

PROJECT : VICTORY AMARA AT GREATER NOIDA.

RAIN WATER HARVESTING CALCULATION

The capacity of tank and recharge pit is designed to retain runoff for at least 15 minutes of rain fall of the peak intensity.

Peak Rainfall in one hour = about 90 mm / hr

Peak Rainfall in 15 minutes, R = 90 / 4 mm

= 22.5 mm

say = 25 mm

Peak Rainfall in 15 minutes, R = 0.025 m.

Total Terrace area, A = 5617 sq.m.

Run off coefficient, C (Roof) = 0.90

Hence total combined capacity of desilting tank and recharge pit required, = $A \times R \times C$

= 127

Providing Desilting tank of size = 2 x 1.5 x 1 m. effective depth

Capacity of desilting tank of given size (Cu.m.), a = 3

Providing Recharge pit of size = 1.5 m dia. & 4 m.effective depth

Capacity of recharge pit of given size (Cu.m.), b = 7.1

Hence total combined capacity of one set of desilting tank and recharge pit, (Cu M) = a+b

= 10.1

Therefore no. of desilting tank and recharge pit required = $(A \times R \times C) / (a+b)$

= 12.58 nos.

Say, = 13 nos.

Hence, 13 nos. sets of recharge pit and desilting tank are required of following size :

Desilting tank = 2 x 1.5 x 1 m. effective depth

Recharge pit = 3.14 x 1.5 x 4 m. effective depth