**Proposed set up for Rain water harvesting System at SDB bank Horana Branch**

July 2022

Location: Horana

Roof area = 1330 ft2 or 123 m2

Daily water demand = 45 persons x 3 flushes x 6 liters ( assuming it is dual flush) = 810 liters

Monthly water demand ( 22 working days) = 17,820 liters

Roof runoff potential

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Months** | **Monthly Rainfall   (mm)** | **Monthly potential rainfall (liters)Roof A** | **Average Monthly demand ( liters)** | **Deficit or Surplus ( lites)** |
| **JAN** | 105 | 10,978 | 17,820 | (6,842) |
| **FEB** | 94 | 9,828 | 17,820 | (7,992) |
| **MAR** | 116 | 12,128 | 17,820 | (5,692) |
| **APR** | 220 | 23,001 | 17,820 | 5,181 |
| **MAY** | 303 | 31,679 | 17,820 | 13,859 |
| **JUN** | 299 | 31,260 | 17,820 | 13,440 |
| **JUL** | 256 | 26,765 | 17,820 | 8,945 |
| **AUG** | 234 | 24,465 | 17,820 | 6,645 |
| **SEP** | 264 | 27,601 | 17,820 | 9,781 |
| **OCT** | 380 | 39,729 | 17,820 | 21,909 |
| **NOV** | 372 | 38,893 | 17,820 | 21,073 |
| **DEC** | 220 | 23,001 | 17,820 | 5,181 |
|   |                  2,863 | 299,327 | 213,840 | 7,123.89 |



As indicated in the above calculation and graph the storage requirement is over a 3 months period from Jan- March. Ideally 10 m3 or 2 tanks of 5m3 would give around 90 % satisfaction. But if the space is a constraint ( because the diameter of the 5000 liter tank is around 5 ft) it would be better to have 1 tank installed initially and if not adequate have another tank installed. alternatively have 2 tanks of 3 m3 since these tanks are shorter and would be able to fit better inside your building.

The system needs to have a first flush system which allows the first rains to wash the roof. Once we agree on tank capacity etc I will send you details of other components etc.

**Design**

**First flush**

**Wash out to drain.**

**Filter basin**

**Overflow**

**To distribution line**