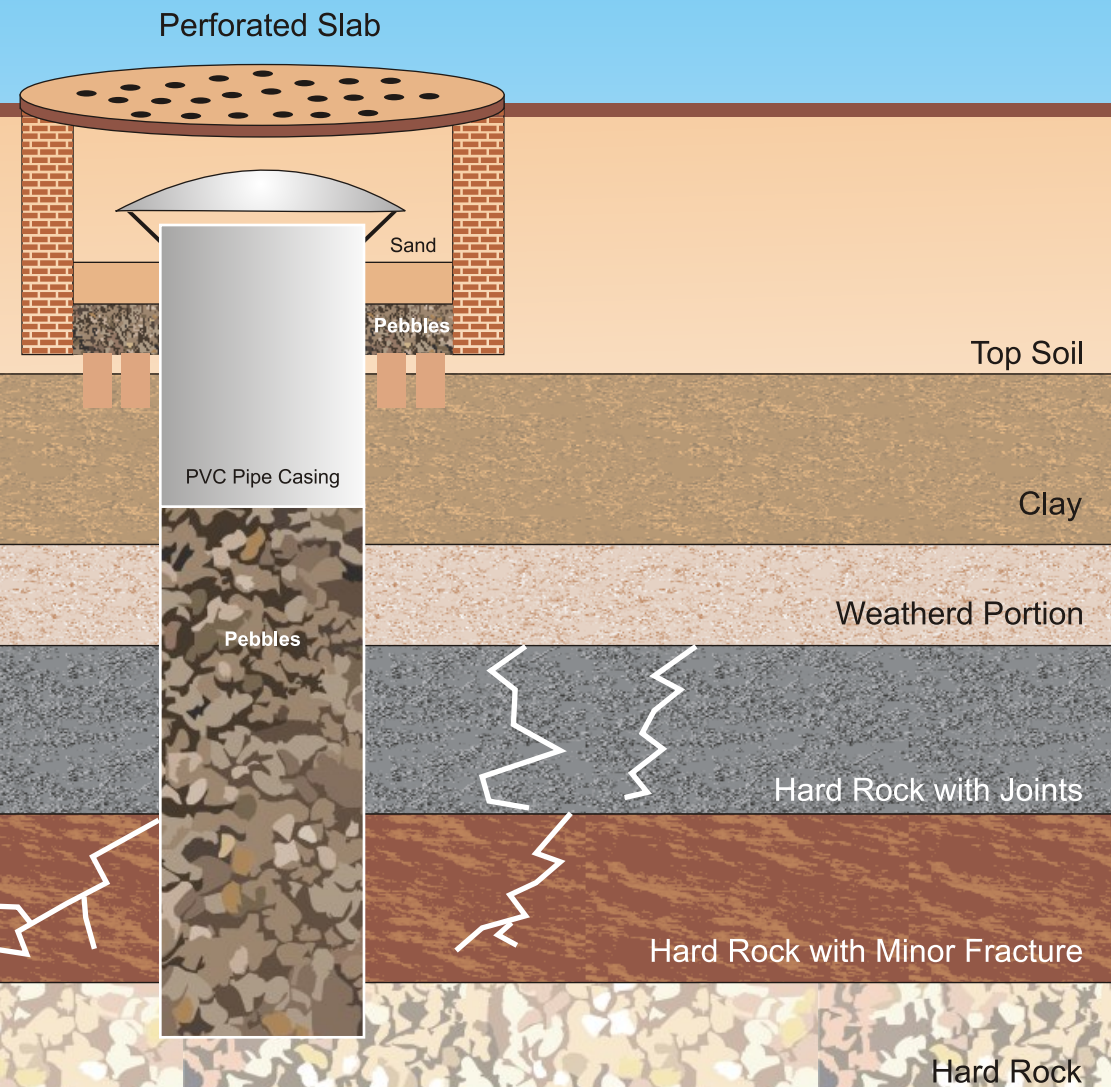
ROOF WATER COLLECTION



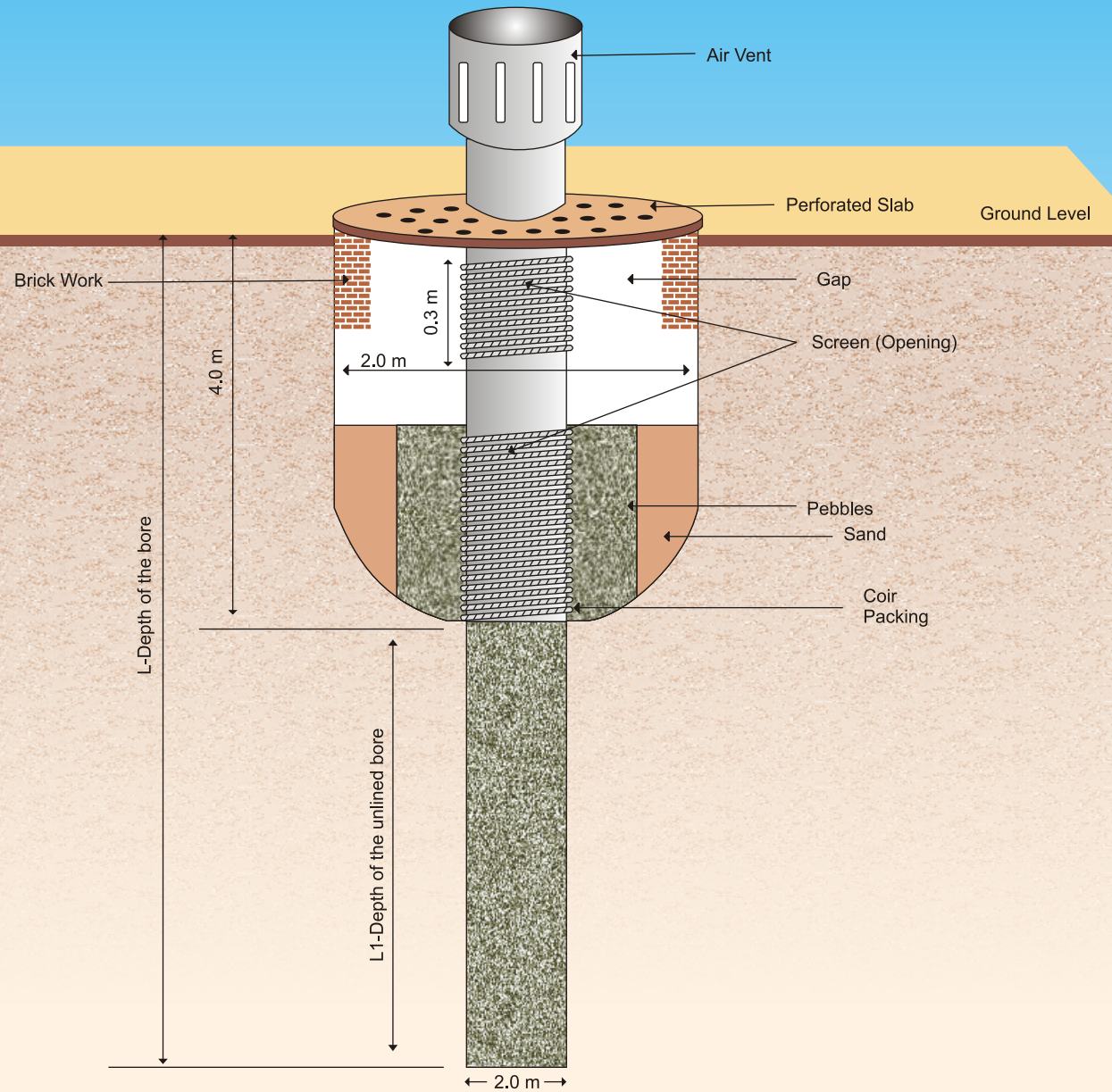


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PERCOLATION PIT



DUG CUM RECHARGE BORE WELL

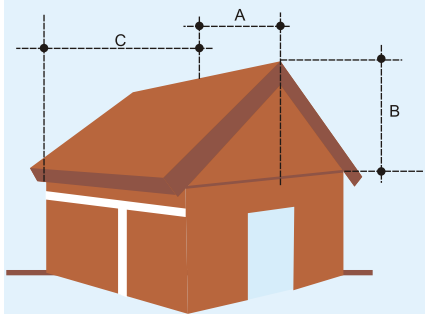
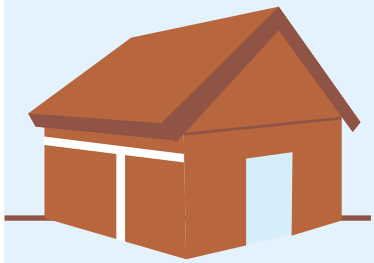
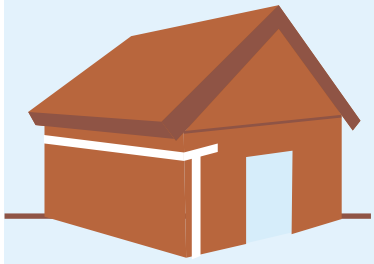
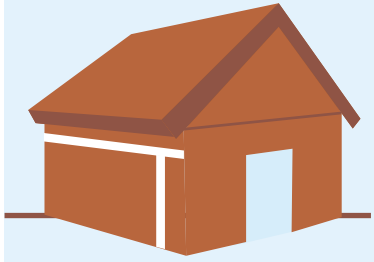




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RECHARGE STRUCTURES FOR HAND PUMPS





Calculation of Roof Flow Loads

When designing drainage systems for roofs, it is necessary to find out the level and frequency of rainfall intensity for the location of the building concerned.

