VIT®
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

Towards Sustainability…

6 CLEAN WATER AND SANITATION

Ensure availability and sustainable management of water and sanitation for all

6.5.4 Sustainable water extraction on campus

Rain Water Harvesting

Rainfall

Chennai gets most of its annual rainfall from mid-October to mid-December. Over the years, the city has been depended on the annual rains in monsoon to replenish water reservoirs, as no major rivers flow through the area. The hottest part of the year is late May to early June. Because of the cities proximity to the equator there are no extreme variations in temperature. The average annual rainfall is around 140 cm (55 in)

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Rain harvesting system

Keeping in mind the importance of water and it scarcity it is implemented to conserve water by rainwater harvesting by which the subsoil water condition / moisture content is maintained / improved to a great extent. Also to harvest rainwater from the terrace area by collecting the same in a rainwater collection sump of suitable capacity and re-used for domestic purposes with the provision of a filtration unit. And the rainwater collected from

open paved and landscape area is being collected in the storm water drain which is connected to Rainwater recharging pit.

Rain Water Harvesting Pit

The rain harvest pits of suitable size are constructed along the rainwater collection drain . The rain harvest pit consists of 1.2 dia borehole for depth of 3 m. Boreholes are made with casing pipes in position, and then filled up with 10 % of Fine sand and second layer is filled up with 20% of core sand and third layer is filled with 20 % of 20 mm Jelly stones and fourth layer is filled with 40 mm jelly stones for reaming 50% of area.

Taking into consideration the intensity of rainfall in the last 10years, which is considered as 900 mm/year, an effective scheme for rain water disposal has been designed. The run off rain water rooftop is being drained out effectively by providing sufficient number of rain water outlets. These pipes are routed with necessary slope and dropped vertically down to horizontal stack at stilt floor ceiling level .The Rain water pipe has been taken to ground through retaining wall. At ground level through a network of UPVC/RCC hume pipes with suitable diameter and catch basin/saucer drain of suitable sizes for surface catchments, the rain water is finally terminated to the harvesting pit of suitable capacity. Set of Rain water down takes are connected to a Horizontal header on basement ceiling and terminating to Rain water storage tank, where the rain water will be reused for domestic usage after necessary treatment .Overflow water is being pumped to the external rain water drainage system and let into the lake.