Due to the nature of our climate, it is not possible to ensure complete safety from flooding, or overflow. However, it is generally satisfactory to a rainfall intensity of 75 mm/hour where overflow will not cause damage within the building i.e. eaves gutters.

Allowance for the effect of wind is not required when designing for horizontal surfaces or other surfaces protected from the wind by nearby objects. However, an allowance should be considered where sloping or vertical surfaces occur that are freely exposed to the wind.

One method for calculating the effective roof area which takes into consideration the effects of wind is shown below.

Calculation of Effective Roof Areas to determine the effective roof area which allows for contribution factors. i.e. horizontal span of slope + half the vertical rise between eaves and ridge X gutter length. To calculate this in square metres:-

- 1) Measure A, B & C in metres.
- 2) Use $(A + B/2) \times C =$ Effective roof area in metres.

To calculate flow in litres/second for 75 mm/hour intensity, multiply effective roof area (m) by 0.0208.



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RAINWATER SYSTEMS

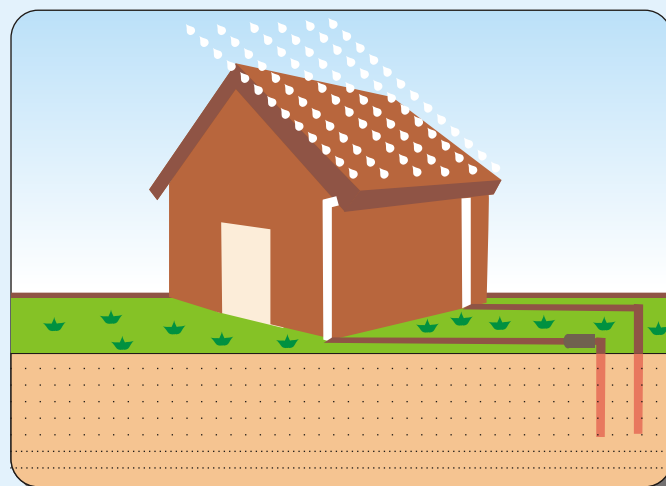
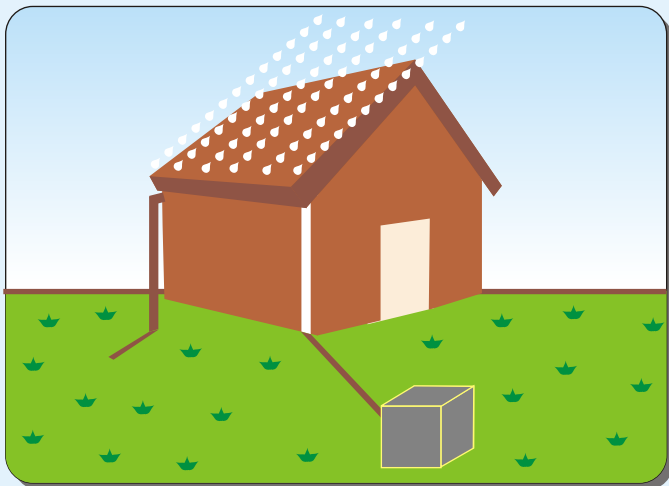
Sitework Instructions

Terrace or Roof Area in Sq. Ft.	Approximate Rainfall yields in liters for various terraces size (Sq. Ft.) & rainfall amount in mm.									
	25	50	100	150	200	250	300	350	400	500
500	1174	2264	4670	7075	9339	11750	14150	16414	18820	23489
750	1762	3396	7004	10613	14009	17625	21225	24621	28229	35234
1000	2349	4528	9339	14150	18678	23500	28300	32828	37639	46978
1500	3523	6792	14009	21225	28017	35250	42450	49242	56459	70467
2000	4698	9056	18678	28300	37356	47000	56600	65656	75278	93956
2500	5872	11320	23348	35375	46695	58750	70750	82070	94098	117445
3000	7047	13584	28017	42450	56034	70500	84900	98484	112917	140934
3500	8221	15848	32687	49525	65373	82250	99050	114898	131737	164423
4000	9396	18112	37356	56600	74712	94000	113200	131312	150556	187912
4500	10570	20376	42026	63675	84051	105750	127350	147726	169376	211401
5000	11745	22640	46695	70750	93390	117500	141500	164140	188195	234890



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AN APPROACH TO RAIN WATER HARVESTING



Why water harvesting and artificial recharge?

- To arrest ground water decline and improve ground water levels and availability.
- To beneficiate water quality in Aquifers.
- To arrest sea water ingress.
- To conserve surface water run-off during monssons.
- To enhance availability of ground water at the specific place and time.
- To reduce power consumption.
- To conserve urban waste water.